

FINAL REGISTRATION REPORT

Part B

Section 3

Efficacy Data and Information

Concise summary

Product code: FF-075

Product name(s): EUSKATEL PRO

Chemical active substances:

Prothioconazole, 200 g/L

Azoxystrobin, 150 g/L

Central Zone

Zonal Rapporteur Member State: Poland

CORE ASSESSMENT/

(authorization)

Applicant: Rotam Agrochemical Europe Limited

Submission date: June 2021

MS Finalisation date: 03/2022 ; 08/2022

Version history

When	What
March 2022	ZRMs evaluated dRR submitted by Applicant.
August 2022	ZRMS made some changes to the report at the time of commenting period.

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3 Efficacy Data and Information (including Value Data) on the Plant Protection Product (KCP 6)

Transformation of the dRR (applicant version) into the RR (zRMS version)

The process chosen by the zRMS to transform the dRR into a RR should be explained. Options are to rewrite the document (with track change or not) or to use commenting boxes such as the following:

Comments of zRMS:	Comments of zRMS are presented in commenting boxes at the end of each chapter. The text of dRR was generally not changed or rewritten (small changes in the document are marked by grey colour). In yellow are marked changes made during commenting period.
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3.1 Summary and conclusions of zRMS on Section 3: Efficacy (KCP 6)

Abstract

Overall summaries are not necessary here. It was provided at the end of each chapter of the dRR.

Table 3.1-1: Acceptability of intended uses (and respective fall-back GAPs, if applicable)

Crop and/or situation (a)	Member state or Country	Product name	F / G / I (b)	Pests or Group of pests controlled (c)	Formulation		Application				Application rate per treatment			PHI (days) (l)	Remarks (m)	zRMS Conclusion (efficacy)
					Type (d-f)	Conc. of as (i)	method kind (f-h)	growth stage & season (j)	number min max (k)	min interval between application (days)	kg as/hL min max	water L/ha min max	kg as/ha min max			
OSR, winter (BRSNW)	PL, DE, CZ	FF-075	F	<i>Sclerotinia sclerotiorum</i> White mould (SCLESC)	SC	350	Foliar Spray	BBCH 55-69	1 - 2	14	Prothio 0,040-0,160; azoxy 0,030-0,120	100 - 400	Prothio 0,160; Azoxy 0,120	35	Max. individual dose 0.8 l per ha. Max. total dose per season 1,6 l per ha	To be confirmed by cMS In Poland only 1 application can be accepted.
OSR, winter (BRSNW)	UK	FF-075	F	<i>Sclerotinia sclerotiorum</i> White mould (SCLESC)	SC	350	Foliar Spray	BBCH 55-69	1 - 2	14	Prothio 0,040-0,160; azoxy 0,030-0,120	100 - 400	Prothio 0,160; Azoxy 0,120	35	Max. individual dose 0.8 l per ha. Max. total dose per season 1,6 l per ha	To be confirmed by cMS
OSR, winter (BRSNW)	FR	FF-075	F	<i>Sclerotinia sclerotiorum</i> White mould (SCLESC)	SC	350	Foliar Spray	BBCH 55-69	1 - 2	14	Prothio 0,040-0,160; azoxy 0,030-0,120	100 - 400	Prothio 0,160; Azoxy 0,120	35	Max. individual dose 0.8 l per ha. Max. total dose per season 1,6 l per ha	To be confirmed by cMS
OSR, winter (BRSNW)	PL, DE, CZ	FF-075	F	<i>Alternaria brassicae</i> Dark leaf spot (ALTEBA)	SC	350	Foliar Spray	BBCH 55-69	1 - 2	14	Prothio 0,040-0,160; azoxy 0,030-0,120	100 - 400	Prothio 0,160; Azoxy 0,120	35	Max. individual dose 0.8 l per ha. Max. total dose per season 1,6 l per ha	To be confirmed by cMS In Poland AL-TEBA could not be accepted.
OSR, winter (BRSNW)	UK	FF-075	F	<i>Alternaria brassicae</i> Dark leaf spot (ALTEBA)	SC	350	Foliar Spray	BBCH 55-69	1 - 2	14	Prothio 0,040-0,160; azoxy 0,030-0,120	100 - 400	Prothio 0,160; Azoxy 0,120	35	Max. individual dose 0.8 l per ha. Max. total dose per season 1,6 l per ha	To be confirmed by cMS
OSR, winter (BRSNW)	FR	FF-075	F	<i>Alternaria brassicae</i> Dark leaf spot (ALTEBA)	SC	350	Foliar Spray	BBCH 55-69	1 - 2	14	Prothio 0,040-0,160; azoxy 0,030-0,120	100 - 400	Prothio 0,160; Azoxy 0,120	35	Max. individual dose 0.8 l per ha. Max. total dose per season 1,6 l per ha	To be confirmed by cMS
wheat, winter and durum, spelt, triticale	DE, PL, CZ, UK, IE	FF-075	F	<i>Septoria tritici</i> (SEPTTR)	SC	350	Foliar Spray	BBCH 30-59	1 - 2	14	Prothio 0,05-0,20; azoxy 0,375-0,150	100 - 400	Prothio 0,20; azoxy 0,150	35	Max. individual dose 1,0 l per ha. Max. total dose per season 2,0 l per ha	To be confirmed by cMS In Poland winter durum and spelt could not be accepted.

Crop and/or situation (a)	Member state or Country	Product name	F / G / I (b)	Pests or Group of pests controlled (c)	Formulation		Application				Application rate per treatment			PHI (days) (l)	Remarks (m)	zRMS Conclusion (efficiency)
					Type (d-f)	Conc. of as (i)	method kind (f-h)	growth stage & season (j)	number min max (k)	min interval between application (days)	kg as/hL min max	water L/ha min max	kg as/ha min max			
wheat, winter and durum, spelt, triticale	FR, IT, ES	FF-075	F	<i>Septoria tritici</i> (SEPTTR)	SC	350	Foliar Spray	BBCH 30-59	1 - 2	14	Prothio 0,05-0,20; azoxy 0,375-0,150	100 - 400	Prothio 0,20; azoxy 0,150	35	Max. individual dose 1,0 l per ha Max. total dose per season 2,0 l per ha	To be confirmed by cMS
wheat, winter and durum, spelt, triticale	DE, PL , CZ, UK, IE			<i>Puccinia striiformis</i> . Yellow Rust (PUCCST)	SC	350	Foliar Spray	BBCH 30-59 Up to GS69	1 - 2	14	Prothio 0,05-0,20; azoxy 0,375-0,150	100 - 400	Prothio 0,20; azoxy 0,150	35	Max. individual dose 1,0 l per ha Max. total dose per season 2,0 l per ha	To be confirmed by cMS In PL cannot be accepted.
wheat, winter and durum, spelt, triticale	FR, IT, ES			<i>Puccinia striiformis</i> . Yellow Rust (PUCCST)	SC	350	Foliar Spray	BBCH 30-69	1 - 2	14	Prothio 0,05-0,20; azoxy 0,375-0,150	100 - 400	Prothio 0,20; azoxy 0,150	35	Max. individual dose 1,0 l per ha Max. total dose per season 2,0 l per ha	To be confirmed by cMS
wheat, winter and durum, spelt, triticale	DE, PL, CZ, UK, IE			<i>Puccinia recondita</i> Brown rust (PUCCRT)	SC	350	Foliar Spray	BBCH 30-69	1 - 2	14	Prothio 0,05-0,20; azoxy 0,375-0,150	100 - 400	Prothio 0,20; azoxy 0,150	35	Max. individual dose 1,0 l per ha Max. total dose per season 2,0 l per ha	To be confirmed by cMS In PL, winter durum, spelt and triticale cannot be accepted
wheat, winter and durum, spelt, triticale	FR, IT, ES			<i>Puccinia recondita</i> Brown rust (PUCCRT)	SC	350	Foliar Spray	BBCH 30-69	1 - 2	14	Prothio 0,05-0,20; azoxy 0,375-0,150	100 - 400	Prothio 0,20; azoxy 0,150	35	Max. individual dose 1,0 l per ha Max. total dose per season 2,0 l per ha	To be confirmed by cMS
Wheat, winter and durum	FR, IT, ES		F	<i>Fusarium spp.</i>	SC	350	Foliar Spray	BBCH 59-69	1	n.a.	Prothio 50 - 200; Azoxy 37,5 - 150	100 - 400	Prothio 0,20; azoxy 0,150	35	Max. individual dose 1,0 l per ha and per season	To be confirmed by cMS
barley, spring	DE, PL , CZ, UK, IE	FF-075	F	<i>Rhynchosporium secalis</i> Leaf blotch (RHYNSE)	SC	350	Foliar Spray	BBCH 30-69	1 - 2	14	Prothio 50 - 200; Azoxy 37,5 - 150	100 - 400	Prothio 0,20; azoxy 0,150	35	Max. individual dose 1,0 l per ha Max. total dose per season 2,0 l per ha Need to check IFBM brewing requirements and possible residues with late applications	To be confirmed by cMS In PL cannot be accepted.

Crop and/or situation (a)	Member state or Country	Product name	F / G / I (b)	Pests or Group of pests controlled (c)	Formulation		Application				Application rate per treatment			PHI (days) (l)	Remarks (m)	zRMS Conclusion (efficacy)
					Type (d-f)	Conc. of as (i)	method kind (f-h)	growth stage & season (j)	number min max (k)	min interval between application (days)	kg as/hL min max	water L/ha min max	kg as/ha min max			
barley, spring	DE, PL, CZ, UK, IE	FF-075	F	<i>Pyrenophora teres</i> Net blotch (PYRNTE)	SC	350	Foliar Spray	BBCH 30-69	1 - 2	14	Prothio 50 - 200; Azoxy 37,5 - 150	100 - 400	Prothio 0,20; azoxy 0,150	35	Max. individual dose 1,0 l per ha Max. total dose per season 2,0 l per ha Need to check IFBM brewing requirements and possible residues with late applications	To be confirmed by cMS In Poland only 1 application. can be accepted. Also, winter barley could be accepted. and BBCH 30-49
barley, spring	FR	FF-075	F	<i>Rhynchosporium secalis</i> Leaf blotch (RHYNSE)	SC	350	Foliar Spray	BBCH 30-69	1 - 2	14	Prothio 50 - 200; Azoxy 37,5 - 150	100 - 400	Prothio 0,20; azoxy 0,150	35	Max. individual dose 1,0 l per ha Max. total dose per season 2,0 l per ha Need to check IFBM brewing requirements and possible residues with late applications	To be confirmed by cMS
barley, spring	FR	FF-075	F	<i>Pyrenophora teres</i> Net blotch (PYRNTE)	SC	350	Foliar Spray	BBCH 30-69	1 - 2	14	Prothio 50 - 200; Azoxy 37,5 - 150	100 - 400	Prothio 0,20; azoxy 0,150	35	Max. individual dose 1,0 l per ha Max. total dose per season 2,0 l per ha Need to check IFBM brewing requirements and possible residues with late applications	To be confirmed by cMS
barley, winter	DE, UK, IE			<i>Rhynchosporium secalis</i> Leaf blotch (RHYNSE)	SC	350	Foliar Spray	BBCH 30-69	1 - 2	14	Prothio 50 - 200; Azoxy 37,5 - 150	100 - 400	Prothio 0,20; azoxy 0,150	35	Max. individual dose 1,0 l per ha Max. total dose per season 2,0 l per ha Need to check IFBM brewing requirements and possible residues with late applications	To be confirmed by cMS

Crop and/or situation (a)	Member state or Country	Product name	F / G / I (b)	Pests or Group of pests controlled (c)	Formulation		Application				Application rate per treatment			PHI (days) (l)	Remarks (m)	zRMS Conclusion (efficacy)
					Type (d-f)	Conc. of as (i)	method kind (f-h)	growth stage & season (j)	number min max (k)	min interval between application (days)	kg as/hL min max	water L/ha min max	kg as/ha min max			
barley, winter	DE, UK, IE			<i>Pyrenophora teres</i> Net blotch (PYRNTE)	SC	350	Foliar Spray	BBCH 30-69	1 - 2	14	Prothio 50 - 200; Azoxy 37,5 - 150	100 - 400	Prothio 0,20; azoxy 0,150	35	Max. individual dose 1,0 l per ha Max. total dose per season 2,0 l per ha Need to check IFBM brewing requirements and possible residues with late applications	To be confirmed by cMS
barley, winter	FR, IT, ES			<i>Rhynchosporium secalis</i> Leaf blotch (RHYNSE)	SC	350	Foliar Spray	BBCH 30-69	1 - 2	14	Prothio 50 - 200; Azoxy 37,5 - 150	100 - 400	Prothio 0,20; azoxy 0,150	35	Max. individual dose 1,0 l per ha Max. total dose per season 2,0 l per ha Need to check IFBM brewing requirements and possible residues with late applications	To be confirmed by cMS
barley, winter	FR, IT, ES			<i>Pyrenophora teres</i> Net blotch (PYRNTE)	SC	350	Foliar Spray	BBCH 30-69	1 - 2	14	Prothio 50 - 200; Azoxy 37,5 - 150	100 - 400	Prothio 0,20; azoxy 0,150	35	Max. individual dose 1,0 l per ha Max. total dose per season 2,0 l per ha Need to check IFBM brewing requirements and possible residues with late applications	To be confirmed by cMS
Rye	DE, CZ, PL , UK, IE	FF-075	F	<i>Puccinia striiformis</i> . Yellow Rust (PUCCST)	SC	350	Foliar Spray	BBCH 30-69	1 - 2	14	Prothio 50 - 200; Azoxy 37,5 - 150	100 - 400	Prothio 0,20; azoxy 0,150	35	Max. individual dose 1,0 l per ha Max. total dose per season 2,0 l per ha	To be confirmed by cMS In PL cannot be accepted.
Rye	DE, CZ, PL , UK, IE	FF-075	F	<i>Puccinia recondita</i> Brown rust (PUCCRT)	SC	350	Foliar Spray	BBCH 30-69	1 - 2	14	Prothio 50 - 200; Azoxy 37,5 - 150	100 - 400	Prothio 0,20; azoxy 0,150	35	Max. individual dose 1,0 l per ha Max. total dose per season 2,0 l per ha	To be confirmed by cMS In PL cannot be accepted.

Crop and/or situation (a)	Member state or Country	Product name	F / G / I (b)	Pests or Group of pests controlled (c)	Formulation		Application				Application rate per treatment			PHI (days) (l)	Remarks (m)	zRMS Conclusion (efficiency)
					Type (d-f)	Conc. of as (i)	method kind (f-h)	growth stage & season (j)	number min max (k)	min interval between application (days)	kg as/hL min max	water L/ha min max	kg as/ha min max			
Oats	DE, CZ, PL , UK,IE	FF-075		<i>Puccinia coronata</i> Crown rust (PUCCCA)	SC	350	Foliar Spray	BBCH 30-69	1 - 2	14	Prothio 50 - 200; Azoxy 37,5 - 150	100 - 400	Prothio 0,20; azoxy 0,150	35	Max. individual dose 1,0 l per ha Max. total dose per season 2,0 l per ha	To be confirmed by cMS In PL cannot be accepted.
Oats	FR	FF-075		<i>Puccinia coronata</i> Crown rust (PUCCCA)	SC	350	Foliar Spray	BBCH 30-69	1 - 2	14	Prothio 50 - 200; Azoxy 37,5 - 150	100 - 400	Prothio 0,20; azoxy 0,150	35	Max. individual dose 1,0 l per ha Max. total dose per season 2,0 l per ha	To be confirmed by cMS
Rye	FR	FF-075	F	<i>Puccinia striiformis</i> . Yellow Rust (PUCCST)	SC	350	Foliar Spray	BBCH 30-69	1 - 2	14	Prothio 50 - 200; Azoxy 37,5 - 150	100 - 400	Prothio 0,20; azoxy 0,150	35	Max. individual dose 1,0 l per ha Max. total dose per season 2,0 l per ha	To be confirmed by cMS
Rye	FR	FF-075	F	<i>Puccinia recondita</i> Brown rust (PUCCRT)	SC	350	Foliar Spray	BBCH 30-69	1 - 2	14	Prothio 50 - 200; Azoxy 37,5 - 150	100 - 400	Prothio 0,20; azoxy 0,150	35	Max. individual dose 1,0 l per ha Max. total dose per season 2,0 l per ha	To be confirmed by cMS

* Use number(s) in accordance with the list of all intended GAPs in Part B, Section 0 should be given in column 1.

** F: professional field use, Fn: non-professional field use, Fpn: professional and non-professional field use, G: professional greenhouse use, Gn: non-professional greenhouse use, Gpn: professional and non-professional greenhouse use, I: indoor application

Column 15: zRMS conclusion.

A	Acceptable
R	Acceptable with further restriction
C	To be confirmed by cMS
N	Not acceptable / evaluation not possible
n.r.	Not relevant for section 3

3.2 Efficacy data (KCP 6)

Introduction

This document summarises the information related to the efficacy of the plant protection product FF-075 SC (soluble concentrate) containing the active substances prothioconazole and azoxystrobin, which were included into Annex I of Directive 91/414/EEC under EU Regulations ((EU) 2019/150 and (EU) No 703/2011). The SANCO reports for prothioconazole (SANCO/3923/07 – 10/12/2007) and azoxystrobin (SANCO/11027/2011 – 20/03/2015)) are considered to provide the relevant review information or a reference to where such information can be found.

The Annex I Inclusion Directive(s) for prothioconazole (2019/150/EC) and azoxystrobin (703/2011/EC)) provide specific provisions under Part A and Part B, which need to be considered by the applicant in the preparation of their submission and by the MS prior to granting an authorisation:

Only uses as fungicide may be authorised.

For the implementation of the uniform principles of Annex VI, the conclusions of the review reports on prothioconazole and azoxystrobin, and in particular Appendices I and II thereof, as finalised in the Standing Committee on the Food Chain and Animal Health on 10/12/2007 and 20/03/2015) shall be taken into account.

These concerns have been addressed within the current submission.

Information and data is submitted for zonal registration to support the use of the new product FF-075. An overview of zonal rapporteur member state and concerned member states is given in Table 3.2-1.

Table 3.2-1: Overview of zonal rapporteur member states (zRMS) and concerned member states (cMS)

zRMS (C-EU)	Poland	PL
cMS	Czech Republic	CZ
	France	FR
	Germany	DE
	Ireland	IE
	(United Kingdom - separately)	(UK)

No national addenda are submitted.

Appendix 1A of this document contains the reference list included for support of the evaluation.

Appendix 2 and section 3.1 of this document contain the table of intended uses (GAP) for FF-075.

Information on the detailed composition of FF-075 can be found in the confidential part of this submission (Registration Report - Part C).

Description of active substances

Information on the active substances is given in Table 3.2-2. For further physicochemical properties of the product, see Registration Report Part B, Sections 1, 2 and 4: Identity, physical and chemical properties and further information.

Table 3.2-2: Details of the active substances (prothioconazole and azoxystrobin)

Common name	Prothioconazole	Azoxystrobin
Concentration	200 g/L	150 g/L
Biological action	Systemic triazolinthione fungicide	Systemic fungicide
Chemical class	Conazole fungicide	Strobilurine fungicides
Mode of action	Interference with the synthesis of ergosterol in the target fungi by inhibition of CYP51	Inhibition of mitochondrial respiration in fungi
Chemical name (IUPAC)	2-[2-(1-chlorocyclopropyl)-3-(2-chlorophenyl)-2-hydroxypropyl]-2,4-dihydro-3H-1,2,4-triazole-3-thione	methyl (E)-2-{2-[6-(2-cyanophenoxy)pyrimidin-4-yl]oxy}phenyl}-3-methoxyacrylate
CAS registry number	178928-70-6	131860-33-8
EEC number	605-841-2	603-524-3

Mode of action

Prothioconazole

Prothioconazole is a systemic triazolinthione fungicide. Its mode of action is interference with the synthesis of ergosterol in the target fungi by inhibition of CYP51, which catalyses demethylation at C14 of lanosterol or 24-methylene dihydrolanosterol, leading to morphological and functional changes in the fungal cell membrane. The Fungicide Resistance Action Committee (FRAC) classified prothioconazole in Group 11, C3 – QoI-fungicides as an inhibitor of respiration in complex III at Qo-site.

Azoxystrobin

Azoxystrobin is a systemic fungicide. It is absorbed by the roots and translocated through the xylem to the stems and leaves or through the leaf surface to the leaf tips and growing edges. Azoxystrobin inhibits the mitochondrial respiration in fungi. FRAC classified azoxystrobin in Group 3, G1 – SBI Class I: DMI-fungicides as a sterol biosynthesis inhibitor (SBI) fungicide.

Description of the plant protection product

FF-075 is a soluble concentrate (SC) containing 200 g/L prothioconazole and 150 g/L azoxystrobin for control of control of white mould, dark leaf spot, net blotch, yellow rust, brown rust, crown rust, leaf blotch and head blight complex with a post-emergence application of 0.8 – 1.0 L/ha on oilseed rape and cereals (professional use).

FF-075 is currently not registered. The application will be submitted based on Article 33 of EU 1107/2009 in the following member states of the Central and Southern regulatory zone: the Czech Republic, France, Germany, Ireland, Italy, Malta, Poland, Spain and the United Kingdom (Table 3.2-3).

Table 3.2-3: Simplified table of currently registered uses and requested uses for the FF-075.

Uses		Member State	Currently registered rate(s)	Requested rate(s)	Comments / Other relevant details on GAPs
Crop(s)	Target(s)				
Oilseed rape	White mould, dark leaf spot,	CZ, DE, PL, FR, IE,	-	0.8 L/ha	
Cereals	Net blotch, yellow rust, brown rust, crown rust, leaf blotch, head blight complex	CZ, DE, PL, IE, FR, ,	-	1.0 L/ha	

Further details are in the table “All intended uses” in Part B - Section 0.

Description of the target pests

Table 3.2-4: Glossary of pests mentioned in the dossier.

EPPO code	Scientific name	Common name
SCLESC	<i>Sclerotinia sclerotiorum</i>	White mould
ALTEBA	<i>Alternaria brassicae</i>	Dark leaf spot
SEPTTR	<i>Septoria tritici</i>	Net blotch
PUCCST	<i>Puccinia striiformis</i>	Yellow rust
PUCCRE	<i>Puccinia recondita</i>	Brown rust
PUCCCA	<i>Puccinia coronata</i>	Crown rust
RHYNSE	<i>Rhynchosporium secalis</i>	Leaf blotch
PYRNTE	<i>Pyrenophora teres</i>	Net blotch
FUSASP	<i>Fusarium sp.</i>	Blight complex
LEPTNO	<i>Parastagonospora nodorum</i>	Glume blotch
PUCCHD	<i>Puccinia hordei</i>	Brown rust (barley)
ERYSGR	<i>Blumeria graminis</i>	Powdery mildew
PYRNTR	<i>Pyrenophora tritici-repentis</i>	Tan spot of cereals
PUCCRR	<i>Puccinia recondita f. sp. recondita</i>	Brown rust
RAMUCC	<i>Ramularia collo-cygni</i>	Ramularia leaf spot of barley
ERYSGT	<i>Blumeria graminis f. sp. tritici</i>	Powdery mildew of wheat
PUCCRT	<i>Puccinia triticina</i>	Brown rust of wheat

Table 3.2-5: Glossary of crops mentioned in the dossier

EPPO code	Scientific name	Common name	Trial type
AVESS	<i>Avena sp.</i>	Oat	E
BRSNW	<i>Brassica napus (winter)</i>	Winter rape	E
HORVW	<i>Hordeum vulgare (winter)</i>	Winter barley	E
HORVS	<i>Hordeum vulgare (spring)</i>	Spring barley	E
SECCW	<i>Secale cereale</i>	Winter rye	E
TRZAS	<i>Triticum aestivum (spring)</i>	Spring wheat	E
TRZAW	<i>Triticum aestivum (winter)</i>	Winter wheat	E
TTLWI	<i>Triticosecale (winter)</i>	Winter triticale	E

Table 3.2-6: Major / minor status of intended uses (for all cMS and zRMS).

Crop and/or situation	Crop status		Pests or group of pests controlled	Pest status	
	Major	minor		Major	minor
Winter oilseed rape	CZ, DE, FR, PL, UK	ES, IT, MT	SCLESC, ALTEBA	CZ, DE, FR, PL, UK	
Spring oilseed rape	CZ	CZ DE, ES, FR, IE, IT, MT, PL, UK	SCLESC, ALTEBA	CZ, PL	CZ DE, , FR, IE, , PL , UK
Winter wheat	CZ, DE, ES, FR, PL, UK	IT, MT	SEPTTR, PUCCST, PUCCRE, PUCCCA , RHYNSE , PYRNTE , FUSASP	CZ, DE, , FR, PL, UK	
Spring wheat	CZ, DE, , FR, , PL, UK	-	SEPTTR, PUCCST, PUCCRE, PUCCCA, RHYNSE, PYRNTE, FUSASP	CZ, DE, , FR, , PL, UK	-
Winter barley	DE, CZ	CZ ES, FR, IT, MT, PL, UK	SEPTTR, PUCCST, PUCCRE, PUCCCA , RHYNSE , PYRNTE , FUSASP	DE, PL, CZ	CZ FR, MT, PL , UK
Spring barley	CZ,	DE, FR, IT, MT, PL, UK	SEPTTR, PUCCST, PUCCRE, PUCCCA, RHYNSE, PYRNTE, FUSASP	CZ, ES, PL	DE, FR, MT, PL , UK
Oats	PL, DE , CZ	CZ DE FR, IT, MT, UK	SEPTTR, PUCCST , PUCCRE, PUCCCA, RHYNSE, PYRNTE, FUSASP	ES, PL, CZ , DE	CZ , DE FR, MT, UK
Winter rye	DE, PL, CZ	CZ ES, FR, IT, MT, UK	SEPTTR, PUCCST, PUCCRE, PUCCCA, RHYNSE, PYRNTE, FUSASP	DE, PL, CZ	CZ FR, MT, UK
Winter triticale	DE, PL, CZ	CZ ES, FR, IT, MT, UK	SEPTTR, PUCCST, PUCCRE, PUCCCA , RHYNSE	DE, PL, CZ	CZ FR, MT, UK

Crop and/or situation	Crop status		Pests or group of pests controlled	Pest status	
	Major	minor		Major	minor
			PYRNTE,FUSASP		

Compliance with the Uniform Principles

Trials presented in this document were carried out according to the relevant EPPO standards by different testing facilities (contractor companies) (Table 3.7-1), which are officially recognised by the competent authorities to carry out field registration trials in accordance with the principles of Good Experimental Practice (GEP).

On the basis of the EPPO standard 1/241 “Guidance on comparable climates”, the trials included in the dossier have been grouped and summarised by EPPO climatic zones. EPPO climatic zones have been defined by taking into account differences between the agroclimatic subareas of the EPPO region.

The EC Central (C-EU) regulatory zones cover countries in the EPPO Maritime (MA), the EPPO South-east (SE) and the EPPO North-east zone (NE), as described in EPPO standard PP 1/241. This submission includes data from the Czech Republic, Denmark, France, Germany, Ireland, Sweden and the United Kingdom (all EPPO Maritime), and Poland (EPPO North-east zone) which are representative for the proposed GAP.

Information on trials submitted (3.1 Efficacy data)

This document summarises 73 effectiveness trials against different fungicidal diseases performed during the period of 2019 and 2020 across a number of European countries (Czech Republic, Denmark, France, Germany, Ireland, Poland, Sweden and the United Kingdom) in a variety of crops (winter and spring wheat, winter and spring barley, winter rye, winter triticale, oats and winter oilseed rape).

Table 3.2-7: Presentation of trials (efficacy trials, preliminary trials...)

Crop(s) *	Target(s)*	Country	Years	Type of trial**	Number of trials (number of valid trials)		GEP, non-GEP, official***	Comments (any other relevant information)
					Maritime zone	North-east zone		
Winter cereals	Fungal disease	Czech Republic	2019-2020	MED +E	3 (3)	-	GEP	
		Denmark	2020	E	2 (2)	-	GEP	
		France	2019	MED +E	1 (1)	-	GEP	
			2020	MED + E	4 (4)	-	GEP	
		Germany	2019-2020	MED + E	13 (13)	-	GEP	
		Ireland	2020	E	4 (4)	-	GEP	
		Poland	2019 - 2020	MED +E	-	18 (18)	GEP	
		Sweden	2020	E	1 (1)	-	GEP	

Crop(s) *	Target(s)*	Country	Years	Type of trial**	Number of trials (number of valid trials)		GEP, non-GEP, official***	Comments (any other relevant information)
					Maritime zone	North-east zone		
		The United Kingdom	2020	MED + E	11 (11)	-	GEP	
	TOTAL	-	2019-2020	-	49 (49) 39 (39)	18 (18)	-	
Spring cereals	Fungal disease	Poland	2020	MED+E	-	6 (6)	GEP	
		Sweden	2020	E	1 (1)	-	GEP	
		The United Kingdom	2020	MED+E	1 (1)	-	GEP	
	TOTAL	-	2019-2020	-	2 (2)	6 (6)	-	
Oilseed rape	Fungal disease	Germany	2020	E	2 (2)	-	GEP	
		Ireland	2020	E	1 (1)	-	GEP	
		Poland	2019	MED + E	-	2 (2)	GEP	
			2020	E	-	2 (2)	GEP	
		The United Kingdom	2020	E	1 (1)	-	GEP	
	TOTAL	-	2019-2020	-	4 (4)	4 (4)	-	

* According to the GAP table. Timing of the application(s) can be added if relevant (e.g. Pre-emergence vs post-emergence, spring vs autumn).

** P = preliminary trial, MED = minimum effective dose, E = efficacy trial.

*** GEP: Good Experimental Practices. Official: carried out by a national official organisation.

In Figure 3.2-1 to Figure 3.2-8, an overview of the trial locations is presented for each country separately.

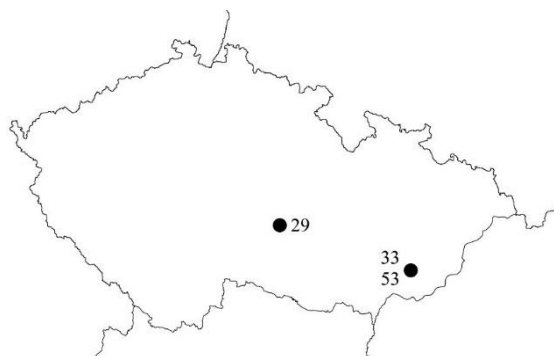


Figure 3.2-1 Czech Republic: location of efficacy trials. Dots show the trials conducted in winter cereals Vysočina [1] and Zlínský kraj [2]. The numbers are the annex numbers of the trial reports.

In the trials with the number 29 and 33 also minimum effective dose rate was tested.

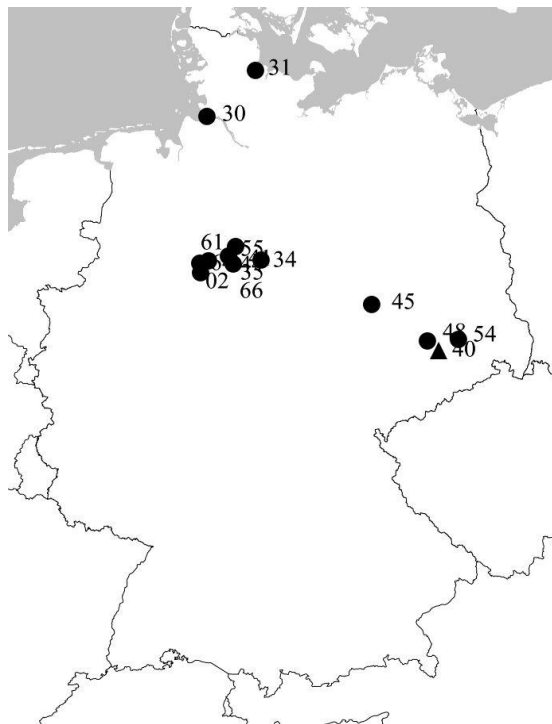


Figure 3.2-2: Germany: location of efficacy trials. Dots show the trials conducted in winter cereals and the triangle show the trials in oilseed rape. Niedersachsen [8], Nordrhein-Westfalen [1], Sachsen [4] and Schleswig-Holstein [2]. The numbers are the annex numbers of the trial reports.

Minimum effective dose rate was conducted in the trials with the annex number 02, 30, 31, 34 and 35.



Figure 3.2-3: Denmark: location of efficacy trials. Dots show the trials conducted in winter cereals Syddanmark [2]. The numbers are the annex numbers of the trial reports.

No minimum effective dose was conducted in these efficacy trials.

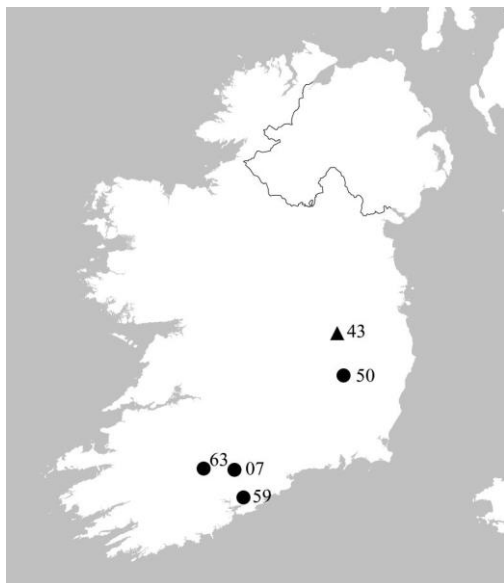


Figure 3.2-4: Ireland: location of efficacy trials. Dots show the trials conducted in winter cereals and the triangle show the trials in oilseed rape. Cúige Laighean [2] and Cúige Mumhan [4]. The numbers are the annex numbers of the trial reports.

In the trial with the annex number 07 also minimum effective dose was conducted.



Figure 3.2-5: Sweden: location of efficacy trials. Dots show the trials conducted in winter cereals Östergötlands län [2]. The numbers are the annex numbers of the trial reports.

No minimum effective dose rate was conducted in these efficacy trials.

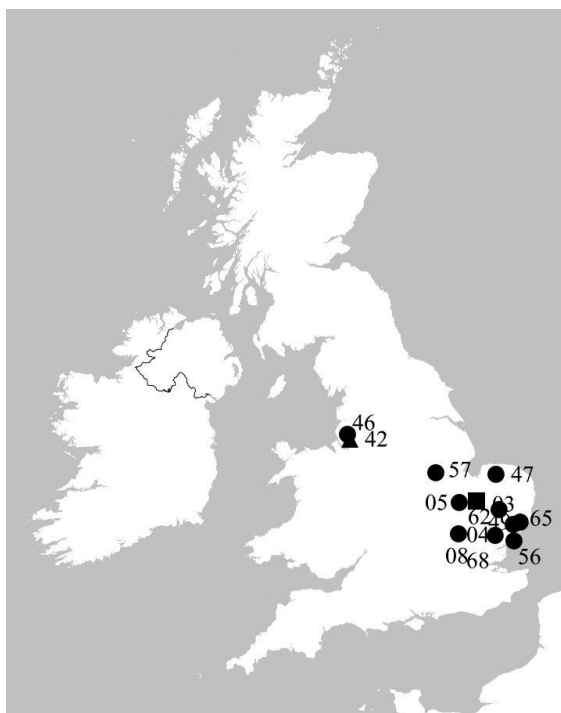


Figure 3.2-6: The United Kingdom: location of efficacy trials. Dots show the trials conducted in winter cereals. the triangles show the trials in oilseed rape and the squares show the trials in spring cereals. Cambridgeshire [1], Essex [3], Hertfordshire [1], Lancashire [1], Lincolnshire [1], Merseyside [1], Norfolk [1] and Suffolk [4]. The numbers are the annex numbers of the trial reports.

In four trials with the number 03, 04, 05 and 08 also minimum effective dose rate was conducted.

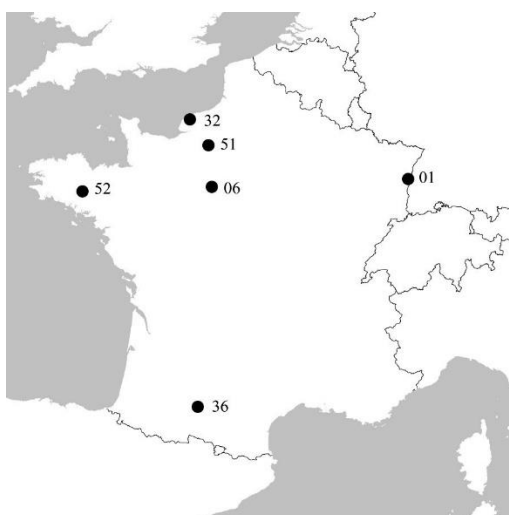


Figure 3.2-7: France: location of efficacy trials. Dots show the trials conducted in winter cereals Bretagne [1], Centre-Val de Loire [1], Grand Est [1], Normandie [2] and Occitanie [1]. The numbers are the annex numbers of the trial reports.

In the trials with the annex number 01, 06, 32 and 36 also minimum effective dose rate was conducted.

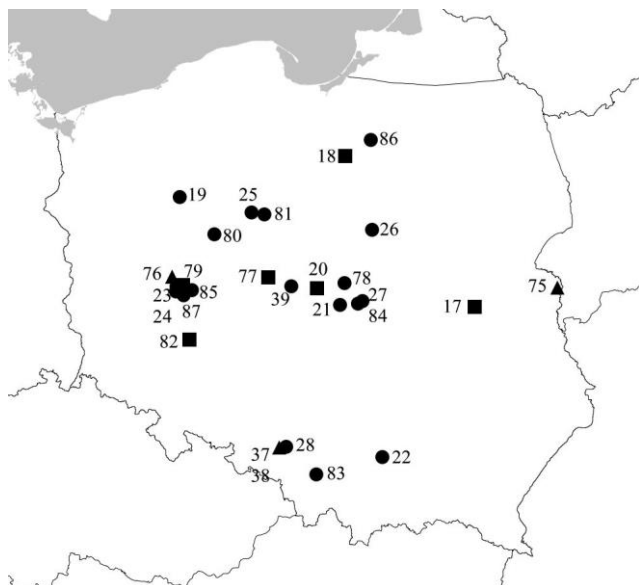


Figure 3.2-8: Poland: location of efficacy trials. Dots show the trials conducted in winter cereals. the triangles show the trials in oilseed rape and the squares show the trials in spring cereals. Dolno-śląskie [1], Kujawsko-pomorskie [2], Łódzkie [5], Lubelskie [1], Małopolskie [2], Śląskie [3], Warmińsko-mazurskie [3] and Wielkopolskie [11]. The numbers are the annex numbers of the trial reports.

In 15 trials (17 – 28 and 37-38) also minimum effective dose rate was conducted.

Table 3.2-8: Presentation of reference standards used in trials (efficacy trials, preliminary trials...)

Crop(s)	Reference standard	Country(ies) where the product is registered ⁽¹⁾	Authorization number	Active substance(s)	Formulation type ⁽²⁾	Concentration of a.s.	Registered application rate ⁽³⁾	Application rate in trials (per treatment)	Remark ⁽⁴⁾
TRZAS, TRZAW, BRSNW, HORVS, HORVW, SECCW, TTLWI	Amistar	UK	18039	azoxystrobin	SC	250 g/L	1 l/ha	150 g/ha	
		FR	9600093	azoxystrobin	SC	250 g/L	0.8 - 1 l/ha	150 g/ha	
		CZ	4247-1V	azoxystrobin	SC	250 g/L	0.8 - 1 l/ha	160 g/ha	
		PL	R-40/2011	azoxystrobin	SC	250 g/L	n.a.	150-160 g/ha	
BRSNW, TRZAW, HORVW	Curbatur	DE	25287	prothioconazol	EC	250 g/L	0.8 L/ha (0.7 L/ha SECCW)	138-200 g/ha	
HORVW, TRZAW	Minister	DE	008127-00	cyproconazol + azoxystrobin	SC	80 g/L + 200 g/L	0.75 L/ha (1.0 L/ha SECCW, TTLWI)	280 g/ha	
TRZAS, TRZAW, BRSNW, HORVS, HORVW, SECCW, TTLWI	Proline (Joao)	UK	12084	prothioconazol	EC	250 g/L	0.8 l/ha (0.7 l/ha BRSNW)	120-200 g/ha	
		FR	2060116	prothioconazol	EC	250 g/L	0.7 - 0.8 l/ha	120-200 g/ha	
		DE	025287-00	prothioconazol	EC	250 g/L	0.8 L/ha (0.7 L/ha BRSNW)	120-200 g/ha	
		CZ	4523-1	prothioconazol	EC	250 g/L	n.a.	120-200 g/ha	
		PL	R-17/2005	prothioconazol	EC	250 g/L	n.a.	120-200 g/ha	
		IE	3786	prothioconazol	EC	250 g/L			
BRSNW, TRZAW	Amistar Xtra	CZ	4626-0	azoxystrobin + cyproconazol	SC	200 g/L + 80 g/L	n.a.	280 g/ha	
		DE	not registered					280 g/ha	
	= Azerty Xtra	FR	2060115	azoxystrobin + cyproconazol	SC	200 g/L + 80 g/L	1 l/ha	280 g/ha	
	Amistar Xtra	PL	not registered					280 g/ha	
HORVW, HORVS,	Mirador Xtra	UK	18542	azoxystrobin + cyproconazol	SC	200 g/L + 80 g/L	1 l/ha	280 g/ha	
		FR	not registered					280 g/ha	

Crop(s)	Reference standard	Country(ies) where the product is registered ⁽¹⁾	Authorization number	Active substance(s)	Formulation type ⁽²⁾	Concentration of a.s.	Registered application rate ⁽³⁾	Application rate in trials (per treatment)	Remark ⁽⁴⁾
TRZAW, AVESS		IE	not registered					280 g/ha	
		CZ	4626-1	azoxystrobin + cyproconazol	SC	200 g/L + 80 g/L	n.a.	280 g/ha	
		PL	not registered					280 g/ha	
HORVW, HORVS, TRZAW, TTLWI	Tazer	PL	R-48/2015	azoxystrobin	SC	250 g/l	n.a.	150-250 g/ha	
TRZAW	Azerty Xtra	FR	2060115	azoxystrobin + cyproconazol	SC	200 g/L + 80 g/L	1 l/ha	280 g/ha	
BRSNW, HORVS, HORVW, TRZAW	Orius Extra 250 EW	PL	R-77/2015	tebuconazol	EW	250 g/L	n.a.	250 g/ha	
HORVW, TRZAW	Torero	DE	008235-00	azoxystrobin	SC	250 g/L	1.0 L/ha	150-200 g/ha	
HORVW, HORVS, TRZAW	Propulse SE 250	SE	5347	fluopyram + prothioconazol	SC	125 g/L+ 125 g/L	1 l/ha	250 g/ha	
		DK	18-597	fluopyram + prothioconazol	SC	125 g/L+ 125 g/L	1 l/ha	250 g/ha	

- (1) only on use(s) applied for (with the test product).
(2) e.g. WP (wetable powder), EC (emulsifiable concentrate), etc.
(3) dose(s) / dose range authorized on that use in the country.
(4) Other relevant information (e.g. uses, number of applications, spray volume, method of application, etc.).

Classification of pest control levels

Efficacy (%)	Pest susceptibility	Pest control level
≥ 80.0%	Susceptible	Good control
60.0 – 79.9%	Moderately susceptible	Moderate control
40.0 – 59.9%	Moderately tolerant	Reduction
≤ 39.9%	Tolerant	No control

Statistical analysis

In all presented trials, mean comparisons were performed using a two-way analysis of variance (ANOVA) followed by comparison of individual treatments. The coefficient of variation (CV) was also calculated. All analyses were conducted using ARM.

The tabulated data presented in this biological dossier represents the means of selected treatments within an assessment. Where appropriate, treatment effects are reported in terms of a percentage of the untreated control. The raw data together with the statistical analysis for individual trial treatments and the untreated control are presented in Appendix 5 of this document. There, treatments with a common alphabetical subscript are not significantly different from each other.

Comments of zRMS:	<p>All necessary information's are presented above by Applicant. This document summarises the information related to the efficacy of the plant protection product – Euskatel Pro (product code: FF-075). The formulation of this product is a soluble concentrate (SC) and it is containing two active substances: azoxystrobin (150 g/l) and prothioconazole (200 g/L). For now, both – azoxystrobin and prothioconazole are on the list of approved active substances.</p> <p>Azoxystrobin is a broad-spectrum fungicide for the control of many plant diseases. It has the same biochemical mode of action as the naturally occurring strobilurins and is structurally related to them. Azoxystrobin is a β-methoxyacrylate. It is included in the same chemical class as trifloxystrobin, dimoxystrobin, fluoxastrobin, picoxystrobin, pyraclostrobin, and trifloxystrobin. Azoxystrobin is a subsurface and systemic contact fungicide with penetrant properties. Azoxystrobin is an active substance from the strobilurin class of chemistry, acting via the QoI mode of action against a wide range of fungal diseases in fruit, vegetable and cereal crops including leaf spots, <i>Sclerotinia</i> and powdery mildew. The broad-spectrum action of azoxystrobin is consistent with action on respiration, a fundamental biochemical process in all classes of fungal pathogen.</p> <p>Prothioconazole is a systemic triazolinthione fungicide. Its mode of action is interference with the synthesis of ergosterol in the target fungi by inhibition of CYP51, which catalyses demethylation at C14 of lanosterol or 24-methylene dihydrolanosterol, leading to morphological and functional changes in the fungal cell membrane. The Fungicide Resistance Action Committee (FRAC) classified prothioconazole in Group 11, C3 – QoI-fungicides as an inhibitor of respiration in complex III at Qo-site.</p> <p>In Poland 78 plant protection products with prothioconazole and 94 plant protection products with azoxystrobin are registered and commonly used for protection crops against pests. On the Polish market no plant protection product with both these active compounds is registered in one product. Euskatel Pro will be the first fungicide with azoxystrobin and prothioconazole on Polish market after registration.</p>
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	<p>The product – Euskatel Pro (product code: FF-075) by Rotam Agrochemical Europe Limited has not been previously evaluated in any country according to Uniform Principles.</p> <p>Poland is a ZRMs.</p>
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3.2.1 Preliminary tests (KCP 6.1)

No preliminary range finding tests were conducted. The active substances included in the product FF-075 are available for long time on the market and are used for fungicides over several years. The mode of action and the effectiveness is well known of these substances.

Comments of zRMS:	<p>Statement accepted. The active substance of Euskatel Pro (product code: FF-075) containing azoxystrobin (150 g/l) and prothioconazole (200 g/L) are registered and has been commonly used in crop protection in EU Countries for many years. Also, a large-scale efficacy trials are available to evaluate the effectiveness of products containing azoxystrobin or prothioconazole as active compound. Therefore, there was no need for preliminary range-finding tests in the opinion of Evaluator.</p> <p>Applicant did not submit any justification of the mixture. However, in efficacy trials different standard reference were used – comparing azoxystrobin or prothioconazole. Euskatel Pro applied at recommended dose achieved consistently similar or higher levels of control than obtained with the prothioconazole containing reference products as well as the azoxystrobin-containing reference products. Combining two actives in Euskatel Pro has the benefit of reducing the number of products handled by the spray operator as well as an important tool in resistance management in the opinion of Evaluator. In the world are already known fungicides with prothioconazole and azoxystrobin in one plant protection products, for example: Maxentis is a unique co-formulation of two of the world's most effective fungicides, prothioconazole and azoxystrobin. As a Group 3 and 11, dual mode of action fungicide, it provides improved disease control spectrum, efficacy, and resistance management, as well as an important rotation option following commonly used in-furrow and seed treatment fungicides. It is registered and used in Australia.</p>
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3.2.2 Minimum effective dose tests (KCP 6.2)

In total, 30 trials were carried out to evaluate the minimum effective dose of FF-075 by looking at the efficacy of the fungicide assessing pest severity in different parts of the plant as described in each crop for the following pathogens: ERYSGT (*Blumeria graminis* f. sp. *tritici*), ERYSGR (*Blumeria graminis*) FUSASP (*Fusarium* species), PUCCHD (*Puccinia hordei*), PUCCRE (*Puccinia recondita*), PUCCRR (*Puccinia recondita* f. sp. *recondita*), PUCCRT (*Puccinia triticina*), PUCCST (*Puccinia striiformis*), PYRNTR (*Pyrenophora tritici-repentis*), PYRNTE (*Pyrenophora teres*), RAMUCC (*Ramularia collo-cygni*), RHYNSE (*Rhynchosporium secalis*), SCLESC (*Sclerotinia sclerotiorum*) and SEPTTR (*Septoria tritici*) in cereals planted in winter and spring (AVESS, HORVS and HORVW, SECCW, TRZAS and TRZAW and TTLWI) as well as in oil seed rape (BRSNW). All trials were conducted according to GEP and followed the appropriate EPPO standards by officially recognised testing organisations.

The distribution of trials by location and year are described in Table 3.2-9 and Table 3.2-10.

Table 3.2-9: Number of minimum effective dose trials included in the dossier sorted by country and year

Year			
Country	2019	2020	Total
Czech Republic	2	-	2
Germany	4	1	5
France	1	2	3
Ireland	-	1	1
Poland	3	12	15
United Kingdom	-	4	4
Total	10	20	30

Table 3.2-10: Number of minimum effective dose trials included in the dossier sorted by country and EP-PO climatic zones

EPPO zone		
Country	Maritime	North-east
Czech Republic	2	-
Germany	5	-
France	3	-
Ireland	1	-
Poland	-	15
United Kingdom	4	-
Total	15	15

3.2.2.1 EPPO Maritime zone

Winter cereals

Material and methods

In total, 14 field trials were carried out in Czech Republic (2), Germany (5), France (3), Ireland (1) and the United Kingdom (3) during the years 2019 (7) and 2020 (7). The objective was to determine the minimum effective dose of the foliar preventative fungicide effect of FF-075 against FUSASP (2 trials), Puccre (2 trials), Puccst (2 trials), PyrnTE (1 trial), RHYNSE (2 trial), and SEPTTR (17 trials) in cereals planted in winter (HORVW and TRZAW). The trials were carried out according to GEP by officially recognised testing organisations and the guideline(s) EPPO PP 1/135(4), PP 1/152(4), PP 1/181(4), 1/214(4), PP 1/225(2) and EPPO PP 1/26(4) were used.

FF-075 was applied once or twice on the crop. For both applications, the same rate was used. The rates tested were: 0.4, 0.6, 0.8 and 1.0 L/ha. The rates reflect the rate proposed on the label and 40%, 60% and 80% of the recommended rate of FF-075 in accordance with the EPPO standard PP 1/225 'Minimum effective dose'.

Detailed information on the experiments and application methods is given in Table 3.2-11. For further information on the reference products please refer to Table 3.2-8.

As the application of FF-075 is recommended as a preventive treatment against the infection of the mentioned pathogens, low infestation levels of the untreated control were also considered for the assessment of efficacy. Data supporting the effect of one (A/B) or two applications (AB) is presented. Application timing named A, refers to applications carried earlier within the recommended BBCH range in which the fungicide is suggested to be used in the crop. On the contrary, timing named B, refers to applications carried out later within the recommended BBCH range in which the fungicide is recommended to be used in the crop. In presented trials, one or two applications were carried out at BBCH 32-61. For timing AB, FF-075 was used in two step-wise applications. For both applications,

the same rate was used. The target rate tested was 1.0 L/ha of FF-075 in winter cereals. The applications were conducted within the growth stages described between BBCH 30-59/69. The interval between applications corresponded to 20-36 days.

In case of no infestation during one assessment or in a whole trial, the data was excluded. Data presented corresponds to the assessment carried out on one up to three fully developed leaves of a tiller (leaf levels) two to three weeks after each application. The leaf levels presented include leaf 1 to 3 (L1-L3) and depending on the pathogen (when affecting ear) also data for ears were presented as for FUSASP concerns. In each evaluation, the parameter assessed was efficacy (percentage of control) expressed as the percentage of infestation as well-known as percentage of severity (PESSEV). Even when available, no pest incidence (PESINC) data was included. The reason for this is the strong variation on this parameter depending on the infestation of diseases presented in the crop. At times PESINC reached very high values already at early assessments, poorly reflecting the control performed for the treatments (included the reference product) as compared with the strong evidence that is obtained after the evaluation of pest severity (PESSEV) in the crop.

Table 3.2-11: Experimental details and application methods of the minimum effective dose test trials with FF-075 against ERYSGT, FUSASP, LEPTNO, PUCCHD, PUCCRE, PUCCRT, PUCCSP, PUCCST, PYRNTR, and SEPTTR in winter cereals in the EPPO Maritime zone (numerals in brackets indicate the number of trials, except for the information on guidelines)

Total number of trials		<u>14</u>
Guidelines	General guidelines	EPPO PP 1/135(4), PP 1/152(4), PP 1/181(4), 1/214(4), PP 1/225(2)
	Specific guidelines	EPPO PP 1/26(4)
	GEP	Yes (14)
Experimental design	Plot design	RCBD (14)
	Plot size	18-33 m ²
	Number of replications	4 (14)
Crop	Trials per crop	Winter wheat (22) Winter barley (4)
	Varieties per crop	Winter wheat: Benchmrk (1), Crusoe (1), Diamento (1), Frisky (1), JB Diego (1), KWS Barrel (1), Norin (1), Rubisko (2), Siskin (1), Tobak (4) Winter barley: SU Jule (1)
	Sowing period	Winter wheat: September-October 2018, October--November 2019 Winter barley: September 2019
Application	Crop stage (BBCH)* at application	Winter wheat: BBCH 32 - BBCH 61 Winter barley: BBCH 32 – BBCH 45
	Timing Pests	Post-emergence ERYSGT (2) FUSASP (2) LEPTNO (1) PUCCHD (1) PUCCRE (2) PUCCRT (5) PUCCST (1) PYRNTR (1) SEPTTR (11)
	Number of applications	1 (7), however conducted at two time points in the same plot, therefore assessments at DA-B shown
	Intervals between applications	2 (7) 20-36 days
	Spray volumes	150 - 300 l/ha
Assessment	Assessment types	% severity, % incidence, % green leaf area

	Assessment dates	12-25 DA-A, 27-43 DA-A, 7-24 DA-B, 26-41 DA-B
Other relevant information	Soil type	Clay loam (2), loam (1), sandy clay loam (1), sandy loam (3), silty clay (1), silt loam (3), silty clay loam (2), n.s. (1)
	Soil pH	pH 6.2 – pH 7.4 and n.s. (10)
	Natural/artificial inoculation	Natural (14)
	Field / Greenhouse	F (14)
	Application rate of test product	0.4, 0.6, 0.8 and 1.0 L/ha product

Results

One application on winter cereals (A)

Pest Severity (efficacy)

FUSASP

% of control of Pest Severity (PESSEV)

Ear (% of control of pest severity) one application

In Table 3.2-12, a summary of the MED results after the use of 60%, 80% and full rate of FF-075 for ear of cereals in two trials are presented. The assessment shown was carried out at the growth plant stage close to BBCH 85 (27 to 45 days after the application).

Pest	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control with FF-075									No of trials where FF-075 is >, <, = compared to FF-075 (60% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (80% of full rate)
						FF-075 (60% of full rate)			FF-075 (80% of full rate)			FF-075 (100% of full rate)				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
~ BBCH 85 (27-46 DA-A)																
FUSASP	EAR	2	10.1	10.1	1.6 - 18.6	84.9	-	-	42.9	42.9	7.8 - 78.0	58.5	58.5	36.4 - 80.6	-	-
FUSASP	EAR	1	18.6	-	-	84.9	-	-	78.0	-	-	80.6	-	-	0 trials > 1 trial = 0 trials <	- - -
FUSASP	EAR	2	10.1	10.1	1.6 - 18.6	84.9	-	-	42.9	42.9	7.8 - 78.0	58.5	58.5	36.4 - 80.6	- - -	0 trials > 2 trials = 0 trials <

Conclusions

According to the presented results, variations in dose response were observed after comparing the different rates of FF-075 tested in ears. No dose response was recorded after the use of 60 % and 80% of the full rate. A clear dose response between 80% of the full rate and the full rate of FF-075 was observed after comparison of absolute efficacy values. Despite this, the control of 60% of the full rate and the full rate as well as 80% of the full rate and the full rate of the fungicide were statistically comparable.

In order to overcome such variations and ensure the best control under all conditions, the proposed rate of 1.0 l/ha of FF-075 applied once in winter cereals (in this case wheat wheat) should be considered the minimum effective dose to deliver broad spectrum control of FUSASP (*Fusarium* sp.) under a wide range of environmental conditions in the EPPO Maritime zone.

PUCCRE

% of control of Pest Severity (PESSEV)

Leaf level 1 to 3 (L1-L3) (% of control of pest severity)

In Table 3.2-13, a summary of the MED results for L1-L3 of cereals in one trial is presented. The assessments were carried out 27-43 days after the application (A timing thus DA-A).

Table 3.2-13: Summary of the minimum effective dose of results of FF-075 used as preventive fungicide in winter cereals (TRZAW) (EPPO Maritime zone), concerning % of control of *Puccinia recondita*. (PUCCRE) in terms of % of severity (PESSEV), assessed in L1-L3 after one application at A (60% and 80 % of the full rate).

Pest	Number of trials	Grouping	Infestation of the untreated control (ground cover in %)			% control with FF-075									No of trials where FF-075 is >, <, = compared to FF-075 (60% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (80% of full rate)
						FF-075 (60% of full rate)			FF-075 (80% of full rate)			FF-075 (100% of full rate)				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
27-43 DA-A																
PUCCRE	1	LEAF 1	8.7	-	-	49.7	-	-	66.6	-	-	65.1	-	-	1 trial > 0 trials = 0 trials <	0 trials > 1 trial = 0 trials <
PUCCRE	1	LEAF 2	25.6	-	-	36.4	-	-	58.0	-	-	66.2	-	-	1 trial > 0 trials = 0 trials <	0 trials > 1 trial = 0 trials <
PUCCRE	1	LEAF 3	39.4	-	-	78.5	-	-	86.8	-	-	90.2	-	-	1 trial > 0 trials = 0 trials <	0 trials > 1 trial = 0 trials <

Conclusions

According to the presented results, a clear dose response was observed among the use of all tested rates only when assessing L2 and to L3. For L1, a clear dose response was observed only after comparison of 60% and 80% of the full rate of FF-075. Furthermore, by comparing mean efficacy values of the rates smaller than the full rate and the full rate, significant difference between the use of 60% of the full rate and the full rate was found in all assessed leaves. On the contrary the use of 80% of the full rate and the full rate of the fungicide rendered not significant differences. High efficacy values were recorded particularly after assessment of L3 (the oldest leaf).

In order to overcome control variations in the field and ensure the best control under all conditions, the proposed rate of 1.00 l/ha of FF-075 applied once in winter cereals (in this case winter wheat) should be considered the minimum effective dose to deliver broad spectrum control of PUCCRE (*Puccinia recondita*) under a wide range of environmental conditions in the EPPO Maritime zone.

SEPTTR

% of control of Pest Severity (PESSEV)

Leaf level 1 to 3 (L1-L3) (% of control of pest severity)

In Table 3.2-14, a summary of the MED results for L1-L3 of winter cereals in up two trials is presented. The assessments were carried out at 12-25 and 27-43 days after the application (A timing thus DA-A).

Table 3.2-14: Summary of the minimum effective dose of results of FF-075 used as preventive fungicide in winter cereals (TRZAW) (EPPO Maritime zone), concerning % of control of *Zymoseptoria tritici*. (SEPTTR) in terms of % of severity (PESSEV), assessed in L1-L3 after one application at A (60% and 80 % of the full rate).

Pest	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control with FF-075									No of trials where FF-075 is >, <, = compared to FF-075 (60% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (80% of full rate)
						FF-075 (60% of full rate)			FF-075 (80% of full rate)			FF-075 (100% of full rate)				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
12-25 DA-A																
SEPTTR	LEAF3	1	4.9	-	-	0.0	-	-	12.2	-	-	0.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 0 trials = 1 trial <
27-43 DA-A																
SEPTTR	LEAF1	1	2.4	-	-	62.5	-	-	83.3	-	-	50.0	-	-	0 trials > 0 trials = 1 trial <	0 trials > 0 trials = 1 trial <
SEPTTR	LEAF2	1	4.1	-	-	61.0	-	-	43.9	-	-	53.7	-	-	0 trials > 0 trials = 1 trial <	1 trial > 0 trials = 0 trials <
SEPTTR	LEAF3	1	47.3	-	-	35.3	-	-	4.7	-	-	25.6	-	-	0 trials > 0 trials = 1 trial <	1 trial > 0 trials = 0 trials <

Conclusions

According to the presented results, strong variations in dose response were observed after the assessment of the different rates of FF-075 tested in all leaves assessed. For the first assessment very low efficacy values were recorded. In this instance, a clear dose response between the use of 60% and 80 % of the full rate of FF-075 was observed for the assessed leaf (L1). Furthermore, the efficacy of the use of 80% of the full rate reached a higher value as compared with the full rate of FF-075. In the second assessment the dose response was observed only between 60% and 80% of the full rate for L1; 80% and the full rate of fungicide for L2 and 80% and the full rate for L3. Over both assessments, for most of the assessed leaves, the use of the full rate of FF-075 performed significantly below the performance of the application of 60% or 80% of the full rate in most of the cases (leaves considered). Exception to the latter was observed after comparing full rate of the fungicide with 80% of the full rate after disease assessment in L2 and L3.

Considering the strong variation observed, efficient control of the disease was observed after the second assessment of the application. Thus, in order to overcome such variations and ensure the best control under all conditions, the proposed rate of 1.00 l/ha of FF-075 applied once in winter cereals (in this case winter wheat) should be considered the minimum effective dose to deliver broad spectrum control of SEPTTR (*Zymoseptoria tritici*) under a wide range of environmental conditions in the EP-PO Maritime zone.

One application on winter cereals (B)

Pest Severity (efficacy)

PUCCHD

% of control of Pest Severity (PESSEV)

Leaf level 1 to 2 (L1-L2) (% of control of pest severity)

In Table 3.2-15, a summary of the MED results for L1-L2 of cereals in one trial is presented. The assessment was carried at 26-41 days after the application (B timing thus DA-B).

Table 3.2-15: Summary of the minimum effective dose of results of FF-075 used as preventive fungicide in winter cereals (HORVW) (EPPO Maritime zone), concerning % of control of *Puccinia hordei*. (PUCCHD) in terms of % of severity (PESSEV), assessed in L1-L2 after one application at B (60% and 80 % of the full rate).

Pest	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control with FF-075									No of trials where FF-075 is >, <, = compared to FF-075 (60% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (80% of full rate)
						FF-075 (60% of full rate)			FF-075 (80% of full rate)			FF-075 (100% of full rate)				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
26-41 DA-B																
PUCCHD	LEAF1	1	1.6	-	-	100.0	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
PUCCHD	LEAF2	1	6.0	-	-	100.0	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Conclusions

Considering a low PUCCHD infestation rate in the presented trial, all assessed rates (60% and 80% of the full rate of FF-075) of FF-075 rates rendered 100% of efficacy thus no dose response was recorded (statistical equivalence between rates was found).

Based on practical applicable agricultural practices, to be able to control most of diseases appearing on the crop in the field and ensure the their best control under all conditions, the proposed rate of 1.0 l/ha of FF-075 applied once in winter cereals (HORVW) should be considered the minimum effective dose to deliver broad spectrum control of PUCCHD (*Puccinia hordei*) at the same time as other pathogens affecting the crop under a wide range of environmental conditions in the EPPO Maritime zone.

PUCCRE

% of control of Pest Severity (PESSEV)

Leaf level 1 to 3 (L1-L3) (% of control of pest severity)

In Table 3.2-16, a summary of the MED results for L1-L3 of cereals in up two trials are presented. The assessments were carried out at 7-24 and 26-41 days after the application (B timing thus DA-B).

Table 3.2-16: Summary of the minimum effective dose of results of FF-075 used as preventive fungicide in winter cereals (TRZAW) (EPPO Maritime zone), concerning % of control of *Puccinia recondita*. (PUCCRE) in terms of % of severity (PESSEV), assessed in L1-L3 after one application at B (60% and 80 % of the full rate).

Pest	Number of trials	Grouping	Infestation of the untreated control (ground cover in %)			% control with FF-075									No of trials where FF-075 is >, <, = compared to FF-075 (60% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (80% of full rate)
						FF-075 (60% of full rate)			FF-075 (80% of full rate)			FF-075 (100% of full rate)				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
7-24 DA-B																
PUCCRE	1	LEAF 1	8.7	-	-	100.0	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
PUCCRE	1	LEAF2	25.6	-	-	100.0	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
PUCCRE	1	LEAF3	39.4	-	-	100.0	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
26-41 DA-B																
PUCCRE	2	LEAF 1	49.8	49.8	1.5 - 98.1	95.8	95.8	91.5 - 100.0	95.8	95.8	91.6 - 100.0	97.7	97.7	95.3 - 100.0	1 trial > 1 trial = 0 trials <	0 trials > 2 trials = 0 trials <
PUCCRE	2	LEAF2	50.4	50.4	2.0 - 98.8	57.0	57.0	13.9 - 100.0	77.3	77.3	54.5 - 100.0	91.2	91.2	82.3 - 100.0	0 trials > 1 trial = 0 trials <	0 trials > 2 trials = 0 trials <
															0 trials >	0 trials >

Pest	Number of trials	Grouping	Infestation of the untreated			% control with FF-075								No of trials = 0 trials <	No of trials = 0 trials <	
PUCCRE	2	LEAF3	49.8	49.8	2.0 - 97.5	60.9	60.9	21.7 - 100.0	80.8	80.8	61.5 - 100.0	87.8	87.8	75.6 - 100.0	2 trials = 0 trials <	2 trials = 0 trials <

Conclusions

According to the presented results, variations in dose response were observed after the assessment of the different rates of FF-075 tested in all leaves assessed. For the first assessment all rates rendered 100% of efficacy thus no dose response was recorded (statistical equivalence between rates was found). In the second assessment no dose response for L1 was observed. Even when for L2 and L3 mean efficacy values suggest a clear dose response due to lower control of lower rates; no difference in the control observed by 60% and 80% of the full rate as compared with the full rate was found.

In order to overcome such variations and ensure the best control under all conditions, the proposed rate of 1.0 l/ha of FF-075 applied once in winter cereals (in this case winter wheat) should be considered the minimum effective dose to deliver broad spectrum control of PUCCRE (*Puccinia recondita*) under a wide range of environmental conditions in the EPPO Maritime zone.

SEPTTR

% of control of Pest Severity (PESSEV)

Leaf level 1 to 3 (L1-L3) (% of control of pest severity)

In Table 3.2-17, a summary of the MED results for L1-L3 of cereals in up two trials is presented. The assessments were carried out at 7-24 and 26-41 days after the application (B timing thus DA-B).

Table 3.2-17: Summary of the minimum effective dose of results of FF-075 used as preventive fungicide in winter cereals (TRZAW) (EPPO Maritime zone), concerning % of control of *Zymoseptoria tritici*. (SEPTTR) in terms of % of severity (PESSEV), assessed in L1-L3 after one application at B (60% and 80 % of the full rate).

Pest	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control with FF-075									No of trials where FF-075 is >, <, = compared to FF-075 (60% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (80% of full rate)
						FF-075 (60% of full rate)			FF-075 (80% of full rate)			FF-075 (100% of full rate)				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
7-24 DA-B																
SEPTTR	LEAF1	1	2.4	-	-	29.2	-	-	62.5	-	-	41.7	-	-	1 trial > 0 trials = 0 trials <	0 trials > 0 trials = 1 trial <
SEPTTR	LEAF2	1	4.1	-	-	14.6	-	-	61.0	-	-	19.5	-	-	0 trials > 1 trial = 0 trials <	0 trials > 0 trials = 1 trial <
SEPTTR	LEAF3	1	47.3	-	-	15.4	-	-	26.8	-	-	15.6	-	-	0 trials > 1 trial = 0 trials <	0 trials > 0 trials = 1 trial <
26-41 DA-B																
SEPTTR	LEAF1	1	9.2	-	-	39.1	-	-	47.8	-	-	12.0	-	-	0 trials > 0 trials = 1 trial <	0 trials > 1 trial = 0 trials <
SEPTTR	LEAF2	1	36.4	-	-	34.6	-	-	54.4	-	-	35.2	-	-	0 trials > 1 trial =	0 trials > 0 trials =

Pest	Grouping	Number	Infestation of the un-			% control with FF-075									No of 0 trials <	No of 1 trial <
SEPTTR	LEAF3	2	45.6	45.6	1.0 - 90.1	54.0	54.0	8.0 - 100.0	62.0	62.0	24.0 - 100.0	58.8	58.8	17.5 - 100.0	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Conclusions

According to the presented results, variations in dose response were observed after the assessment of the different rates of FF-075 tested in all leaves assessed. For the first assessment a clear dose response between the use of 60% and 80 % of the full rate of FF-075 was observed for all assessed leaves. Furthermore, the efficacy of the use of 80% of the full rate reached higher values as compared with the full rate of FF-075 for all leaves. Comparable results between the use of 60% and 80% of the full rate and the full rate were obtained in most of the cases. The exception was found after comparison of the full rate of FF-075 and the 60% of it by assessing L1, since superior control of the full rate was recorded. In the second assessment the mean efficacy values (for all leaves) recorded suggest a clear dose response between 60% and 80% of the full rate of FF-075. However, no statistical difference between the efficacy of the 60% of the full rate and the full rate and 80% of the full rate and the full rate was observed for any assessed leave.

In order to overcome such variations and ensure the best control under all conditions, the proposed rate of 1.0 l/ha of FF-075 applied once in winter cereals (in this case winter wheat) should be considered the minimum effective dose to deliver broad spectrum control of SEPTTR (*Zymoseptoria tritici*) under a wide range of environmental conditions in the EPPO Maritime zone.

Two applications on winter cereals (AB)

Pest Severity (efficacy)

ERYSGT

% of control of Pest Severity (PESSEV)

Leaf level 1 to 3 (L1-L3) (% of control of pest severity)

In Table 3.2-18, a summary of the MED results for L1-L3 of cereals in up to two trials is presented. The assessments were carried out 12-25 days after the first application (DA-A) and 7-24 days after the second application (DA-B).

Table 3.2-18: Summary of the minimum effective dose of results of FF-075 used as preventive fungicide in winter cereals (TRZAW) (EPPO Maritime zone), concerning % of control of *Blumeria graminis f. sp. tritici* (ERYSGT) in terms of % of severity (PESSEV), assessed in leaf 1 to 3 (L1 to L3) after two step-wise applications (AB)

Pest	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control with FF-075												No of trials where FF-075 is >, <, = compared to FF-075 (40% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (60% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (80% of full rate)
						FF-075 (40% of full rate)			FF-075 (60% of full rate)			FF-075 (80% of full rate)			FF-075 (100% of full rate)					
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max			
12-25 DA-A																				
ERYSGT	LEAF3	1	4.5	4.5	3.7 - 5.3	35.6	35.6	18.9 - 52.4	21.4	21.4	18.9 - 23.8	39.0	39.0	35.1 - 42.9	47.8	47.8	43.2 - 52.4	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
7-24 DA-B																				
ERYSGT	LEAF1	2	1.8	1.8	1.4 - 2.3	69.0	69.0	66.7 - 71.4	74.2	74.2	55.6 - 92.9	77.8	77.8	55.6 - 100.0	96.4	96.4	92.9 - 100.0	1 trial > 1 trial = 0 trials <	1 trial > 1 trial = 0 trials <	0 trials > 2 trials = 0 trials <
ERYSGT	LEAF2	2	13.7	13.7	9.9 - 17.5	36.1	36.1	29.3 - 42.9	59.5	59.5	57.6 - 61.4	56.8	56.8	50.0 - 63.6	69.7	69.7	63.6 - 75.7	1 trial > 1 trial = 0 trials <	0 trials > 2 trials = 0 trials <	0 trials > 2 trials = 0 trials <
ERYSGT	LEAF3	2	21.2	21.2	21.2 - 21.3	34.6	34.6	34.0 - 35.3	42.1	42.1	34.1 - 50.0	52.8	52.8	44.7 - 60.8	65.1	65.1	62.4 - 67.9	0 trials > 2 trials = 0 trials <	0 trials > 2 trials = 0 trials <	0 trials > 2 trials = 0 trials <

Conclusion

According to the presented results, variations in dose response were observed after the assessment of the different rates of FF-075 tested in L1 to L3. For the first assessment a clear dose response between 60%, 80% of the full rate and the full rate of FF-075 was observed after assessment of L3. Despite this, after comparison of the efficacy of the rates inferior than the full rate and the full rate, no significant difference among them was found. In the second assessment a clear dose response was observed for all assessed rates after consideration of L1 and L3, and between 80% of the full rate and the full rate of FF-075 when assessing L2. Even when significant differences between the efficacy observed between the rates smaller than the full rate and the full rates were found, in most of the cases, no statistical differences among the tested rates for most of the treatments were recorded.

In order to overcome such variations and ensure the best control under all conditions, the proposed rate of 1.0 l/ha of FF-075 applied once in winter cereals (in this case winter wheat) should be considered the minimum effective dose to deliver broad spectrum control of ERYSGT (*Blumeria graminis* f. *sp. tritici*) under a wide range of environmental conditions in the EPPO Maritime zone.

LEPTNO

% of control of Pest Severity (PESSEV)

Leaf level 1 to 3 (L1-L3) (% of control of pest severity)

In Table 3.2-19, a summary of the MED results for L1-L3 of cereals in one trial is presented. The assessments were carried out at 7-24 and 26-41 days after the second application (DA-B).

Table 3.2-19: Summary of the minimum effective dose of results of FF-075 used as preventive fungicide in winter cereals (TRZAW) (EPPO Maritime zone), concerning % of control of *Parastagonospora nodorum* (LEPTNO) in terms of % of severity (PESSEV), assessed in leaf 1 to 3 (L1 to L3) after two step-wise applications (AB)

Pest	Grouping	Number of trials	Infestation of the un-treated control (% PESSEV)			% control with FF-075												No of trials where FF-075 is >, <, = compared to FF-075 (40% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (60% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (80% of full rate)
						FF-075 (40% of full rate)			FF-075 (60% of full rate)			FF-075 (80% of full rate)			FF-075 (100% of full rate)					
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max			
7-24 DA-B																				
LEPTNO	LEAF2	1	13.8	-	-	79.7	-	-	87.0	-	-	87.0	-	-	87.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
LEPTNO	LEAF3	1	52.5	-	-	64.6	-	-	84.4	-	-	82.7	-	-	82.3	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
26-41 DA-B																				
LEPTNO	LEAF1	1	29.0	-	-	55.9	-	-	61.0	-	-	61.4	-	-	62.8	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
LEPTNO	LEAF2	1	64.5	-	-	42.9	-	-	51.9	-	-	50.4	-	-	54.3	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Conclusion

Overall, all the evaluation, a clear dose response was observed only between the 40% and 60% of the full rate of FF-075 at both assessments. After the first assessment the evaluation considered only L2 and L3 and in the second assessment L1 and L2. The efficacy values in both assessments, remained at the same level for the rates where no dose response was observed (60%, 80% and full rate of fungicide). Finally, no significant differences after comparing the efficacy of rates inferior than the full rate as compared with the use of the full rate of FF-075 was registered.

In order to overcome such variations and ensure the best control under all conditions, the proposed rate of 1.0 l/ha of FF-075 applied once in winter cereals (in this case winter wheat) should be considered the minimum effective dose to deliver broad spectrum control of LEPTNO (*Parastagonospora nodorum*) under a wide range of environmental conditions in the EPPO Maritime zone.

PUCCRT

% of control of Pest Severity (PESSEV)

Leaf level 1 to 3 (L1-L3) (% of control of pest severity)

In Table 3.2-20, a summary of the MED results for L1-L3 of cereals in up to five trials is presented. The assessments were carried out 27-43 days after the first application (DA-A) and 7-24 and 26-41 days after the second application (DA-B).

Table 3.2-20: Summary of the minimum effective dose of results of FF-075 used as preventive fungicide in winter cereals (TRZAW) (EPPO Maritime zone), concerning % of control of *Puccinia triticina* (PUCCRT) in terms of % of severity (PESSEV), assessed in leaf 1 to 3 (L1 to L3) after two step-wise applications (AB)

Pest	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control with FF-075												No of trials where FF-075 is >, <, = compared to FF-075 (40% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (60% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (80% of full rate)
						FF-075 (40% of full rate)			FF-075 (60% of full rate)			FF-075 (80% of full rate)			FF-075 (100% of full rate)					
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max			
27-43 DA-A																				
PUCCRT	LEAF1	2	17.4	17.4	16.3 - 18.5	79.5	79.5	69.2 - 89.7	87.1	87.1	78.5 - 95.7	94.0	94.0	92.3 - 95.7	95.3	95.3	93.9 - 96.8	0 trials > 2 trials = 0 trials <	0 trials > 2 trials = 0 trials <	0 trials > 2 trials = 0 trials <
PUCCRT	LEAF2	2	32.2	32.2	23.1 - 41.3	66.9	66.9	45.5 - 88.3	77.3	77.3	63.6 - 90.9	84.0	84.0	74.6 - 93.5	88.7	88.7	83.0 - 94.4	1 trial > 1 trial = 0 trials <	0 trials > 2 trials = 0 trials <	0 trials > 2 trials = 0 trials <
PUCCRT	LEAF3	2	35.1	35.1	6.4 - 63.8	73.9	73.9	51.0 - 96.9	82.0	82.0	68.6 - 95.3	87.1	87.1	75.7 - 98.4	90.0	90.0	81.6 - 98.4	1 trial > 1 trial = 0 trials <	0 trials > 2 trials = 0 trials <	0 trials > 2 trials = 0 trials <
7-24 DA-B																				
PUCCRT	LEAF1	1	5.0	-	-	80.0	-	-	100.0	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
PUCCRT	LEAF2	1	5.0	-	-	75.0	-	-	100.0	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Pest	Compound	No of trials	Infestation of the untreated control (%)			% control with FF-075												No of trials	No of trials	No of trials
																		0 trials <	0 trials <	0 trials <
PUCRT	LEAF3	2	1.6	1.6	1.0 - 2.3	66.7	66.7	33.3 - 100.0	100.0	100.0	100.0 - 100.0	100.0	100.0	100.0 - 100.0	100.0	100.0	100.0 - 100.0	0 trials > 2 trials = 0 trials <	0 trials > 2 trials = 0 trials <	0 trials > 2 trials = 0 trials <
26-41 DA-B																				
PUCRT	LEAF1	5	25.6	6.5	1.2 - 78.8	60.3	68.7	36.5 - 75.0	72.6	72.8	53.9 - 100.0	75.5	76.2	53.9 - 91.7	76.8	81.9	53.9 - 85.5	1 trial > 4 trials = 0 trials <	1 trial > 4 trials = 0 trials <	0 trials > 5 trials = 0 trials <
PUCRT	LEAF2	3	47.3	34.5	8.3 - 99.0	64.7	67.2	57.6 - 69.3	70.8	71.0	63.6 - 77.7	70.8	71.0	63.6 - 77.7	76.6	81.1	63.6 - 85.2	1 trial > 2 trials = 0 trials <	0 trials > 3 trials = 0 trials <	0 trials > 3 trials = 0 trials <

Conclusion

According to the presented results, variations in dose response were observed after the assessment of the different rates of FF-075 tested in all assessments and when considering all leaves. For the first assessment a clear dose response between all assessed rates of FF-075 for L1 to L3 was observed. In the second assessment a clear dose response was observed only between the use of 40% of the full rate and the rest of rates (60%, 80% of the full rate and the full rate rendered all 100% of efficacy) in all assessed leaves. Finally, in the third assessment, same pattern as for the first assessment was observed. A clear dose response was recorded only between the use of 40% of the full rate and the rest of rates (60%, 80% of the full rate and the full rate of FF-075 rendered all similar efficacy values) after disease assessment in L1 to L3. In all assessments, after comparison of the efficacy of the rates inferior to the full rate and the full rate, no significant differences among them was found in most of the cases. Whenever exceptions to the latter were observed, significant superior efficacy was observed when comparing the use of the full rate of FF-075 and the use of 40% and 60 % of the full rate of FF-075 (1st assessment, 40% vs.100% of the rate -L2 and L3, 3rd assessment, 40% and 60% vs.100% of the rate - L1 and 40% vs.100% of the rate -L2).

In order to overcome disease control variations and ensure the best control under all conditions, the proposed rate of 1.0 l/ha of FF-075 applied once in winter cereals (in this case winter wheat) should be considered the minimum effective dose to deliver broad spectrum control of PUCCRT (*Puccinia tritici*) under a wide range of environmental conditions in the EPPO Maritime zone.

PUCCST

% of control of Pest Severity (PESSEV)

Leaf level 1 to 2 (L1-L2) (% of control of pest severity)

In Table 3.2-21, a summary of the MED results for L1-L3 of cereals in one trial is presented. The assessments were carried out at 12-25 days after the first application (DA-A) and 7-24 days after the second application (DA-B).

Table 3.2-21: Summary of the minimum effective dose of results of FF-075 used as preventive fungicide in winter cereals (TRZAW) (EPPO Maritime zone), concerning % of control of *Puccinia striiformis* (PUCCST) in terms of % of severity (PESSEV), assessed in leaf 1 to 2 (L1 to L2) after two step-wise applications (AB)

Pest	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control with FF-075												No of trials where FF-075 is >, <, = compared to FF-075 (40% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (60% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (80% of full rate)
						FF-075 (40% of full rate)			FF-075 (60% of full rate)			FF-075 (80% of full rate)			FF-075 (100% of full rate)					
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max			
12-25 DA-A																				
PUC CST	LEAF1	1	2.0	-	-	59.3	-	-	81.5	-	-	92.6	-	-	90.1	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
PUC CST	LEAF2	1	3.1	-	-	92.8	-	-	90.4	-	-	96.8	-	-	95.2	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
7-24 DA-B																				
PUC CST	LEAF1	1	2.4	-	-	100.0	-	-	100.0	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
PUC CST	LEAF2	1	3.4	-	-	100.0	-	-	100.0	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Conclusion

According to the presented results, variations in dose response were observed after the assessment of the different rates of FF-075 tested in L1 and L2. For the first assessment a clear dose response between the use of 40%, 60% and 80 % of the full rate of FF-075 for L1 was observed. By assessing L2, dose response was observed only between 60% and 80% of the full rate. Despite this, after comparison of the efficacy of the rates inferior to the full rate and the full rate, no significant difference among them was found. In the second assessment no dose response was observed. In the same way all rates lower than the full rate were statistically equivalent to the full rate of FF-075.

In order to overcome such variations and ensure the best control under all conditions, the proposed rate of 1.0 l/ha of FF-075 applied once in winter cereals (in this case winter wheat) should be considered the minimum effective dose to deliver broad spectrum control of PuccST (*Puccinia striiformis*) under a wide range of environmental conditions in the EPPO Maritime zone.

PYRNTR

% of control of Pest Severity (PESSEV)

Leaf level 1 to 2 (L1-L2) (% of control of pest severity)

In Table 3.2-22, a summary of the MED results for L1-L2 of cereals in one trial is presented. The assessments were carried out at 26-41 days the second application (DA-B).

Table 3.2-22: Summary of the minimum effective dose of results of FF-075 used as preventive fungicide in winter cereals (TRZAW) (EPPO Maritime zone), concerning % of control of *Pyrenophora tritici-repentis* (PYRNTR) in terms of % of severity (PESSEV), assessed in leaf 1 to 2 (L1 to L2) after two step-wise applications (AB)

Pest	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control with FF-075												No of trials where FF-075 is >, <, = compared to FF-075 (40% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (60% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (80% of full rate)
						FF-075 (40% of full rate)			FF-075 (60% of full rate)			FF-075 (80% of full rate)			FF-075 (100% of full rate)					
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max			
26-41 DA-B																				
PYRNTR	LEAF1	1	8.5	-	-	48.2	-	-	48.2	-	-	48.2	-	-	57.6	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
PYRNTR	LEAF2	1	15.8	-	-	63.3	-	-	64.6	-	-	63.3	-	-	67.1	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Conclusion

According to the presented results, slight variations in dose response were observed after the assessment of the different rates of FF-075 assessed on L1 and L2. At the assessment the only clear dose response determined was between the use of 80 % of the full rate and the full rate of FF-075 for either L1 or L2. The efficacy values observed after the application of 40-80% of the full rate of fungicide remained at almost the same control values (L1, all rates at 48.2% and L2 all rates ranging from 63.3-64.6%). Despite this, after comparison of the efficacy of the rates inferior to the full rate and the full rate, no significant difference among them was found regardless the assessed leaf.

In order to overcome disease control variations and ensure the best control under all conditions, the proposed rate of 1.0 l/ha of FF-075 applied once in winter cereals (in this case winter wheat) should be considered the minimum effective dose to deliver broad spectrum control of PYRNTR (*Pyrenophora tritici-repentis*) under a wide range of environmental conditions in the EPPO Maritime zone.

SEPTTR

% of control of Pest Severity (PESSEV)

Leaf level 1 to 2 (L1-L2) (% of control of pest severity)

In Table 3.2-23, a summary of the MED results for L1-L3 of cereals in up to six trials is presented. The assessments were carried out at 12-25 days after the first application (DA-A) and 7-24 days after the second application (DA-B).

Table 3.2-23: Summary of the minimum effective dose of results of FF-075 used as preventive fungicide in winter cereals (TRZAW) (EPPO Maritime zone), concerning % of control of *Zymoseptoria tritici* (SEPTTR) in terms of % of severity (PESSEV), assessed in leaf 1 to 2 (L1 to L3) after two step-wise applications (AB)

Pest	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control with FF-075												No of trials where FF-075 is >, <, = compared to FF-075 (40% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (60% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (80% of full rate)
						FF-075 (40% of full rate)			FF-075 (60% of full rate)			FF-075 (80% of full rate)			FF-075 (100% of full rate)					
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max			
12-25 DA-A																				
SEPTTR	LEAF2	1	7.0	-	-	32.1	-	-	42.9	-	-	50.0	-	-	64.3	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
SEPTTR	LEAF3	3	6.1	1.0	0.9 - 16.5	55.2	50.0	37.9 - 77.8	73.1	88.9	30.3 - 100.0	77.1	88.9	42.4 - 100.0	84.9	100.0	54.6 - 100.0	0 trials > 3 trials = 0 trials <	0 trials > 3 trials = 0 trials <	0 trials > 3 trials = 0 trials <
7-24 DA-B																				
SEPTTR	LEAF1	4	2.8	2.3	0.3 - 6.5	62.5	56.7	36.8 - 100.0	65.2	60.0	40.7 - 100.0	77.2	77.7	53.3 - 100.0	84.2	93.3	50.0 - 100.0	0 trials > 4 trials = 0 trials <	0 trials > 4 trials = 0 trials <	0 trials > 4 trials = 0 trials <
SEPTTR	LEAF2	6	11.6	9.8	2.0 - 22.5	45.6	46.4	16.6 - 74.5	62.4	61.8	34.8 - 83.3	63.0	62.9	40.3 - 81.7	70.2	74.1	33.7 - 86.7	0 trials > 6 trials = 0 trials <	0 trials > 6 trials = 0 trials <	0 trials > 6 trials = 0 trials <
SEPTTR	LEAF3	4	26.2	16.3	7.1 - 65.0	36.3	35.9	8.5 - 64.8	48.1	42.2	27.7 - 80.3	55.5	58.0	15.9 - 90.1	65.0	70.5	28.9 - 90.1	1 trial > 3 trials =	0 trials > 4 trials =	0 trials > 4 trials =

Pest	Grouping	Number of trials	Infestation of the un- treated control (%)	% control with FF-075												No of trials	No of trials	No of trials
																0 trials <	0 trials <	0 trials <

Conclusion

The presented results demonstrate an overall clear dose response after the assessment of the different rates of FF-075 in all assessed leaves (L1 to L3). For the both assessment the dose response was obvious after comparing absolute mean efficacy values of all rates. Despite this, individual comparison of the efficacy of the rates inferior to the full rate against the full rate of FF-075 rendered no significant differences for most of the cases in all assessed leaves.

In order to overcome such variations and ensure the best control under all conditions, the proposed rate of 1.0 l/ha of FF-075 applied once in winter cereals (in this case winter wheat) should be considered the minimum effective dose to deliver broad spectrum control of SEPTTR (*Zymoseptoria tritici*) under a wide range of environmental conditions in the EPPO Maritime zone.

Overall Conclusions

One application on winter cereals (A)

FUSASP

Variations in dose response were observed after comparing the different rates of FF-075 tested in ears A. A clear dose response was observed only between 80% of the full rate and the full rate of FF-075 after comparison of absolute efficacy values. However, the effect of rates lower than the full rate and the full rate were statistically comparable.

PUCCRE

Variations in dose response were observed after comparing the different rates of FF-075 tested in all leaves (L1-L3). A clear dose response for all tested rates was observed only after assessing L2 and L3 and after comparing the efficacy values of 60% and 80% of the full when assessing L1. Significant differences were found in the control, after comparing the effect of the use of 60% of the full rate and the full rate of FF-075. In most of case however, no difference in the control observed by 60% and 80% of the full rate as compared with the full rate was found for the assessed leaves at the rest of tested rates.

SEPTTR

Variations in dose response were observed after comparing the different rates of FF-075 tested in all leaves (L1-L3). A clear dose response was observed only between the use of 60% and 80 % of the full rate of FF-075 when assessing L1 (1st assessment) and between 60% and 80% of the full rate for L1; 80% and the full rate of fungicide for L2 and 80% and the full rate for L3 (the last three comparison for the 2nd assessment). In most of the assessed leaves and considering all tested rates, the use of the full rate of FF-075 performed significantly below the performance of the application of 60% or 80% of the full rate. Despite this, significant superior performance of the use of full rate of FF-075 as compared with 80% of the rate was observed after assessing L2 and L3.

One application on winter cereals (B)

PUCCHD

Following low PUCCHD infestation rate in the presented trial, all assessed rates (60% and 80% of the full rate of FF-075) of FF-075 rates rendered 100% of efficacy thus no dose response was recorded.

PUCCRE

Variations in dose response were observed after comparing the different rates of FF-075 tested in all leaves (L1-L3). A clear dose response for all tested rates was observed only after assessing L2 and L3 in the second assessment. However, no difference in the control observed by 60% and 80% of the full rate as compared with the full rate was found for any leaf at any assessment.

SEPTTR

Variations in dose response were observed after comparing the different rates of FF-075 tested in all leaves (L1-L3). Overall (both assessments and in all leaves) a clear dose response between 60% and 80 % of the full rate of FF-075 was observed when comparing absolute mean efficacy values. Despite this, comparable results between the use of 60% and the full rate in most leaves (exception in L2 greater control by 60% of the full rate vs. the full rate of FF-075) was recorded. Additionally, in all cases, significant greater control of 80% of the full rate as compared with the full rate of the fungicide was observed overall the evaluation.

Two applications on winter cereals (AB)

Pest Severity (efficacy)

ERYSGT

A clear dose response was observed only between 60%, 80% of the full rate and the full rate of FF-075 after evaluation of L3 in the first assessment. Additionally, for the second assessment, clear dose response was observed for all assessed rates after consideration of L1 and L3, and between 80% of the full rate and the full rate of FF-075 when assessing L2. Even when significant differences between the efficacy observed between the rates smaller than the full rate and the full rates were found, in most of the cases (either first or second assessment), no statistical differences among the tested rates for most of the treatments were recorded.

LEPTNO

A clear dose response was observed only between the 40% and 60% of the full rate of FF-075 at both assessments. After the first assessment the evaluation considered only L2 and L3 and in the second assessment L1 and L2. No significant differences after comparing the efficacy of rates inferior than the full rate as compared with the use of the full rate of FF-075 was registered throughout the whole evaluation.

PUCCRT

At the first a clear dose response for all tested rates of FF-075 was observed after evaluation of L1 to L3. In the second assessment a dose response was observed only between the use of 40% of the full rate and the rest of rates (60%, 80% of the full rate and the full rate rendered all 100% of efficacy) in all assessed leaves. For the third assessment, same pattern as for the first assessment was observed. The only dose response was recorded only between the use of 40% of the full rate and the rest of rates (60%, 80% of the full rate and the full rate of FF-075 rendered all similar efficacy values) after disease assessment in L1 to L3. In all assessments, after comparison of the efficacy of the rates inferior to the full rate and the full rate, no significant differences among them was found in most of the cases (couple of exceptions were observed where the full rate rendered superior control as compared with the lower rates of FF-075 tested).

PUCCST

Variations in dose response were observed after comparing the different rates of FF-075 tested in all leaves (L1-L2). Clear dose response was observed only between all tested rates of FF-075 for L1, as

well as between 60% and 80% of the full rate by L2 for the first assessment. Despite this, after comparison of the efficacy of the rates inferior to the full rate and the full rate, no significant difference among them was found in any case throughout the whole evaluation in any assessed leaf.

PYRNTR

The only clear dose response determined was between the use of 80 % of the full rate and the full rate of FF-075 for either L1 or L2. The efficacy values observed after the application of 40-80% of the full rate of fungicide remained at almost the same control values (L1, all rates at 48.2% and L2 all rates ranging from 63.3-64.6%). Despite this, after comparison of the efficacy of the rates inferior to the full rate and the full rate, no significant difference among them was found regardless the assessed leaf.

SEPTTR

An overall clear dose response was observed after the assessment of the different rates of FF-075 in all assessed leaves (L1 to L3) for all the evaluation when absolute mean efficacy values were compared. Despite this, no significant differences between lower rates than the full rate and the full rate of FF-075 for most of the cases in all assessed leaves was found.

Spring cereals

Material and methods

In total, one field trial was carried out in the United Kingdom (1) during the 2020. The objective was to determine the minimum effective dose of the foliar preventative fungicide effect of FF-075 against ERYSGR (1 trial) in spring cereals (TRZAS). The trial was carried out according to GEP by officially recognised testing organisations and the guideline(s) EPPO PP 1/135(4), PP 1/152(4), PP 1/181(4), 1/214(4), PP 1/225(2) and EPPO PP 1/26(4) were used.

FF-075 was applied once on the crop. The rates tested were: 0.4, 0.6, 0.8 and 1.0 L/ha. The rates reflect the rate proposed on the label and 40%, 60% and 80% of the recommended rate of FF-075 in accordance with the EPPO standard PP 1/225 'Minimum effective dose'.

Detailed information on the experiments and application methods is given in Table 3.2-24. For further information on the reference products please refer to Table 3.2-8.

As the application of FF-075 is recommended as a preventive treatment against the infection of the mentioned pathogens, low infestation levels of the untreated control were also considered for the assessment of efficacy. Data supporting the effect of one (A/B) application is presented. Application timing named A, refers to applications carried earlier within the recommended BBCH range in which the fungicide is suggested to be used in the crop. On the contrary, timing named B, refers to applications carried out later within the recommended BBCH range in which the fungicide is recommended to be used in the crop. In presented trial, one application was carried out at BBCH 31-43. The target rate tested was 1.0 L/ha of FF-075. The applications were conducted within the growth stages described between BBCH 30-59/69.

In case of no infestation during one assessment or in a whole trial, the data was excluded. Data presented corresponds to the assessment carried out on one up to three fully developed leaves of a tiller (leaf levels) two to three weeks after each application. The leaf levels presented include leaf 1 to 3 (L1-L3). In each evaluation, the parameter assessed was efficacy (percentage of control) expressed as the percentage of infestation as well-known as percentage of severity (PESSEV). Even when available, no pest incidence (PESINC) data was included. The reason for this is the strong variation on this parameter depending on the infestation of diseases presented in the crop. At times PESINC reached very

high values already at early assessments, poorly reflecting the control performed for the treatments (included the reference product) as compared with the strong evidence that is obtained after the evaluation of pest severity (PESSEV) in the crop.

Table 3.2-24: Experimental details and application methods of the minimum effective dose test trials with FF-075 against ERYSGR in spring cereals in the EPPO Maritime zone (numerals in brackets indicate the number of trials, except for the information on guidelines)

Total number of trials		<u>1</u>
Guidelines	General guidelines	EPPO PP 1/135(4), PP 1/152(4), PP 1/181(4), PP 1/214 (4), PP 1/225(2)
	Specific guidelines	EPPO PP 1/26(4)
	GEP	Yes (1)
Experimental design	Plot design	RCB (1)
	Plot size	18-30 m ²
	Number of replications	4 (1)
Crop	Trials per crop	Spring wheat (1)
	Varieties per crop	Spring wheat: KWS Chilham (1)
	Sowing period	Spring wheat: April 2020
Application	Crop stage (BBCH)* at application	Spring wheat: BBCH 31 – BBCH 43
	Timing Pests	Post-emergence ERYSGR (1)
	Number of applications	1 (1), however conducted at two time points in the same plot, therefore assessments at DA-B shown
	Intervals between applications	
	Spray volumes	200 l/ha
Assessment	Assessment types	% severity, % incidence, % green leaf area
	Assessment dates	15-18 DA-A, 37-39 DA-A; 21-22 DA-B, 28-43 DA-B
Other relevant information	Soil type	Sandy loam (1)
	Soil pH	n.s. (1)
	Natural/artificial inoculation	Natural (1)
	Field / Greenhouse	F (1)
	Application rate of test product	0.6, 0.8 and 1.0 L/ha product

Results

One application on winter cereals (A)

Pest Severity (efficacy)

ERYSGR

% of control of Pest Severity (PESSEV)

Leaf level 3 (L3) (% of control of pest severity)

In Table 3.2-25, a summary of the MED results for L3 of cereals in one trial is presented. The assessment was carried out 37-39 days after the application (DA-A).

Table 3.2-25: Summary of the minimum effective dose of results of FF-075 used as preventive fungicide in spring cereals (TRZAS) (EPPO Maritime zone), concerning % of control of *Blumeria graminis f. sp. tritici* (ERYSGR) in terms of % of severity (PESSEV), assessed in leaf 3 (L3) after one application at A

Pest	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control with FF-075									No of trials where FF-075 is >, <, = compared to FF-075 (60% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (80% of full rate)
						FF-075 (60% of full rate)			FF-075 (80% of full rate)			FF-075 (100% of full rate)				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
37-39 DA-A																
ERYSGR	LEAF3	1	15.6	-	-	85.0	-	-	97.0	-	-	97.0	-	-	1 trial > 0 trials = 0 trials <	0 trials > 1 trial = 0 trials <

Conclusion

The presented results demonstrate a clear dose response after the assessment of disease on L3 only between the 60% and 80% of the full rate of FF-075. Furthermore, superior significant efficacy of the use of the full rate of FF-075 as compared with the 60% of the full rate was recorded. On the other hand, similar (no significant different) efficacy values were recorded after comparing the use of 80% of the full rate and the full rate of FF-075.

In order to overcome such variations and ensure the best control under all conditions, the proposed rate of 1.0 l/ha of FF-075 applied once in spring cereals (TRZAS) should be considered the minimum effective dose to deliver broad spectrum control of ERYSGR (*Blumeria graminis*) under a wide range of environmental conditions in the EPPO Maritime zone.

One application on winter cereals (B)

Pest Severity (efficacy)

ERYSGR

% of control of Pest Severity (PESSEV)

Leaf level 1 to 3 (L1-L3) (% of control of pest severity)

In Table 3.2-26, a summary of the MED results for L1-L3 of cereals in one trial is presented. The assessments were carried out 21-22 and 28-43 days after the application (at B thus DA-B).

Table 3.2-26: Summary of the minimum effective dose of results of FF-075 used as preventive fungicide in spring cereals (TRZAS) (EPPO Maritime zone), concerning % of control of *Blumeria graminis f. sp. tritici* (ERYSGR) in terms of % of severity (PESSEV), assessed in leaf 1-3 (L1-L3) after one application at B

Pest	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control with FF-075									No of trials where FF-075 is >, <, = compared to FF-075 (60% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (80% of full rate)
						FF-075 (60% of full rate)			FF-075 (80% of full rate)			FF-075 (100% of full rate)				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
21-22 DA-B																
ERYSGR	LEAF3	1	15.6	-	-	100.0	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
28-43 DA-B																
ERYSGR	LEAF1	1	4.6	-	-	25.0	-	-	68.0	-	-	84.0	-	-	1 trial > 0 trials = 0 trials <	0 trials > 1 trial = 0 trials <
ERYSGR	LEAF2	1	10.1	-	-	70.0	-	-	80.0	-	-	98.0	-	-	1 trial > 0 trials = 0 trials <	0 trials > 1 trial = 0 trials <
ERYSGR	LEAF3	1	22.8	-	-	84.0	-	-	98.0	-	-	98.0	-	-	1 trial > 0 trials = 0 trials <	0 trials > 1 trial = 0 trials <

Conclusion

The presented results demonstrate clear dose response only at the second assessment of the fungicide evaluation. A clear dose response was observed for all tested rates of FF-075 when performing disease assessment in L1 and L2. Additionally, for L3, the dose response was clear only between the use of 60% and 80% of the full rate of FF-075. Furthermore, superior significant efficacy of the use of the full rate of FF-075 as compared with the 60% of the full rate was recorded in all assessed leaves (L1-L3). On the other hand, similar (no significant difference) efficacy values were recorded after comparing the use of 80% of the full rate and the full rate of FF-075 for L1 to L3.

In order to overcome disease control variations and considering the evidence of better control above discussed, to ensure the best control, the proposed rate of 1.0 l/ha of FF-075 applied once in spring cereals (TRZAS) should be considered the minimum effective dose to deliver broad spectrum control of ERYSGR (*Blumeria graminis*) under a wide range of environmental conditions in the EPPO Maritime zone.

Overall Conclusions

One application on spring cereals (A)

ERYSGR

A clear dose response was observed after the assessment of disease on L3 between the 60% and 80% of the full rate of FF-075. Furthermore, a superior significant efficacy of the use of the full rate of FF-075 as compared with the 60% of the full rate was recorded only in this case. No significant differences were recorded after comparing the use of 80% of the full rate and the full rate of FF-075.

One application on spring cereals (B)

ERYSGR

Clear dose response was observed only at the second assessment of the fungicide evaluation. A clear dose response was observed for all tested rates of FF-075 when performing disease assessment in L1 and L2. Additionally, for L3, the dose response occurred between the use of 60% and 80% of the full rate of FF-075. Superior significant efficacy was found only after comparison of the use of the full rate of FF-075 with 60% of the full rate in all assessed leaves (L1-L3). No significant differences on the efficacy values were recorded after comparing the use of 80% of the full rate and the full rate of FF-075 for L1 to L3.

3.2.2.2 EPPO North-east zone

Winter cereals

Material and methods

In total, 10 field trials were carried out in Poland (10) during the years 2019 (1) and 2020 (9). The objective was to determine the minimum effective dose of the foliar preventative fungicide effect of FF-075 against ERYSGR (1 trial), PUCCHD (1 trial), PUCCRE (2 trials), PUCCRR (1 trial), PYRNTE (4 trials), RAMUCC (1 trial), RHYNSE (1 trial) and SEPTTR (5 trials) in cereals planted in winter (HORVW, SECCW, TRZAW and TTLWI). The trials were carried out according to GEP by officially recognised testing organisations and the guideline(s) EPPO PP 1/135(4), PP 1/152(4), PP 1/181(4), PP 1/225(2) and EPPO PP 1/26(4) were used.

FF-075 was applied once or twice on the crop. For both applications, the same rate was used. The rates tested were: 0.6, 0.8 and 1.0 L/ha in winter cereals (HORVW, SECCW, TRZAW and TTLWI). The rates reflect the rate proposed on the label and 60% and 80% of the recommended rate of FF-075 in accordance with the EPPO standard PP 1/225 'Minimum effective dose'.

Detailed information on the experiments and application methods is given in Table 3.2-27. For further information on the reference products please refer to Table 3.2-8.

As the application of FF-075 is recommended as a preventive treatment against the infection of the mentioned pathogens, low infestation levels of the untreated control were also considered for the assessment of efficacy. Data supporting the effect of one (A/B) or two applications (AB) is presented. Application timing named A, refers to applications carried earlier within the recommended BBCH range in which the fungicide is suggested to be used in the crop. On the contrary, timing named B, refers to applications carried out later within the recommended BBCH range in which the fungicide is recommended to be used in the crop. In presented trials, one or two applications were carried out at BBCH 30-45. For timing AB, FF-075 was used in two step-wise applications. For both applications, the same rate was used. The target rate tested was 1.0 L/ha of FF-075 in winter cereals. The applications were conducted within the growth stages described between BBCH 30-59/69. The interval between applications when two were carried out corresponded to 31 days.

In case of no infestation during one assessment or in a whole trial, the data was excluded. Data presented corresponds to the assessment carried out on one up to three fully developed leaves of a tiller (leaf levels) two to three weeks after each application. The leaf levels presented include leaf 1 to 3 (L1-L3). In each evaluation, the parameter assessed was efficacy (percentage of control) expressed as the percentage of infestation as well-known as percentage of severity (PESSEV). Even when available, no pest incidence (PESINC) data was included. The reason for this is the strong variation on this parameter depending on the infestation of diseases presented in the crop. At times PESINC reached very high values already at early assessments, poorly reflecting the control performed for the treatments (included the reference product) as compared with the strong evidence that is obtained after the evaluation of pest severity (PESSEV) in the crop.

Table 3.2-27 Experimental details and application methods of the minimum effective dose test trials with FF-075 against ERYSGR, PUCCHD, PUCCRE, PUCCRR, PYRNTE, RAMUCC, RHYNSE and SEPTTR in winter cereals in the EPPO North-east zone (numerals in brackets indicate the number of trials, except for the information on guidelines)

Total number of trials		<u>10</u>
Guidelines	General guidelines	EPPO PP 1/135(4), PP 1/152(4), PP 1/181(4), PP 1/225(2)
	Specific guidelines	EPPO PP 1/26(4)
	GEP	Yes (10)
Experimental design	Plot design	RCBD (10)
	Plot size	18-30 m ²
	Number of replications	4 (10)
Crop	Trials per crop	Winter wheat (4) Winter barley (3) Winter triticale (2) Winter rye (1)
	Varieties per crop	Winter wheat: Euforia (1), Faustus (1), Hybery (1), Princeps (1) Winter barley: Gloria (2), Quadriga (1) Winter triticale: Meloman (1), Rotondo (1) Winter rye: Dolaro (1)
	Sowing period	Winter wheat: September 2018, September 2019 Winter barley: September 2019 Winter triticale: September-October 2019 Winter rye: September 2019
Application	Crop stage (BBCH)* at application	Winter wheat: BBCH 31 - BBCH 43 Winter barley: BBCH 31 – BBCH 45 Winter triticale: BBCH 30 – BBCH 39 Winter rye: BBCH 31 – BBCH 43
	Timing Pests	Post-emergence ERYSGR (1) PUCCHD (1) PUCCRE (2) PUCCRR (1) PYRNTE (4) RAMUCC (1) RHYNSE (1) SEPTTR (5)
	Number of applications	1 (9), however conducted at two time points in the same plot, therefore assessments at DA-B shown
	Intervals between applications	2 (1) with intervals of 31 days.
	Spray volumes	200 - 300 l/ha
Assessment	Assessment types	% severity, % incidence, % green leaf area
	Assessment dates	16-24 DA-A, 29-45 DA-A, 15-22 DA-B, 33-39 DA-B
Other relevant information	Soil type	Loamy sand (1), sandy loam (8), silty clay (1)
	Soil pH	pH 5.5 – pH 7 and n.s. (4)
	Natural/artificial inoculation	Natural (10)
	Field / Greenhouse	F (10)
	Application rate of test product	0.4, 0.6, 0.8 and 1.0 L/ha product

Results

One application on winter cereals (A)

Pest Severity (efficacy)

PUCCHD

% of control of Pest Severity (PESSEV)

Leaf level 3 (L3) (% of control of pest severity)

In Table 3.2-28, a summary of the MED results for L3 of cereals in one trial is presented. The assessment was carried at 29-45 days after the application (A timing thus DA-A).

Table 3.2-28: Summary of the minimum effective dose of results of FF-075 used as preventive fungicide in winter cereals (EPPO Maritime zone), concerning % of control of *Puccinia hordei*. (PUCCHD) in terms of % of severity (PESSEV), assessed in L1-L2 after one application at A (60% and 80 % of the full rate).

Pest	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control with FF-075									No of trials where FF-075 is >, <, = compared to FF-075 (60% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (80% of full rate)
						FF-075 (60% of full rate)			FF-075 (80% of full rate)			FF-075 (100% of full rate)				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
29-45 DA-A																
PUCCHD	LEAF3	1	1.4	-	-	44.3	-	-	44.8	-	-	58.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Conclusions

According to the presented results, a clear dose response when assessing L3 was observed only between the application of 80% of the full rate and the full rate of FF-075. Despite this, no significant differences on the control observed after the application of 60% and 80% of the full rate as compared with the use of the full rate was obtained.

Since there is a trend observed defining a dose response when applying different rates of the fungicide; in order to ensure the best pest control, the proposed rate of 1.00 l/ha of FF-075 applied once in winter cereals. should be considered the minimum effective dose to deliver broad spectrum control of PUC-CHD (*Puccinia hordei*) under a wide range of environmental conditions in the EPPO North-east zone.

PYRNTE

% of control of Pest Severity (PESSEV)

Leaf level 3 (L3) (% of control of pest severity)

In Table 3.2-29, a summary of the MED results for L3 of winter cereals in two trials is presented. The assessment was carried out 29-45 days after the application (A timing thus DA-A).

Table 3.2-29: Summary of the minimum effective dose of results of FF-075 used as preventive fungicide in winter cereals (EPPO North-east zone), concerning % of control of *Pyrenophora teres* (PYRNTE) in terms of % of severity (PESSEV), assessed in L3 after one application A (60% and 80 % of the full rate).

Pest	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control with FF-075									No of trials where FF-075 is >, <, = compared to FF-075 (60% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (80% of full rate)
						FF-075 (60% of full rate)			FF-075 (80% of full rate)			FF-075 (100% of full rate)				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
29-45 DA-A																
PYRNTE	LEAF3	2	2.1	2.1	0.7 - 3.4	68.5	68.5	43.3 - 93.6	93.9	93.9	92.5 - 95.3	79.3	79.3	66.7 - 91.9	0 trials > 2 trials = 0 trials <	0 trials > 2 trials = 0 trials <

Conclusions

According to the presented results, a clear dose response for all the tested rates of FF-075 was observed only between the 60% and 80% of the rate of FF-075 while assessing L3. Despite this, no significant differences on the control observed after the application of 60% and 80% of the full rate as compared with the use of the full rate was obtained.

Since there is a trend observed defining a dose response when applying different rates of the fungicide; in order to ensure the best pest control, the proposed rate of 1.00 l/ha of FF-075 applied once in winter cereals. should be considered the minimum effective dose to deliver broad spectrum control of PYRNTE (*Pyrenophora teres*) under a wide range of environmental conditions in the EPPO North-east zone.

RHYNSE

% of control of Pest Severity (PESSEV)

Leaf level 3 (L3) (% of control of pest severity)

In Table 3.2-30, a summary of the MED results for L3 of winter cereals in one trial is presented. The assessment was carried out 29-45 days after the application (A timing thus DA-A).

Table 3.2-30: Summary of the minimum effective dose of results of FF-075 used as preventive fungicide in winter cereals (EPPO North-east zone), concerning % of control of *Rhynchosporium secalis* (RHYNSE) in terms of % of severity (PESSEV), assessed in L3 after one application A (60% and 80 % of the full rate).

Pest	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control with FF-075									No of trials where FF-075 is >, <, = compared to FF-075 (60% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (80% of full rate)
						FF-075 (60% of full rate)			FF-075 (80% of full rate)			FF-075 (100% of full rate)				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
29-45 DA-A																
RHYNSE	LEAF3	1	0.4	-	-	100.0	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Conclusions

According to the presented results, no dose response for all the tested rates of FF-075 was observed when assessing only L3 after the application. Furthermore, no difference among treatments was observed, as in all cases efficacy reached the maximum control (100%).

SEPTTR

% of control of Pest Severity (PESSEV)

Leaf level 1 to 2 (L1-L2) (% of control of pest severity)

In Table 3.2-31, a summary of the MED results for L1-L2 of cereals in up to three trials is presented. The assessment was carried out 29-45 days after the application (A timing thus DA-A).

Table 3.2-31: Summary of the minimum effective dose of results of FF-075 used as preventive fungicide in winter cereals (EPPO North-east zone), concerning % of control of *Zymoseptoria tritici*. (SEPTTR) in terms of % of severity (PESSEV), assessed in L2-L3 after one application A (60% and 80 % of the full rate).

Pest	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control with FF-075									No of trials where FF-075 is >, <, = compared to FF-075 (60% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (80% of full rate)
						FF-075 (60% of full rate)			FF-075 (80% of full rate)			FF-075 (100% of full rate)				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
29-45 DA-A																
SEPTTR	LEAF2	1	0.3	-	-	100.0	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
SEPTTR	LEAF3	3	4.5	2.7	0.5 - 10.2	49.6	33.7	26.3 - 88.9	65.8	58.2	42.1 - 97.2	73.7	64.9	57.9 - 98.2	3 trials > 0 trials = 0 trials <	2 trials > 1 trial = 0 trials <

Conclusions

According to the presented results, variations in dose response were observed upon which leaves on the plant were assessed, as well as level of infestation recorded in the field.

After the assessment of L2, low disease infestation was recorded. Additionally, no dose response for all the tested rates of FF-075 was observed when assessing only L2 after the application. Furthermore, no difference among treatments was observed, as in all cases efficacy reached the maximum control (100%). When the disease infestation reached a higher value as assessed in L3, a clear dose response for all rates of FF-075 tested was observed. Furthermore, significant differences (meaning significantly higher disease control of the full rate of FF-075 over the smaller rates) when comparing rates lower than the full rate of the fungicide and the fungicide were observed. This was valid for most of the trials evaluated.

Considering the strong evidence above mentioned as well as the high variation on the control respectively different leaves assessed, to ensure the best pest control, the proposed rate of 1.00 l/ha of FF-075 applied once in winter cereals should be considered the minimum effective dose to deliver broad spectrum control of SEPTTR (*Zymoseptoria tritici*) under a wide range of environmental conditions in the EPPO North-east zone.

One application on winter cereals (B)

Pest Severity (efficacy)

ERYSGR

% of control of Pest Severity (PESSEV)

Leaf level 2-3 (L2-L3) (% of control of pest severity)

In Table 3.2-32, a summary of the MED results for L1 to L2 of winter cereals in one trial is presented. The assessment was carried out 33-39 days after the application (B timing thus DA-B).

Table 3.2-32: Summary of the minimum effective dose of results of FF-075 used as preventive fungicide in winter cereals (EPPO Mediterranean zone), concerning % of control of *Blumeria graminis*. (ERYSGR) in terms of % of severity (PESSEV), assessed in L2-L3 after one application B (60% and 75-80 % of the full rate).

Pest	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control with FF-075									No of trials where FF-075 is >, <, = compared to FF-075 (60% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (80% of full rate)
						FF-075 (60% of full rate)			FF-075 (80% of full rate)			FF-075 (100% of full rate)				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
33-39 DA-B																
ERYSGR	LEAF2	1	0.1	-	-	100.0	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
ERYSGR	LEAF3	1	0.5	-	-	100.0	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Conclusions

Considering a low ERYSGR infestation rate in the presented trial, all assessed rates (60% and 80% of the full rate and the full rate of fungicide) of FF-075 rates rendered 100% of efficacy thus no dose response was recorded (statistical equivalence between rates was found).

Based on practical applicable agricultural practices, to be able to control most of diseases appearing on the crop in the field and ensure the their best control under all conditions, the proposed rate of 1.0 l/ha of FF-075 applied once in winter cereals should be considered the minimum effective dose to deliver broad spectrum control of ERYSGR (*Blumeria graminis*) at the same time as other pathogens affecting the crop under a wide range of environmental conditions in the EPPO North-east zone.

PUCCHD

% of control of Pest Severity (PESSEV)

Leaf level 3 (L3) (% of control of pest severity)

In Table 3.2-33, a summary of the MED results for L3 of cereals in one trial is presented. The assessment was carried at 15-22 days after the application (B timing thus DA-B).

Table 3.2-33: Summary of the minimum effective dose of results of FF-075 used as preventive fungicide in winter cereals (EPPO Maritime zone), concerning % of control of *Puccinia hordei*. (PUCCHD) in terms of % of severity (PESSEV), assessed in L3 after one application at B (60% and 80 % of the full rate).

Pest	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control with FF-075									No of trials where FF-075 is >, <, = compared to FF-075 (60% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (80% of full rate)
						FF-075 (60% of full rate)			FF-075 (80% of full rate)			FF-075 (100% of full rate)				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
15-22 DA-B																
PUCCHD	LEAF3	1	1.4	-	-	60.0	-	-	43.8	-	-	78.4	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Conclusions

According to the presented results, a clear dose response when assessing L3 was observed only between the application of 80% of the full rate and the full rate of FF-075. Additionally, the application of 60% of the full rate rendered higher efficacy value (60.0%) as compared with the application of 80% of the full rate of FF-075. Despite this, no significant differences on the control observed after the application of 60% and 80% of the full rate as compared with the use of the full rate were obtained.

Since there is a trend observed defining a dose response when applying different rates of the fungicide; in order to ensure the best pest control, the proposed rate of 1.00 l/ha of FF-075 applied once in winter cereals. should be considered the minimum effective dose to deliver broad spectrum control of PUC-CHD (*Puccinia hordei*) under a wide range of environmental conditions in the EPPO North-east zone.

PUCCRE

% of control of Pest Severity (PESSEV)

Leaf level 1-3 (L1-L3) (% of control of pest severity)

In Table 3.2-34, a summary of the MED results for L1-L3 of winter cereals in one trial is presented. The assessments were carried out at 15-22 and 33-39 days after the application (B timing thus DA-B).

Table 3.2-34: Summary of the minimum effective dose of results of FF-075 used as preventive fungicide in winter cereals (EPPO North-east zone), concerning % of control of *Puccinia recondita*. (PUCCRE) in terms of % of severity (PESSEV), assessed in L1-L3 after one application at B (60% and 80 % of the full rate).

Pest	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control with FF-075									No of trials where FF-075 is >, <, = compared to FF-075 (60% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (80% of full rate)
						FF-075 (60% of full rate)			FF-075 (80% of full rate)			FF-075 (100% of full rate)				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
15-22 DA-B																
PUCCRE	LEAF2	1	0.1	-	-	100.0	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
PUCCRE	LEAF3	1	0.9	-	-	100.0	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
33-39 DA-B																
PUCCRE	LEAF1	1	5.4	-	-	85.1	-	-	91.2	-	-	100.0	-	-	1 trial > 0 trials = 0 trials <	1 trial > 0 trials = 0 trials <
PUCCRE	LEAF2	1	1.8	-	-	68.5	-	-	80.8	-	-	100.0	-	-	1 trial > 0 trials = 0 trials <	1 trial > 0 trials = 0 trials <
PUCCRE	LEAF3	1	1.3	-	-	100.0	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Conclusions

The presented results show a clear dose response for the tested rates of FF-075 was observed when assessing L1 and L2 in the second assessment. Furthermore, significant superior control of the pest was observed after the application of full rate of the fungicide as compared with the use of 60 and 80% the full rate. For the leaves assessed in the first assessment as well as L3 in the second assessment no differences among treatments was observed, as in all cases efficacy reached the maximum control (100%).

Considering the strong evidence above described, in order to ensure the best pest control, the proposed rate of 1.0 l/ha of FF-075 applied once in winter cereals. should be considered the minimum effective dose to deliver broad spectrum control of PUCCRE (*Puccinia recondita*) under a wide range of environmental conditions in the EPPO North-east zone.

PUCCRR

% of control of Pest Severity (PESSEV)

Leaf level 2-3 (L2-L3) (% of control of pest severity)

In Table 3.2-35, a summary of the MED results for L1-L3 of winter cereals in one trial is presented. The assessments were carried out 33-39 days after the application (B timing thus DA-B).

Table 3.2-35: Summary of the minimum effective dose of results of FF-075 used as preventive fungicide in winter cereals (EPPO North-east zone), concerning % of control of *Puccinia recondita f. sp. recondita* (PUCCRR) in terms of % of severity (PESSEV), assessed in L2-L3 after one application at B (60% and 80 % of the full rate).

Pest	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control with FF-075									No of trials where FF-075 is >, <, = compared to FF-075 (60% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (80% of full rate)
						FF-075 (60% of full rate)			FF-075 (80% of full rate)			FF-075 (100% of full rate)				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
33-39 DA-B																
PUCCRR	LEAF2	1	1.4	-	-	61.0	-	-	93.8	-	-	83.2	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
PUCCRR	LEAF3	1	5.0	-	-	68.4	-	-	69.8	-	-	74.6	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Conclusions

The presented results show a clear dose response when assessing the disease on L2 and L3 leaves only between the use of 60% and 80% of the full rate of the test product and between the use of 80% and the full rate of FF-075 respectively. Furthermore, after assessment on L3, the efficacy mean values obtained after the application of 60% and 80% of the full rate of FF-075 reached very similar levels (68.4% and 69.8%). Overall (both assessed leaves), no significant differences between the use of the rates lower than the full rate and the full were of FF-075 were found.

Since there is a trend observed defining a dose response when applying different rates of the fungicide; in order to ensure the best pest control, the proposed rate of 1.00 l/ha of FF-075 applied once in winter cereals should be considered the minimum effective dose to deliver broad spectrum control of PUCCRR (*Puccinia recondita* f. sp. *recondita*) under a wide range of environmental conditions in the EPPO North-east zone.

PYRNTE

% of control of Pest Severity (PESSEV)

Leaf level 1-3 (L1-L3) (% of control of pest severity)

In Table 3.2-36, a summary of the MED results for L1 to L3 of winter cereals in up to four trials is presented. The assessments were carried out 15-22 and 33-39 days after the application (B timing thus DA-B).

Table 3.2-36: Summary of the minimum effective dose of results of FF-075 used as preventive fungicide in winter cereals (EPPO North-east zone), concerning % of control of *Pyrenophora teres* (PYRNTE) in terms of % of severity (PESSEV), assessed in L1-L3 after one application (60% and 80 % of the full rate).

Pest	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control with FF-075									No of trials where FF-075 is >, <, = compared to FF-075 (60% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (80% of full rate)
						FF-075 (60% of full rate)			FF-075 (80% of full rate)			FF-075 (100% of full rate)				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
15-22 DA-B																
PYRNTE	LEAF3	2	2.1	2.1	0.7 - 3.4	76.3	76.3	59.2 - 93.5	82.4	82.4	75.8 - 89.0	95.2	95.2	95.0 - 95.3	0 trials > 2 trials = 0 trials <	0 trials > 2 trials = 0 trials <
33-39 DA-B																
PYRNTE	LEAF1	4	3.0	2.0	0.6 - 7.5	92.8	98.3	74.6 - 100.0	92.6	95.5	79.5 - 100.0	96.6	100.0	86.4 - 100.0	0 trials > 4 trials = 0 trials <	0 trials > 4 trials = 0 trials <
PYRNTE	LEAF2	4	11.9	5.1	2.0 - 35.4	87.5	91.0	72.8 - 95.1	89.3	93.4	75.3 - 95.0	94.2	95.8	87.9 - 97.1	0 trials > 4 trials = 0 trials <	0 trials > 4 trials = 0 trials <
PYRNTE	LEAF3	3	13.8	13.0	7.9 - 20.4	62.0	78.7	26.0 - 81.3	66.5	85.5	27.9 - 86.2	72.7	92.6	32.8 - 92.7	0 trials > 3 trials = 0 trials <	0 trials > 3 trials = 0 trials <

Conclusions

The presented results show a clear dose response for all the tested rates of FF-075 was observed only after the first assessment when evaluating L3. For the second assessment the same was true only between 80% of the full rate and the full rate after assessing L1 and L2. Despite this, no significant differences on the control observed after the application of 60% and 80% of the full rate as compared with the use of the full rate was obtained.

Since there is a trend observed defining a dose response when applying different rates of the fungicide, in order to ensure the best pest control, the proposed rate of 1.0 l/ha of FF-075 applied once in winter cereals should be considered the minimum effective dose to deliver broad spectrum control of PYRNTE (*Pyrenophora teres*) under a wide range of environmental conditions in the EPPO North-east zone.

RAMUCC

% of control of Pest Severity (PESSEV)

Leaf level 1 -2 (L1-L2) (% of control of pest severity)

In Table 3.2-37, a summary of the MED results for L1 to L2 of winter cereals in one trial is presented. The assessment was carried out 33-39 days after the application (B timing thus DA-B).

Table 3.2-37: Summary of the minimum effective dose of results of FF-075 used as preventive fungicide in winter cereals (EPPO North-east zone), concerning % of control of *Ramularia collo-cygni* (RAMUCC) in terms of % of severity (PESSEV), assessed in L1-L2 after one application at B (60% and 80 % of the full rate).

Pest	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control with FF-075									No of trials where FF-075 is >, <, = compared to FF-075 (60% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (80% of full rate)
						FF-075 (60% of full rate)			FF-075 (80% of full rate)			FF-075 (100% of full rate)				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
33-39 DA-B																
RAMUCC	LEAF1	1	1.0	-	-	100.0	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
RAMUCC	LEAF2	1	3.8	-	-	93.9	-	-	96.8	-	-	96.8	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Conclusions

When assessing disease level on L1, no dose response was observed, as all tested rates reached 100% of efficacy. When assessment was carried out on L2, only a slight dose response between the use of 60% and 80% of the full rate of FF -075 was recorded. Overall (considering both assessed leaves), no significant differences between the application of rates lower than the full rate and the full rate of FF-075 were recorded.

Since there is a trend observed defining a dose response when applying different rates of the fungicide, in order to ensure the best pest control, the proposed rate of 1.0 l/ha of FF-075 applied once in winter cereals should be considered the minimum effective dose to deliver broad spectrum control of RAMUCC (*Ramularia collo-cygni*) under a wide range of environmental conditions in the EPPO North-east zone.

RHYNSE

% of control of Pest Severity (PESSEV)

Leaf level 2 -3 (L2-L3) (% of control of pest severity)

In Table 3.2-38, a summary of the MED results for L2 to L3 of winter cereals in one trial is presented. The assessments were carried out 15-22 and 33-39 days after the application (B timing thus DA-B).

Table 3.2-38: Summary of the minimum effective dose of results of FF-075 used as preventive fungicide in winter cereals (EPPO North-east zone), concerning % of control of *Rhynchosporium secalis* (RHYNSE) in terms of % of severity (PESSEV), assessed in L2-L3 after one application (60% and 80 % of the full rate).

Pest	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control with FF-075									No of trials where FF-075 is >, <, = compared to FF-075 (60% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (80% of full rate)
						FF-075 (60% of full rate)			FF-075 (80% of full rate)			FF-075 (100% of full rate)				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
15-22 DA-B																
RHYNSE	LEAF3	1	0.4	-	-	100.0	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
33-39 DA-B																
RHYNSE	LEAF2	1	0.7	-	-	100.0	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
RHYNSE	LEAF3	1	4.2	-	-	52.0	-	-	62.5	-	-	70.2	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Conclusions

The presented results show a clear dose response for all the tested rates of FF-075 was observed only after the second assessment when evaluating L3. For the L3 assessed in the first assessment as well as L2 in the second assessment no difference among treatments was observed, as in all cases efficacy reached the maximum control (100%).

Since there is a trend observed defining a dose response when applying different rates of the fungicide, in order to ensure the best pest control, the proposed rate of 1.0 l/ha of FF-075 applied once in winter cereals should be considered the minimum effective dose to deliver broad spectrum control of RHYNSE (*Rhynchosporium secalis*) under a wide range of environmental conditions in the EPPO North-east zone.

SEPTTR

% of control of Pest Severity (PESSEV)

Leaf level 1 to 3 (L1-L3) (% of control of pest severity)

In Table 3.2-39. a summary of the MED results for L1-L3 of cereals in up to four trials is presented. The assessments were carried out at 15-22 and 33-39 days after the application (B timing thus DA-B).

Table 3.2-39: Summary of the minimum effective dose of results of FF-075 used as preventive fungicide in winter cereals (EPPO North-east zone), concerning % of control of *Zymoseptoria tritici*. (SEPTTR) in terms of % of severity (PESSEV), assessed in L1-L3 after one application (60% and 80 % of the full rate).

Pest	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control with FF-075									No of trials where FF-075 is >, <, = compared to FF-075 (60% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (80% of full rate)
						FF-075 (60% of full rate)			FF-075 (80% of full rate)			FF-075 (100% of full rate)				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
15-22 DA-B																
SEPTTR	LEAF1	2	2.1	2.1	0.2 - 3.9	94.6	94.6	89.2 - 100.0	91.4	91.4	82.8 - 100.0	99.4	99.4	98.7 - 100.0	1 trial > 1 trial = 0 trials <	1 trial > 1 trial = 0 trials <
SEPTTR	LEAF2	3	10.6	11.4	5.0 - 15.4	63.6	57.3	43.9 - 89.5	64.9	65.4	44.7 - 84.5	76.5	70.0	67.0 - 92.5	2 trials > 1 trial = 0 trials <	2 trials > 1 trial = 0 trials <
SEPTTR	LEAF3	4	36.0	36.4	0.3 - 70.8	47.3	41.0	7.3 - 100.0	56.2	54.2	16.3 - 100.0	63.7	66.3	22.2 - 100.0	3 trials > 1 trial = 0 trials <	2 trials > 2 trials = 0 trials <
33-39 DA-B																
SEPTTR	LEAF1	3	7.7	4.8	2.4 - 15.9	67.6	82.7	25.5 - 94.7	73.7	83.8	37.3 - 100.0	77.5	86.4	46.1 - 100.0	2 trials > 1 trial = 0 trials <	1 trial > 2 trials = 0 trials <
SEPTTR	LEAF2	4	20.6	14.0	1.9 - 52.6	50.3	49.5	25.7 - 76.6	59.5	60.7	31.1 - 85.7	63.1	63.7	39.4 - 85.7	2 trials > 2 trials = 0 trials <	1 trial > 3 trials = 0 trials <
SEPTTR	LEAF3	3	41.6	23.1	11.5 - 90.1	30.5	17.8	9.1 - 64.5	33.7	24.9	11.3 - 64.8	38.2	28.0	15.8 - 70.7	2 trials > 1 trial =	0 trials > 3 trials =

[illegible]

Conclusions

The presented results show variations in dose response after the assessment of the different rates of FF-075 tested in all leaves assessed. For the first assessment a clear dose response between the use of all tested rates of FF-075 was observed when assessing L2 and L3. For L1 the later was true only between 80% of the full rate and the full rate of FF-075. Furthermore, significant differences between the lower rates and the full rate of FF-075 was recorded in most of the cases (trials compared) for all leaves. In the second assessment, a clear dose response of all tested rates was determined when assessing all leaves. Furthermore, significant superior control of the pest after use of the full rate of FF-075 as compared with the lower rates was observed in many cases although in most of them no differences among them was determined.

Considering the strong evidence above mentioned as well as the high variation on the control respectively different leaves assessed and rates tested, to ensure the best pest control, the proposed rate of 1.0 l/ha of FF-075 applied once in winter cereals should be considered the minimum effective dose to deliver broad spectrum control of SEPTTR (*Zymoseptoria tritici*) under a wide range of environmental conditions in the EPPO North-east zone.

Two applications on winter cereals (AB)

Pest Severity (efficacy)

PUCCRE

% of control of Pest Severity (PESSEV)

Leaf level 2 to 3 (L2-L3) (% of control of pest severity)

In Table 3.2-40., a summary of the MED results for L1-L3 of cereals in one trial is presented. The assessments were carried out 29-45 days after the first application (DA-A) and 15-22 days after the second application (DA-B).

Table 3.2-40: Summary of the minimum effective dose of results of FF-075 used as preventive fungicide in winter cereals (EPPO North-east zone), concerning % of control of *Puccinia recondita* (PUCCRE) in terms of % of severity (PESSEV), assessed in leaf 1 to 2 (L1 to L2) after two step-wise applications (AB)

Pest	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control with FF-075									No of trials where FF-075 is >, <, = compared to FF-075 (60% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (80% of full rate)
						FF-075 (60% of full rate)			FF-075 (80% of full rate)			FF-075 (100% of full rate)				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
29-45 DA-A																
PUCCRE	LEAF2	1	1.8	-	-	100.0	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
PUCCRE	LEAF3	1	6.3	-	-	100.0	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
15-22 DA-B																
PUCCRE	LEAF1	1	13.8	-	-	92.3	-	-	98.6	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
PUCCRE	LEAF2	1	20.6	-	-	96.4	-	-	98.7	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Conclusion

The presented results demonstrate a slight dose response for the tested rates of FF-075 was observed when assessing L1 and L2 in the second assessment only. Despite this, after comparison of the efficacy of the rates inferior to the full rate and the full rate, no significant difference among them was found. For the leaves assessed in the first assessment no differences among treatments was observed, as in all cases efficacy reached the maximum control (100%).

Considering the high variation on the control respectively different leaves assessed and rates tested, to ensure the best pest control, the proposed rate of 1.0 l/ha of FF-075 applied once in winter cereals should be considered the minimum effective dose to deliver broad spectrum control of PUCCRE (*Puccinia recondita*) under a wide range of environmental conditions in the EPPO North-east zone.

SEPTTR

% of control of Pest Severity (PESSEV)

Leaf level 1 to 3 (L1-L3) (% of control of pest severity)

In Table 3.2-41, a summary of the MED results for L1-L3 of cereals in one trial is presented. The assessments were carried out 29-45 days after the first application (DA-A) and 15-22 days after the second application (DA-B).

Table 3.2-41: Summary of the minimum effective dose of results of FF-075 used as preventive fungicide in winter cereals (EPPO North-east zone), concerning % of control of *Zymoseptoria tritici* (SEPTTR) in terms of % of severity (PESSEV), assessed in leaf 1 to 3 (L1 to L3) after two step-wise applications (AB)

Pest	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control with FF-075									No of trials where FF-075 is >, <, = compared to FF-075 (60% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (80% of full rate)
						FF-075 (60% of full rate)			FF-075 (80% of full rate)			FF-075 (100% of full rate)				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
29-45 DA-A																
SEPTTR	LEAF2	1	6.9	-	-	100.0	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
SEPTTR	LEAF3	1	20.0	-	-	90.8	-	-	96.8	-	-	97.5	-	-	1 trial > 0 trials = 0 trials <	0 trials > 1 trial = 0 trials <
15-22 DA-B																
SEPTTR	LEAF1	1	11.9	-	-	83.1	-	-	93.1	-	-	95.3	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
SEPTTR	LEAF2	1	20.0	-	-	80.1	-	-	89.9	-	-	94.2	-	-	1 trial > 0 trials = 0 trials <	0 trials > 1 trial = 0 trials <

Conclusion

The presented results demonstrate a clear dose response between all tested rates in most of the assessed leaves (L3 by the 1st assessment, L1 and L2 by the 2nd assessment) was recorded. For the both assessments the dose response was obvious after comparing absolute mean efficacy values. Despite this, individual comparison of the efficacy of the rates lower than the full rate (60% and 75-80%) against the full rate of FF-075 rendered no significant differences between them in most of the rates (exception the use of 60% of the full rate vs. full rate by assessment of L1 in the 2nd assessment) and the leaves.

Considering the high variation on the control respectively different leaves assessed and rates tested, to ensure the best pest control, the proposed rate of 1.0 l/ha of FF-075 applied once in winter cereals should be considered the minimum effective dose to deliver broad spectrum control of SEPTTR (*Zygmoseptoria tritici*) under a wide range of environmental conditions in the EPPO North-east zone.

Overall Conclusions

One application on winter cereals (A)

Pest Severity (efficacy)

PUCCHD

According to the presented results, a clear dose response when assessing L3 was observed only between the application of 80% of the full rate and the full rate of FF-075. No significant differences on the control observed after the application of 60% and 80% of the full rate as compared with the use of the full rate was obtained.

PYRNTE

A clear dose response for all the tested rates of FF-075 was observed only between the 60% and 80% of the rate of FF-075 while assessing L3. Despite this, no significant differences on the control observed after the application of 60% and 80% of the full rate as compared with the use of the full rate was obtained.

RHYNSE

No dose response for all the tested rates of FF-075 was observed when assessing only L3 after the application. Furthermore, no difference among treatments was observed, as in all cases efficacy reached the maximum control (100%).

SEPTTR

Strong dose response variations were observed upon assessed leaves as well as field disease infestation. Under low disease infestation no dose response was observed. With a higher disease infection value as assessed in L3 (4.5%), a clear dose response for all rates of FF-075 tested was observed. Furthermore, significant differences (meaning significantly higher disease control of the full rate of FF-075 over the smaller rates) when comparing rates lower than the full rate of the fungicide and the fungicide were observed. This was valid for most of the trials evaluated.

One application on winter cereals (B)

Pest Severity (efficacy)

ERYSGR

Considering a low ERYSGR infestation rate in the presented trial, all assessed rates (60% and 80% of the full rate and the full rate of fungicide) of FF-075 rendered 100% of efficacy thus no dose response was recorded (statistical equivalence between rates was found).

PUCCHD

A clear dose response when assessing L3 was observed only between the application of 80% of the full rate and the full rate of FF-075. Despite this, no significant differences on the control observed after the application of 60% and 80% of the full rate as compared with the use of the full rate were obtained.

PUCCRE

A clear dose response for the tested rates of FF-075 (60%, 80 % of the full rate and the full rate) was observed when assessing L1 and L2 in the second assessment. Furthermore, significant differences between inferior rates and full rate of the fungicide was determined. For the leaves assessed in the first assessment (L2 and L3) as well as L3 in the second assessment no differences among treatments was observed, as in all cases efficacy reached the maximum control (100%).

PUCCRR

A clear dose response when assessing the disease on L2 and L3 leaves only between the use of 60% and 80% of the full rate of the test product and between the use of 80% and the full rate of FF-075 respectively was found. Overall (both assessed leaves), no significant differences between the use of the rates lower than the full rate and the full rate of FF-075 were found.

PYRNTE

A clear dose response for all the tested rates of FF-075 was observed only assessing L3 during the first the first assessment as well as between 80% of the full rate and the full rate after assessing L1 and L2 for the second assessment. Despite this, no significant differences on the control observed after the application of 60% and 80% of the full rate as compared with the use of the full rate in any case was obtained.

RAMUCC

A slight dose response between the use of 60% and 80% of the full rate of FF -075 was recorded only after assessment of disease on L2. Overall (considering both assessed leaves), no significant differences between the application of rates lower than the full rate and the full rate of FF-075 were recorded.

RHYNSE

The presented results demonstrate a clear dose response for all the tested rates of FF-075 when assessing L3 only during the second assessment. For the mentioned dose response as well as for the instances where no dose response was observed, no significant differences between the pest control obtained after use of rates lower than the full rate was determined.

SEPTTR

According to the presented results, great variations in dose response were observed after the assessment of the different rates of FF-075 tested in all leaves assessed. Overall, clear dose responses among

all the rates of FF-075 tested were determined after assessment of L2 and L3 and L1 to L3 for the first and second assessments respectively. Additionally, this was true also between the use of 80% of the full rate and the full rate of FF-075 after assessing L1 in the first assessment. Furthermore, significant differences between the efficacy observed after application of lower rates as compared with the full rate of FF-075 was recorded in most of the cases (trials compared) for all leaves in the first assessment and for many of the trials compared for the second assessment.

Two applications on winter cereals (AB)

Pest Severity (efficacy)

PUCCRE

A slight dose response for the tested rates of FF-075 was observed when assessing L1 and L2 in the second assessment only. Despite this, after comparison of the efficacy of the rates inferior to the full rate and the full rate from the first and second assessment, no significant difference among them was found. Overall, the evaluation and for all rates and assessed leaves, high efficacy values were recorded.

SEPTTR

An overall clear dose response between all tested rates in most of the assessed leaves (L3 by the 1st assessment, L1 and L2 by the 2nd assessment) was recorded. Despite this, individual comparison of the efficacy of the rates lower than the full rate (60% and 75-80%) against the full rate of FF-075 rendered no significant differences between themselves in most of the assessed leaves, except for the effect of application of 60% of the full rate vs. full rate by assessment of L1 in the 2nd assessment.

Spring cereals

In total, three field trials were carried out in Poland (3) during the year 2020 (3). The objective was to determine the minimum effective dose of the foliar preventative fungicide effect of FF-075 against ERYSGR (1 trial), PYRNTE (2 trials) and RHYNSE (1 trial) in cereals planted in spring (HORVS). The trials were carried out according to GEP by officially recognised testing organisations and the guideline(s) EPPO PP 1/135(4), PP 1/152(4), PP 1/181(4), PP 1/225(2) and EPPO PP 1/26(4) were used.

FF-075 was applied once on the crop. The rates tested were: 0.6, 0.8 and 1.0 L/ha. The rates reflect the rate proposed on the label and 60% and 80% of the recommended rate of FF-075 in accordance with the EPPO standard PP 1/225 'Minimum effective dose'.

Detailed information on the experiments and application methods is given in Table 3.2-42. For further information on the reference products please refer to Table 3.2-8.

As the application of FF-075 is recommended as a preventive treatment against the infection of the mentioned pathogens, low infestation levels of the untreated control were also considered for the assessment of efficacy. Data supporting the effect of one (A/B) application is presented. Application timing named A, refers to applications carried earlier within the recommended BBCH range in which the fungicide is suggested to be used in the crop. On the contrary, timing named B, refers to applications carried out later within the recommended BBCH range in which the fungicide is recommended to be used in the crop. In presented trials, one application was carried out at BBCH 31-39. The application was conducted within the growth stages described or recommended between BBCH 30-59/69.

In case of no infestation during one assessment or in a whole trial, the data was excluded. Data presented corresponds to the assessment carried out on one up to three fully developed leaves of a tiller (leaf levels) two to three weeks after each application. The leaf levels presented include leaf 1 to 3 (L1-L3). In each evaluation, the parameter assessed was efficacy (percentage of control) expressed as the percentage of infestation as well-known as percentage of severity (PESSEV). Even when available, no pest incidence (PESINC) data was included. The reason for this is the strong variation on this parameter depending on the infestation of diseases presented in the crop. At times PESINC reached very high values already at early assessments, poorly reflecting the control performed for the treatments (included the reference product) as compared with the strong evidence that is obtained after the evaluation of pest severity (PESSEV) in the crop.

Table 3.2-42: Experimental details and application methods of the minimum effective dose test trials with FF-075 against ERYSGR, PYRNTE and RHYNSE in spring cereals in the EPPO North-east zone (numerals in brackets indicate the number of trials, except for the information on guidelines)

Total number of trials		<u>3</u>
Guidelines	General guidelines	EPPO PP 1/135(4), PP 1/152(4), PP 1/181(4), PP 1/225(2)
	Specific guidelines	EPPO PP 1/26(4)
	GEP	Yes (3)
Experimental design	Plot design	RCBD (3)
	Plot size	21-24 m ²
	Number of replications	4 (3)
Crop	Trials per crop	Spring barley (3)
	Varieties per crop	Spring barley: Kucyk (1), Melius (1), Texas (1)
	Sowing period	Spring barley: March-April 2020
Application	Crop stage (BBCH)* at application	Spring barley: BBCH 31 – BBCH 39
	Timing Pests	Post-emergence ERYSGR (1) PYRNTE (2) RHYNSE (1)
	Number of applications	1 (3), however conducted at two time points in the same plot, therefore assessments at DA-B shown
	Intervals between applications	
	Spray volumes	300 l/ha
Assessment	Assessment types	% severity, % incidence, % green leaf area
	Assessment dates	19-22 DA-B and 31-40 DA-B
Other relevant information	Soil type	Sandy loam (3)
	Soil pH	pH 5.3 – pH 6.8
	Natural/artificial inoculation	Natural (3)
	Field / Greenhouse	F (3)
	Application rate of test product	0.6, 0.8 and 1.0 L/ha product

Results

One application on winter cereals (A)

Pest Severity (efficacy)

ERYSGR

% of control of Pest Severity (PESSEV)

Leaf level 3 (L3) (% of control of pest severity)

In Table 3.2-43, a summary of the MED results for L3 of cereals in one trial is presented. The assessments were carried out 12-22 and 31-42 days after the application (DA-A).

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Table 3.2-43: Summary of the minimum effective dose of results of FF-075 used as preventive fungicide in spring cereals (EPPO North-east zone), concerning % of control of *Blumeria graminis f. sp. tritici* (ERYSGR) in terms of % of severity (PESSEV), assessed in leaf 3 (L3) after one application at A

Pest	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control with FF-075									No of trials where FF-075 is >, <, = compared to FF-075 (60% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (80% of full rate)
						FF-075 (60% of full rate)			FF-075 (80% of full rate)			FF-075 (100% of full rate)				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
12-22 DA-A																
ERYSGR	LEAF3	1	0.6	-	-	83.3	-	-	100.0	-	-	100.0	-	-	1 trial > 0 trials = 0 trials <	0 trials > 1 trial = 0 trials <
31-42 DA-A																
ERYSGR	LEAF3	1	2.3	-	-	46.7	-	-	66.7	-	-	87.5	-	-	1 trial > 0 trials = 0 trials <	0 trials > 1 trial = 0 trials <

Conclusion

The presented results demonstrate a clear dose response in both assessments. For the first assessment, a clear dose response was found only between the use of the 60% and 80% of the full rate of FF-075 after disease assessment on L3. The efficacy mean values for the use of 80% of the full rate and the full rate of the fungicide remained at 100%. For the second assessment, a clear dose response for all tested rates of FF-075 was observed on L3. For both assessments, significant superior control of the full rate of FF-075 as compared with the lower rates of the fungicide tested was observed only after comparing it with the use of 60% of the full rate of fungicide.

In order to overcome disease control variations and considering the evidence of better control above discussed, to ensure the best control, the proposed rate of 1.0 l/ha of FF-075 applied once in spring cereals should be considered the minimum effective dose to deliver broad spectrum control of ER-YSGR (*Blumeria graminis*) under a wide range of environmental conditions in the EPPO North-east zone.

PYRNTE

% of control of Pest Severity (PESSEV)

Leaf level 1-3 (L1-L3) (% of control of pest severity)

In Table 3.2-44, a summary of the MED results for L1 to L3 of winter cereals in up to two trials is presented. The assessments were carried out 12-22 and 31-42 days after the application (A timing thus DA-A).

Table 3.2-44: Summary of the minimum effective dose of results of FF-075 used as preventive fungicide in spring cereals (EPPO North-east zone), concerning % of control of *Pyrenophora teres* (PYRNTE) in terms of % of severity (PESSEV), assessed in L1-L3 after one application A (60% and 80 % of the full rate).

Pest	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control with FF-075									No of trials where FF-075 is >, <, = compared to FF-075 (60% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (80% of full rate)
						FF-075 (60% of full rate)			FF-075 (80% of full rate)			FF-075 (100% of full rate)				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
12-22 DA-A																
PYRNTE	LEAF2	1	0.5	-	-	100.0	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
PYRNTE	LEAF3	2	2.3	2.3	2.2 - 2.4	54.7	54.7	17.5 - 91.9	67.9	67.9	38.1 - 97.6	76.7	76.7	55.7 - 97.7	1 trial > 1 trial = 0 trials <	1 trial > 1 trial = 0 trials <
31-42 DA-A																
PYRNTE	LEAF1	1	7.1	-	-	48.9	-	-	52.5	-	-	56.7	-	-	1 trial > 0 trials = 0 trials <	0 trials > 1 trial = 0 trials <
PYRNTE	LEAF2	2	5.8	5.8	2.1 - 9.5	46.8	46.8	35.2 - 58.3	57.6	57.6	38.1 - 77.1	67.4	67.4	40.9 - 93.8	1 trial > 1 trial = 0 trials <	0 trials > 2 trials = 0 trials <
PYRNTE	LEAF3	2	11.3	11.3	3.9 - 18.6	59.2	59.2	45.6 - 72.7	63.7	63.7	45.6 - 81.8	71.9	71.9	47.4 - 96.4	0 trials > 2 trials = 0 trials <	0 trials > 2 trials = 0 trials <

Conclusions

According to the presented results, a clear dose response for all the tested rates (60% and 80% of the full rate) of FF-075 was observed after assessment of L3 at the first assessment and after assessment of L1 to L3 in the second assessment. Even after obtaining such clear trend on the rates of FF-075, no significant differences among the efficacy displayed by the rates smaller than the full rate as compared with the full rate were observed in any case.

Since there is a trend observed defining a dose response when applying different rates of the fungicide, in order to ensure the best pest control, the proposed rate of 1.00 l/ha of FF-075 applied once in spring cereals should be considered the minimum effective dose to deliver broad spectrum control of PYRNTE (*Pyrenophora teres*) under a wide range of environmental conditions in the EPPO North-east zone.

RHYNSE

% of control of Pest Severity (PESSEV)

Leaf level 1-3 (L1-L3) (% of control of pest severity)

In Table 3.2-45, a summary of the MED results for L1 to L3 of spring cereals in one trial is presented. The assessment was carried out 31-42 days after the application (A timing thus DA-A).

Table 3.2-45: Summary of the minimum effective dose of results of FF-075 used as preventive fungicide in spring cereals (EPPO North-east zone), concerning % of control of *Rhynchosporium secalis* (RHYNSE) in terms of % of severity (PESSEV), assessed in L1-L3 after one application A (60% and 80 % of the full rate).

Pest	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control with FF-075									No of trials where FF-075 is >, <, = compared to FF-075 (60% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (80% of full rate)
						FF-075 (60% of full rate)			FF-075 (80% of full rate)			FF-075 (100% of full rate)				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
31-42 DA-A																
RHYNSE	LEAF1	1	0.8	-	-	100.0	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
RHYNSE	LEAF2	1	9.0	-	-	59.8	-	-	82.8	-	-	100.0	-	-	1 trial > 0 trials = 0 trials <	1 trial > 0 trials = 0 trials <
RHYNSE	LEAF3	1	19.5	-	-	75.0	-	-	86.3	-	-	86.5	-	-	1 trial > 0 trials = 0 trials <	0 trials > 1 trial = 0 trials <

Conclusions

According to the presented results, a clear dose response for all the tested rates of FF-075 was observed after assessment of L2 and between the use of 60% and 80% of the full rate when considering L3. Furthermore, the effect of the application of the full rate of FF-075 was significantly superior as compared with the use of the rate smaller than the full rate, in the instances where clear dose response was observed. In the first assessment, no dose response for L1 was observed as in all cases the mean efficacy values reached its maximum (100%).

Considering the strong evidence above described, to ensure the best pest control, the proposed rate of 1.00 l/ha of FF-075 applied once in spring cereals should be considered the minimum effective dose to deliver broad spectrum control of RHYNSE (*Rhynchosporium secalis*) under a wide range of environmental conditions in the EPPO North-east zone.

One application on winter cereals (B)

Pest Severity (efficacy)

ERYSGR

% of control of Pest Severity (PESSEV)

Leaf level 3 (L3) (% of control of pest severity)

In Table 3.2-46, a summary of the MED results for L2-L3 of cereals in one trial is presented. The assessments were carried out 19-22 and 31-40 days after the application (B thus DA-B).

Table 3.2-46: Summary of the minimum effective dose of results of FF-075 used as preventive fungicide in spring cereals (EPPO North-east zone), concerning % of control of *Blumeria graminis f. sp. tritici* (ERYSGR) in terms of % of severity (PESSEV), assessed in leaf 3 (L3) after one application at B

Pest	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control with FF-075									No of trials where FF-075 is >, <, = compared to FF-075 (60% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (80% of full rate)
						FF-075 (60% of full rate)			FF-075 (80% of full rate)			FF-075 (100% of full rate)				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
19-22 DA-B																
ERYSGR	LEAF3	1	2.3	-	-	68.3	-	-	63.3	-	-	90.8	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
31-40 DA-B																
ERYSGR	LEAF2	1	2.7	-	-	70.7	-	-	77.2	-	-	90.4	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Conclusion

The presented results demonstrate a clear dose response in both assessments. For the first assessment, a clear dose response was found only between the use of the 80% and the full rate of FF-075 after disease assessment on L3. The efficacy mean values for the use of 60% and 80% of the full rate of the fungicide remained at similar values (68.3 and 63.3% respectively). For the second assessment, a clear dose response for all tested rates of FF-075 was observed after disease assessment on L3. Despite the dose response effect observed, no significant difference on efficacy was obtained after comparison between the use of the rates smaller than the full rate and the full rate of FF-075.

In order to overcome disease control variations and considering the trend observed after the evaluation, to ensure the best control, the proposed rate of 1.0 l/ha of FF-075 applied once in spring cereals should be considered the minimum effective dose to deliver broad spectrum control of ERYSGR (*Blumeria graminis*) under a wide range of environmental conditions in the EPPO North-east zone.

PYRNTE

% of control of Pest Severity (PESSEV)

Leaf level 1-3 (L1-L3) (% of control of pest severity)

In Table 3.2-47, a summary of the MED results for L1 to L3 of winter cereals in up to two trials is presented. The assessments were carried out 19-22 and 31-40 days after the application (B timing thus DA-B).

Table 3.2-47: Summary of the minimum effective dose of results of FF-075 used as preventive fungicide in spring cereals (EPPO North-east zone), concerning % of control of *Pyrenophora teres* (PYRNTE) in terms of % of severity (PESSEV), assessed in L1-L3 after one application (60% and 80 % of the full rate).

Pest	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control with FF-075									No of trials where FF-075 is >, <, = compared to FF-075 (60% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (80% of full rate)
						FF-075 (60% of full rate)			FF-075 (80% of full rate)			FF-075 (100% of full rate)				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
19-22 DA-B																
PYRNTE	LEAF1	1	7.1	-	-	56.0	-	-	59.2	-	-	62.3	-	-	1 trial > 0 trials = 0 trials <	0 trials > 1 trial = 0 trials <
PYRNTE	LEAF2	2	5.8	5.8	2.1 - 9.5	45.9	45.9	39.6 - 52.1	58.8	58.8	42.5 - 75.0	67.4	67.4	45.1 - 89.6	2 trials > 0 trials = 0 trials <	0 trials > 2 trials = 0 trials <
PYRNTE	LEAF3	2	11.3	11.3	3.9 - 18.6	61.7	61.7	48.2 - 75.1	68.0	68.0	48.7 - 87.3	73.4	73.4	50.3 - 96.4	0 trials > 2 trials = 0 trials <	0 trials > 2 trials = 0 trials <
31-40 DA-B																
PYRNTE	LEAF1	2	8.9	8.9	4.2 - 13.5	57.1	57.1	50.7 - 63.4	63.6	63.6	51.3 - 75.9	74.2	74.2	52.6 - 95.8	0 trials > 2 trials = 0 trials <	0 trials > 2 trials = 0 trials <
PYRNTE	LEAF2	1	5.8	-	-	80.8	-	-	91.7	-	-	95.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Conclusions

The presented results demonstrate a clear dose response for all the tested rates (60% and 80% of the full rate) of FF-075 in L1 to L3 and L1 to L2 in the first and second assessments respectively. However, significant superior disease control was observed only after comparison of the effect of the use of the full rate of FF-075 as compared with 60% of the full rate 075 when assessing L1 (1 trial) and L2 (2 trials) in the first assessment. For the rest of leaves in the first and second assessment, no significant differences on the control observed after the application of 60% and 80% of the full rate as compared with the use of the full rate was obtained.

Since there is a trend observed defining a dose response when applying different rates of the fungicide, and strong evidence was found supporting this as mentioned above, in order to ensure the best pest control, the proposed rate of 1.0 l/ha of FF-075 applied once in spring cereals should be considered the minimum effective dose to deliver broad spectrum control of PYRNTE (*Pyrenophora teres*) under a wide range of environmental conditions in the EPPO North-east zone.

RHYNSE

% of control of Pest Severity (PESSEV)

Leaf level 1-3 (L1-L3) (% of control of pest severity)

In Table 3.2-48, a summary of the MED results for L1 to L3 of spring cereals in one trial is presented. The assessments were carried out 19-22 and 31-40 days after the application (B timing thus DA-B).

Table 3.2-48: Summary of the minimum effective dose of results of FF-075 used as preventive fungicide in spring cereals (EPPO North-east zone), concerning % of control of *Rhynchosporium secalis* (RHYNSE) in terms of % of severity (PESSEV), assessed in L1-L3 after one application (60% and 80 % of the full rate).

Pest	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control with FF-075									No of trials where FF-075 is >, <, = compared to FF-075 (60% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (80% of full rate)
						FF-075 (60% of full rate)			FF-075 (80% of full rate)			FF-075 (100% of full rate)				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
19-22 DA-B																
RHYNSE	LEAF1	1	0.8	-	-	100.0	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
RHYNSE	LEAF2	1	9.0	-	-	73.4	-	-	84.8	-	-	100.0	-	-	1 trial > 0 trials = 0 trials <	1 trial > 0 trials = 0 trials <
RHYNSE	LEAF3	1	19.5	-	-	68.6	-	-	72.4	-	-	81.0	-	-	1 trial > 0 trials = 0 trials <	1 trial > 0 trials = 0 trials <
31-40 DA-B																
RHYNSE	LEAF1	1	8.5	-	-	66.8	-	-	76.2	-	-	86.2	-	-	1 trial > 0 trials = 0 trials <	1 trial > 0 trials = 0 trials <
RHYNSE	LEAF2	1	26.5	-	-	47.6	-	-	54.7	-	-	63.7	-	-	1 trial > 0 trials = 0 trials <	1 trial > 0 trials = 0 trials <

Conclusions

The presented results demonstrate a clear dose response for all the tested rates of FF-075 after assessment of L2 and L3 and L1 and L2 in the first and second assessments respectively. Furthermore, the effect of the application of the full rate of FF-075 was significantly superior as compared with the use of the rate lower than the full rate, in the instances where clear dose response was observed. In the first assessment, no dose response for L1 was observed as in all cases the mean efficacy values reached its maximum (100%).

Considering the strong evidence above described, in order to ensure the best pest control, the proposed rate of 1.0 l/ha of FF-075 applied once in spring cereals should be considered the minimum effective dose to deliver broad spectrum control of RHYNSE (*Rhynchosporium secalis*) under a wide range of environmental conditions in the EPPO North-east zone.

Overall Conclusions

One application on spring cereals (A)

Pest Severity (efficacy)

ERYSGR

A clear dose response was observed at the first assessment only between the use of 60% and 80% of the full rate of FF-075 on L3. For the second assessment, a clear dose response was observed between all assessed rates when evaluating disease on L3 too. For both assessments, significant superior disease control was observed only after comparison of the effect of the use of the full rate of FF-075 as compared with 60% of the full rate 075 when assessing L3.

PYRNTE

A clear dose response for all the tested rates (60% and 80% of the full rate) of FF-075 was observed after assessment of L3 at the first assessment and after assessment of L1 to L3 in the second assessment. No significant differences among the efficacy displayed by the rates smaller than the full rate as compared with the full rate were observed for any assessed leave at none of the assessments.

RHYNSE

A clear dose response was observed after assessment of L2 for all the tested rates of FF-075 and between the use of 60% and 80% of the full rate when considering L3. Significantly superior efficacy of the use of the full rate of FF-075 as compared with the use of the rate smaller than the full rate was found, in the instances where clear dose response was observed (L2, 100% > 60 and 80% of the full rate of FF-075 and L3, 100% > 60% of the full rate of fungicide).

One application on spring cereals (B)

Pest Severity (efficacy)

ERYSGR

Clear dose responses were recorded in both assessments. For the first assessment, it was found only between the use of the 80% and the full rate of FF-075 after disease assessment on L3. For the second assessment, the clear dose response was observed between all tested rates of FF-075 when performing disease assessment on L3. Despite the dose response effect observed, no significant difference on effi-

cacy was obtained after comparison between the use of the rates smaller than the full rate with the full rate of FF-075.

PYRNTE

A clear dose response for all the tested rates (60% and 80% of the full rate) of FF-075 was observed in L1 to L3 and L1 to L2 in the first and second assessments respectively. However, significant superior disease control was observed only after comparison of the effect of the use of the full rate of FF-075 as compared with 60% of the full rate 075 when assessing L1 (1 trial) and L2 (2 trials) in the first assessment.

RHYNSE

A clear dose response for all the tested rates of FF-075 was observed after assessment of L2 and L3 and L1 and L2 in the first and second assessments respectively. Furthermore, the effect of the application of the full rate of FF-075 was significantly superior as compared with the use of the rate lower than the full rate, in the instances where clear dose response was observed.

Oilseed rape

Material and methods

In total, two field trials were carried out in Poland during 2019 (2). The objective was to determine the minimum effective dose of the foliar preventative fungicide effect of FF-075 against SCLESC (2 trials). The trials were carried out according to GEP by officially recognised testing organisations and the guideline(s) EPPO PP 1/135(4), PP 1/152(4), PP 1/181(4), PP 1/225(2) and EPPO PP 1/78(3) were used.

FF-075 was applied once on the crop. The rates tested were: 0.5, 0.75 and 1.0 L/ha. The rates reflect the rate proposed on the label and 50% and 75% of the recommended rate of FF-075 in accordance with the EPPO standard PP 1/225 'Minimum effective dose'.

Detailed information on the experiments and application methods is given in Table 3.2-49. For further information on the reference product(s) please refer to Table 3.2-8.

As the application of FF-075 is recommended as a preventive treatment against the infection of the mentioned pathogen, low infestation levels of the untreated control were also considered for the assessment of efficacy. Data supporting the effect of one application is presented. In the presented trials, applications took place at BBCH 65 in all cases.

In case of no infestation during one assessment or in a whole trial, the data was excluded. Data presented corresponds to the assessment carried out on infected stems (25 at least per plot) as percentage at BBCH growth stages 50-85 (optimal 79-85). For stems the percentage of infected pods from at least 25 plants per plot were assessed. In each evaluation, the parameter assessed was pest incidence (percentage of control) expressed as the percentage of infestation as well-known as percentage of incidence (PESINC).

Contrary to what was observed in cereals, the evaluation of the efficacy of the fungicide was well reflected while considering PESINC as parameter therefore included in this section.

Table 3.2-49: Experimental details and application methods in the efficacy trials with FF-075 against SCLESC in winter oilseed rape in the EPPO North-east zone (numerals in brackets indicate the number of trials, except for the information on guidelines)

Total number of trials	2
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Guidelines	General guidelines	EPPO PP 1/135(4), PP 1/152(4), PP 1/181(4), PP 1/225(2)
	Specific guidelines	EPPO PP 1/78(3)
	GEP	Yes (2)
Experimental design	Plot design	RCBD (2)
	Plot size	20 m ²
	Number of replications	4 (2)
Crop	Trials per crop	Oilseed rape (2)
	Varieties per crop	Oilseed rape: Architekt (1), Konkret (1)
	Sowing period	Oilseed rape: August 2018
Application	Crop stage (BBCH)* at application	Oilseed rape: BBCH 65
	Timing	Post-emergence
	Pests	SCLESC (2)
	Number of applications	1
	Intervals between applications	-
Assessment	Spray volumes	200 l/ha
	Assessment types	% severity, % incidence, % green leaf area
Other relevant information	Assessment dates	48-54 DA-A
	Soil type	Sandy loam (2)
	Soil pH	pH 6.11 – pH 6.8
	Natural/artificial inoculation	Natural (2)
	Field / Greenhouse	F (2)
	Application rate of test product	0.5 and 0.75 L/ha product

Results

One application on oilseed rape

Pest Incidence (efficacy)

SCLESC

% of control of Pest Incidence (PESINC)

Stems (% of control of pest incidence)

In Table 3.2-50, a summary of the MED results for stems in oil seed rape in two trial is presented. The assessment was carried at 48-54 days after the application (DA-A).

Table 3.2-50: Summary of the minimum effective dose of results of FF-075 used as preventive fungicide in oil seed rape (EPPO North-east zone), concerning % of control of *Sclerotinia sclerotiorum* (SCLESC) in terms of % of incidence (PESINC), assessed in stems after one application

Pest	Number of trials	Infestation of the untreated control (% PESINC)			% control with FF-075									No of trials where FF-075 is >, <, = compared to FF-075 (50% of full rate)	No of trials where FF-075 is >, <, = compared to FF-075 (75% of full rate)
					FF-075 (50% of full rate)			FF-075 (75% of full rate)			FF-075 (100% of full rate)				
		Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
48-54 DA-A															
SCLESC	2	37.4	37.4	34.9 - 39.9	50.7	50.7	47.6 - 53.9	60.6	60.6	59.4 - 61.9	67.8	67.8	66.7 - 68.9	2 trials > 0 trials = 0 trials <	2 trials > 0 trials = 0 trials <

Conclusions

The presented results demonstrate a clear dose response of all tested rates of FF-075 when assessing efficacy based on pest incidence (PESINC) on stems. Furthermore, superior significant control of the use of the full rate of FF-075 as compared with the lower rates tested (50% and 75% of the full rate) was recorded.

In order to overcome disease control variations and considering the strong evidence of better control above discussed, the proposed rate of 1.0 l/ha of FF-075 applied once oil seed rape (BRSNW) should be considered the minimum effective dose to deliver broad spectrum control of SCLESC (*Blumeria graminis*) under a wide range of environmental conditions in the EPPO North-east zone.

Overall Conclusions

One application on oil seed rape

Pest Incidence (efficacy)

SCLESC

A clear dose response of all tested rates of FF-075 when assessing efficacy based on pest incidence (PESINC) on stems was observed. Furthermore, superior significant control of the use of the full rate of FF-075 as compared with the lower rates tested (50% and 75% of the full rate) was recorded.

3.2.2.3 Summary and conclusion on the minimum effective dose

EPPO Maritime zone

Winter cereals

According to the presented results for winter cereals, the dose of 1.0 l/ha of FF-075 applied once or twice on the crops provided the optimum overall control and should be considered as the minimum effective dose against all mentioned pests (for detail please refer to winter cereals in the section 3.2.2.1). Examples of superior efficacy of the full rate of FF-075 as compared with the lower rates were encountered throughout the evaluation. Control at the lower dose rates was in most cases lower, and less consistent. As a result, the proposed rate of 1.0 l/ha applied once should be considered the minimum effective dose to deliver broad spectrum control of pathogens in winter cereals.

Spring cereals

According to the presented results for spring cereals, the dose of 1.0 l/ha of FF-075 applied once or twice on the crops provided the optimum overall control and should be considered as the minimum effective dose against all mentioned pests (for detail please refer to winter cereals in the section 3.2.2.). Examples of superior efficacy of the full rate of FF-075 as compared with the smaller ones were encountered throughout the evaluation. Control at the lower dose rates was in most cases lower, and less consistent. As a result, for a preventative fungicide treatment, the proposed rate of 1.0 l/ha applied once should be considered the minimum effective dose to deliver broad spectrum control of pathogens in winter cereals.

EPPO North-east zone

Winter cereals

According to the presented results for winter cereals, the dose of 1.0 l/ha of FF-075 applied once on the crops provided the optimum overall control and should be considered as the minimum effective dose against all mentioned pests (for detail please refer to winter cereals in the section 3.2.2.3). Furthermore, after assessment of most of the leaves superior efficacy of the full rate of FF-075 as compared with the lower rates was encountered throughout the evaluation. Control at the lower dose rates was in most cases lower, and less consistent. The proposed rate of 1.0 l/ha should be considered the minimum effective dose to deliver broad spectrum control of pathogens in winter cereals.

Spring cereals

According to the presented results for spring cereals, the dose of 1.0 l/ha of FF-075 applied once on the crops provided the optimum overall control and should be considered as the minimum effective dose against all mentioned pests (for detail please refer to spring cereals in the section 3.2.2.3). Furthermore, after assessment of most of the leaves superior efficacy of the full rate of FF-075 as compared with the lower rates was encountered throughout the evaluation. Control at the lower dose rates was in most cases lower, and less consistent. The proposed rate of 1.0 l/ha should be considered the minimum effective dose to deliver broad spectrum control of pathogens in spring cereals.

Oil seed rape

According to the presented results for oil seed rape, the dose of 1.0 l/ha of FF-075 applied once on the crop provided the optimum overall control and should be considered as the minimum effective dose against SCLESC (for detail please refer to spring cereals in the section 3.2.2.3). Furthermore, after assessment of stems superior efficacy of the full rate of FF-075 as compared with the lower rates was encountered in all considered trials. Control at the lower dose rates was lower. The proposed rate of 1.0 l/ha should be considered the minimum effective dose to deliver broad spectrum control of pathogens in oil seed rape.

Comments of zRMS:	<p>Statement accepted. The evaluation was carried out in accordance with the Uniform Principles. To provide information to establish the minimum effective dose, some of the trials conducted to demonstrate efficacy should include at least one lower dose(s) (for example 60–80% of the recommended dose) to that which would be recommended. It is utilized to achieve the desired effect, in accordance with EPPO 1/225 (2).</p> <p>Applicant submitted in total 30 trials in which MED dose was studied. In the Maritime EPPO zone 15 trials was performed: 14 on winter cereals (13 winter wheat and 1 winter barley in CZ-2; DE-5; FR-3, IE-1 and UK-3) and 1 trial on spring cereals (spring wheat) in UK. In the N-E EPPO zone: 10 trials were performed on winter cereals (winter wheat-4; winter barley-3; winter rye-1 and winter triticale -2), 3 trials on spring cereals (spring barley) and 2 trials on winter oilseed rape. From N-E EPPO zone only Poland was represented by trials.</p> <p><u>Following fungal diseases were studied during MED trials:</u></p> <ul style="list-style-type: none"> • <i>winter cereals:</i> <ul style="list-style-type: none"> ✓ Maritime EPPO zone: ERYSGR-2 trials, FUSASP-2 trials, LEPTNO-1 trial, PUCCHD-1 trial, PUCCRE-2 trials, PUCCRT-5 trials, PUCST-1 trial, PYRNTR-1 trial, SEPTTR-11 trials ✓ N-E EPPO zone: ERYSGR-1 trial, PUCCHD-1 trial, PUCCRE-2 trials, PUCCR-1 trial, PYRNTE-4 trials, RAMUCC-1 trial, RHYNSE-1 trial, SEPTTR-5 trials. • <i>spring cereals:</i> <ul style="list-style-type: none"> ✓ Maritime EPPO zone: ERYSYGR – 1 trial
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	<p>✓ N-E EPPO zone: ERYSYGR – 1 trial, PYRNTE-2 trials, RHYNSE-1 trial</p> <ul style="list-style-type: none"> • <i>winter oilseed rape:</i> <p>✓ Maritime EPPO zone: lack of trials</p> <p>✓ N-E EPPO zone: SCLESC-2 trials</p> <p>Each cMS should decide if documentation presented by Applicant to support MED dose is sufficient. In the opinion of ZRMs registration in S-E and MED EPPO zone is not possible due to lack of trials. Also, cMS from Maritime and N-E should decide if limited number of trials for most fungal diseases can be accepted. However, final decision about acceptance or not MED trials is left to cMS.</p> <p>The proposed rate of 1.0 L/ha should be considered the minimum effective dose to deliver broad spectrum control of the target diseases on winter and spring cereals and dose 0.8 L/ha for winter oilseed rape under a wide range of environmental conditions in the context of “bridging data” or existing knowledge on the active substances and other relevant formulations with prothioconazole and azoxystrobin on the market (EPPO standard PP 1/307).</p> <p>According to the presented results for winter cereals and spring cereals the dose of 1.0 l/ha and for winter oilseed rape the dose of 0.8 L/ha of FF-075 applied once or twice on the crops provided the optimum overall control and should be considered as the minimum effective dose against all mentioned pests.</p>
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3.2.3 Efficacy tests (KCP 6.2)

3.2.3.1 EPPO Maritime zone

Winter cereals

Material and methods

In total, 39 field trials were carried out in Czech Republic (3), Germany (13), Denmark (2), France (5), Ireland (4), Sweden (1), United Kingdom (11) during the years 2019 (7) and 2020 (32), to assess the efficacy of the foliar preventative fungicide FF-075 against ERYSGH (1 trial), ERYSGT (2 trials), FUSASP (2 trials), LEPTNO (2 trials), PUCCHD (6 trials), PUCCRE (5 trials), PUCCRT (7 trials), PUCCSI (1 trial), PUCST (2 trials), PYRNTE (2 trials), PYRNTR (1 trials), RHYNSE (4 trials) and SEPTTR (26 trials) in cereals planted in winter (HORVW, TRZAW and TTLWI). The trials were carried out according to GEP by officially recognised testing organisations and the guideline(s) EPPO PP 1/135(4), PP 1/152(4), PP 1/181(4), PP 1/214(4), PP 1/225(2) and EPPO PP 1/26(4) were used.

Detailed information on the experiments and application methods is given in Table 3.2-51. For further information on the reference product(s) please refer to Table 3.2-8.

As the application of FF-075 is recommended as a preventive treatment against the infection of the mentioned pathogens, low infestation levels of the untreated control were also considered for the assessment of efficacy. Data supporting the effect of one (B) or two applications (AB) is presented. Application timing named B, refers to applications carried later within the recommended BBCH range in which the fungicide is recommended to be used in the crop. In presented trials, application B at BBCH 30-55 (see experimental details for different ranges used in different crops). For timing AB, FF-075 was used in two step-wise applications. For both applications, the same rate was used. The target rate tested was 1.0 L/ha of FF-075 in winter cereals. The applications were conducted within the growth stages described between BBCH 30-59/69. The interval between applications corresponded to 20-36 days.

In case of no infestation during one assessment or in a whole trial, the data was excluded. Data presented corresponds to the assessment carried out on one up to three fully developed leaves of a tiller (leaf levels) two to three weeks after each application. The leaf levels presented include leaf 1 to 3 (L1-L3) and depending on the pathogen (when affecting ear) also data for ears were presented as for FUSASP concerns. In each evaluation, the parameter assessed was efficacy (percentage of control) expressed as the percentage of infestation as well-known as percentage of severity (PESSEV). In regard to the percentage of green leaf area (GRNARE), the effect was summarized for all trials conducted for the whole set of cereals in one season (winter). Even when available, no pest incidence (PESINC) data was included. The reason for this is the strong variation on this parameter depending on the infestation of diseases presented in the crop. At times PESINC reached very high values already at early assessments, poorly reflecting the control performed for the treatments (included the reference product) as compared with the strong evidence that is obtained after the evaluation of pest severity (PESSEV) in the crop.

Table 3.2-51: Experimental details and application methods in the efficacy trials with FF-075 against ERYSGH, ERYSGT, FUSASP, LEPTNO, PUCCHD, PUCCRE, PUCCRT, PUCCSI, PUCGST, PYRNTE, PYRNTR, RHYNSE and SEPTTR in winter cereals in the EPPO Maritime zone (numerals in brackets indicate the number of trials, except for the information on guidelines)

Total number of trials		39
Guidelines	General guidelines	EPPO PP 1/135(4), PP 1/152(4), PP 1/181(4), PP 1/214(4), PP 1/225(2)
	Specific guidelines	EPPO PP 1/26(4)
	GEP	Yes (39)
Experimental design	Plot design	RCBD (39)
	Plot size	17.5-36 m ²
	Number of replications	4 (39)
Crop	Trials per crop	Winter wheat (29) Winter barley (9) Winter triticale (1)
	Varieties per crop	Winter wheat: Benchmark (1), Boss (1), Complice (1), Costello (1), Crusoe (2), Diamanto (1), Firefly (2), Frisky (1), JB Diego (1), Kashmir (1), Kinetic (1), KWS Barrel (1), Norin (1), RGT Gravity (1), Rubisco (4), Siskin (1), Skyfall (2), Tobak (5), Torp (1) Winter barley: Flagon (1), Henriette (1), KWS Higgins (1), KWS Kosmos (1), KWS Orwell (1), KWS Tower (1), Lomerit (1), Quadriga (1), SU Jule (1) Winter triticale: Lombardo (1)
	Sowing period	Winter wheat: September-October 2018, September-December 2019 Winter barley: September-October 2019 or n.s. (1) Winter triticale: October 2019
	Crop stage (BBCH)* at application	Winter wheat: BBCH 30 - BBCH 65 Winter barley: BBCH 31 – BBCH 49 Winter triticale: BBCH 31 – BBCH 39
Application	Timing	Post-emergence
	Pests	ERYSGH (1) ERYSGT (2) FUSASP (2) LEPTNO (2) PUCCHD (6) PUCCRE (5) PUCCRT (7) PUCCSI (1) PUCGST (2) PYRNTE (2) PYRNTR (1) RHYNSE (4) SEPTTR (26)
	Number of applications	1 (32), however conducted at two time points in the same plot, therefore assessments at DA-B shown 2 (7)
	Intervals between applications	20-36 days

	Spray volumes	150 - 300 l/ha
Assessment	Assessment types	% severity, % incidence, % green leaf area
	Assessment dates	12-25 DA-A, 27-43 DA-A, 7-24 DA-B, 26-41 DA-B
Other relevant information	Soil type	Clay loam (4), loam (3), loamy sand (2), sand (1), sandy clay loam (4), sandy loam (6), silt (1), silt loam (7), silty clay (2), silty clay loam (4), n.s. (5)
	Soil pH	pH 5.3 – pH 7.4 and n.s. (23)
	Natural/artificial inoculation	Natural (39)
	Field / Greenhouse	F (39)
	Application rate of test product	1.0 L/ha product

One application on winter cereals (B)

One application on winter cereals (A)

Pest Severity (efficacy)

ERYSGH

% of control of Pest Severity (PESSEV)

Leaf level 2 to 3 (L2-L3) (% of control of pest severity)

In Table 3.2-52, a summary of the efficacy results for L2 to L3 in one trial is presented. The assessment shown was carried out around the developmental stage BBCH 75.

Table 3.2-52: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (EPPO Maritime zone), concerning % of control of *Blumeria graminis f. sp. hordei* (ERYSGH) in terms of % of severity (PESSEV), assessed in leaf 2 to 3 (L2-L3) after one application at A

Target	Grouping	Number of trials	Infestation of the untreated control (PESSEV %)			% control						No of trials where FF-075 is >, <, = compared to Curbatur/Proline
						FF-075 at 1.0 l/ha			Curbatur/Proline at 0.6-0.8 l/ha			
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	
BBCH 75												
ERYSGH	LEAF 2	1	7.5	-	-	70.2	-	-	55.7	-	-	0 trials > 1 trial = 0 trials <
ERYSGH	LEAF 3	1	13.5	-	-	76.3	-	-	70.5	-	-	0 trials > 1 trial = 0 trials <

Conclusions

According to the presented results, the ear pathogen FUSASP resulted to be moderate tolerant to FF-075 applied at a rate of 1.00 l/ha (after one application) in the EPPO Maritime zone when considering severity as the parameter of comparison. Same effect as observed for the test product was observed for the reference product tested. Furthermore, after statistical comparison, both treatments resulted equivalent.

LEPTNO

% of control of Pest Severity (PESSEV)

Leaf level 3 (L3) (% of control of pest severity)

In Table 3.2-53, a summary of the efficacy results for L3 in one trial is presented. The assessment shown was carried out 27-47 days after the application (DA-A).

Table 3.2-53: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (EPPO Maritime zone), concerning % of control of *Parastagonospora nodorum* (LEPTNO) in terms of % of severity (PESSEV), assessed in leaf 3 (L3) after one application at A

Target	Grouping	Number of trials	Infestation of the untreated control (PESSEV %)			% control						No of trials where FF-075 is >, <, = compared to Curbatur/Proline
						FF-075 at 1.0 l/ha			Curbatur/Proline at 0.6-0.8 l/ha			
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	
27-43 DA-A												
LEPTNO	LEAF 3	1	7.8	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <

Conclusions

According to the presented results, the leaf pathogen LEPTNO resulted susceptible to FF-075 applied at a rate of 1.00 l/ha in the EPPO Maritime zone when considering % of severity as the parameter of comparison. After the disease assessment on L3, the efficacy of the treatment of FF-075 as well as the application of the reference product (Curbartur/Proline) reached 100% of efficacy. Thus, no statistical difference between test and reference product were recorded.

Considering the effect observed after the application of FF-075 at A along the crop life cycle of winter cereals at a rate of 1.00 l/ha is recommended in the EPPO Maritime zone as an effective protective fungicide against LEPTNO under a wide range of environmental conditions since progression of the disease was held in the field even if high incidence was observed.

PUCCHD

% of control of Pest Severity (PESSEV)

Leaf level 1-3 (L1-L3) (% of control of pest severity)

In Table 3.2-54, a summary of the efficacy results for L1 to L3 in up to four trials is presented. The assessments shown were carried out 12-25 and 27-43 days after the application (DA-A).

Table 3.2-54: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (EPPO Maritime zone), concerning % of control of *Puccinia hordei* (PUCCHD) in terms of % of severity (PESSEV), assessed in leaf 1 to 3 (L1-L3) after one application at A

Target	Grouping	Number of trials	Infestation of the untreated control (PESSEV %)			% control						No of trials where FF-075 is >, <, = compared to Curbatur/Proline
						FF-075 at 1.0 l/ha			Curbatur/Proline at 0.6-0.8 l/ha			
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	
12-25 DA-A												
PUCCHD	LEAF 3	1	1.3	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <
27-43 DA-A												
PUCCHD	LEAF 1	4	0.8	1.0	0.4 - 1.0	100.0	100.0	100.0 - 100.0	91.7	100.0	66.7 - 100.0	1 trial > 3 trials = 0 trials <
PUCCHD	LEAF 2	3	4.2	2.8	1.3 - 8.4	95.2	100.0	85.6 - 100.0	98.8	100.0	96.4 - 100.0	0 trials > 2 trials = 1 trial <
PUCCHD	LEAF 3	2	5.5	5.5	2.8 - 8.1	100.0	100.0	100.0 - 100.0	100.0	100.0	100.0 - 100.0	0 trials > 2 trials = 0 trials <

Conclusions

According to the presented results, the leaf pathogen PUCCHD resulted susceptible to FF-075 applied at a rate of 1.00 l/ha in the EPPO Maritime zone when considering % of severity as the parameter of comparison. After the first disease assessment considering L3, the efficacy of the treatment of FF-075 as well as the application of the reference product (Curbartur/Proline) reached 100% of efficacy. Thus, no statistical difference between test and reference product were recorded. For the second assessment also high efficacy values (95.2% to 100%) after the application of FF-075 were recorded regardless the assessed leaf considered (L1 to L3). Furthermore, the effect of the observed was comparable (in most of the trials) or even superior to the control performed by the reference product tested (Curbartur/Proline).

Considering the effect observed after the application of FF-075 at A along the crop life cycle of winter cereals at a rate of 1.00 l/ha is recommended in the EPPO Maritime zone as an effective protective fungicide against PUCCHD under a wide range of environmental conditions since progression of the disease was held in the field even if high incidence was observed.

PUCCRE

% of control of Pest Severity (PESSEV)

Leaf level 1-3 (L1-L3) (% of control of pest severity)

In Table 3.2-55, a summary of the efficacy results for L1 to L3 in up to three trials is presented. The assessment shown was carried out 27-43 days after the application (DA-A).

Table 3.2-55: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (EPPO Maritime zone), concerning % of control of *Puccinia recondita* (PUCCRE) in terms of % of severity (PESSEV), assessed in leaf 1 to 3 (L1-L3) after one application at A

Target	Grouping	Number of trials	Infestation of the untreated control (PESSEV %)			% control									No of trials where FF-075 is >, <, = compared to Amistar	No of trials where FF-075 is >, <, = compared to Curbatur/Proline
						FF-075 at 1.0 l/ha			Amistar at 0.6-1.0 l/ha			Curbatur/Proline at 0.6-0.8 l/ha				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
27-43 DA-A																
PUCCRE	LEAF 1	2	4.9	4.9	1.0 - 8.7	82.6	82.6	65.1 - 100.0	45.0	-	-	100.0	-	-	-	-
PUCCRE	LEAF 1	1	8.7	-	-	65.1	-	-	45.0	-	-	-	-	-	1 trial > 0 trials = 0 trials <	- - -
PUCCRE	LEAF 1	1	1.0	-	-	100.0	-	-	-	-	-	100.0	-	-	- - -	0 trials > 1 trial = 0 trials <
PUCCRE	LEAF 2	3	9.2	1.0	1.0 - 25.6	88.7	100.0	66.2 - 100.0	40.2	-	-	100.0	100.0	100.0 - 100.0	- - -	- - -
PUCCRE	LEAF 2	1	25.6	-	-	66.2	-	-	40.2	-	-	-	-	-	1 trial > 0 trials = 0 trials <	- - -
PUCCRE	LEAF 2	2	1.0	1.0	1.0 - 1.0	100.0	100.0	100.0 - 100.0	-	-	-	100.0	100.0	100.0 - 100.0	- - -	0 trials > 2 trials = 0 trials <
PUCCRE	LEAF 3	2	20.4	20.4	1.3 - 39.4	95.1	95.1	90.2 - 100.0	78.8	-	-	100.0	-	-	- - -	- - -

Target	Grouping	Number of trials	Infestation of the untreated control (PESSEV %)			% control									No of trials where FF-075 is > < =	No of trials where FF-075 is > < =
PUCCRE	LEAF 3	1	39.4	-	-	90.2	-	-	78.8	-	-	-	-	-	1 trial > 0 trials = 0 trials <	- - -
PUCCRE	LEAF 3	1	1.3	-	-	100.0	-	-	-	-	-	100.0	-	-	- - -	0 trials > 1 trial = 0 trials <

Conclusions

According to the presented results, the leaf pathogen Puccinia resulted susceptible to FF-075 applied at a rate of 1.00 l/ha in the EPPO Maritime zone when considering % of severity as the parameter of comparison. In the shown assessment considering L1-L3, the efficacy of the treatment of FF-075 remained at high values (82.6-100.0%). The effect of the test product was comparable (considering all trials) as the control performed by the Curbatur/Proline. When considering the effect performed by the second reference product tested, Amistar; the use of FF-075 demonstrated superior performance when assessing disease in L1 to L3 and in all the trials considered.

Considering the effect observed after the application of FF-075 (at A) along the crop life cycle of winter cereals at a rate of 1.00 l/ha is recommended in the EPPO Maritime zone as an effective protective fungicide against Puccinia under a wide range of environmental conditions since progression of the disease was held in the field.

Puccinia

% of control of Pest Severity (PESSEV)

Leaf level 1 (L1) (% of control of pest severity)

In Table 3.2-56, a summary of the efficacy results for L1 in one trial is presented. The assessment shown was carried out at approximately the developmental growth stage BBCH 75.

Table 3.2-56: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (EPPO Maritime zone), concerning % of control of *Puccinia triticina* (PUCCRT) in terms of % of severity (PESSEV), assessed in leaf 1 to 3 (L1-L3) after one application at A

Target	Grouping	Number of trials	Infestation of the untreated control (PESSEV %)			% control						No of trials where FF-075 is >, <, = compared to Curbatur/Proline
						FF-075 at 1.0 l/ha			Curbatur/Proline at 0.6-0.8 l/ha			
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	
BBCH 75												
PUCCRT	LEAF 1	2	1.1	1.1	0.5 - 1.6	94.8	94.8	89.6 - 100.0	86.4	86.4	72.7 - 100.0	0 trials > 2 trials = 0 trials <

Conclusions

According to the presented results, the leaf pathogen Puccinia resulted susceptible to FF-075 applied at a rate of 1.00 l/ha in the EPPO Maritime zone when considering % of severity as the parameter of comparison. In the shown assessment considering L1, the efficacy of the treatment of FF-075 remained high (94.8%). The effect of the test product was comparable (considering all trials) as the control performed by the Curbatur/Proline treatment.

Considering the effect observed after the application of FF-075 (at A) along the crop life cycle of winter cereals at a rate of 1.00 l/ha is recommended in the EPPO Maritime zone as an effective protective fungicide against Puccinia under a wide range of environmental conditions since progression of the disease was held in the field.

Puccinia

% of control of Pest Severity (PESSEV)

Leaf level 1-3 (L1-L3) (% of control of pest severity)

In Table 3.2-57, a summary of the efficacy results for L1 to L3 in one trial is presented. The assessment shown were carried out 12-25 and 21-43 days after the application (DA-A).

Table 3.2-57: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (EPPO Maritime zone), concerning % of control of *Puccinia triticina* (PUCCSI) in terms of % of severity (PESSEV), assessed in leaf 1 to 3 (L1-L3) after one application at A

Target	Grouping	Number of trials	Infestation of the untreated control (PESSEV %)			% control						No of trials where FF-075 is >, <, = compared to Curbatur/Proline
						FF-075 at 1.0 l/ha			Curbatur/Proline at 0.6-0.8 l/ha			
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	
12-25 DA-A												
PUCCSI	LEAF 2	1	7.9	-	-	86.1	-	-	86.1	-	-	0 trials > 1 trial = 0 trials <
PUCCSI	LEAF 3	1	13.4	-	-	64.9	-	-	68.7	-	-	0 trials > 1 trial = 0 trials <
21-43 DA-A												
PUCCSI	LEAF 1	1	17.5	-	-	85.1	-	-	79.4	-	-	0 trials > 1 trial = 0 trials <
PUCCSI	LEAF 2	1	15.3	-	-	92.8	-	-	91.5	-	-	0 trials > 1 trial = 0 trials <
PUCCSI	LEAF 3	1	21.9	-	-	78.5	-	-	80.4	-	-	0 trials > 1 trial = 0 trials <

Conclusions

According to the presented results, the leaf pathogen Puccinia resulted moderate susceptible (L3) to susceptible (L1 to L2) to FF-075 applied at a rate of 1.00 l/ha in the EPPO Maritime zone when considering % of severity as the parameter of comparison. In the first assessment, the efficacy of the treatment of FF-075 remained at intermediate to high values upon the leaf assessed (86.1% to 64.9% for L2 to L3 respectively). The effect of the test product was comparable as the control performed by the reference product Curbatur/Proline regardless the L2 or L3. For the second assessment same effect was observed. The efficacy of the use of FF-075 remain at high values for L1 to L2 (85.1 to 92.8% respectively) and decrease slightly when the disease was assessed on L3 (78.5%). However, efficacy obtained for both treatments resulted to be comparable also, regardless the leave assessed.

Considering the effect observed after the application of FF-075 (at A) along the crop life cycle of winter cereals at a rate of 1.00 l/ha is recommended in the EPPO Maritime zone as an effective protective fungicide against Puccinia under a wide range of environmental conditions since progression of the disease was held in the field.

Puccinia

% of control of Pest Severity (PESSEV)

Leaf level 1-3 (L1-L3) (% of control of pest severity)

In Table 3.2-58, a summary of the efficacy results for L1 to L3 in one trial is presented. The assessment shown was carried out 27-43 days after the application (DA-A).

Table 3.2-58: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (EPPO Maritime zone), concerning % of control of *Puccinia striiformis* (PUC CST) in terms of % of severity (PESSEV), assessed in leaf 1 to 3 (L1-L3) after one application at A

Target	Grouping	Number of trials	Infestation of the untreated control (PESSEV %)			% control						No of trials where FF-075 is >, <, = compared to Curbatur/Proline
						FF-075 at 1.0 l/ha			Curbatur/Proline at 0.6-0.8 l/ha			
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	
27-43 DA-A												
PUC CST	LEAF 1	1	28.2	-	-	28.2	-	-	52.4	-	-	0 trials > 1 trial = 0 trials <
PUC CST	LEAF 2	1	28.2	-	-	48.8	-	-	68.1	-	-	0 trials > 1 trial = 0 trials <
PUC CST	LEAF 3	1	32.4	-	-	99.6	-	-	98.1	-	-	0 trials > 1 trial = 0 trials <

Conclusions

According to the presented results, the leaf pathogen Puccinia (PuccST) resulted moderately tolerant (considering an average of efficacy observed in L1 to L3) to the FF-075 applied at a rate of 1.00 l/ha in the EP-PO Maritime zone when considering % of severity as the parameter of comparison. For the presented trial high variation for the efficacy found after assessment in different leaves was observed. The values ranged from 28.2% (L1) to 99.6% (L3). Same variation as observed for the test product was registered after the application of Curbatur/Proline (reference product), assessed in different leaves. Moreover, the effect of the test product was comparable as the control performed by Curbatur/Proline for all assessed leaves.

Considering the effect observed after the application of FF-075 (at A) along the crop life cycle of winter cereals at a rate of 1.00 l/ha is recommended in the EPPO Maritime zone as an effective protective fungicide against PuccST under a wide range of environmental conditions since progression of the disease was held in the field.

PYRNTE

% of control of Pest Severity (PESSEV)

Leaf level 2 to 3 (L2-L3) (% of control of pest severity)

In Table 3.2-59, a summary of the efficacy results for L2 to L3 in one to two trials is presented. The assessments shown were carried out at 12-25 and 27-43 days after the application (DA-A).

Table 3.2-59: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (EPPO Maritime zone), concerning % of control of *Pyrenophora teres* (PYRNTE) in terms of % of severity (PESSEV), assessed in leaf 2 to 3 (L2 to L3) after one application at A

Target	Grouping	Number of trials	Infestation of the untreated control (PESSEV %)			% control						No of trials where FF-075 is >, <, = compared to Curbatur/Proline
						FF-075 at 1.0 l/ha			Curbatur/Proline at 0.6-0.8 l/ha			
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	
12-25 DA-A												
PYRNTE	LEAF 2	1	8.8	-	-	100.0	-	-	58.0	-	-	1 trial > 0 trials = 0 trials <
PYRNTE	LEAF 3	1	18.1	-	-	71.0	-	-	67.0	-	-	0 trials > 1 trial = 0 trials <
27-43 DA-A												
PYRNTE	LEAF 2	1	14.4	-	-	99.0	-	-	91.0	-	-	0 trials > 1 trial = 0 trials <
PYRNTE	LEAF 3	2	18.7	18.7	9.2 - 28.1	66.0	66.0	38.0 - 94.0	82.9	82.9	71.7 - 94.0	0 trials > 1 trial = 1 trial <

Conclusions

According to the presented results, the leaf pathogen PYRNTE resulted moderately susceptible (L3) to susceptible (L2) to the FF-075 applied at a rate of 1.00 l/ha in the EPPO Maritime zone when considering % of severity as the parameter of comparison. For the presented trial lower efficacy was recorded for L3 (71.0-66.0%, 1st and 2nd assessments respectively) as compared for L2 (100.0 and 99.0%, 1st and 2nd assessments respectively). Same trend as describe was observed in most of the leaves for the reference product in both assessments. Furthermore, the effect of the test product was either comparable (L3-1st assessment and L2 and L3, 2nd assessment) or superior (L2- 1st assessment) than the control performed by Curbatur/Proline during the evaluation.

Considering the effect observed after the application of FF-075, one application (timing A) along the crop life cycle of winter cereals at 1.0 l/ha is recommended in the EPPO Maritime zone as an effective fungicide against PYRNTE under a wide range of environmental conditions since progression of the disease was held in the field.

RHYNSE

% of control of Pest Severity (PESSEV)

Leaf level 1 to 3 (L1-L3) (% of control of pest severity)

In Table 3.2-60, a summary of the efficacy results for L1 to L3 in one to three trials is presented. The assessments shown were carried out at 12-25 and 27-43 days after the application (DA-A).

Table 3.2-60: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (EPPO Maritime zone), concerning % of control of *Rhynchosporium secalis* (RHYNSE) in terms of % of severity (PESSEV), assessed in leaf 1 to 3 (L1 to L3) after one application at A

Target	Grouping	Number of trials	Infestation of the untreated control (PESSEV %)			% control						No of trials where FF-075 is >, <, = compared to Curbatur/Proline
						FF-075 at 1.0 l/ha			Curbatur/Proline at 0.6-0.8 l/ha			
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	
12-25 DA-A												
RHYNSE	LEAF 3	1	0.1	-	-	58.3	-	-	75.0	-	-	0 trials > 1 trial = 0 trials <
27-43 DA-A												
RHYNSE	LEAF 1	1	0.3	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <
RHYNSE	LEAF 2	2	1.3	1.3	0.8 - 1.9	100.0	100.0	100.0 - 100.0	99.2	99.2	98.3 - 100.0	0 trials > 2 trials = 0 trials <
RHYNSE	LEAF 3	3	5.7	5.3	1.9 - 10.0	68.0	68.4	67.0 - 68.6	87.1	81.0	80.4 - 100.0	0 trials > 3 trials = 0 trials <

Conclusions

The presented results show, the leaf pathogen RHYNSE to be moderately susceptible (L3 in the first and second assessments) to susceptible (L1-L2, second assessment) to FF-075 applied at 1.0 l/ha in the EPPO Maritime considering % of severity as the parameter of comparison. Furthermore, the test product displayed comparable control as the observed after the application of the reference product (Curbat/Proline) in all leaves and assessments after the application (for all the considered trials).

Considering the effect observed after the application of FF-075, one application (timing A) along the crop life cycle of winter cereals at 1.0 l/ha is recommended in the EPPO Maritime zone as an effective fungicide against RHYNSE under a wide range of environmental conditions since progression of the disease was held in the field even if high incidence was observed.

SEPTTR

% of control of Pest Severity (PESSEV)

Leaf level 1 to 3 (L1-L3) (% of control of pest severity)

In Table 3.2-61, a summary of the efficacy results for L1 to L3 in up to nine trials is presented. Assessments shown were carried out at 12-25 and 27-43 days after the application (DA-A).

Table 3.2-61: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (EPPO Maritime zone), concerning % of control of *Zymoseptoria tritici* (SEPTTR) in terms of % of incidence (PESSEV), assessed in leaf 1 to 3 (L1 to L3) after one application at A

Target	Grouping	Number of trials	Infestation of the untreated control (PESSEV %)			% control									No of trials where FF-075 is >, <, = compared to Amistar	No of trials where FF-075 is >, <, = compared to Curbatur/Proline
						FF-075 at 1.0 l/ha			Amistar at 0.6-1.0 l/ha			Curbatur/Proline at 0.6-0.8 l/ha				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
12-25 DA-A																
SEPTTR	LEAF 3	4	3.4	3.3	1.6 - 5.4	65.4	80.8	0.0 - 100.0	0.0	-	-	83.2	82.4	67.3 - 100.0	- - -	- - -
SEPTTR	LEAF 3	1	4.9	-	-	0.0	-	-	0.0	-	-	-	-	-	0 trials > 1 trial = 0 trials <	- - -
SEPTTR	LEAF 3	3	2.9	1.7	1.6 - 5.4	87.2	88.2	73.4 - 100.0	-	-	-	83.2	82.4	67.3 - 100.0	- - -	0 trials > 3 trials = 0 trials <
27-43 DA-A																
SEPTTR	LEAF 1	5	20.9	1.4	0.1 - 100.0	79.2	86.7	50.0 - 100.0	54.2	-	-	84.7	96.7	45.5 - 100.0	- - -	- - -
SEPTTR	LEAF 1	1	2.4	-	-	50.0	-	-	54.2	-	-	-	-	-	0 trials > 1 trial = 0 trials <	- - -
SEPTTR	LEAF 1	4	25.5	0.9	0.1 - 100.0	86.5	93.4	59.3 - 100.0	-	-	-	84.7	96.7	45.5 - 100.0	- - -	1 trial > 3 trials = 0 trials <

Target	Grouping	Number of trials	Infestation of the untreated control (PESSEV %)			% control									No of trials where FF-	No of trials where FF-075 is > < =
SEPTTR	LEAF 2	5	3.3	2.8	2.1 - 5.3	55.6	53.7	25.0 - 100.0	31.7	-	-	40.9	50.0	4.2 - 59.5	-	-
SEPTTR	LEAF 2	1	4.1	-	-	53.7	-	-	31.7	-	-	-	-	-	1 trial > 0 trials = 0 trials <	- - -
SEPTTR	LEAF 2	4	3.3	2.8	2.1 - 5.3	55.6	53.7	25.0 - 100.0	-	-	-	40.9	50.0	4.2 - 59.5	- - -	1 trial > 3 trials = 0 trials <
SEPTTR	LEAF 3	3	14.7	11.1	0.2 - 47.3	60.3	61.7	17.9 - 100.0	3.8	-	-	63.8	71.0	20.0 - 100.0	- - -	- - -
SEPTTR	LEAF 3	1	47.3	-	-	25.6	-	-	3.8	-	-	-	-	-	1 trial > 0 trials = 0 trials <	- - -
SEPTTR	LEAF 3	9	11.0	10.0	0.2 - 28.7	64.2	66.7	17.9 - 100.0	-	-	-	63.8	71.0	20.0 - 100.0	- - -	0 trials > 9 trials = 0 trials <

Conclusion

The presented results demonstrate, the leaf pathogen SEPTTR to be moderate tolerant (L2- 2nd assessment) to moderate susceptible (L3-1st assessment, L1 and L3-2nd assessment) to FF-075 applied at 1.0 l/ha once in the EPPO Maritime zone when considering % of severity as the parameter of comparison. This, however, was comparable with the control observed after the application of Curbat/Proline for most of leaves in most of considered trials, but significant superior as compared with the application of Amistar for all leaves assessed and trials considered.

Considering the effect observed after the application of FF-075, one application (at A) along the crop life cycle of winter cereals at 1.0 l/ha is overall recommended in the EPPO Maritime zone as an effective protective fungicide against SEPTTR under a wide range of environmental conditions since progression of the disease was held.

Green leaf area (%GRNARE)

% of green Leaf Area (GRNARE)

Plant C (% of green leaf area-GRNARE)

In Table 3.2-62, a summary of the green leaf area of the plants (Plant C) after application of various treatments to prevent disease progress in one up to 27 trials is shown. The assessment was carried out at 36-83 days after the application (DA-A).

Table 3.2-62: Summary of the efficacy results of FF-075 used as preventive fungicide against several pathogens in winter cereals (EPPO Maritime zone), concerning percentage of green leaf area assessed in plant after one application (at A).

Target	Number of trials	Infestation of the untreated control (% GRNARE)			% GRNARE												No of trials where FF-075 is >, <, = compared to Amistar	No of trials where FF-075 is >, <, = compared to Curbatur/Proline	No of trials where FF-075 is >, <, = compared to Torero
					FF-075 at 1.0 l/ha			Amistar at 0.6-1.0 l/ha			Curbatur/Proline at 0.6-0.8 l/ha			Torero at 1.0 l/ha					
		Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max			
36-83 DA-A																			
Overall	28	42.6	42.6	0.0 - 92.3	56.9	59.8	4.5 - 104.7	52.7	48.4	15.9 - 93.9	56.4	61.2	4.5 - 99.0	16.9	-	-	-	-	-
Overall	3	41.0	36.9	1.4 - 84.8	57.7	54.4	20.3 - 98.3	52.7	48.4	15.9 - 93.9	-	-	-	-	-	-	1 trial > 2 trials = 0 trials <	- - -	- - -
Overall	23	44.4	49.2	0.0 - 92.3	57.6	66.8	4.5 - 104.7	-	-	-	56.4	61.2	4.5 - 99.0	-	-	-	-	1 trial > 20 trials = 2 trials <	- - -
Overall	1	5.6	-	-	38.4	-	-	-	-	-	-	-	-	16.9	-	-	-	-	0 trials > 1 trial = 0 trials <

Conclusion

One application of FF-075 at 1.0 l/ha maintained the % of green leaf area in the treated field since this value was significantly superior to that observed in the untreated control in all assessed trials. Moreover, the effect was statistically comparable to the values of the reference products tested in most the trials (Amistar, Curbatur/Proline and Torero).

Considering the mentioned effect, the application of FF-075 after one application (A) along the crop life cycle of winter cereals at 1.0 l/ha is recommended in the EPPO Maritime zone as an effective fungicide that significantly preserves the % of GRNARE of the crop under a wide range of environmental conditions.

One application on winter cereals (B)

Pest Severity (efficacy)

ERYSGH

% of control of Pest Severity (PESSEV)

Leaf level 2 to 3 (L2-L3) (% of control of pest severity)

In Table 3.2-63, a summary of the efficacy results for L2 to L3 in one trial is presented. The assessment shown was carried 26-41 day after the application (DA-B).

Table 3.2-63: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (EPPO Maritime zone), concerning % of control of *Blumeria graminis f. sp. hordei* (ERYSGH) in terms of % of severity (PESSEV), assessed in leaf 2 to 3 (L2-L3) after one application at B

Target	Grouping	Number of trials	Infestation of the untreated control (PESSEV %)			% control						No of trials where FF-075 is >, <, = compared to Curbatur/Proline
						FF-075 at 1.0 l/ha			Curbatur/Proline at 0.6-0.8 l/ha			
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	
26-41 DA-B												
ERYSGH	LEAF 2	1	7.5	-	-	76.7	-	-	71.2	-	-	0 trials > 1 trial = 0 trials <
ERYSGH	LEAF 3	1	13.5	-	-	75.8	-	-	75.5	-	-	0 trials > 1 trial = 0 trials <

Conclusions

According to the presented results, the leaf pathogen ERYSGH resulted moderately susceptible to FF-075 applied at a rate of 1.00 l/ha in the EPPO Maritime zone when considering % of severity as the parameter of comparison. Either on L2 or L3 the efficacy values reached values above 70%. Furthermore, the test product displayed equivalent (as compared with Curbartur/Proline) control as the observed after the application of the reference product.

Considering the effect observed after the application of FF-075 at B along the crop life cycle of winter cereals at a rate of 1.00 l/ha is recommended in the EPPO Maritime zone as an effective protective fungicide against ERYSGH under a wide range of environmental conditions since progression of the disease was held in the field.

LEPTNO

% of control of Pest Severity (PESSEV)

Leaf level 3 (L3) (% of control of pest severity)

In Table 3.2-64, a summary of the efficacy results for L3 in one trial is presented. The assessment shown was carried out 7-24 days after the application (DA-B).

Table 3.2-64: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (EPPO Maritime zone), concerning % of control of *Parastagonospora nodorum* (LEPTNO) in terms of % of severity (PESSEV), assessed in leaf 3 (L3) after one application at B

Target	Grouping	Number of trials	Infestation of the untreated control (PESSEV %)			% control						No of trials where FF-075 is >, <, = compared to Curbatur/Proline
						FF-075 at 1.0 l/ha			Curbatur/Proline at 0.6-0.8 l/ha			
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	
7-24 DA-B												
LEPTNO	LEAF 3	1	7.8	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <

Conclusions

According to the presented results, the leaf pathogen LEPTNO resulted susceptible to FF-075 applied at a rate of 1.00 l/ha in the EPPO Maritime zone when considering % of severity as the parameter of comparison. After the disease assessment on L3, the efficacy of the treatment of FF-075 as well as the application of the reference product (Curbartur/Proline) reached 100% of efficacy. Thus, no statistical difference between test and reference product were recorded.

Considering the effect observed after the application of FF-075 at B along the crop life cycle of winter cereals at a rate of 1.00 l/ha is recommended in the EPPO Maritime zone as an effective protective fungicide against LEPTNO under a wide range of environmental conditions since progression of the disease was held in the field even if high incidence was observed.

PUCCHD

% of control of Pest Severity (PESSEV)

Leaf level 1-3 (L1-L3) (% of control of pest severity)

In Table 3.2-65, a summary of the efficacy results for L1 to L3 in up to six trials is presented. The assessments shown were carried out 7-24 and 26-41 days after the application (DA-B).

Table 3.2-65: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (EPPO Maritime zone), concerning % of control of *Puccinia hordei* (PUCCHD) in terms of % of severity (PESSEV), assessed in leaf 1 to 3 (L1-L3) after one application at B

Target	Grouping	Number of trials	Infestation of the untreated control (PESSEV %)			% control						No of trials where FF-075 is >, <, = compared to Curbatur/Proline
						FF-075 at 1.0 l/ha			Curbatur/Proline at 0.6-0.8 l/ha			
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	
7-24 DA-B												
PUCCHD	LEAF 1	3	0.8	1.0	0.4 - 1.0	100.0	100.0	100.0 - 100.0	100.0	100.0	100.0 - 100.0	0 trials > 3 trials = 0 trials <
PUCCHD	LEAF 2	3	2.5	2.8	1.3 - 3.3	86.7	100.0	60.0 - 100.0	80.0	100.0	40.0 - 100.0	0 trials > 3 trials = 0 trials <
PUCCHD	LEAF 3	2	2.2	2.2	1.6 - 2.8	81.8	81.8	63.6 - 100.0	81.8	81.8	63.6 - 100.0	0 trials > 2 trials = 0 trials <
26-41 DA-B												
PUCCHD	LEAF 1	6	2.3	2.1	0.3 - 5.8	92.6	100.0	60.4 - 100.0	92.6	100.0	60.4 - 100.0	0 trials > 6 trials = 0 trials <
PUCCHD	LEAF 2	4	6.8	7.2	3.8 - 9.1	91.0	95.4	73.3 - 100.0	91.6	96.6	73.3 - 100.0	0 trials > 4 trials = 0 trials <
PUCCHD	LEAF 3	3	8.3	8.1	6.0 - 10.9	78.1	88.5	45.8 - 100.0	81.3	93.9	50.0 - 100.0	0 trials > 3 trials = 0 trials <

Conclusions

According to the presented results, the leaf pathogen PUCCHD resulted moderate susceptible (L3 in the second assessment) to susceptible (L1 to L3 in the first assessment and L1 to L2 in second assessment) to FF-075 applied at a rate of 1.00 l/ha in the EPPO Maritime zone when considering % of severity as the parameter of comparison. After the first disease assessment the efficacy of the treatment of FF-075 as well as the application of the reference product (Curbatur/Proline) reached values above 81.8% of efficacy. Thus, no statistical difference between test and reference product were recorded. For the second assessment also high efficacy values (78.1% to 92.3%) after the application of FF-075 were recorded regardless the assessed leaf considered (L1 to L3). Furthermore, the effect of the test product, was comparable (in all shown trials) to the control performed by the reference product tested (Curbatur/Proline).

Considering the effect observed after the application of FF-075 at B along the crop life cycle of winter cereals at a rate of 1.00 l/ha is recommended in the EPPO Maritime zone as an effective protective fungicide against PUCCHD under a wide range of environmental conditions since progression of the disease was held in the field even if high incidence was observed.

PUCCRE

Leaf level 1 to 3 (L1-L3) (% of control of pest severity)

In Table 3.2-66, a summary of the efficacy results for L1 to L3 in four to two trials are presented. Assessments shown were carried out at 7-24 and 28-37 days after the application (DA-B).

Table 3.2-66: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (HORVW, TRZAW and TTWI) (EPPO Maritime zone), concerning % of control of *Puccinia recondite* (PUCCRE) in terms of % of severity (PESSEV), assessed in leaf 1 to 3 (L1-L3) after one application at B

Target	Grouping	Number of trials	Infestation of the untreated control (PESSEV %)			% control									No of trials where FF-075 is >, <, = compared to Amistar	No of trials where FF-075 is >, <, = compared to Curba-tur/Proline
						FF-075 at 1.0 l/ha			Amistar at 0.6-1.0 l/ha			Curbatur/Proline at 0.6-0.8 l/ha				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
7-24 DA-A																
PUCCRE	LEAF 1	2	4.9	4.9	1.0 - 8.7	100.0	100.0	100.0 - 100.0	100.0	-	-	100.0	-	-	- - -	- - -
PUCCRE	LEAF 1	1	8.7	-	-	100.0	-	-	100.0	-	-	-	-	-	0 trials > 1 trial = 0 trials <	- - -
PUCCRE	LEAF 1	1	1.0	-	-	100.0	-	-	-	-	-	100.0	-	-	- - -	0 trials > 1 trial = 0 trials <
PUCCRE	LEAF 2	2	13.3	13.3	1.0 - 25.6	100.0	100.0	100.0 - 100.0	100.0	-	-	100.0	-	-	- - -	- - -
PUCCRE	LEAF 2	1	25.6	-	-	100.0	-	-	100.0	-	-	-	-	-	0 trials > 1 trial = 0 trials <	- - -
PUCCRE	LEAF 2	1	1.0	-	-	100.0	-	-	-	-	-	100.0	-	-	- - -	0 trials > 1 trial = 0 trials <
PUCCRE	LEAF 3	2	20.4	20.4	1.3 - 39.4	100.0	100.0	100.0 - 100.0	100.0	-	-	100.0	-	-	- - -	- - -

Target	Grouping	Number of trials	Infestation of the untreated control (PESSEV %)			% control									No of trials -	No of trials where FF.075 is
PUCCRE	LEAF 3	1	39.4	-	-	100.0	-	-	100.0	-	-	-	-	-	0 trials > 1 trial = 0 trials <	- - -
PUCCRE	LEAF 3	1	1.3	-	-	100.0	-	-	-	-	-	100.0	-	-	- - -	0 trials > 1 trial = 0 trials <
26-43 DA-B																
PUCCRE	LEAF 1	4	33.3	17.0	1.0 - 98.1	98.8	100.0	95.3 - 100.0	95.7	95.7	91.4 - 100.0	96.3	96.3	92.5 - 100.0	- - -	- - -
PUCCRE	LEAF 1	2	49.8	49.8	1.5 - 98.1	97.7	97.7	95.3 - 100.0	95.7	95.7	91.4 - 100.0	-	-	-	1 trial > 1 trial = 0 trials <	- - -
PUCCRE	LEAF 1	2	16.8	16.8	1.0 - 32.5	100.0	100.0	100.0 - 100.0	-	-	-	96.3	96.3	92.5 - 100.0	- - -	0 trials > 2 trials = 0 trials <
PUCCRE	LEAF 2	4	42.7	35.4	1.0 - 98.8	94.5	97.8	82.3 - 100.0	58.3	58.3	16.5 - 100.0	94.8	94.8	89.5 - 100.0	- - -	- - -
PUCCRE	LEAF 2	2	50.4	50.4	2.0 - 98.8	91.2	91.2	82.3 - 100.0	58.3	58.3	16.5 - 100.0	-	-	-	1 trial > 1 trial = 0 trials <	- - -
PUCCRE	LEAF 2	2	34.9	34.9	1.0 - 68.8	97.8	97.8	95.6 - 100.0	-	-	-	94.8	94.8	89.5 - 100.0	- - -	0 trials > 2 trials = 0 trials <
PUCCRE	LEAF 3	4	30.9	12.0	2.0 - 97.5	92.1	96.4	75.6 - 100.0	71.5	71.5	43.0 - 100.0	90.9	90.9	81.8 - 100.0	- -	- -

Target	Grouping	Number of trials	Infestation of the untreated control (PESSEV %)			% control									No of trials -	No of trials where FF.075 is -
PUCCRE	LEAF 3	2	49.8	49.8	2.0 - 97.5	87.8	87.8	75.6 - 100.0	71.5	71.5	43.0 - 100.0	-	-	-	1 trial > 1 trial = 0 trials <	- - -
PUCCRE	LEAF 3	2	12.0	12.0	9.5 - 14.4	96.4	96.4	92.7 - 100.0	-	-	-	90.9	90.9	81.8 - 100.0	- - -	0 trials > 2 trials = 0 trials <

Conclusions

According to the presented results, the leaf pathogen Puccinia resulted to be susceptible to FF-075 applied at a rate of 1.00 l/ha in the EPPO Maritime zone when considering % of severity as the parameter of comparison. Slight less efficacy was observed on older leaves for the second assessment as compared with the younger leaves. Despite of this for both assessments, efficacy remained over 90% for all assessed leaves. Furthermore, the test product displayed equivalent (as compared with Curbartur/Proline) or superior (as compared with Amistar) control as the observed after the application of the reference products.

Considering the effect observed after the application of FF-075 at B along the crop life cycle of winter cereals at a rate of 1.00 l/ha is recommended in the EPPO Maritime zone as an effective protective fungicide against Puccinia under a wide range of environmental conditions since progression of the disease was held in the field even if high incidence was observed.

Puccinia

% of control of Pest Severity (PESSEV)

Leaf level 1 (L1) (% of control of pest severity)

In Table 3.2-67, a summary of the efficacy results for L1 in one trial is presented. The assessment shown was carried out 26-41 days after the application (DA-B).

Table 3.2-67: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (EPPO Maritime zone), concerning % of control of *Puccinia triticina* (PUCCRT) in terms of % of severity (PESSEV), assessed in leaf 1 to 3 (L1-L3) after one application at B

Target	Grouping	Number of trials	Infestation of the untreated control (PESSEV %)			% control						No of trials where FF-075 is >, <, = compared to Curbatur/Proline
						FF-075 at 1.0 l/ha			Curbatur/Proline at 0.6-0.8 l/ha			
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	
26-41 DA-A												
PUCCRT	LEAF 1	2	1.1	1.1	0.5 - 1.6	100.0	100.0	100.0 - 100.0	99.2	99.2	98.4 - 100.0	0 trials > 2 trials = 0 trials <

Conclusions

According to the presented results, the leaf pathogen Puccinia resulted susceptible to FF-075 applied at a rate of 1.00 l/ha in the EPPO Maritime zone when considering % of severity as the parameter of comparison. In the shown assessment considering L1, the efficacy of the treatment of FF-075 reached the maximum (100.0%). The effect of the test product was comparable (considering both trials) as the control performed by the Curbatur/Proline treatment.

Considering the effect observed after the application of FF-075 (at B) along the crop life cycle of winter cereals at a rate of 1.00 l/ha is recommended in the EPPO Maritime zone as an effective protective fungicide against Puccinia under a wide range of environmental conditions since progression of the disease was held in the field.

Puccinia

% of control of Pest Severity (PESSEV)

Leaf level 1 to 2 (L1-L) (% of control of pest severity)

In Table 3.2-68, a summary of the efficacy results for in one trial is presented. Assessments shown were carried out at 7-24 and 26-41 days after the application (DA-B).

Table 3.2-68: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (EPPO Maritime zone), concerning % of control of *Puccinia striiformis f. sp. tritici* (PUCCSI) in terms of % of severity (PESSEV), leaf 1 to 3 (L1-L3) after one application at B

Target	Grouping	Number of trials	Infestation of the untreated control (PESSEV %)			% control						No of trials where FF-075 is >, <, = compared to Curbatur/Proline
						FF-075 at 1.0 l/ha			Curbatur/Proline at 0.6-0.8 l/ha			
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	
7-24 DA-B												
PUCCSI	LEAF 1	1	17.5	-	-	65.7	-	-	68.0	-	-	0 trials > 1 trial = 0 trials <
PUCCSI	LEAF 2	1	32.2	-	-	64.0	-	-	66.5	-	-	0 trials > 1 trial = 0 trials <
26-41 DA-B												
PUCCSI	LEAF 1	1	34.7	-	-	81.0	-	-	71.8	-	-	1 trial > 0 trials = 0 trials <
PUCCSI	LEAF 2	1	44.8	-	-	71.9	-	-	65.9	-	-	1 trial > 0 trials = 0 trials <

Conclusions

The presented results clearly show, the leaf pathogen Puccinia was moderate susceptible (L2 at both assessments and L1 by 1st assessment) to susceptible (L1 at 2nd assessment) to FF-075 applied at 1.0 l/ha in the EPPO Maritime zone when considering % of severity as the parameter of comparison. Furthermore, the test product displayed equivalent control as the observed after the application of Curbatur/Proline for L1 and L2 after the first assessment, but performed significantly superior than the commercial treatment at the second assessment for both assessed leaves after one application (A).

Considering the effect observed after the application of FF-075 at B along the crop life cycle of winter cereals at 1.0 l/ha is recommended in the EPPO Maritime zone as an effective fungicide against Puccinia under a wide range of environmental conditions since progression of the disease was held in the field under intense infection.

Puccinia

% of control of Pest Severity (PESSEV)

Leaf level 1 to 3 (L1-L3) (% of control of pest severity)

In Table 3.2-69, a summary of the efficacy results for in one trial is presented. Assessments shown were carried out at 7-24 and 28-37 days after the application (DA-B).

Table 3.2-69: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (HORVW, TRZAW and TTWI) (EPPO Maritime zone), concerning % of control of *Puccinia striiformis* (PUCCST) in terms of % of severity (PESSEV), leaf 1 to 3 (L1-L3) after one application at B

Target	Grouping	Number of trials	Infestation of the untreated control (PESSEV %)			% control						No of trials where FF-075 is >, <, = compared to Curbatur/Proline
						FF-075 at 1.0 l/ha			Curbatur/Proline at 0.6-0.8 l/ha			
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	
7-24 DA-B												
PUC CST	LEAF 1	1	18.2	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <
PUC CST	LEAF 2	1	28.2	-	-	99.1	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <
PUC CST	LEAF 3	1	32.4	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <
26-41 DA-B												
PUC CST	LEAF 1	1	21.3	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <
PUC CST	LEAF 2	1	31.3	-	-	99.6	-	-	91.8	-	-	0 trials > 1 trial = 0 trials <
PUC CST	LEAF 3	1	37.8	-	-	100.0	-	-	99.4	-	-	0 trials > 1 trial =

Target	Grouping	Number of trials	Infestation of the untreated control (PESSEV %)			% control						No of trials where FF-075 is >, <, = compared to Curbatur/Proline 0 trials <
						FF-075 at 1.0 l/ha			Curbatur/Proline at 0.6-0.8 l/ha			
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	

Conclusions

According to the presented results, the leaf pathogen Puccinia resulted susceptible to FF-075 applied at a rate of 1.00 l/ha in the EPPO Mediterranean zone when considering % of severity as the parameter of comparison. Furthermore, the test product displayed equivalent control as the observed after the application of Curbatur/Proline for all leaves in both assessments after one application (B).

Considering the effect observed after the application of FF-075 at B along the crop life cycle of winter cereals at a rate of 1.00 l/ha is recommended in the EPPO Mediterranean zone as an effective protective fungicide against Puccinia under a wide range of environmental conditions since progression of the disease was held in the field even if high incidence was observed.

PYRNTE

% of control of Pest Severity (PESSEV)

Leaf level 2 to 3 (L2-L3) (% of control of pest severity)

In Table 3.2-70, a summary of the efficacy results for L1 to L3 in one to two trials is presented. The assessments shown were carried out at 7-24 and 26-41 days after the application (DA-B).

Table 3.2-70: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (HORVW, TRZAW and TTWI) (EPPO Maritime zone), concerning % of control of *Pyrenophora teres* (PYRNTE) in terms of % of severity (PESSEV), assessed in leaf 2 to 3 (L2 to L3) after one application at B

Target	Grouping	Number of trials	Infestation of the untreated control (PESSEV %)									No of trials where FF-075 is >, <, = compared to Curbatur/Proline
						FF-075 at 1.0 l/ha			Curbatur/Proline at 0.6-0.8 l/ha			
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	
7-24 DA-B												
PYRNTE	LEAF 2	1	14.4	-	-	100.0	-	-	99.0	-	-	0 trials > 1 trial = 0 trials <
PYRNTE	LEAF3	2	18.7	18.7	9.2 - 28.1	66.0	66.0	38.0 - 94.0	82.4	82.4	71.7 - 93.0	0 trials > 1 trial = 1 trial <
26-41 DA-B												
PYRNTE	LEAF 2	2	17.2	17.2	8.1 - 26.3	79.2	79.2	65.4 - 93.0	79.8	79.8	71.6 - 88.0	0 trials > 2 trials = 0 trials <
PYRNTE	LEAF 3	2	49.1	49.1	16.2 - 81.9	64.9	64.9	51.9 - 78.0	64.0	64.0	54.9 - 73.0	0 trials > 2 trials = 0 trials <

Conclusions

According to the presented results, the leaf pathogen PYRNTE resulted to be moderately susceptible (in most of leaves for all the evaluation -L3, 1st assessment and L2, L3 2nd assessment) to susceptible (L1, first assessment) to FF-075 applied at a rate of 1.00 l/ha in the EPPO Maritime considering % of severity as the parameter of comparison. Furthermore, the test product displayed comparable control as the observed after the application of the reference products (Curbatur/Proline) in all leaves and assessments after the application.

Considering the effect observed after the application of FF-075 after one application (timing B) along the crop life cycle of winter cereals at a rate of 1.00 l/ha is recommended in the EPPO Maritime zone as an effective protective fungicide against PYRNTE under a wide range of environmental conditions since progression of the disease was held in the field even if high incidence was observed.

RHYNSE

% of control of Pest Severity (PESSEV)

Leaf level 1 to 3 (L1-L3) (% of control of pest severity)

In Table 3.2-71, a summary of the efficacy results for L1 to L3 in one to four trials is presented. The assessments shown were carried out at 7-24 and 26-41 days after the application (DA-B).

Table 3.2-71: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (HORVW, TRZAW and TTWI) (EPPO Maritime zone), concerning % of control of *Rhynchosporium secalis* (RHYNSE) in terms of % of severity (PESSEV), assessed in leaf 1 to 3 (L1 to L3) after one application at B

Target	Grouping	Number of trials	Infestation of the untreated control (PESSEV %)			% control						No of trials where FF-075 is >, <, = compared to Curbatur/Proline
						FF-075 at 1.0 l/ha			Curbatur/Proline at 0.6-0.8 l/ha			
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	
7-24 DA-B												
RHYNSE	LEAF 2	1	0.8	-	-	74.6	-	-	68.1	-	-	0 trials > 1 trial = 0 trials <
RHYNSE	LEAF 3	3	5.4	5.3	0.9 - 10.0	66.3	51.0	48.0 - 100.0	59.8	42.0	37.5 - 100.0	0 trials > 3 trials = 0 trials <
26-41 DA-B												
RHYNSE	LEAF 1	1	0.3	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <
RHYNSE	LEAF 2	4	8.6	9.5	1.9 - 13.6	91.3	92.1	80.9 - 100.0	88.7	89.0	76.7 - 100.0	0 trials > 4 trials = 0 trials <
RHYNSE	LEAF 3	2	17.0	17.0	1.9 - 32.2	84.0	84.0	68.0 - 100.0	83.8	83.8	67.6 - 100.0	0 trials > 2 trials = 0 trials <

Conclusions

According to the presented results, the leaf pathogen RHYNSE resulted to be moderately susceptible (L3 in the first assessment) to susceptible (L1-L3, second assessment) to FF-075 applied at a rate of 1.00 l/ha in the EPPO Maritime considering % of severity as the parameter of comparison. Furthermore, the test product displayed comparable control as the observed after the application of the reference products (Curbatur/Proline) in all leaves and assessments after the application.

Considering the effect observed after the application of FF-075 after one application (timing B) along the crop life cycle of winter cereals at a rate of 1.00 l/ha is recommended in the EPPO Maritime zone as an effective protective fungicide against RHYNSE under a wide range of environmental conditions since progression of the disease was held in the field even if high incidence was observed.

SEPTTR

% of control of Pest Severity (PESSEV)

Leaf level 1 to 3 (L1-L3) (% of control of pest severity)

In Table 3.2-72, a summary of the efficacy results for L1 to L3 in one to ten trials (depending on the assessed leaf) are presented. Assessments shown were carried out at 7-24 and 26-41 days after the application (DA-B).

Table 3.2-72: Summary of the efficacy results of FF-075 used as preventive fungicide in winter (HORVW, TRZAW and TTWI) (EPPO Maritime zone), concerning % of control of *Zymoseptoria tritici* (SEPTTR) in terms of % of severity (PESSEV), assessed in leaf 1 to 3 (L1 to L3) after one application at B

Target	Grouping	Number of trials	Infestation of the untreated control (PESSEV %)			% control									No of trials where FF-075 is >, <, = compared to Amistar	No of trials where FF-075 is >, <, = compared to Curba-tur/Proline
						FF-075 at 1.0 l/ha			Amistar at 0.6-1.0 l/ha			Curbatur/Proline at 0.6-0.8 l/ha				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
17-24 DA-B																
SEPTTR	LEAF 1	5	20.9	1.4	0.1 - 100.0	62.9	73.0	0.0 - 100.0	70.8	-	-	86.8	90.0	67.0 - 100.0	- - -	- - -
SEPTTR	LEAF 1	1	2.4	-	-	41.7	-	-	70.8	-	-	-	-	-	0 trials > 0 trials = 1 trial <	- - -
SEPTTR	LEAF 1	4	25.5	0.9	0.1 - 100.0	68.3	86.5	0.0 - 100.0	-	-	-	86.8	90.0	67.0 - 100.0	- - -	0 trials > 4 trials = 0 trials <
SEPTTR	LEAF 2	7	3.7	2.8	2.1 - 7.1	51.9	52.1	8.3 - 100.0	39.0	-	-	52.9	52.7	0.0 - 98.9	- - -	- - -
SEPTTR	LEAF 2	1	4.1	-	-	19.5	-	-	39.0	-	-	-	-	-	0 trials > 0 trials = 1 trial <	- - -
SEPTTR	LEAF 2	6	3.7	2.6	2.1 - 7.1	57.3	62.2	8.3 - 100.0	-	-	-	52.9	52.7	0.0 - 98.9	- - -	0 trials > 6 trials = 0 trials <
SEPTTR	LEAF 3	10	16.4	14.1	0.2 - 47.3	50.1	47.1	3.6 - 100.0	9.7	-	-	59.9	57.5	15.8 - 100.0	- -	- -

Target	Grouping	Number of trials	Infestation of the untreated control (PESSEV %)			% control									No of trials where FF- -	No of trials where FF.075 is -
SEPTTR	LEAF 3	1	47.3	-	-	15.6	-	-	9.7	-	-	-	-	-	1 trial > 0 trials = 0 trials <	- - -
SEPTTR	LEAF 3	9	12.9	12.1	0.2 - 28.7	53.9	47.3	3.6 - 100.0	-	-	-	59.9	57.5	15.8 - 100.0	- - -	0 trials > 9 trials = 0 trials <

26-41 DA-B

SEPTTR	LEAF 1	6	12.2	8.7	1.3 - 28.9	49.1	47.9	0.0 - 100.0	30.4	-	-	67.8	57.1	43.2 - 100.0	- - -	- - -
SEPTTR	LEAF 1	1	9.2	-	-	12.0	-	-	30.4	-	-	-	-	-	0 trials > 0 trials = 1 trial <	- - -
SEPTTR	LEAF 1	4	12.8	8.1	1.3 - 28.9	56.5	50.1	0.0 - 100.0	-	-	-	67.8	57.1	43.2 - 100.0	- - -	1 trial > 4 trials = 0 trials <
SEPTTR	LEAF 2	10	19.6	16.7	1.4 - 47.6	55.4	57.9	4.8 - 100.0	5.8	-	-	71.0	85.7	23.3 - 100.0	- - -	- - -
SEPTTR	LEAF 2	1	36.4	-	-	35.2	-	-	5.8	-	-	-	-	-	1 trial > 0 trials = 0 trials <	- - -
SEPTTR	LEAF 2	9	17.8	12.5	1.4 - 47.6	57.6	59.4	4.8 - 100.0	-	-	-	71.0	85.7	23.3 - 100.0	- - -	0 trials > 7 trials = 2 trials <
SEPTTR	LEAF 3	9	19.5	6.0	1.0 - 90.1	58.8	66.7	0.0 - 100.0	26.4	26.4	0.8 - 52.1	67.1	75.1	0.0 - 100.0	- -	- -

Target	Grouping	Number of trials	Infestation of the untreated control (PESSEV %)			% control									No of trials where FF- -	No of trials where FF.075 is -
SEPTTR	LEAF 3	2	45.6	45.6	1.0 - 90.1	58.8	58.8	17.5 - 100.0	26.4	26.4	0.8 - 52.1	-	-	-	0 trials > 1 trial = 0 trials <	- - -
SEPTTR	LEAF 3	7	12.1	6.0	1.3 - 50.3	58.8	66.7	0.0 - 100.0	-	-	-	67.1	75.1	0.0 - 100.0	- - -	0 trials > 6 trials = 1 trial <

Conclusions

According to the presented results, the leaf pathogen SEPTTR resulted to be moderately tolerant (after evaluation of all leaves at both assessments) to FF-075 applied at a rate of 1.00 l/ha in the EPPO Maritime zone when considering % of severity as the parameter of comparison. This, however, was comparable with the control observed after the application of the used reference products (Amistar and Curbatur/Proline) in for most of the assessed leaves in majority of the trials shown.

Green leaf area (%GRNARE)

% of green Leaf Area (GRNARE)

Plant C (% of green leaf area-GRNARE)

In Table 3.2-73, a summary of the green leaf area of the plants (Plant C) after application of various treatments to prevent disease progress in 27 to one trials is shown. The assessment was carried out at 27-64 days after the application (DA-B).

Table 3.2-73: Summary of the efficacy results of FF-075 used as preventive fungicide against several pathogens in winter cereals (HORVW, TRZAW and TTWI) (EPPO Maritime zone), concerning percentage of green leaf area assessed in plant after one application (aimed B).

Target	Number of trials	Infestation of the untreated control (% GRNARE)			% control												No of trials where FF-075 is >, <, = compared to Amistar	No of trials where FF-075 is >, <, = compared to Curbatur/Proline	No of trials where FF-075 is >, <, = compared to Torero
					FF-075 at 1.0 l/ha			Amistar at 0.6-1.0 l/ha			Curbatur/Proline at 0.6-0.8 l/ha			Torero at 1.0 l/ha					
		Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max			
27-64 DA-B																			
Overall	27	42.3	36.9	0.0 - 92.3	63.7	72.3	6.8 - 100.0	70.9	67.0	48.8 - 97.0	59.7	70.0	3.5 - 100.0	26.4	-	-	-	-	-
Overall	3	41.0	36.9	1.4 - 84.8	75.5	68.5	58.8 - 99.2	70.9	67.0	48.8 - 97.0	-	-	-	-	-	-	0 trials > 3 trials = 0 trials <	- - -	- - -
Overall	22	44.0	48.3	0.0 - 92.3	63.0	73.0	6.8 - 100.0	-	-	-	59.7	70.0	3.5 - 100.0	-	-	-	- - -	3 trials > 18 trials = 1 trial <	- - -
Overall	1	5.6	-	-	43.6	-	-	-	-	-	-	-	-	26.4	-	-	- - -	- - -	1 trial > 0 trials = 0 trials <

Conclusion

An application of FF-075 at 1.0 l/ha maintained the % of green leaf area in the treated field since this value was significantly superior to that observed in the untreated control in all assessed trials. Moreover, the effect was statistically comparable to the values of the reference products tested in most the trials (Amistar, Curbatur/Proline and Torero).

Considering the mentioned effect, the application of FF-075 after one applications (B) along the crop life cycle of winter cereals at 1.0 l/ha is recommended in the EPPO Maritime zone as an effective fungicide that significantly preserves the % of GRNARE of the crop under a wide range of environmental conditions.

Two applications on winter cereals (AB)

Pest Severity (efficacy)

ERYSGT

% of control of Pest Severity (PESSEV)

Leaf level 1 to 3 (L1-L3) (% of control of pest severity)

In Table 3.2-74, a summary of the efficacy results for L3 in two trials is presented. Assessment shown were carried out at 12-25 days after the first application (DA-A).

Table 3.2-74: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (EPPO Maritime zone), concerning % of control of *Blumeria graminis f. sp. tritici* (ERYSGT) in terms of % of severity (PESSEV), assessed in leaf 1 to 3 (L1 to L) after two step-wise applications (AB)

Target	Grouping	Number of trials	Infestation of the untreated control (PESSEV %)			% control									No of trials where FF-075 is >, <=, compared to Amistar	No of trials where FF-075 is >, <=, compared to Curbatur/Proline
						FF-075 at 1.0 l/ha			Amistar at 0.6-1.0 l/ha			Curbatur/Proline at 0.6-0.8 l/ha				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
12-25 DA-A																
ERYSGT	LEAF 3	2	4.5	4.5	3.7 - 5.3	47.8	47.8	43.2 - 52.4	20.6	20.6	14.3 - 27.0	53.9	53.9	45.9 - 61.9	0 trials > 2 trials = 0 trials <	0 trials > 2 trials = 0 trials <
7-24 DA-B																
ERYSGT	LEAF 1	2	1.8	1.8	1.4 - 2.3	96.4	96.4	92.9 - 100.0	52.8	52.8	50.0 - 55.6	100.0	100.0	100.0 - 100.0	1 trial > 1 trial = 0 trials <	0 trials > 2 trials = 0 trials <
ERYSGT	LEAF 2	2	13.7	13.7	9.9 - 17.5	69.7	69.7	63.6 - 75.7	32.5	32.5	29.3 - 35.7	81.6	81.6	81.4 - 81.8	1 trial > 1 trial = 0 trials <	0 trials > 2 trials = 0 trials <

Conclusion

The presented results clearly demonstrate the leaf pathogen ERYSGT to be moderately tolerant (in assessed leaf 3 in the first assessments), moderately susceptible (in leaf 2 of the second assessment) and susceptible (Leaf 1 in the second assessment) to FF-075 applied at 1.0 l/ha twice in the EPPO Maritime zone when considering % of severity as the parameter of comparison. The effect of the use FF-075 was statistically comparable with the control observed after the application of Curbatur/Proline overall the evaluation (for all assessed leaves) and comparable (for both leaves in the second assessment) to superior (for both leaves during the second assessment) to the effect of Amistar.

Considering the effect observed after the application of FF-075, two applications (AB) along the crop life cycle of winter cereals at 1.0 l/ha is recommended in the EPPO Maritime zone as an effective fungicide against ERYSGT under a wide range of environmental conditions.

LEPTNO

% of control of Pest Severity (PESSEV)

Leaf level 1 to 3 (L1-L3) (% of control of pest severity)

In Table 3.2-75, a summary of the efficacy results for L2 and L3 in one trial is presented. Assessment shown were carried out at 27-43 days after the first application (DA-A).

Table 3.2-75: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (EPPO Maritime zone), concerning % of control of *Parastagonospora nodorum* (LEPTNO) in terms of % of severity (PESSEV), assessed in leaf 1 to 3 (L1 to L) after two step-wise applications (AB)

Target	Grouping	Number of trials	Infestation of the untreated control (PESSEV %)			% control									No of trials where FF-075 is >, <, = compared to Amistar	No of trials where FF-075 is >, <, = compared to Curbatur/Proline
						FF-075 at 1.0 l/ha			Amistar at 0.6-1.0 l/ha			Curbatur/Proline at 0.6-0.8 l/ha				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
27-43 DA-A																
LEPTNO	LEAF 2	1	13.8	-	-	87.0	-	-	73.9	-	-	82.6	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
LEPTNO	LEAF 3	1	52.5	-	-	82.3	-	-	72.8	-	-	82.7	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
26-41 DA-B																
LEPTNO	LEAF 1	1	29.0	-	-	62.8	-	-	53.5	-	-	65.5	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
LEPTNO	LEAF 2	1	64.5	-	-	54.3	-	-	29.8	-	-	51.5	-	-	1 trial > 0 trials = 0 trials <	0 trials > 1 trial = 0 trials <

Conclusion

The presented results clearly demonstrate the leaf pathogen LEPTNO to be susceptible (L2 and L2 in the first assessment) an moderately tolerant (L2 at the second assessment) to moderately susceptible (L1 at the second assessment) to FF-075 applied at 1.0 l/ha twice in the EPPO Maritime zone when considering % of severity as the parameter of comparison. The effect of the use FF-075 was statistically comparable with the control observed after the application of Curbatur/Proline overall the evaluation (for all assessed leaves) and comparable (for both leaves in the second assessment) to superior (for L2 during the second assessment) to the effect of Amistar.

Considering the effect observed after the application of FF-075, two applications (AB) along the crop life cycle of winter cereals at 1.0 l/ha is recommended in the EPPO Maritime zone as an effective fungicide against LEPTNO under a wide range of environmental conditions.

PUCCRT

% of control of Pest Severity (PESSEV)

Leaf level 1 to 3 (L1-L3) (% of control of pest severity)

In Table 3.2-76, a summary of the efficacy results for L1 to L3 in one to five trials is presented. Assessments shown were carried out at 27-43 days after the first application (DA-A) and 12-25 days after the second application (DA-B) and 26-41 days after the second application (DA-B).

Table 3.2-76: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (EPPO Maritime zone), concerning % of control of *Puccinia triticina* (PUCCRT) in terms of % of severity (PESSEV), assessed in leaf 1 to 3 (L1 to L3) after two step-wise applications (AB)

Target	Grouping	Number of trials	Infestation of the untreated control (PESSEV %)			% control									No of trials where FF-075 is >, <, = compared to Amistar	No of trials where FF-075 is >, <, = compared to Curbatur/Proline
						FF-075 at 1.0 l/ha			Amistar at 0.6-1.0 l/ha			Curbatur/Proline at 0.6-0.8 l/ha				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
27-43 DA-A																
PUCCRT	LEAF 1	2	17.4	17.4	16.3 - 18.5	95.3	95.3	93.9 - 96.8	92.0	92.0	87.7 - 96.2	92.7	92.7	87.0 - 98.5	0 trials > 2 trials = 0 trials <	0 trials > 2 trials = 0 trials <
PUCCRT	LEAF 2	2	32.2	32.2	23.1 - 41.3	88.7	88.7	83.0 - 94.4	82.1	82.1	73.3 - 90.9	87.6	87.6	86.1 - 89.2	0 trials > 2 trials = 0 trials <	0 trials > 2 trials = 0 trials <
PUCCRT	LEAF 3	2	35.1	35.1	6.4 - 63.8	90.0	90.0	81.6 - 98.4	79.1	79.1	73.7 - 84.4	88.4	88.4	81.6 - 95.3	0 trials > 2 trials = 0 trials <	0 trials > 2 trials = 0 trials <
12-25 DA-B																
PUCCRT	LEAF 1	2	1.6	1.6	1.0 - 2.3	100.0	100.0	100.0 - 100.0	88.9	-	-	72.2	72.2	44.4 - 100.0	- - -	- - -
PUCCRT	LEAF 1	1	2.3	-	-	100.0	-	-	88.9	-	-	-	-	-	0 trials > 1 trial = 0 trials <	- - -
PUCCRT	LEAF 1	2	1.6	1.6	1.0 - 2.3	100.0	100.0	100.0 - 100.0	-	-	-	72.2	72.2	44.4 - 100.0	- - -	0 trials > 2 trials = 0 trials <
PUCCRT	LEAF 2	1	5.0	-	-	100.0	-	-	100.0	-	-	80.0	-	-	0 trials > 1 trial =	0 trials > 1 trial =

Target	Grouping	Number of trials	Infestation of the untreated control (PESSEV %)			% control									No of trials where FF-075 is >, <, = compared to Amistar	No of trials where FF-075 is >, <, = compared to Curbatur/Proline
						FF-075 at 1.0 l/ha			Amistar at 0.6-1.0 l/ha			Curbatur/Proline at 0.6-0.8 l/ha				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
															0 trials <	0 trials <
PUCCRT	LEAF 3	1	5.0	-	-	100.0	-	-	100.0	-	-	70.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
26-41 DA-B																
PUCCRT	LEAF 1	5	25.6	6.5	1.2 - 78.8	76.8	81.9	53.9 - 85.5	69.8	79.4	46.2 - 83.9	65.5	69.9	49.2 - 79.6	- - -	- - -
PUCCRT	LEAF 1	3	41.1	37.9	6.5 - 78.8	73.7	81.9	53.9 - 85.5	69.8	79.4	46.2 - 83.9	-	-	-	0 trials > 3 trials = 0 trials <	- - -
PUCCRT	LEAF 1	5	25.6	6.5	1.2 - 78.8	76.8	81.9	53.9 - 85.5	-	-	-	65.5	69.9	49.2 - 79.6	- - -	1 trial > 4 trials = 0 trials <
PUCCRT	LEAF 2	3	47.3	34.5	8.3 - 99.0	76.6	81.1	63.6 - 85.2	-	-	-	66.5	63.6	62.3 - 73.5	0 trials > 3 trials = 0 trials <	1 trial > 2 trials = 0 trials <

Conclusion

The presented results clearly demonstrate the leaf pathogen Puccinia (Puccin) to be moderately susceptible (all assessed leaves in 26-41 DA-B) to susceptible (in assessed leaves in the first assessments and 12-25 DA-B) to FF-075 applied at 1.0 l/ha twice in the EPPO Maritime zone when considering % of severity as the parameter of comparison. The effect of the use FF-075 was statistically comparable to superior with the control observed after the application of Curbatur/Proline and Amistar overall the evaluation (all assessed leaves in all assessments).

Considering the effect observed after the application of FF-075, two applications (AB) along the crop life cycle of winter cereals at 1.0 l/ha is recommended in the EPPO Maritime zone as an effective fungicide against Puccin under a wide range of environmental conditions.

Puccin

% of control of Pest Severity (PESSEV)

Leaf level 1 to 2 (L1-L2) (% of control of pest severity)

In Table 3.2-77., a summary of the efficacy results for L1 to L2 in one trial is presented. Assessments shown were carried out at 12-25 days after the first application (DA-A) and 7-24 days after the second application (DA-B).

Table 3.2-77: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (TRZAW SEPTTR) (EPPO Maritime zone), concerning % of control of *Puccinia striiformis* (PUCCST) in terms of % of severity (PESSEV), assessed in leaf 1 to 2 (L1 to L2) after two step-wise applications (AB)

Target	Grouping	Number of trials	Infestation of the untreated control (PESSEV %)			% control									No of trials where FF-075 is >, <, = compared to Curbatur/Proline	No of trials where FF-075 is >, <, = compared to Torero
						FF-075 at 1.0 l/ha			Curbatur/Proline at 0.6-0.8 l/ha			Torero at 1.0 l/ha				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
12-25 DA-A																
PUC CST	LEAF 1	1	2.0	-	-	90.1	-	-	81.5	-	-	33.3	-	-	0 trials > 1 trial = 0 trials <	1 trial > 0 trials = 0 trials <
PUC CST	LEAF 2	1	3.1	-	-	95.2	-	-	92.8	-	-	69.6	-	-	0 trials > 1 trial = 0 trials <	1 trial > 0 trials = 0 trials <
7-24 DA-B																
PUC CST	LEAF 1	1	2.4	-	-	100.0	-	-	100.0	-	-	56.7	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
PUC CST	LEAF 2	1	3.4	-	-	100.0	-	-	100.0	-	-	48.3	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Conclusion

The presented results clearly demonstrate the leaf pathogen Puccinia (PuccST) to be susceptible (in assessed leaves in both assessments) to FF-075 applied at 1.0 l/ha twice in the EPPO Maritime zone when considering % of severity as the parameter of comparison. The effect of the use FF-075 was statistically comparable with the control observed after the application of Curbatur/Proline overall the evaluation (for both assessed leaves) and comparable (for both leaves in the second assessment) to superior (for both leaves during the first assessment) to the effect of Torero.

Considering the effect observed after the application of FF-075, two applications (AB) along the crop life cycle of winter cereals at 1.0 l/ha is recommended in the EPPO Maritime zone as an effective fungicide against PuccST under a wide range of environmental conditions.

PYRNTR

% of control of Pest Severity (PESSEV)

Leaf level 1 to 2 (L1-L2) (% of control of pest severity)

In Table 3.2-78., a summary of the efficacy results for L1 and L2 in one trial is presented. Assessment shown were carried out at 26-41 days after the second application (DA-B).

Table 3.2-78: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (EPPO Maritime zone), concerning % of control of *Pyrenophora tritici-repentis* (PYRNTR) in terms of % of incidence (PESSEV), assessed in leaf 1 to 2 (L1 to L2) after two step-wise applications (AB)

Target	Grouping	Number of trials	Infestation of the untreated control (PESSEV %)			% control									No of trials where FF-075 is >, <, = compared to Amistar	No of trials where FF-075 is >, <, = compared to Curbatur/Proline
						FF-075 at 1.0 l/ha			Amistar at 0.6-1.0 l/ha			Curbatur/Proline at 0.6-0.8 l/ha				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
26-41 DA-B																
PYRNTR	LEAF 1	1	8.5	-	-	57.6	-	-	31.8	-	-	45.9	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
PYRNTR	LEAF 2	1	15.8	-	-	67.1	-	-	53.2	-	-	58.9	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Conclusion

The presented results demonstrate, the leaf pathogen PYRTNR to be moderately tolerant (L1) to moderately susceptible (L2) to FF-075 applied at 1.0 l/ha twice in the EPPO Maritime zone when considering % of severity as the parameter of comparison. This was comparable with the control observed after the application of the used reference products (Amistar and Curbatur/Proline) in all leaves.

Considering the effect observed after the application of FF-075, two applications (AB) along the crop life cycle of winter cereals at 1.0 l/ha is overall recommended in the EPPO Maritime zone as an effective protective fungicide against SEPTTR under a wide range of environmental conditions since progression of the disease was held in the field even if high incidence was observed.

SEPTTR

% of control of Pest Severity (PESSEV)

Leaf level 1 to 3 (L1-L3) (% of control of pest severity)

In Table 3.2-79, a summary of the efficacy results for L1 to L3 in up to six trials is presented. Assessments shown were carried out at 12-25 days after the first application (DA-A) and 7-24 days after the second application (DA-B).

Table 3.2-79: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (TRZAW) (EPPO Maritime zone), concerning % of control of *Zymoseptoria tritici* (SEPTTR) in terms of % of incidence (PESSEV), assessed in leaf 1 to 3 (L1 to L3) after two step-wise applications (AB)

Target	Grouping	Number of trials	Infestation of the untreated control (PESSEV %)			% control												No of trials where FF-075 is >, <, = compared to Amistar	No of trials where FF-075 is >, <, = compared to Curbaturo/Proline	No of trials where FF-075 is >, <, = compared to Torero
						FF-075 at 1.0 l/ha			Amistar at 0.6-1.0 l/ha			Curbatur/Proline at 0.6-0.8 l/ha			Torero at 1.0 l/ha					
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max			
12-25 DA-A																				
SEPTTR	LEAF 2	1	7.0	-	-	64.3	-	-	32.1	-	-	78.6	-	-	-	-	-	-	-	-
SEPTTR	LEAF 2	1	7.0	-	-	64.3	-	-	32.1	-	-	78.6	-	-	-	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <	- - -
SEPTTR	LEAF 3	3	6.1	1.0	0.9 - 16.5	84.9	100.0	54.6 - 100.0	51.9	55.6	0.0 - 100.0	77.5	75.0	57.6 - 100.0	-	-	-	- - -	- - -	- - -
SEPTTR	LEAF 3	3	6.1	1.0	0.9 - 16.5	84.9	100.0	54.6 - 100.0	51.9	55.6	0.0 - 100.0	77.5	75.0	57.6 - 100.0	-	-	-	0 trials > 3 trials = 0 trials <	0 trials > 3 trials = 0 trials <	- - -
7-24 DA-B																				
SEPTTR	LEAF 1	4	2.8	2.3	0.3 - 6.5	84.2	93.3	50.0 - 100.0	73.3	73.3	46.7 - 100.0	92.3	93.3	82.6 - 100.0	50.0	50.0	0.0 - 100.0	- - -	- - -	- - -
SEPTTR	LEAF 1	2	2.3	2.3	0.8 - 3.8	93.3	93.3	86.7 - 100.0	73.3	73.3	46.7 - 100.0	-	-	-	-	-	-	0 trials > 2 trials =	- -	- -

Target	Grouping	Number of trials	Infestation of the untreated control			% control												No of trials 0 trials <	No of trials where FF-075 is -	No of trials -
SEPTTR	LEAF 1	4	2.8	2.3	0.3 - 6.5	84.2	93.3	50.0 - 100.0	-	-	-	92.3	93.3	82.6 - 100.0	-	-	-	-	0 trials > 4 trials = 0 trials <	- - -
SEPTTR	LEAF 1	2	3.4	3.4	0.3 - 6.5	75.0	75.0	50.0 - 100.0	-	-	-	-	-	-	50.0	50.0	0.0 - 100.0	- - -	- - -	1 trial > 1 trial = 0 trials <
SEPTTR	LEAF 2	6	11.6	9.8	2.0 - 22.5	70.2	74.1	33.7 - 86.7	45.3	44.1	15.8 - 77.1	71.6	74.9	53.6 - 85.3	36.1	36.1	0.0 - 72.2	- - -	- - -	- - -
SEPTTR	LEAF 2	4	10.2	8.1	2.0 - 22.5	76.6	76.5	66.7 - 86.7	45.3	44.1	15.8 - 77.1	-	-	-	-	-	-	0 trials > 4 trials = 0 trials <	- - -	- - -
SEPTTR	LEAF 2	6	11.6	9.8	2.0 - 22.5	70.2	74.1	33.7 - 86.7	-	-	-	71.6	74.9	53.6 - 85.3	-	-	-	-	0 trials > 5 trials = 1 trial <	- - -
SEPTTR	LEAF 2	2	14.5	14.5	10.8 - 18.1	57.4	57.4	33.7 - 81.0	-	-	-	-	-	-	36.1	36.1	0.0 - 72.2	- - -	- - -	1 trial > 1 trial = 0 trials <
SEPTTR	LEAF 3	4	26.2	16.3	7.1 - 65.0	65.0	70.5	28.9 - 90.1	34.7	28.8	0.8 - 80.3	51.9	62.1	14.2 - 69.2	-	-	-	- - -	- - -	- - -
SEPTTR	LEAF 3	4	26.2	16.3	7.1 - 65.0	65.0	70.5	28.9 - 90.1	34.7	28.8	0.8 - 80.3	51.9	62.1	14.2 - 69.2	-	-	-	1 trial > 3 trials = 0 trials <	0 trials > 4 trials = 0 trials <	- - -

Conclusion

The presented results demonstrate, the leaf pathogen SEPTTR to be moderately susceptible (L1-1st assessment, L2 and L3-2nd assessment) to susceptible (L3-1st assessment and L1-2nd assessment) to FF-075 applied at 1.0 l/ha twice in the EPPO Maritime zone when considering % of severity as the parameter of comparison. This, however, was comparable with the control observed after the application of the used reference products (Amistar. Curbatur/Proline and Torero) in all leaves and both assessments after the application.

Considering the effect observed after the application of FF-075, two applications (AB) along the crop life cycle of winter cereals at 1.0 l/ha is overall recommended in the EPPO Maritime zone as an effective protective fungicide against SEPTTR under a wide range of environmental conditions since progression of the disease was held in the field even if high incidence was observed.

Green leaf area (%GRNARE)

The effect of the fungicide treatment with FF-075 on winter cereals was summarized for trials where two stepwise applications (AB) were used. The assessment was carried out at the crop developmental stage BBCH 75. The part rated corresponds in most of the cases to whole plant (Plant C). The desired effect consists on the maximal preservation of the % of green area of the plot in order to obtain higher final yield.

% of green Leaf Area (GRNARE)

Plant C (% of green leaf area-GRNARE)

In Table 3.2-80, a summary of the green leaf area of the plants (Plant C) after application of various treatments to prevent disease progress in up to seven trials is shown. The assessment was carried out at 27-64 days after the second application (DA-B).

Table 3.2-80: Summary of the efficacy results of FF-075 used as preventive fungicide against several pathogens in winter cereals (TRZAW) (EPPO Maritime zone), concerning percentage of green leaf area assessed in plant after two applications (AB).

Target	Number of trials	Infestation of the untreated control (% GRNARE)			% GRNARE												No of trials where FF-075 is >, <, = compared to Amistar)	No of trials where FF-075 is >, <, = compared to Proline	No of trials where FF-075 is >, <, = compared to Torero
					FF-075 at 1.0 l/ha			Amistar at 0.6-1.0 l/ha			Curbatur/Proline at 0.6-0.8 l/ha			Torero at 1 l/ha					
		Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max			
27-64 DA-B																			
Overall	7	30.8	28.3	9.3 - 85.4	58.4	62.5	23.8 - 93.0	52.5	45.3	22.5 - 89.9	59.4	69.0	11.5 - 92.6	35.7	35.7	23.8 - 47.5	- - -	- - -	- - -
Overall	5	33.1	28.3	9.3 - 85.4	62.8	71.7	23.8 - 93.0	52.5	45.3	22.5 - 89.9	61.1	69.0	11.5 - 92.6	-	-	-	2 trials > 3 trials = 0 trials <	- - -	- - -
Overall	7	30.8	28.3	9.3 - 37.5	58.4	62.5	23.8 - 62.5	52.5	45.3	22.5 - 0.0	59.4	69.0	11.5 - 77.5	35.7	35.7	23.8 - 47.5	- - -	2 trials > 4 trials = 1 trial <	- - -
Overall	2	25.0	25.0	12.5 - 37.5	47.5	47.5	32.5 - 62.5	-	-	-	55.0	55.0	32.5 - 77.5	35.7	35.7	23.8 - 47.5	- - -	- - -	1 trial > 1 trial = 0 trials <

Conclusion

After the use of FF-075 in two stepwise application at 1.0 l/ha successfully permitted the preservation the % of green leaf area in the treated field since its value was significantly superior to the observed for the untreated control. Moreover, the effect was statistically comparable or superior to the values observed after using the reference products tested (Amistar, Curbatur/Proline and Torero) for most of the trials evaluated.

Considering the mentioned effect, the application of FF-075 after two applications (AB) along the crop life cycle of winter cereals at a rate of 1.00 l/ha is recommended in the EPPO Maritime zone as an effective protective fungicide that significantly preserves the % of GRNARE of the crop under a wide range of environmental conditions.

One application on winter cereals (A)

After the use of FF-075 as a preventative fungicide treatment in winter cereals (HORVW, TRZAW and TTLWI) in one application, it was evident the following results (overall sensitivity of the pathogen per assessed plant part is shown in Table 3.2-81).

ERYSGH

The pathogen was moderately susceptible to FF-075 after the use (L2-L3 overall the evaluation) when applied once on the crop at 1.0 l/ha in the EPPO Maritime zone. Its use was comparable (Curbatur/Proline) to the commercial treatments.

FUSASP

The pathogen was moderately tolerant to FF-075 after the use on ears when applied once on the crop at rate of 1.0 l/ha in the EPPO Maritime zone. Its use was comparable to the commercial treatment.

LEPTNO

The leaf pathogen LEPTNO was susceptible to FF-075 after its use when applied once on the crop (winter cereals) at a rate of 1.00 l/ha in the EPPO Maritime zone. Its effect was comparable (Curbatur/Proline) to the commercial treatment tested.

PUCCHD

The leaf pathogen PUCCHD was susceptible to FF-075 applied once at a rate of 1.00 l/ha on the crops (winter cereals) in the EPPO Maritime zone. The effect was observed either at the first or second assessment in all assessed leaves (L1 to L3). Its effect was comparable (in most of the trials) or even superior to the control performed by the reference product tested (Curbatur/Proline).

PUCCRE

The leaf pathogen PUCCRE resulted susceptible to FF-075 applied at a rate of 1.00 l/ha on the crops (winter cereals) in the EPPO Maritime zone. The effect was observed for the shown assessment in every leaf considered for disease assessment. The effect of the test product was either comparable (as compared with Curbatur/ Proline) or superior (as compared with the application of Amistar) to the control performed by the reference products tested The latter was true for all the assessed leaves and in all trials considered for the comparison.

PUCCRT

The leaf pathogen PUCCRT resulted susceptible to FF-075 applied at a rate of 1.00 l/ha on the crop (winter cereal) in the EPPO Maritime zone. The effect was observed when considering L1 for disease assessment. The effect of the test product was comparable (considering all trials) as the control performed by the treatment of Curbatur/Proline (reference product tested).

PUCCSI

The leaf pathogen PUCCSI resulted moderate susceptible (L3) to susceptible (L1 to L2) to FF-075 applied at a rate of 1.00 l/ha on the crop (winter cereals) in the EPPO Maritime zone. The pathogen resulted susceptible when considering L1 and L2 in both assessments and moderate susceptible if considering L3 for both assessments. The effect of the test product was comparable to the control performed by the reference products tested (as compared with Curbatur/ Proline). The latter was true for all the assessed leaves considered for the comparison.

PUCCST

The leaf pathogen PUCCST resulted moderately tolerant (efficacy average assessed in L1-L3) to the FF-075 applied at a rate of 1.00 l/ha on the crop (winter cereals) in the EPPO Maritime zone. When considering different leaves different results were obtained: L1, tolerant, L2, moderately tolerant, L3, susceptible. Same variation as observed for the test product was registered after the application of Curbatur/Proline (reference product), assessed in different leaves. Moreover, the effect of the test product was comparable as the control performed by Curbatur/Proline for all assessed leaves.

PYRNTE

The leaf pathogen PYRNTE resulted moderately susceptible (L3) to susceptible (L2) to the FF-075 applied at a rate of 1.00 l/ha on the crop (winter cereals) in the EPPO Maritime zone. When considering different leaves different results were obtained: L2, susceptible; L3, moderately susceptible. Same variation as observed for the test product was registered after the application of Curbatur/Proline (reference product), assessed in different leaves. Furthermore, the effect of the test product was either comparable (most of leaves assessed) or superior (L2- 1st assessment) than the control performed by Curbatur/Proline during the evaluation.

RHYNSE

The leaf pathogen RHYNSE resulted moderately susceptible (L3 in the first and second assessments) to susceptible (L1-L2, second assessment) to FF-075 applied at 1.0 l/ha on the crop (winter cereals) in the EPPO Maritime. Furthermore, the test product displayed comparable control as the observed after the application of the reference product (Curbatur/Proline) in all leaves and assessments after the application (for all the considered trials).

SEPTTR

The leaf pathogen SEPTTR resulted moderate tolerant (L2- 2nd assessment) to moderate susceptible (L3-1st assessment, L1 and L3-2nd assessment) to FF-075 applied at 1.0 l/ha on the crop (winter cereals) in the EPPO Maritime zone. This, however, was comparable with the control observed after the application of Curbatur/Proline for most of leaves in most of considered trials, but significant superior as compared with the application of Amistar for all leaves assessed and trials considered.

Table 3.2-81: Overall control level of FF-075 against FUSASP, PUCCRE, PUCCST, PYRNTE, RHYNSE and SEPTTR after one application (B) in winter cereals in the EPPO Maritime zone (in brackets assessed plant parts)

Susceptible	≥ 80.0%	LEPTNO (L3) PUCCHD (L1-L3) PUCCRE (L1-L3) PUCCRT (L1) PUCCSI (L1-L2) PUCCST (L1-L3) PYRNTE (L2) RHYNSE (L1-L2)
Moderately susceptible	60.0 – 79.9%	ERYSGH (L2-L3) PYRNTE (L2, L3) SEPTTR (L1-L3)

Moderately tolerant	40.0 – 59.9%	-
Tolerant	≤ 39.9%	FUSASP (ear)

Finally, the use of FF-075 permitted to preserve % of green leaf area in the treated crops after the application. Moreover, the effect was statistically comparable to the that of the commercial treatments (Amistar, Curbatur/Proline and Torero).

One application on winter cereals (B)

After the use of FF-075 as a preventative fungicide treatment in winter cereals (HORVW, TRZAW and TTLWI) in one application, it was evident the following results (overall sensitivity of the pathogen per assessed plant part is shown in Table 3.2-82).

ERYSGH

The leaf pathogen ERYSGH resulted moderately susceptible (L2 and L3) to FF-075 when applied once on the crop at a rate of 1.00 l/ha in the EPPO Maritime zone. Furthermore, the test product displayed equivalent (as compared with Curbatur/Proline) control as the observed after the application of the commercial treatment.

LEPTNO

The leaf pathogen LEPTNO was susceptible (L3) to FF-075 after its use when applied once on the crop (winter cereals) at a rate of 1.00 l/ha in the EPPO Maritime zone. Its effect was comparable (Curbatur/Proline) to the commercial treatment tested.

PUCCHD

The leaf pathogen PUCCHD resulted moderate susceptible (L3 in the second assessment) to susceptible (L1 to L3 in the first assessment and L1 to L2 in second assessment) to FF-075 after its use when applied once on the crop (winter cereals) at a rate of 1.00 l/ha in the EPPO Maritime zone. Its effect was comparable to the to the control performed by the commercial treatment tested (Curbatur/Proline) for all assessed leaves and in all presented trials.

PUCCRE

The pathogen was susceptible to FF-075 after the use (L1-L3 overall the time assessed) when applied once on the crop at 1.0 l/ha in the EPPO Maritime zone. Its use was comparable (Curbatur/Proline) or superior (Amistar) to the commercial treatments.

PUCCRT

The leaf pathogen PUCCRT resulted susceptible to FF-075 after the use (L1 in the assessment shown) when applied at a rate of 1.00 l/ha in the EPPO Maritime zone. The effect of the test product was comparable (considering both trials) as the control performed by the Curbatur/Proline, the commercial treatment.

PUCCSI

The leaf pathogen PUCCSI resulted moderate susceptible (L2 at both assessments and L1 by 1st assessment) to susceptible (L1 at 2nd assessment) to FF-075 when applied at 1.0 l/ha in the EPPO Maritime zone. Furthermore, the test product displayed equivalent control as the observed after the application of Curbatur/Proline for L1 and L2 after the first assessment, but performed significantly superior than the commercial treatment at the second assessment for both assessed leaves.

PUCCST

The pathogen was susceptible to FF-075 after the use (L1-L3 overall the time assessed) when applied once on the crop at 1.0 l/ha in the EPPO Maritime zone. Its use was comparable to the commercial treatment (Curbatur/Proline).

PYRNTE

The pathogen was moderately susceptible (in most of leaves for all the evaluation -L3, 1st assessment and L2, L3 2nd assessment) to susceptible (L1, first assessment) to FF-075 when applied once on the crop at 1.0 l/ha in the EPPO Maritime zone. Its use was comparable to the commercial treatment (Curbatur/Proline).

RHYNSE

The pathogen was moderately susceptible (L3 in the first assessment) to susceptible (L1-L3, second assessment) to FF-075 when applied once on the crop at 1.0 l/ha) in the EPPO Maritime zone. Its use was comparable to the commercial treatment (Amistar and Curbatur/Proline).

SEPTTR

The pathogen was moderately tolerant (L1-L3 overall the time assessed) to FF-075 when applied once on the crop at 1.0 l/ha) in the EPPO Maritime zone. Its use was comparable to the commercial treatment (Amistar and Curbatur/Proline).

Table 3.2-82: Overall control level of FF-075 against FUSASP, PUCCRE, PUCST, PYRNTE, RHYNSE and SEPTTR after one application (B) in winter cereals in the EPPO Maritime zone (in brackets assessed plant parts)

Susceptible	$\geq 80.0\%$	LEPTNO (L3) PUCCHD (L1-L3) PUCCRT (L1) PUCCRE (L1-L3) PUCST (L1-L3) RHYNSE (L1-L3)
Moderately susceptible	60.0 – 79.9%	ERYSGH (L2-L3) PUCCSI (L1-L2) PYRNTE (L2, L3)
Moderately tolerant	40.0 – 59.9%	SEPTTR (L1-L3)
Tolerant	$\leq 39.9\%$	-

Finally, the use of FF-075 permitted to preserve % of green leaf area in the treated crops after the application. Moreover, the effect was statistically comparable to the that of the commercial treatments (Amistar, Curbatur/Proline and Torero).

Two applications on winter cereals (AB)

After the use of FF-075 as a preventative fungicide treatment in winter cereals after two step-wise application it was evident the following results (overall sensitivity of the pathogen per assessed plant part is shown in Table 3.2-83).

ERYSGT

The leaf pathogen ERYSGT resulted moderately tolerant (assessed on L3 in the first assessments), moderately susceptible (assessed on L2 of the second assessment) and susceptible (assessed on L1 in the second assessment) to FF-075 applied at 1.0 l/ha twice in the EPPO Maritime zone. The effect of the use FF-075 was statistically comparable with the control observed after the application of Curbatur/Proline overall the evaluation (for all assessed leaves) and comparable (for both leaves in the second assessment) to superior (for both leaves during the second assessment) to the effect of Amistar.

LEPTNO

The leaf pathogen LEPTNO resulted susceptible (L2 and L3 in the first assessment) and moderately tolerant (L2 at the second assessment) to moderately susceptible (L1 at the second assessment) to FF-075 applied at 1.0 l/ha twice in the EPPO Maritime zone. The effect of the use FF-075 was statistically comparable with the control observed after the application of Curbatur/Proline overall the evaluation (for all assessed leaves) and comparable (for both leaves in the second assessment) to superior (for L2 during the second assessment) to the effect of Amistar.

PUCCRT

The leaf pathogen PUCCRT resulted to be moderately susceptible (all leaves assessed 26-41 DA-B) to susceptible (in leaves assessed in the first assessments and 12-25 DA-B) to FF-075 applied at 1.0 l/ha twice in the EPPO Maritime zone. The effect of the use FF-075 was statistically comparable to superior as compared with the control observed after the application of Curbatur/Proline and Amistar overall the evaluation (all assessed leaves in all assessments).

PUCCST

The pathogen resulted susceptible to FF-075 after the use (L1-L3 overall the time assessed) when applied twice on the crop at 1.0 l/ha in the EPPO Maritime zone. Its use was comparable or superior to the commercial treatments (Curbatur/Proline and Torero in most of the cases but also superior as Torero for the 1st assessment for all assessed leaves).

PYRNTR

The leaf pathogen PYRTNR resulted moderately tolerant (L1) to moderately susceptible (L2) to FF-075 applied at 1.0 l/ha twice in the EPPO Maritime zone. This was comparable with the control observed after the application of the used reference products (Amistar and Curbatur/Proline) in all leaves.

SEPTTR

The pathogen resulted moderately susceptible (L1-1st assessment, L2 and L3-2nd assessment) to susceptible (L3-1st assessment and L1-2nd assessment) to FF-075 when applied twice on the crop at 1.0 l/ha in the EPPO Maritime zone. Its use was comparable to the commercial treatment (Amistar. Curbatur/Proline and Torero).

Table 3.2-83: Overall control level of FF-075 against PUCCST and SEPTTR after two step-wise applications (AB) in winter cereals in the EPPO Maritime zone (in brackets assessed plant parts)

Susceptible	≥ 80.0%	ERYSGT (L1) LEPTNO (L2-L3) PUCCST (L1-L3)
Moderately susceptible	60.0 – 79.9%	ERYSGT (L2) LEPTNO (L1) PUCCRT (L1-L3) PYRNTR (L2) SEPTTR (L1-L3)
Moderately tolerant	40.0 – 59.9%	ERYSGT (L3), LEPTNO (L2); PYRNTR (L1)
Tolerant	≤ 39.9%	-

Finally, the use of FF-075 permitted to preserve % of green leaf area in the treated crops after two applications. Moreover, the effect was statistically comparable to the that of the commercial treatments (Amistar, Curbatur/Proline and Torero).

Spring cereals

Material and methods

In total, two field trials were carried out in Sweden and the United Kingdom during 2020 (2), to assess the efficacy of the foliar preventative fungicide FF-075 against PYRNTE (1 trial) and RHYNSE (1 trial) in cereals planted in spring (TRZAS and HORVS). The trials were carried out according to GEP by officially recognised testing organisations and the guideline(s) EPPO PP 1/135(4), PP 1/152(4), PP 1/181(4), PP 1/214(4), PP 1/225(2) and EPPO PP 1/26(4) were used.

Detailed information on the experiments and application methods is given in Table 3.2-84. For further information on the reference product(s) please refer to Table 3.2-8.

As the application of FF-075 is recommended as a preventive treatment against the infection of the mentioned pathogens, low infestation levels of the untreated control were also considered for the assessment of efficacy. Data supporting the effect of one (B) is presented. In presented trials, the application (named B) took place at BBCH 31-51 in HORVS and BBCH 31- 43 in TRZAS.

In case of no infestation during one assessment or in a whole trial, the data was excluded. Data presented corresponds to the assessment carried out on one up to three fully developed leaves of a tiller (leaf levels) two to three weeks after each application. The leaf levels presented include leaf 1 to 3 (L1-L3). In each evaluation, the parameter assessed was efficacy (percentage of control) expressed as the percentage of infestation as well-known as percentage of severity (PESSEV). Regarding the percentage of green leaf area (GRNARE), the effect was summarized for all trials conducted for the whole set of cereals in one season (spring) after either the applications. Even when available, no pest incidence (PESINC) data was included. The reason for this is the strong variation on this parameter depending on the infestation of diseases presented in the crop. At times PESINC reached very high values already at early assessments, poorly reflecting the control performed for the treatments (included the reference product) as compared with the strong evidence that is obtained after the evaluation of pest severity (PESSEV) in the crop.

Table 3.2-84: Experimental details and application methods in the efficacy trials with FF-075 against ERYSGR, PUCCHD, PYRNTE and RHYNSE in spring cereals in the EPPO Maritime zone (numerals in brackets indicate the number of trials, except for the information on guidelines)

Total number of trials		<u>2</u>
Guidelines	General guidelines	EPPO PP 1/135(4), PP 1/152(4), PP 1/181(4), PP 1/214(4), PP 1/225(2)
	Specific guidelines	EPPO PP 1/26(4)
	GEP	Yes (2)
Experimental design	Plot design	RCBD (2)
	Plot size	18-30 m ²
	Number of replications	4 (2)
Crop	Trials per crop	Spring wheat (1) Spring barley (1)
	Varieties per crop	Spring wheat: KWS Chilham (1) Spring barley: Vilde (1)
	Sowing period	Spring wheat: April 2020 Spring barley: April 2020
Application	Crop stage (BBCH)* at application	Spring wheat: BBCH 31 – BBCH 43 Spring barley: BBCH 31 – BBCH 51
	Timing Pests	Post-emergence ERYSGH (1) ERSGR (1) PUCCHD (1) PYRNTE (1)

		RHYNSE (1)
	Number of applications	1 (2), however conducted at two time points in the same plot, therefore assessments at DA-B shown
	Intervals between applications	
	Spray volumes	200 l/ha
Assessment	Assessment types	% severity, % incidence, % green leaf area
	Assessment dates	15-18 DA-A, 37-39 DA-A; 21-22 DA-B, 28-43 DA-B
Other relevant information	Soil type	Loam (1), sandy loam (1)
	Soil pH	pH 5.75 and n.s. (1)
	Natural/artificial inoculation	Natural (2)
	Field / Greenhouse	F (2)
	Application rate of test product	1.0 L/ha product

Results

One application on spring cereals (A)

Pest Severity (efficacy)

ERYSGR

% of control of Pest Severity (PESSEV)

Leaf level 3 (L3) (% of control of pest severity)

In Table 3.2-85, a summary of the efficacy results for L3 in one trial is presented.

Table 3.2-85: Summary of the efficacy results of FF-075 used as preventive fungicide in spring cereals (HORVS and TRZAS) (EPPO Maritime zone), concerning % of control of *Blumeria graminis* (ERYSGR) in terms of % of severity (PESSEV), assessed in L1-L3 leaves after one application (A)

Target	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control									No of trials where FF-075 is >, <, = compared to the standard Amistar	No of trials where FF-075 is >, <, = compared to the standard Proline
						FF-075 at 1.0 l/ha			Amistar at 0.6 l/ha			Proline at 0.8 l/ha				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
37-39 DA-A																
ERYSGR	LEAF3	2	9.0	9.0	2.3 - 15.6	98.5	98.5	97.0 - 100.0	93.0	-	-	100.0	-	-	- - -	- - -
ERYSGR	LEAF3	1	15.6	-	-	97.0	-	-	93.0	-	-	-	-	-	0 trials > 1 trial = 0 trials <	- - -
ERYSGR	LEAF3	1	2.3	-	-	100.0	-	-	-	-	-	100.0	-	-	- - -	0 trials > 1 trial = 0 trials <

Conclusion

According to the presented results, the leaf pathogen ERYSGR resulted susceptible to FF-075 applied at a rate of 1.00 l/ha in the EPPO Maritime zone when considering % of severity as the parameter of comparison. Furthermore, the test product displayed equivalent (as compared with Amistar and pro-line) control as the observed after the application of the reference products.

Considering the effect observed after the application of FF-075 at A along the crop life cycle of winter cereals at a rate of 1.00 l/ha is recommended in the EPPO Maritime zone as an effective protective fungicide against ERYSGH under a wide range of environmental conditions since progression of the disease was held in the field even if high incidence was observed.

PUCCHD

% of control of Pest Severity (PESSEV)

Leaf level 3 (L3) (% of control of pest severity)

In Table 3.2-86, a summary of the efficacy results for L3 in one trial is presented.

Table 3.2-86: Summary of the efficacy results of FF-075 used as preventive fungicide in spring cereals (HORVS and TRZAS) (EPPO Maritime zone), concerning % of control of *Puccinia hordei* (PUCCHD) in terms of % of severity (PESSEV), assessed in L3 leaf after one application (A)

Target	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control						No of trials where FF-075 is >, <, = compared to Pro-line
						FF-075 at 1.0 l/ha			Proline at 0.8 l/ha			
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	
37-39 DA-A												
PUCCHD	LEAF3	1	2.8	-	-	89.3	-	-	89.3	-	-	0 trials > 1 trial = 0 trials <

Conclusion

According to the presented results, the leaf pathogen PUCCHD resulted susceptible to FF-075 applied at a rate of 1.00 l/ha in the EPPO Maritime zone when considering % of severity as the parameter of comparison. Furthermore, the test product displayed equivalent (as compared with Amistar and pro-line) control as the observed after the application of the reference products.

Considering the effect observed after the application of FF-075 at A along the crop life cycle of winter cereals at a rate of 1.00 l/ha is recommended in the EPPO Maritime zone as an effective protective fungicide against ERYSGH under a wide range of environmental conditions since progression of the disease was held in the field even if high incidence was observed.

PYRNTE

% of control of Pest Severity (PESSEV)

Leaf level 2-3 (L2-L3) (% of control of pest severity) one application

In Table 3.2-87 a summary of the efficacy results for leaf levels L2-L3 of spring cereals in one trial is presented. Assessment shown was carried 37-39 days after the application (A, though DA-A). .

Table 3.2-87: Summary of the efficacy results of FF-075 used as preventive fungicide in spring cereals (HORVS and TRZAS) (EPPO Maritime zone), concerning % of control of *Puccinia hordei* (PUCCHD) in terms of % of severity (PESSEV), assessed in L3 leaf after one application (A)

Target	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control						No of trials where FF-075 is >, <, = compared to Pro-line
						FF-075 at 1.0 l/ha			Proline at 0.8 l/ha			
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	
37-39 DA-A												
PYRNTE	LEAF2	1	0.2	-	-	100.0	-	-	50.0	-	-	1 trial > 0 trials = 0 trials <
PYRNTE	LEAF3	1	0.7	-	-	85.7	-	-	71.4	-	-	1 trial > 0 trials = 0 trials <

Conclusions

The presented results show the leaf pathogen PYRNTE was susceptible to FF-075 applied at 1.0 l/ha (at the A timing) in the EPPO Maritime zone when considering severity as the parameter of comparison. The effect of FF-075 was statistically comparable to superior to that of the reference product (Pro-line) in all trials presented.

Overall, the effect observed after one application of FF-075 along the crop life cycle of spring cereals at 1.0 l/ha is recommended in the EPPO Maritime zone as an effective to highly effective protective treatment to prevent PYRNTE under a wide range of environmental conditions. It's performance, furthermore, is comparable to the effect observed after using the commercial treatments.

Green leaf area (%GRNARE)

% of green Leaf Area (GRNARE)

Plant C (% of green leaf area-GRNARE) at A

In Table 3.2-88, a summary of the green leaf area of the plants (Plant C) after application of various treatments to prevent disease progress in two trials is shown.

Table 3.2-88: Summary of the efficacy results of FF-075 used as preventive fungicide against several pathogens in spring cereals (EPPO Maritime zone), concerning percentage of green leaf area assessed in plant after one application (aimed A).

Target	Number of trials	Infestation of the untreated control (% GRNARE)			% control									No of trials where FF-075 is >, <, = compared to Amistar	No of trials where FF-075 is >, <, = compared to Proline
					FF-075 at 1.0 l/ha			Amistar at 0.6 l/ha			Proline at 0.8 l/ha				
		Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
43-61 DA-A															
Overall	2	50.4	50.4	41.3 - 59.5	74.3	74.3	60.8 - 87.8	72.0	-	-	58.0	-	-	- - -	- - -
Overall	1	59.5	-	-	60.8	-	-	-	-	-	58.0	-	-	1 trial > 0 trials = 0 trials <	- - -
Overall	1	41.3	-	-	87.8	-	-	72.0	-	-	-	-	-	- - -	0 trials > 1 trial = 0 trials <

Conclusion

One application of FF-075 at 1.0 l/ha maintained the % of green leaf area in the treated field since this value was significantly superior to that observed in the untreated control in all assessed trials. Moreover, the effect was statistically comparable or even superior as compared with the effect observed in the areas treated under Curbatur/Proline and Amistar respectively.

Considering the mentioned effect, the application of FF-075 after one application (A) along the crop life cycle of winter cereals at 1.0 l/ha is recommended in the EPPO Maritime zone as an effective fungicide that significantly preserves the % of GRNARE of the crop under a wide range of environmental conditions.

One application on spring cereals (B)

Pest Severity (efficacy)

ERYSGR

% of control of Pest Severity (PESSEV)

Leaf level 1-3 (L1-L3) (% of control of pest severity)

In Table 3.2-89, a summary of the efficacy results for L1 - L3 in one to two trials is presented.

Table 3.2-89: Summary of the efficacy results of FF-075 used as preventive fungicide in spring cereals (HORVS and TRZAS) (EPPO Maritime zone), concerning % of control of *Blumeria graminis* (ERYSGR) in terms of % of severity (PESSEV), assessed in L1-L3 leaves after one application (B)

Target	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control									No of trials where FF-075 is >, <, = compared to Amistar	No of trials where FF-075 is >, <, = compared to Proline
						FF-075 at 1.0 l/ha			Amistar at 0.6 l/ha			Proline at 0.8 l/ha				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
21-22 DA-B																
ERYSGR	LEAF2	1	1.5	-	-	100.0	-	-	-	-	-	60.0	-	-	- - -	- - -
ERYSGR	LEAF2	1	1.5	-	-	100.0	-	-	-	-	-	60.0	-	-	- - -	1 trial > 0 trials = 0 trials <
ERYSGR	LEAF3	2	9.0	9.0	2.3 - 15.6	100.0	100.0	100.0 - 100.0	97.0	-	-	100.0	-	-	- - -	- - -
ERYSGR	LEAF3	1	15.6	-	-	100.0	-	-	97.0	-	-	-	-	-	0 trials > 1 trial = 0 trials <	- - -
ERYSGR	LEAF3	1	2.3	-	-	100.0	-	-	-	-	-	100.0	-	-	- - -	0 trials > 1 trial = 0 trials <
28-43 DA-B																
ERYSGR	LEAF1	1	4.6	-	-	84.0	-	-	62.0	-	-	-	-	-	- - -	- - -
ERYSGR	LEAF1	1	4.6	-	-	84.0	-	-	62.0	-	-	-	-	-	0 trials > 1 trial =	- -

Target	Grouping	Number of trials	Infestation of the untreated control (% BESSEVA)			% control									No of trials where EF = 0 trials <	No of trials where EF = -
ERYSGR	LEAF2	2	5.8	5.8	1.5 - 10.1	99.0	99.0	98.0 - 100.0	83.0	-	-	100.0	-	-	-	-
ERYSGR	LEAF2	1	10.1	-	-	98.0	-	-	83.0	-	-	-	-	-	0 trials > 1 trial = 0 trials <	- - -
ERYSGR	LEAF2	1	1.5	-	-	100.0	-	-	-	-	-	100.0	-	-	-	0 trials > 1 trial = 0 trials <
ERYSGR	LEAF3	2	13.6	13.6	4.3 - 22.8	99.0	99.0	98.0 - 100.0	100.0	-	-	97.7	-	-	-	-
ERYSGR	LEAF3	1	22.8	-	-	98.0	-	-	100.0	-	-	-	-	-	0 trials > 1 trial = 0 trials <	- - -
ERYSGR	LEAF3	1	4.3	-	-	100.0	-	-	-	-	-	97.7	-	-	-	0 trials > 1 trial = 0 trials <

Conclusion

According to the presented results, the leaf pathogen ERYSGR resulted susceptible to FF-075 applied at a rate of 1.00 l/ha in the EPPO Maritime zone when considering % of severity as the parameter of comparison. Furthermore, the test product displayed equivalent (as compared with Amistar and pro-line) control as the observed after the application of the reference products.

Considering the effect observed after the application of FF-075 at B along the crop life cycle of winter cereals at a rate of 1.00 l/ha is recommended in the EPPO Maritime zone as an effective protective fungicide against ERYSGH under a wide range of environmental conditions since progression of the disease was held in the field even if high incidence was observed.

PUCCHD

% of control of Pest Severity (PESSEV)

Leaf level 1- 3 (L1-L3) (% of control of pest severity)

In Table 3.2-90, a summary of the efficacy results for L1 L3 in one trial is presented.

Table 3.2-90: Summary of the efficacy results of FF-075 used as preventive fungicide in spring cereals (HORVS and TRZAS) (EPPO Maritime zone), concerning % of control of *Puccinia hordei* (PUCCHD) in terms of % of severity (PESSEV), assessed in L1- L3 leaves after one application (B)

Target	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control						No of trials where FF-075 is >, <, = compared to Pro-line
						FF-075 at 1.0 l/ha			Proline at 0.8 l/ha			
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	
21-22 DA-B												
PUCCHD	LEAF3	1	2.8	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <
28-43 DA-B												
PUCCHD	LEAF1	1	0.6	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <
PUCCHD	LEAF2	1	3.6	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <
PUCCHD	LEAF3	1	5.9	-	-	98.3	-	-	98.3	-	-	0 trials > 1 trial = 0 trials <

Conclusion

According to the presented results, the leaf pathogen PUCCHD resulted susceptible to FF-075 applied at a rate of 1.00 l/ha in the EPPO Maritime zone when considering % of severity as the parameter of comparison. Furthermore, the test product displayed equivalent (as compared with Amistar and Pro-line) control as the observed after the application of the reference products.

Considering the effect observed after the application of FF-075 at B along the crop life cycle of winter cereals at a rate of 1.00 l/ha is recommended in the EPPO Maritime zone as an effective protective fungicide against PUCCHD under a wide range of environmental conditions since progression of the disease was held in the field even if high incidence was observed.

PYRNTE

% of control of Pest Severity (PESSEV)

Leaf level 2-3 (L2-L3) (% of control of pest severity) one application

In Table 3.2-91, a summary of the efficacy results for leaf levels L2-L3 of spring cereals in one trial is presented. Assessment shown was carried 37-39 days after the application (A, though DA-A). .

Table 3.2-91: Summary of the efficacy results of FF-075 used as preventive fungicide in spring cereals (HORVS and TRZAS) (EPPO Maritime zone), concerning % of control of *Puccinia hordei* (PUCCHD) in terms of % of severity (PESSEV), assessed in L3 leaf after one application (A)

Target	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control						No of trials where FF-075 is >, <, = compared to Pro-line
						FF-075 at 1.0 l/ha			Proline at 0.8 l/ha			
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	
37-39 DA-A												
PYRNTE	LEAF2	1	0.2	-	-	100.0	-	-	50.0	-	-	1 trial > 0 trials = 0 trials <
PYRNTE	LEAF3	1	0.7	-	-	85.7	-	-	71.4	-	-	1 trial > 0 trials = 0 trials <

Conclusions

The presented results show the leaf pathogen PYRNTE was susceptible to FF-075 applied at 1.0 l/ha (at the A timing) in the EPPO Maritime zone when considering severity as the parameter of comparison. The effect of FF-075 was statistically comparable to superior to that of the reference product (Pro-line) in all trials presented.

Overall, the effect observed after one application of FF-075 along the crop life cycle of spring cereals at 1.0 l/ha is recommended in the EPPO Maritime zone as an effective to highly effective protective treatment to prevent PYRNTE under a wide range of environmental conditions. It's performance, furthermore, is comparable to the effect observed after using the commercial treatments.

Green leaf area (%GRNARE)

% of green Leaf Area (GRNARE)

Plant C (% of green leaf area-GRNARE) at A

In Table 3.2-92, a summary of the green leaf area of the plants (Plant C) after application of various treatments to prevent disease progress in two trials is shown. The assessment was carried out 43-61 days after the application (DA-A).

Table 3.2-92: Summary of the efficacy results of FF-075 used as preventive fungicide against several pathogens in spring cereals (EPPO Maritime zone), concerning percentage of green leaf area assessed in plant after one application (aimed A).

Target	Number of trials	Infestation of the untreated control (% GRNARE)			% control									No of trials where FF-075 is >, <, = compared to Amistar	No of trials where FF-075 is >, <, = compared to Proline
					FF-075 at 1.0 l/ha			Amistar at 0.6 l/ha			Proline at 0.8 l/ha				
		Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
43-61 DA-A															
Overall	2	50.4	50.4	41.3 - 59.5	74.3	74.3	60.8 - 87.8	72.0	-	-	58.0	-	-	- - -	- - -
Overall	1	59.5	-	-	60.8	-	-	-	-	-	58.0	-	-	1 trial > 0 trials = 0 trials <	- - -
Overall	1	41.3	-	-	87.8	-	-	72.0	-	-	-	-	-	- - -	0 trials > 1 trial = 0 trials <

Conclusion

One application of FF-075 at 1.0 l/ha maintained the % of green leaf area in the treated field since this value was significantly superior to that observed in the untreated control in all assessed trials. Moreover, the effect was statistically comparable or even superior as compared with the effect observed in the areas treated under Curbatur/Proline and Amistar respectively.

Considering the mentioned effect, the application of FF-075 after one application (A) along the crop life cycle of winter cereals at 1.0 l/ha is recommended in the EPPO Maritime zone as an effective fungicide that significantly preserves the % of GRNARE of the crop under a wide range of environmental conditions.

One application on spring cereals (B)

Pest Severity (efficacy)

ERYSGR

% of control of Pest Severity (PESSEV)

Leaf level 1-3 (L1-L3) (% of control of pest severity)

In Table 3.2-93, a summary of the efficacy results for L1 - L3 in one to two trials is presented.

Table 3.2-93: Summary of the efficacy results of FF-075 used as preventive fungicide in spring cereals (HORVS and TRZAS) (EPPO Maritime zone), concerning % of control of *Blumeria graminis* (ERYSGR) in terms of % of severity (PESSEV), assessed in L1-L3 leaves after one application (B)

Target	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control									No of trials where FF-075 is >, <, = compared to Amistar	No of trials where FF-075 is >, <, = compared to Proline
						FF-075 at 1.0 l/ha			Amistar at 0.6 l/ha			Proline at 0.8 l/ha				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
21-22 DA-B																
ERYSGR	LEAF2	1	1.5	-	-	100.0	-	-	-	-	-	60.0	-	-	-	-
ERYSGR	LEAF2	1	1.5	-	-	100.0	-	-	-	-	-	60.0	-	-	-	1 trial > 0 trials = 0 trials <
ERYSGR	LEAF3	2	9.0	9.0	2.3 - 15.6	100.0	100.0	100.0 - 100.0	97.0	-	-	100.0	-	-	-	-
ERYSGR	LEAF3	1	15.6	-	-	100.0	-	-	97.0	-	-	-	-	-	0 trials > 1 trial = 0 trials <	-
ERYSGR	LEAF3	1	2.3	-	-	100.0	-	-	-	-	-	100.0	-	-	-	0 trials > 1 trial = 0 trials <
28-43 DA-B																
ERYSGR	LEAF1	1	4.6	-	-	84.0	-	-	62.0	-	-	-	-	-	-	-
ERYSGR	LEAF1	1	4.6	-	-	84.0	-	-	62.0	-	-	-	-	-	0 trials > 1 trial =	-

Target	Grouping	Number of trials	Infestation of the untreated control (% BESSEVA)			% control									No of trials where EF = 0 trials <	No of trials where EF = -
ERYSGR	LEAF2	2	5.8	5.8	1.5 - 10.1	99.0	99.0	98.0 - 100.0	83.0	-	-	100.0	-	-	-	-
ERYSGR	LEAF2	1	10.1	-	-	98.0	-	-	83.0	-	-	-	-	-	0 trials > 1 trial = 0 trials <	- - -
ERYSGR	LEAF2	1	1.5	-	-	100.0	-	-	-	-	-	100.0	-	-	-	0 trials > 1 trial = 0 trials <
ERYSGR	LEAF3	2	13.6	13.6	4.3 - 22.8	99.0	99.0	98.0 - 100.0	100.0	-	-	97.7	-	-	-	-
ERYSGR	LEAF3	1	22.8	-	-	98.0	-	-	100.0	-	-	-	-	-	0 trials > 1 trial = 0 trials <	- - -
ERYSGR	LEAF3	1	4.3	-	-	100.0	-	-	-	-	-	97.7	-	-	-	0 trials > 1 trial = 0 trials <

Conclusion

According to the presented results, the leaf pathogen ERYSGR resulted susceptible to FF-075 applied at a rate of 1.00 l/ha in the EPPO Maritime zone when considering % of severity as the parameter of comparison. Furthermore, the test product displayed equivalent (as compared with Amistar and pro-line) control as the observed after the application of the reference products.

Considering the effect observed after the application of FF-075 at B along the crop life cycle of winter cereals at a rate of 1.00 l/ha is recommended in the EPPO Maritime zone as an effective protective fungicide against ERYSGH under a wide range of environmental conditions since progression of the disease was held in the field even if high incidence was observed.

PUCCHD

% of control of Pest Severity (PESSEV)

Leaf level 1- 3 (L1-L3) (% of control of pest severity)

In Table 3.2-94, a summary of the efficacy results for L1 L3 in one trial is presented. .

Table 3.2-94: Summary of the efficacy results of FF-075 used as preventive fungicide in spring cereals (HORVS and TRZAS) (EPPO Maritime zone), concerning % of control of *Puccinia hordei* (PUCCHD) in terms of % of severity (PESSEV), assessed in L1- L3 leaves after one application (B)

Target	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control						No of trials where FF-075 is >, <, = compared to Pro-line
						FF-075 at 1.0 l/ha			Proline at 0.8 l/ha			
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	
21-22 DA-B												
PUCCHD	LEAF3	1	2.8	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <
28-43 DA-B												
PUCCHD	LEAF1	1	0.6	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <
PUCCHD	LEAF2	1	3.6	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <
PUCCHD	LEAF3	1	5.9	-	-	98.3	-	-	98.3	-	-	0 trials > 1 trial = 0 trials <

Conclusion

According to the presented results, the leaf pathogen PUCCHD resulted susceptible to FF-075 applied at a rate of 1.00 l/ha in the EPPO Maritime zone when considering % of severity as the parameter of comparison. Furthermore, the test product displayed equivalent (as compared with Amistar and proline) control as the observed after the application of the reference products.

Considering the effect observed after the application of FF-075 at B along the crop life cycle of winter cereals at a rate of 1.00 l/ha is recommended in the EPPO Maritime zone as an effective protective fungicide against PUCCHD under a wide range of environmental conditions since progression of the disease was held in the field even if high incidence was observed.

PYRNTE

% of control of Pest Severity (PESSEV)

Leaf level 1-3 (L1-L3) (% of control of pest severity) one application

In Table 3.2-95 a summary of the efficacy results for leaf levels L1-L3 of spring cereals in one trial is presented. Assessments shown were carried out at 21-22 and 28-43 days after the application (since timed at B, later within the recommended application BBCH range, named as DA-B).

Table 3.2-95: Summary of the efficacy results of FF-075 used as preventive fungicide in spring cereals (HORVS and TRZAS) (EPPO Maritime zone), concerning % of control of *Pyrenophora teres* (PYRNTE) in terms of % of severity (PESSEV), assessed in L1-L3 leaves after one application (B)

Target	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control						No of trials where FF-075 is >, <, = compared to Pro-line
						FF-075 at 1.0 l/ha			Proline at 0.8 l/ha			
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	
21-22 DA-B												
PYRNTE	LEAF2	1	0.2	-	-	100.0	-	-	50.0	-	-	1 trial > 0 trials = 0 trials <
PYRNTE	LEAF3	1	0.7	-	-	85.7	-	-	57.1	-	-	0 trials > 1 trial = 0 trials <
28-43 DA-B												
PYRNTE	LEAF1	1	0.3	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <
PYRNTE	LEAF2	1	1.3	-	-	76.9	-	-	92.3	-	-	0 trials > 1 trial = 0 trials <
PYRNTE	LEAF3	1	2.9	-	-	82.8	-	-	79.3	-	-	0 trials > 1 trial = 0 trials <

Conclusions

The presented results show the leaf pathogen PYRNTE was moderately susceptible (after assessment of L2 in the 2nd assessment) to susceptible (L2 and L3-1st assessment and L1 and L3-2nd assessment) to FF-075 applied at 1.0 l/ha (at the B timing) in the EPPO Maritime zone when considering severity as the parameter of comparison. The effect of FF-075 was statistically comparable to superior to that of the reference product (Proline) in all trials presented.

Overall, the effect observed after one application of FF-075 along the crop life cycle of spring cereals at 1.0 l/ha is recommended in the EPPO Maritime zone as an effective to highly effective protective treatment to prevent PYRNTE under a wide range of environmental conditions. It's performance, furthermore, is comparable to the effect observed after using the commercial treatments.

Green leaf area (%GRNARE)

% of green Leaf Area (GRNARE)

Plant C (% of green leaf area-GRNARE) at B

In Table 3.2-96, a summary of the green leaf area of the plants (Plant C) after application of various treatments to prevent disease progress in two trials is shown. The assessment was carried out 28-43 days after the application (DA-B).

Table 3.2-96: Summary of the efficacy results of FF-075 used as preventive fungicide against several pathogens in spring cereals (HORVS and TRZAS) (EPPO Maritime zone), concerning percentage of green leaf area assessed in plant after one application (aimed B).

Target	Number of trials	Infestation of the untreated control (% GRNARE)			% control									No of trials where FF-075 is >, <, = compared to Amistar	No of trials where FF-075 is >, <, = compared to Proline
					FF-075 at 1.0 l/ha			Amistar at 0.6 l/ha			Proline at 0.8 l/ha				
		Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
28-43 DA-B															
Overall	2	50.4	50.4	41.3 - 59.5	73.7	73.7	59.0 - 88.3	93.5	-	-	61.3	-	-	- - -	- - -
Overall	1	59.5	-	-	59.0	-	-	-	-	-	61.3	-	-	0 trials > 1 trial = 0 trials <	- - -
Overall	1	41.3	-	-	88.3	-	-	93.5	-	-	-	-	-	- - -	0 trials > 1 trial = 0 trials <

Conclusion

The use of FF-075 in application at 1.0 l/ha successfully permitted the preservation the % of green leaf area in the treated field since this value was significantly superior to that observed in the untreated control. Moreover, the effect was statistically comparable to the values of the reference products tested (Amistar and Proline).

Considering the mentioned effect, the application of FF-075 after one application (B) along the crop life cycle of spring cereals at a rate of 1.00 l/ha is recommended in the EPPO Maritime zone as an effective protective fungicide that significantly preserves the % of GRNARE of the crop under a wide range of environmental conditions.

One application on spring cereals (A)

After the use of FF-075 as a preventative fungicide treatment in spring cereals (HORVS and TRZAS) after one application it was evident the following results (overall sensitivity of the pathogen per assessed plant part is shown in Table 3.2-97).

ERYSGR

The leaf pathogen ERYSGR resulted susceptible to FF-075 applied at a rate of 1.00 l/ha in the EPPO Maritime zone when considering % of severity as the parameter of comparison. Furthermore, the test product displayed equivalent (as compared with Amistar and proline) control as the observed after the application of the reference products.

PUCCHD

The leaf pathogen PUCCHD resulted susceptible to FF-075 applied at a rate of 1.00 l/ha in the EPPO Maritime zone when considering % of severity as the parameter of comparison. Furthermore, the test product displayed equivalent (as compared with Amistar and Proline) control as the observed after the application of the reference products.

PYRNTE

The leaf pathogen PYRNTE was susceptible to FF-075 applied at 1.0 l/ha (at the A timing) in the EPPO Maritime zone when considering severity as the parameter of comparison. The effect of FF-075 was statistically comparable to superior to that of the reference product (Proline) in all trials presented.

Table 3.2-97 Overall control level of FF-075 against ERYSGR, PUCHD and PYRNTE after one application (A) in spring cereals in the EPPO Maritime zone (in brackets assessed plant parts)

Susceptible	≥ 80.0%	ERYSGR (L3), PUCCHD (L3), PYRNTE (L2-L3)
Moderately susceptible	60.0 – 79.9%	-
Moderately tolerant	40.0 – 59.9%	-
Tolerant	≤ 39.9%	-

Finally, the use of FF-075 permitted to preserve % of green leaf area in the treated crops after the application. Moreover, the effect was statistically comparable to that of the commercial treatment (Proline).

One application on spring cereals (B)

After the use of FF-075 as a preventative fungicide treatment in spring cereals (HORVS and TRZAS) after one application it was evident the following results (overall sensitivity of the pathogen per assessed plant part is shown in Table 3.2-98).

ERYSGR

The leaf pathogen ERYSGR resulted susceptible to FF-075 applied at a rate of 1.00 l/ha in the EPPO Maritime zone when considering % of severity as the parameter of comparison. Furthermore, the test product displayed equivalent (as compared with Amistar and proline) control as the observed after the application of the reference products.

PUCCHD

The leaf pathogen PUCCHD resulted susceptible to FF-075 applied at a rate of 1.00 l/ha in the EPPO Maritime zone when considering % of severity as the parameter of comparison. Furthermore, the test product displayed equivalent (as compared with Amistar and proline) control as the observed after the application of the reference products.

PYRNTE

The leaf pathogen PYRNTE was moderately susceptible (after assessment of L2 in the 2nd assessment) to susceptible (L2 and L3-1st assessment and L1 and L3-2nd assessment) to FF-075 applied at 1.0 l/ha (at the B timing) in the EPPO Maritime zone when considering severity as the parameter of comparison. The effect of FF-075 was statistically comparable to superior to that of the reference product (Proline) in all trials presented.

Table 3.2-98: Overall control level of FF-075 against PYRNTE after one application (B) in spring cereals in the EPPO Maritime zone (in brackets assessed plant parts)

Susceptible	≥ 80.0%	ERYSGR (I1-L3), PUCCHD (L1-L3), PYRNTE (L1; L3)
Moderately susceptible	60.0 – 79.9%	PYRNTE (L2)
Moderately tolerant	40.0 – 59.9%	-
Tolerant	≤ 39.9%	-

Finally, the use of FF-075 permitted to preserve % of green leaf area in the treated crops after the application. Moreover, the effect was statistically comparable to that of the commercial treatment (Proline).

Oilseed rape

Material and methods

In total, four field trials were carried out in Germany (2), United Kingdom (1) and Ireland (1) during 2020 (4), to assess the efficacy of the foliar preventative fungicide FF-075 against SCLESC (4 trials) in winter oilseed rape (BRSNW). The trials were carried out according to GEP by officially recognised testing organisations and the guideline(s) EPPO PP 1/135(4), PP 1/152(4), PP 1/181(4), PP 1/225(2) and EPPO PP 1/26(2) were used.

Detailed information on the experiments and application methods is given in Table 3.2-99. For further information on the reference product(s) please refer to Table 3.2-8.

As the application of FF-075 is recommended as a preventive treatment against the infection of the mentioned pathogens, low infestation levels of the untreated control were also considered for the assessment of efficacy. Data supporting the effect of one application is presented. In presented trials, the application took place at BBCH 65 in all cases.

In case of no infestation during one assessment or in a whole trial, the data was excluded. Data presented corresponds to the assessment carried out on infected stems (25 at least per plot) as percentage at BBCH growth stages 50-85 (optimal 79-85). The parameter assessed was efficacy (percentage of control) expressed as the percentage of infestation as well-known as percentage of severity (PESSEV).

Table 3.2-99: Experimental details and application methods in the efficacy trials with FF-075 against SCLESC in winter oilseed rape in the EPPO Maritime zone (numerals in brackets indicate the number of trials, except for the information on guidelines)

Total number of trials		<u>4</u>
Guidelines	General guidelines	EPPO PP 1/135(4), PP 1/152(4), PP 1/181(4), PP 1/225(2)
	Specific guidelines	EPPO PP 1/78(3)
	GEP	Yes (4)
Experimental design	Plot design	RCBD (4)
	Plot size	24-45 m ²
	Number of replications	4 (4)
Crop	Trials per crop	Oilseed rape (4)
	Varieties per crop	Oilseed rape: Elgar (1), Expansion (1), Trezzor (1), Windozz (1)
	Sowing period	Oilseed rape: August-September 2019
Application	Crop stage (BBCH)* at application	Oilseed rape: BBCH 65
	Timing	Post-emergence
	Pests	SCLESC (4)
	Number of applications	1 (4)
	Intervals between applications	
Assessment	Spray volumes	200 - 300 l/ha
	Assessment types	% severity, % incidence, % green leaf area
Other relevant information	Assessment dates	51-83 DA-A
	Soil type	Coarse sandy loam (1), loam (1), sandy clay loam (1), silt loam (1)
	Soil pH	pH 6.5 and n.s. (3)
	Natural/artificial inoculation	Natural (4)
	Field / Greenhouse	F (4)
Application rate of test product		0.8 L/ha product

Results

One application on oilseed rape

Pest Severity (efficacy)

SCLESC

% of control of Pest Severity (PESSEV)

Disease in stems (diseased and categorised) (% of control of pest severity)

In Table 3.2-100, a summary of the efficacy results for the sampling of stems infected (out of a sample of 25 units per plot) in oilseed rape in three trials is presented. The assessment was carried out at 51-83 days after the application.

Table 3.2-100: Summary of the efficacy results of FF-075 used as preventive fungicide in oilseed rape (BRSNW) (EPPO Maritime zone), concerning % of control of (*Sclerotinia sclerotiorum*) (SCLESC) in terms of % of severity (PESSEV), assessed in a sample of stems after one application

Target	Grouping	Number of trials	Infestation of the untreated control (PESSEV)			% control						No of trials where FF-075 is >, <, = compared to Pro-line/Curbatur	
						FF-075 at 0.8 L/ha			Curbatur/Proline at 0.7 l/ha				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
51-83 DA-A													
SCLESC	STEM	3	10.9	7.8	4.8 - 20.1	61.8	57.2	28.2 - 100.0	65.2	54.7	40.8 - 100.0	0 trials > 3 trials = 0 trials <	

Conclusions

The presented results demonstrate the plant pathogen SCLESC affecting stems to be moderately susceptible to FF-075 applied at 0.8 l/ha in the EPPO Maritime zone when considering the severity of the stem diseased. The effect of FF-075 was statistically comparable to that of the reference product (Proline) for the diseased stems.

Overall Conclusions

One application on oilseed rape

After the use of FF-075 as a preventative fungicide treatment in oilseed rape (BRSNW) after one application it was evident the following results (overall sensitivity of the pathogen per assessed plant part is shown in Table 3.2-101).

SCLESC

The pathogen resulted moderately susceptible (after assessment of stems) to FF-075 when applied once on the crop at 0.8 l/ha in the EPPO Maritime zone. Its use was comparable to the commercial treatment (Proline).

Table 3.2-101: Overall control level of FF-075 against SCLESC after the application in oilseed rape in the EPPO Maritime zone (in brackets assessed plant parts)

Susceptible	≥ 80.0%	-
Moderately susceptible	60.0 – 79.9%	SCLESC (stem, in 3 trials)
Moderately tolerant	40.0 – 59.9%	-
Tolerant	≤ 39.9%	-

3.2.3.2 EPPO North-east zone

Winter cereals

Material and methods

In total, 18 field trials were carried out in Poland during the years 2019 (1) and 2020 (17), to assess the efficacy of the foliar preventative fungicide FF-075 against ERYSGR (2 trials), PUCCHD (3 trials), PUCCRE (3 trials), PUCRR (1 trial), PUCST (1 trial), PYRNTE (7 trials), PYRNTR (1 trial), RAMUCC (2 trials), RHYNSE (2 trials), and SEPTTR (10 trials) in cereals planted in winter (HORVW, SECCW, TRZAW and TTLWI). The trials were carried out according to GEP by officially recognised testing organisations and the guideline(s) EPPO PP 1/135(4), PP 1/152(4), PP 1/181(4), PP 1/225(2) and EPPO PP 1/26(4) were used.

Detailed information on the experiments and application methods is given in Table 3.2-102. For further information on the reference product(s) please refer to Table 3.2-8.

As the application of FF-075 is recommended as a preventive treatment against the infection of the mentioned pathogens, low infestation levels of the untreated control were also considered for the assessment of efficacy. Data supporting the effect of one (A/B) or two applications (AB) is presented. Application timing named A, refers to application carried out earlier within the recommended BBCH range in which the fungicide is suggested to be used in the crop. On the contrary, timing named B, refers to applications carried out later within the recommended BBCH range in which the fungicide is recommended to be used in the crop. In presented trials, one or two applications were carried out at BBCH 30-45. For timing AB, FF-075 was used in two stepwise applications. For both applications, the same rate was used. The target rate tested was 1.0 L/ha of FF-075 in winter cereals as previously

mentioned. The applications were conducted within the growth stages described between BBCH 30-59/69. The interval between applications corresponded to 31 days.

In case of no infestation during one assessment or in a whole trial, the data was excluded. Data presented corresponds to the assessment carried out on one up to three fully developed leaves of a tiller (leaf levels) two to three weeks after each application. The leaf levels presented include leaf 1 to 3 (L1-L3). In each evaluation, the parameter assessed was efficacy (percentage of control) expressed as the percentage of infestation as well-known as percentage of severity (PESSEV). In regard to the percentage of green leaf area (GRNARE), the effect was summarized for all trials conducted for the whole set of cereals in one season (winter) after either one or two applications. Even when available, no pest incidence (PESINC) data was included. The reason for this is the strong variation on this parameter depending on the infestation of diseases presented in the crop. At times PESINC reached very high values already at early assessments, poorly reflecting the control performed for the treatments (included the reference product) as compared with the strong evidence that is obtained after the evaluation of pest severity (PESSEV) in the crop. In regard to the percentage of green leaf area (GRNARE), the effect was summarized for all trials conducted for the whole set of cereals in one season (winter).

Table 3.2-102: Experimental details and application methods in the efficacy trials with FF-075 against ERYSGR, PUCCHD, PUCCRE, PUCCR, PUCST, PYRNTE, PYRNTR, RAMUCC, RHYNSE and SEPTTR in winter cereals in the EPPO North-east zone (numerals in brackets indicate the number of trials, except for the information on guidelines)

Total number of trials		<u>18</u>
Guidelines	General guidelines	EPPO PP 1/135(4), PP 1/152(4), PP 1/181(4), PP 1/225(2)
	Specific guidelines	EPPO PP 1/26(4)
	GEP	Yes (18)
Experimental design	Plot design	RCBD (18)
	Plot size	18-30 m ²
	Number of replications	4 (18)
Crop	Trials per crop	Winter wheat (8) Winter barley (6) Winter triticale (3) Winter rye (1)
	Varieties per crop	Winter wheat: Euforia (1), Faustus (2), Hybery (2), Patras (1), Princeps (1), Toras (1) Winter barley: Gloria (3), Quadriga (1), Wootan (1), Zenek (1) Winter triticale: Meloman (2), Rotondo (1) Winter rye: Dolaro (1)
	Sowing period	Winter wheat: September 2018, September-October 2019 Winter barley: September 2019, September 2020 Winter triticale: September-October 2019 Winter rye: September 2019
Application	Crop stage (BBCH)* at application	Winter wheat: BBCH 31 - BBCH 43 Winter barley: BBCH 31 – BBCH 45 Winter triticale: BBCH 30 – BBCH 41 Winter rye: BBCH 31 – BBCH 43
	Timing Pests	Post-emergence ERYSGR (2) PUCCHD (3) PUCCRE (3) PUCCR (1) PUCST (1)

		PYRNTE (7) PYRNTR (1) RAMUCC (2) RHYNSE (2) SEPTTR (10)
	Number of applications	1 (17) however conducted at two time points in the same plot, therefore assessments at DA-B shown
	Intervals between applications	2 (1) with intervals of 31 days.
	Spray volumes	200 - 300 l/ha
Assessment	Assessment types	% severity, % incidence, % green leaf area
	Assessment dates	16-24 DA-A, 29-45 DA-A, 15-22 DA-B, 33-39 DA-B
Other relevant information	Soil type	Loamy sand (1), sandy loam (15), silty clay (2)
	Soil pH	pH 5.5 – pH 7 and n.s. (7)
	Natural/artificial inoculation	Natural (18)
	Field / Greenhouse	F (18)
	Application rate of test product	1.0 L/ha product

Results

One application on winter cereals (A)

Pest Severity (efficacy)

ERYSGR

% of control of Pest Severity (PESSEV)

Leaf level 3 (L3) (% of control of pest severity)

In Table 3.2-103, a summary of the efficacy results for L3 in one trial is presented.

Table 3.2-103: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (HORVW, SECCW, TRZAW and TTLWI) (EPPO North-east zone), concerning % of control of *Blumeria graminis* (ERYSGR) in terms of % of severity (PESSEV), assessed in L3 after one application at A

Target	Grouping	Number of trials	Infestation of the un- treated control (% PESSEV)			% control									No of trials where FF- 075 is >, <, = com- pared to Proline	No of tri- als where FF-075 is >, <, = compared to Tazer 250 SC
						FF-075 at 1.0 l/ha			Proline at 0.8 l/ha			Tazer 250 SC at 0.6 l/ha				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
29-45 DA-A																
ERYSGR	LEAF3	1	1.0	-	-	100.0	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Conclusions

The presented results show the leaf pathogen ERYSGR to be susceptible to FF-075 applied at 1.0 l/ha in the EPPO North-east zone when considering % of severity as the parameter of comparison. Furthermore, the test product displayed equivalent control as the observed after the application of Proline and Tazer 250 SC for the leaf assessed.

Considering the effect observed after the application of FF-075, one application (timing A) along the crop life cycle of winter cereals at 1.0 l/ha is recommended in the EPPO North-east zone as an effective protective fungicide against ERYSGR. It's performance, furthermore, is comparable to the effect observed after using the commercial treatments.

PUCCHD

% of control of Pest Severity (PESSEV)

Leaf level 1-3 (L1-L3) (% of control of pest severity)

In Table 3.2-104, a summary of the efficacy results for L1 to L3 in one to three trials are presented. Assessments shown were carried out at 16-24 days and 29-45 days after the application (A timing thus DA-A).

Table 3.2-104: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (HORVW, SECCW, TRZAW and TTLWI) (EPPO North-east zone), concerning % of control of *Puccinia hordei* (PUCCHD) in terms of % of severity (PESSEV), assessed in L1-L3 after one application at A

Target	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control												No of trials where FF-075 is >, <, = compared to Amistar	No of trials where FF-075 is >, <, = compared to Proline	No of trials where FF-075 is >, <, = compared to Tazer 250 SC
						FF-075 at 1.0 l/ha			Amistar at 0.6 l/ha			Proline at 0.8 l/ha			Tazer 250 SC at 0.6 l/ha					
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max			
16-24 DA-A																				
PUCCHD	LEAF3	1	0.3	-	-	89.4	-	-	-	-	-	87.5	-	-	-	-	-	-	-	-
PUCCHD	LEAF3	1	0.3	-	-	89.4	-	-	-	-	-	87.5	-	-	-	-	-	-	0 trials > 1 trial = 0 trials <	- - -
29-45 DA-A																				
PUCCHD	LEAF1	1	0.4	-	-	100.0	-	-	-	-	-	100.0	-	-	100.0	-	-	-	-	-
PUCCHD	LEAF1	1	0.4	-	-	100.0	-	-	-	-	-	100.0	-	-	100.0	-	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
PUCCHD	LEAF2	1	0.8	-	-	100.0	-	-	-	-	-	87.5	-	-	100.0	-	-	-	-	-

Target	Grouping	Number of trials	Infestation of the untreated control (%)			% control												No of trials	No of trials	No of trials
PUCCHD	LEAF2	1	0.8	-	-	100.0	-	-	-	-	-	87.5	-	-	100.0	-	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
PUCCHD	LEAF3	3	3.4	1.4	1.4 - 7.3	55.5	58.0	8.6 - 100.0	73.2	-	-	48.7	48.7	9.9 - 87.5	100.0	-	-	-	-	-
PUCCHD	LEAF3	1	1.4	-	-	58.0	-	-	73.2	-	-	-	-	-	-	-	-	0 trials > 1 trial = 0 trials <	-	-
PUCCHD	LEAF3	2	4.4	4.4	1.4 - 7.3	54.3	54.3	8.6 - 100.0	-	-	-	48.7	48.7	9.9 - 87.5	100.0	-	-	-	0 trials > 2 trials = 0 trials <	-
PUCCHD	LEAF3	1	1.4	-	-	100.0	-	-	-	-	-	87.5	-	-	100.0	-	-	-	-	0 trials > 1 trial = 0 trials <

Conclusions

The presented results show the leaf pathogen PUCCHD to be moderately tolerant (L3, 2nd assessment) or susceptible (for most of the leaves assessed, L3, 1st assessment and L1-L2, 2nd assessment) to FF-075 applied at 1.0 l/ha in the EPPO North-east zone when considering % of severity as the parameter of comparison. The differences arose after the assessment of different leaf levels (L1 to L3). The product achieved the higher control when younger leaves were assessed as expected, considering that older leaves accumulate higher volumes of disease inoculum and are more sensible. Furthermore, the test product displayed equivalent control as the observed after the application of Amistar, Proline and Tazer 250 SC for all leaves assessed.

Considering the effect observed after the application of FF-075, one application (timing A) along the crop life cycle of winter cereals at 1.0 l/ha is recommended in the EPPO North-east zone as an effective protective fungicide against PUCCHD under a wide range of environmental conditions. It's performance, furthermore, is comparable to the effect observed after using the commercial treatments.

PUCCST

% of control of Pest Severity (PESSEV)

Leaf level 2-3 (L2-L3) (% of control of pest severity)

In Table 3.2-105, a summary of the efficacy results for L2 to L3 in one trial are presented. Assessments shown were carried out at 29-45 days after the application (A timing thus DA-A).

Table 3.2-105: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (HORVW, SECCW, TRZAW and TTLWI) (EPPO North-east zone), concerning % of control of *Puccinia striiformis* (PUCCST) in terms of % of severity (PESSEV), assessed in L2-L3 after one application at A

Target	Grouping	Number of trials	Infestation of the un-treated control (% PESSEV)			% control									No of trials where FF-075 is >, <, = compared to Proline	No of trials where FF-075 is >, <, = compared to Tazer 250 SC
						FF-075 at 1.0 l/ha			Proline at 0.8 l/ha			Tazer 250 SC at 0.6 l/ha				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
29-45 DA-A																
PUCCST	LEAF2	1	0.7	-	-	100.0	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
PUCCST	LEAF3	1	2.2	-	-	100.0	-	-	95.1	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Conclusions

The presented results show the leaf pathogen Puccinia (PUCST) to be susceptible to FF-075 applied at 1.0 l/ha in the EPPO North-east zone when considering % of severity as the parameter of comparison. Furthermore, the test product displayed equivalent control as the observed after the application of Proline and Tazer 250 SC for all leaves assessed.

Considering the effect observed after the application of FF-075, one application (timing A) along the crop life cycle of winter cereals at 1.0 l/ha is recommended in the EPPO North-east zone as an effective protective fungicide against Puccinia. Its performance, furthermore, is comparable to the effect observed after using the commercial treatments.

PYRNTE

% of control of Pest Severity (PESSEV)

Leaf level 1 to 3 (L1-L3) (% of control of pest severity)

In Table 3.2-106, a summary of the efficacy results for L1 to L3 in one to five trials are presented. Assessments shown were carried out at 16-24 and 29-45 days after the application (A timing thus DA-A).

Table 3.2-106: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (HORVW, SECCW, TRZAW and TTLWI) (EPPO North-east zone), concerning % of control of *Pyrenophora teres* (PYRNTE) in terms of % of severity (PESSEV), assessed in L1-L3 after one application at A

Target	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control												No of trials where FF-075 is >, <, = compared to Amistar	No of trials where FF-075 is >, <, = compared to Proline	No of trials where FF-075 is >, <, = compared to Tazer 250 SC
						FF-075 at 1.0 l/ha			Amistar at 0.6 l/ha			Proline at 0.8 l/ha			Tazer 250 SC at 0.6 l/ha					
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max			
16-24 DA-A																				
PYRNTE	LEAF3	1	0.1	-	-	100.0	-	-	-	-	-	-	100.0	-	-	100.0	-	-	-	-
PYRNTE	LEAF3	1	0.1	-	-	100.0	-	-	-	-	-	-	100.0	-	-	100.0	-	-	-	-
29-45 DA-A																				
PYRNTE	LEAF1	1	3.5	-	-	46.4	-	-	-	-	-	-	28.0	-	-	-	-	-	-	-
PYRNTE	LEAF1	1	3.5	-	-	46.4	-	-	-	-	-	-	28.0	-	-	-	-	-	-	-
PYRNTE	LEAF2	2	2.2	2.2	0.8 - 3.5	58.0	58.0	15.9 - 100.0	-	-	-	58.4	58.4	16.7 - 100.0	100.0	-	-	-	-	-
PYRNTE	LEAF2	2	2.2	2.2	0.8 - 3.5	58.0	58.0	15.9 - 100.0	-	-	-	58.4	58.4	16.7 - 100.0	100.0	-	-	-	-	-

Target	Grouping	Number of trials	Infestation of the untreated control (%)			% control												No of trials	No of trials	No of trials
PYRNTE	LEAF2	1	0.8	-	-	100.0	-	-	-	-	-	100.0	-	-	100.0	-	-	-	-	0 trials > 1 trial = 0 trials <
PYRNTE	LEAF3	5	2.6	2.5	0.7 - 5.7	76.5	91.9	24.1 - 100.0	92.6	92.6	92.5 - 92.6	67.0	91.7	9.2 - 100.0	100.0	100.0	100.0 - 100.0	-	-	-
PYRNTE	LEAF3	2	2.1	2.1	0.7 - 3.4	79.3	79.3	66.7 - 91.9	92.6	92.6	92.5 - 92.6	-	-	-	-	-	-	0 trials > 2 trials = 0 trials <	-	-
PYRNTE	LEAF3	3	3.0	2.5	0.7 - 5.7	74.7	100.0	24.1 - 100.0	-	-	-	67.0	91.7	9.2 - 100.0	100.0	100.0	100.0 - 100.0	-	0 trials > 3 trials = 0 trials <	-
PYRNTE	LEAF3	2	1.6	1.6	0.7 - 2.5	100.0	100.0	100.0 - 100.0	-	-	-	95.9	95.9	91.7 - 100.0	100.0	100.0	100.0 - 100.0	-	-	0 trials > 2 trials = 0 trials <

Conclusions

The presented results show the leaf pathogen PYRNTE to be moderately tolerant (L1-L2, 2nd assessment) or moderately (L3, 2nd assessment) to susceptible (L3, 1st assessment) to FF-075 applied at 1.0 l/ha in the EPPO North-east zone when considering % of severity as the parameter of comparison. The differences arose after the assessment of different leaf levels (L1 to L3). The test product displayed equivalent or superior control as the observed after the application of Amistar, Proline and Tazer 250 SC for all leaves assessed.

Considering the effect observed after the application of FF-075, one application (timing A) along the crop life cycle of winter cereals at 1.0 l/ha is recommended in the EPPO North-east zone as an effective protective fungicide against PYRNTE under a wide range of environmental conditions. It's performance, furthermore, is comparable or superior to the effect observed after using the commercial treatments.

RAMUCC

% of control of Pest Severity (PESSEV)

Leaf level 3 (L3) (% of control of pest severity)

In Table 3.2-107, a summary of the efficacy results for L3 in one trial is presented. Assessments shown were carried out at 29-45 days after the application (A timing thus DA-A).

Table 3.2-107: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (HORVW, SECCW, TRZAW and TTLWI) (EPPO North-east zone), concerning % of control of *Ramularia collo-cygni* (RAMUCC) in terms of % of severity (PESSEV), assessed in L3 after one application at A

Target	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control									No of trials where FF-075 is >, <, = compared to Proline	No of trials where FF-075 is >, <, = compared to Tazer 250 SC
						FF-075 at 1.0 l/ha			Proline at 0.8 l/ha			Tazer 250 SC at 0.6 l/ha				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
29-45 DA-A																
RAMUCC	LEAF3	1	1.0	-	-	100.0	-	-	100.0	-	-	100.0	-	-	-	-
RAMUCC	LEAF3	1	1.0	-	-	100.0	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Conclusions

The presented results show the leaf pathogen RAMUCC to be susceptible to FF-075 applied at 1.0 l/ha in the EPPO North-east zone when considering % of severity as the parameter of comparison. Furthermore, the test product displayed equivalent control as the observed after the application of Proline and Tazer 250 SC for the leaf assessed.

Considering the effect observed after the application of FF-075, one application (timing A) along the crop life cycle of winter cereals at 1.0 l/ha is recommended in the EPPO North-east zone as an effective protective fungicide against RAMUCC. It's performance, furthermore, is comparable to the effect observed after using the commercial treatments.

RHYNSE

% of control of Pest Severity (PESSEV)

Leaf level 3 (L3) (% of control of pest severity)

In Table 3.2-108, a summary of the efficacy results for L3 in one trial is presented. The assessment shown was carried out at 29-45 days after the application (A timing thus DA-A).

Table 3.2-108: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (HORVW, SECCW, TRZAW and TTLWI) (EPPO North-east zone), concerning % of control of *Rhynchosporium secalis* (RHYNSE) in terms of % of severity (PESSEV), assessed in L3 after one application at A

Target	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control						No of trials where FF-075 is >, <, = compared to Amistar
						FF-075 at 1.0 l/ha			Amistar at 0.6 l/ha			
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	
29-45 DA-A												
RHYNSE	LEAF3	1	0.4	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <

Conclusions

The presented results show the leaf pathogen RHYNSE to be susceptible to FF-075 applied at 1.0 l/ha in the EPPO North-east zone when considering % of severity as the parameter of comparison. Furthermore, the test product displayed equivalent control as the observed after the application of Amistar for the leaf assessed.

Considering the effect observed after the application of FF-075, one application (timing A) along the crop life cycle of winter cereals at 1.0 l/ha is recommended in the EPPO North-east zone as an effective protective fungicide against RHYNSE. Its performance, furthermore, is comparable to the effect observed after using the commercial treatment.

SEPTTR

% of control of Pest Severity (PESSEV)

Leaf level 2 to 3 (L2-L3) (% of control of pest severity)

In Table 3.2-109, a summary of the efficacy results for L2 to L3 in one to five trials are presented. Assessments shown were carried out at 29-45 days after the application (A timing thus DA-A).

Table 3.2-109: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (HORVW, SECCW, TRZAW and TTLWI) (EPPO North-east zone), concerning % of control of *Zymoseptoria tritici* (SEPTTR) in terms of % of severity (PESSEV), assessed in L2-L3 after one application at A

Target	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control												No of trials where FF-075 is >, <, = compared to Amistar	No of trials where FF-075 is >, <, = compared to Proline	No of trials where FF-075 is >, <, = compared to Tazer 250 SC
						FF-075 at 1.0 l/ha			Amistar at 0.6 l/ha			Proline at 0.8 l/ha			Tazer 250 SC at 0.6 l/ha					
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max			
29-45 DA-A																				
SEPTTR	LEAF2	4	2.0	0.4	0.3 - 6.9	100.0	100.0	100.0 - 100.0	100.0	-	-	100.0	100.0	100.0 - 100.0	100.0	100.0	100.0 - 100.0	- - -	- - -	- - -
SEPTTR	LEAF2	1	6.9	-	-	100.0	-	-	100.0	-	-	-	-	-	-	-	-	0 trials > 1 trial = 0 trials <	- - -	- - -
SEPTTR	LEAF2	3	2.5	0.4	0.3 - 6.9	100.0	100.0	100.0 - 100.0	-	-	-	100.0	100.0	100.0 - 100.0	-	-	-	- - -	0 trials > 3 trials = 0 trials <	- - -
SEPTTR	LEAF2	2	0.4	0.4	0.3 - 0.4	100.0	100.0	100.0 - 100.0	-	-	-	100.0	-	-	100.0	100.0	100.0 - 100.0	- - -	- - -	0 trials > 2 trials = 0 trials <
SEPTTR	LEAF3	8	6.1	2.9	0.5 - 20.0	82.8	85.7	57.9 - 100.0	79.6	-	-	79.9	88.7	55.4 - 100.0	59.1	61.8	15.8 - 97.2	- - -	- - -	- - -
SEPTTR	LEAF3	1	20.0	-	-	97.9	-	-	79.6	-	-	-	-	-	-	-	-	1 trial > 0 trials = 0 trials <	- - -	- - -

Target	Grouping	Number of trials	Infestation of the untreated control			% control												No of trials	No of trials	No of trials
SEPTTR	LEAF3	5	7.0	3.1	1.0 - 20.0	88.4	94.2	72.6 - 100.0	79.6	-	-	79.9	88.7	55.4 - 100.0	67.7	-	-	-	2 trials >	-
																		-	3 trials =	-
																		-	0 trials <	-
SEPTTR	LEAF3	4	4.1	2.9	0.5 - 10.2	78.8	79.6	57.9 - 98.2	-	-	-	99.2	-	-	59.1	61.8	15.8 - 97.2	-	-	0 trials >
																		-	-	4 trials =
																		-	-	0 trials <

Conclusions

The presented results show the leaf pathogen SEPTTR to be susceptible to FF-075 applied at 1.0 l/ha in the EPPO North-east zone when considering % of severity as the parameter of comparison. The test product displayed equivalent or superior control as the observed after the application of Amistar, Pro-line and Tazer 250 SC for all leaves assessed.

Considering the effect observed after the application of FF-075, one application (timing A) along the crop life cycle of winter cereals at 1.0 l/ha is recommended in the EPPO North-east zone as an effective protective fungicide against SEPTTR under a wide range of environmental conditions. It's performance, furthermore, is comparable or superior to the effect observed after using the commercial treatments.

Green leaf area (%GRNARE)

% of green Leaf Area (GRNARE)

Plant C (% of green leaf area-GRNARE) at A

In Table 3.2-110, a summary of the green leaf area of the plants (Plant C) after application of various treatments to prevent disease progress in seventeen trials is shown. The assessment was carried out 48-89 days after the application (DA-A).

Table 3.2-110: Summary of the efficacy results of FF-075 used as preventive fungicide against several pathogens in winter cereals (HORVW, SECCW, TRZAW and TTLWI) (EPPO North-east zone), concerning percentage of green leaf area assessed in plant after one application (aimed A).

Target	Grouping	Number of trials	Infestation of the untreated control (% GRNARE)			% control												No of trials where FF-075 is >, <, = compared to Amistar	No of trials where FF-075 is >, <, = compared to Proline	No of trials where FF-075 is >, <, = compared to Tazer 250 SC
						FF-075 at 1.0 l/ha			Amistar at 0.6 l/ha			Proline at 0.8 l/ha			Tazer 250 SC at 0.6 l/ha					
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max			
48-89 DA-A																				
Overall	Winter cereals	17	49.6	46.1	10.2 - 83.6	62.9	60.6	16.6 - 97.3	52.0	40.5	19.0 - 111.8	65.2	75.7	11.5 - 89.4	74.8	80.7	47.3 - 95.5	- - -	- - -	- - -
Overall	Winter cereals	6	39.7	34.8	12.4 - 78.0	50.3	39.7	20.5 - 97.3	52.0	40.5	19.0 - 111.8	-	-	-	-	-	-	0 trials > 6 trials = 0 trials <	- - -	- - -
Overall	Winter cereals	8	59.0	69.4	10.2 - 83.6	69.3	83.7	16.6 - 96.3	-	-	-	65.2	75.7	11.5 - 89.4	-	-	-	- - -	0 trials > 8 trials = 0 trials <	- - -
Overall	Winter cereals	6	59.0	69.4	20.2 - 78.8	79.8	85.1	58.0 - 96.3	-	-	-	-	-	-	74.8	80.7	47.3 - 95.5	- - -	- - -	2 trials > 4 trials = 0 trials <

Conclusion

The use of FF-075 at 1.0 l/ha successfully maintained the % of green leaf area in the treated field since this value was significantly superior to that observed in the untreated control in all assessed trials. Moreover, the effect was statistically comparable or superior to the values of the reference products tested (Amistar, Proline and Tazer 250 SC).

Considering the mentioned effect after the application of FF-075, one application (A) along the crop life cycle of winter cereals at 1.0 l/ha is recommended in the EPPO North-east zone as an effective protective fungicide that significantly preserves the % of GRNARE of the crop under a wide range of environmental conditions.

One application on winter cereals (B)

Pest Severity (efficacy)

ERYSGR

% of control of Pest Severity (PESSEV)

Leaf level 2-3 (L2-L3) (% of control of pest severity)

In Table 3.2-111, a summary of the efficacy results for L3 in one trial is presented. Assessments shown were carried out at 18-22 and 28-37 days after the application (B timing thus DA-B).

Table 3.2-111: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (HORVW, SECCW, TRZAW and TTLWI) (EPPO North-east zone), concerning % of control of *Blumeria graminis* (ERYSGR) in terms of % of severity (PESSEV), assessed in L2-L3 after one application at B

Target	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control												No of trials where FF-075 is >, <, = compared to Amistar	No of trials where FF-075 is >, <, = compared to Proline	No of trials where FF-075 is >, <, = compared to Tazer 250 SC
						FF-075 at 1.0 l/ha			Amistar at 0.6 l/ha			Proline at 0.8 l/ha			Tazer 250 SC at 0.6 l/ha					
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max			
15-22 DA-B																				
ERYSGR	LEAF3	1	1.0	-	-	71.5	-	-	-	-	-	73.2	-	-	73.7	-	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
33-39 DA-B																				
ERYSGR	LEAF2	1	0.1	-	-	100.0	-	-	100.0	-	-	-	-	-	-	-	-	0 trials > 1 trial = 0 trials <	- - -	- - -
ERYSGR	LEAF3	1	0.5	-	-	100.0	-	-	100.0	-	-	-	-	-	-	-	-	0 trials > 1 trial = 0 trials <	- - -	- - -

Conclusions

The presented results show the leaf pathogen ERYSGR to be moderately (L3, 1st assessment) to susceptible (L2-3, 2nd assessment) to FF-075 applied at 1.0 l/ha in the EPPO North-east zone when considering % of severity as the parameter of comparison. The differences arose after the assessment of different leaf levels (L1 to L3). Furthermore, the test product displayed equivalent control as the observed after the application of Amistar, Proline and Tazer 250 SC for the leaves assessed.

Considering the effect observed after the application of FF-075, one application (timing B) along the crop life cycle of winter cereals at 1.0 l/ha is recommended in the EPPO North-east zone as an effective protective fungicide against ERYSGR. It's performance, furthermore, is comparable to the effect observed after using the commercial treatments.

PUCCHD

% of control of Pest Severity (PESSEV)

Leaf level 1-3 (L1-L3) (% of control of pest severity)

In Table 3.2-112, a summary of the efficacy results for L1 to L3 in one to three trials are presented. Assessments shown were carried out at 15-22 days and 33-39 days after the application (B timing thus DA-B).

Table 3.2-112: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (HORVW, SECCW, TRZAW and TTLWI) (EPPO North-east zone), concerning % of control of *Puccinia hordei* (PUCCHD) in terms of % of severity (PESSEV), assessed in L1-L3 after one application at B

Target	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control												No of trials where FF-075 is >, <, = compared to Amistar	No of trials where FF-075 is >, <, = compared to Proline	No of trials where FF-075 is >, <, = compared to Tazer 250 SC
						FF-075 at 1.0 l/ha			Amistar at 0.6 l/ha			Proline at 0.8 l/ha			Tazer 250 SC at 0.6 l/ha					
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max			
15-22 DA-B																				
PUCCHD	LEAF1	1	0.4	-	-	100.0	-	-	-	-	-	100.0	-	-	100.0	-	-	-	-	-
PUCCHD	LEAF1	1	0.4	-	-	100.0	-	-	-	-	-	100.0	-	-	100.0	-	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
PUCCHD	LEAF2	1	0.8	-	-	100.0	-	-	-	-	-	100.0	-	-	100.0	-	-	-	-	-
PUCCHD	LEAF2	1	0.8	-	-	100.0	-	-	-	-	-	100.0	-	-	100.0	-	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
PUCCHD	LEAF3	3	3.4	1.4	1.4 - 7.3	90.7	93.7	78.4 - 100.0	19.0	-	-	94.2	94.2	88.4 - 100.0	100.0	-	-	-	-	-
PUCCHD	LEAF3	1	1.4	-	-	78.4	-	-	19.0	-	-	-	-	-	-	-	-	1 trial > 0 trials =	-	-

Target	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control												No of trials where FF-075 is >, <, = compared to Amistar	No of trials where FF-075 is >, <, = compared to Proline	No of trials where FF-075 is >, <, = compared to Tazer 250 SC
						FF-075 at 1.0 l/ha			Amistar at 0.6 l/ha			Proline at 0.8 l/ha			Tazer 250 SC at 0.6 l/ha					
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max			
																		0 trials <	-	-
PUCCHD	LEAF3	2	4.4	4.4	1.4 - 7.3	96.9	96.9	93.7 - 100.0	-	-	-	94.2	94.2	88.4 - 100.0	-	-	-	-	0 trials > 2 trials = 0 trials <	- - -
PUCCHD	LEAF3	1	1.4	-	-	100.0	-	-	-	-	-	-	-	-	100.0	-	-	-	-	0 trials > 1 trial = 0 trials <
33-39 DA-B																				
PUCCHD	LEAF1	2	0.9	0.9	0.8 - 0.9	100.0	100.0	100.0 - 100.0	-	-	-	98.5	98.5	96.9 - 100.0	88.9	-	-	-	-	-
PUCCHD	LEAF1	2	0.9	0.9	0.8 - 0.9	100.0	100.0	100.0 - 100.0	-	-	-	98.5	98.5	96.9 - 100.0	-	-	-	-	0 trials > 2 trials = 0 trials <	- - -
PUCCHD	LEAF1	1	0.9	-	-	100.0	-	-	-	-	-	-	-	-	88.9	-	-	-	-	0 trials > 1 trial = 0 trials <
PUCCHD	LEAF2	2	4.4	4.4	1.3 - 7.5	97.0	97.0	93.9 - 100.0	-	-	-	94.4	94.4	88.8 - 100.0	100.0	-	-	-	-	-
																		-	0 trials >	-

Target	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control												No of trials where FF-075 is >, <, = compared to Amistar	No of trials where FF-075 is >, <, = compared to Proline	No of trials where FF-075 is >, <, = compared to Tazer 250 SC
						FF-075 at 1.0 l/ha			Amistar at 0.6 l/ha			Proline at 0.8 l/ha			Tazer 250 SC at 0.6 l/ha					
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max			
PUCCHD	LEAF2	2	4.4	4.4	1.3 - 7.5	97.0	97.0	93.9 - 100.0	-	-	-	94.4	94.4	88.8 - 100.0	-	-	-	-	2 trials = - 0 trials <	- -
PUCCHD	LEAF2	1	1.3	-	-	100.0	-	-	-	-	-	-	-	-	100.0	-	-	-	-	0 trials > 1 trial = 0 trials <

Conclusion

The presented results show the leaf pathogen PUCCHD to be susceptible (for all the leaves assessed at both assessments) to FF-075 applied at 1.0 l/ha in the EPPO North-east zone when considering % of severity as the parameter of comparison. The differences arose after the assessment of different leaf levels (L1 to L3). The product achieved the higher control when younger leaves were assessed as expected, considering that older leaves accumulate higher volumes of disease inoculum and are more sensible. Furthermore, the test product displayed equivalent or superior control as the observed after the application of Amistar, Proline and Tazer 250 SC for all leaves assessed.

Considering the effect observed after the application of FF-075, one application (timing B) along the crop life cycle of winter cereals at 1.0 l/ha is recommended in the EPPO North-east zone as an effective protective fungicide against PUCCHD under a wide range of environmental conditions. It's performance, furthermore, is comparable to the effect observed after using the commercial treatments.

PUCCRE

% of control of Pest Severity (PESSEV)

Leaf level 1-3 (L1-L3) (% of control of pest severity) one application

In Table 3.2-113, a summary of the efficacy results for leaf levels L1-L3 of winter cereals in one to two trials is presented. Assessments shown were carried out at 15-22 and 33-39 days after the application (since timed at B, later within the recommended application BBCH range, named as DA-B

Table 3.2-113: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (HORVW, SECCW, TRZAW and TTLWI) (EPPO North-east zone), concerning % of control of *Puccinia recondita* (PUCCRE) in terms of % of severity (PESSEV), assessed in L1-L3 leaves after one application (B)

Target	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control									No of trials where FF-075 is >, <, = compared to Proline	No of trials where FF-075 is >, <, = compared to Tazer 250 SC
						FF-075 at 1.0 l/ha			Proline at 0.8 l/ha			Tazer 250 SC at 0.6 l/ha				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
15-22 DA-B																
PUCCRE	LEAF2	1	0.1	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-
PUCCRE	LEAF2	1	0.1	-	-	100.0	-	-	-	-	-	100.0	-	-	-	0 trials > 1 trial = 0 trials <
PUCCRE	LEAF3	2	0.9	0.9	0.9 - 0.9	100.0	100.0	100.0 - 100.0	100.0	-	-	100.0	-	-	-	-
PUCCRE	LEAF3	1	0.9	-	-	100.0	-	-	100.0	-	-	-	-	-	0 trials > 1 trial = 0 trials <	-
PUCCRE	LEAF3	1	0.9	-	-	100.0	-	-	-	-	-	100.0	-	-	-	0 trials > 1 trial = 0 trials <
33-39 DA-B																
PUCCRE	LEAF1	2	5.3	5.3	5.1 - 5.4	100.0	100.0	100.0 - 100.0	100.0	-	-	100.0	-	-	-	-

Target	Grouping	Number of trials	Infestation of the untreated control (0% PPM/PPM)			% control									No of trials > 1 trial = 0 trials <	No of trials > 1 trial = 0 trials <
			1.2	1.3	1.4	100.0	100.0	100.0 - 100.0	100.0	100.0	100.0	100.0	100.0	100.0		
PUCCRE	LEAF1	1	5.1	-	-	100.0	-	-	100.0	-	-	-	-	-	0 trials > 1 trial = 0 trials <	- - -
PUCCRE	LEAF1	1	5.4	-	-	100.0	-	-	-	-	-	100.0	-	-	- - -	0 trials > 1 trial = 0 trials <
PUCCRE	LEAF2	2	1.2	1.2	0.5 - 1.8	100.0	100.0	100.0 - 100.0	100.0	-	-	100.0	-	-	- - -	- - -
PUCCRE	LEAF2	1	0.5	-	-	100.0	-	-	100.0	-	-	-	-	-	0 trials > 1 trial = 0 trials <	- - -
PUCCRE	LEAF2	1	1.8	-	-	100.0	-	-	-	-	-	100.0	-	-	- - -	0 trials > 1 trial = 0 trials <
PUCCRE	LEAF3	2	1.3	1.3	1.2 - 1.3	100.0	100.0	100.0 - 100.0	100.0	-	-	100.0	-	-	- - -	- - -
PUCCRE	LEAF3	1	1.2	-	-	100.0	-	-	100.0	-	-	-	-	-	0 trials > 1 trial = 0 trials <	- - -
PUCCRE	LEAF3	1	1.3	-	-	100.0	-	-	-	-	-	100.0	-	-	- - -	0 trials > 1 trial = 0 trials <

Conclusions

The presented results clearly demonstrate the leaf pathogen Puccinia (L1-L3 overall the evaluation) to FF-075 applied at 1.0 l/ha (at the B timing) in the EPPO North-east zone when considering severity as the parameter of comparison. Same trend was observed at both evaluated assessments. Furthermore, this was a trend observed also when evaluating the effect observed after the application of Proline and Tazer 250 SC. The effect of FF-075 was statistically comparable to that of the reference products.

Overall, the effect observed after the application of FF-075, one application along the crop life cycle of winter cereals at 1.0 l/ha is recommended in the EPPO North-east zone as a highly effective protective treatment to prevent Puccinia under a wide range of environmental conditions. Its performance, furthermore, is comparable to the effect observed after using the commercial treatments.

Puccinia

% of control of Pest Severity (PESSEV)

Leaf level 1-3 (L1-L3) (% of control of pest severity) one application

In Table 3.2-114, a summary of the efficacy results for leaf levels L1-L3 of winter cereals in one trial is presented. Assessments shown were carried out at 15-22 and 33-39 days after the application (since timed at B, later within the recommended application BBCH range, named as DA-B

Table 3.2-114: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (HORVW, SECCW, TRZAW and TTLWI) (EPPO North-east zone), concerning % of control of *Puccinia striiformis* (PUCCST) in terms of % of severity (PESSEV), assessed in L1-L3 leaves after one application (B)

Target	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control									No of trials where FF-075 is >, <, = compared to Proline	No of trials where FF-075 is >, <, = compared to Tazer 250 SC
						FF-075 at 1.0 l/ha			Proline at 0.8 l/ha			Tazer 250 SC at 0.6 l/ha				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
15-22 DA-B																
PUC CST	LEAF2	1	0.7	-	-	100.0	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
PUC CST	LEAF3	1	2.2	-	-	100.0	-	-	100.0	-	-	90.4	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
33-39 DA-B																
PUC CST	LEAF1	1	6.8	-	-	86.6	-	-	95.6	-	-	87.1	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
PUC CST	LEAF2	1	3.1	-	-	100.0	-	-	100.0	-	-	83.9	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Conclusions

The presented results demonstrate the leaf pathogen Puccinia (L2-L3, 1st assessment and L1-L2, 2nd assessment) to FF-075 applied at 1.0 l/ha (at the B timing) in the EPPO North-east zone when considering severity as the parameter of comparison. Same trend was observed at both evaluated assessments. Furthermore, this was a trend observed also when evaluating the effect observed after the application of Proline and Tazer 250 SC. The effect of FF-075 was statistically comparable to that of the reference products.

Overall, the effect observed after the application of FF-075, one application along the crop life cycle of winter cereals at 1.0 l/ha is recommended in the EPPO North-east zone as a highly effective protective treatment to prevent Puccinia under a wide range of environmental conditions. Its performance, furthermore, is comparable to the effect observed after using the commercial treatments.

PYRNTE

% of control of Pest Severity (PESSEV)

Leaf level 1-3 (L1-L3) (% of control of pest severity) one application

In Table 3.2-115, a summary of the efficacy results for leaf levels L1-L3 of winter cereals in seven trials is presented. Assessments shown were carried out at 15-22 and 33-39 days after the application (since timed at B, later within the recommended application BBCH range, named as DA-B

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Table 3.2-115: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (HORVW, SECCW, TRZAW and TTLWI) (EPPO North-east zone), concerning % of control of *Pyrenophora teres* (PYRNTE) in terms of % of severity (PESSEV), assessed in L1-L3 leaves after one application (B)

Target	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control												No of trials where FF-075 is >, <, = compared to Amistar	No of trials where FF-075 is >, <, = compared to Proline	No of trials where FF-075 is >, <, = compared to Tazer 250 SC
						FF-075 at 1.0 l/ha			Amistar at 0.6 l/ha			Proline at 0.8 l/ha			Tazer 250 SC at 0.6 l/ha					
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max			
15-22 DA-B																				
PYRNTE	LEAF1	1	3.1	-	-	88.8	-	-	-	-	-	78.4	-	-	-	-	-	-	-	-
PYRNTE	LEAF1	1	3.1	-	-	88.8	-	-	-	-	-	78.4	-	-	-	-	-	-	1 trial > 0 trials = 0 trials <	- - -
PYRNTE	LEAF2	2	2.2	2.2	0.8 - 3.5	94.6	94.6	89.1 - 100.0	-	-	-	79.6	79.6	71.7 - 87.5	100.0	-	-	- - -	- - -	- - -
PYRNTE	LEAF2	2	2.2	2.2	0.8 - 3.5	94.6	94.6	89.1 - 100.0	-	-	-	79.6	79.6	71.7 - 87.5	100.0	-	-	- - -	2 trials > 0 trials = 0 trials <	- - -
PYRNTE	LEAF2	1	0.8	-	-	100.0	-	-	-	-	-	87.5	-	-	100.0	-	-	- - -	- - -	0 trials > 1 trial = 0 trials <
PYRNTE	LEAF3	5	2.6	2.5	0.7 - 5.7	87.2	95.0	57.1 - 96.9	79.3	79.3	64.2 - 94.4	63.5	55.4	42.9 - 92.1	78.6	78.6	57.1 - 100.0	- - -	- - -	- - -
																		0 trials >	-	-

Target	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control												No of trials where FF-075 is >, <, = compared to Amistar	No of trials where FF-075 is >, <, = compared to Proline	No of trials where FF-075 is >, <, = compared to Tazer 250 SC
						FF-075 at 1.0 l/ha			Amistar at 0.6 l/ha			Proline at 0.8 l/ha			Tazer 250 SC at 0.6 l/ha					
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max			
PYRNTE	LEAF3	2	2.1	2.1	0.7 - 3.4	95.2	95.2	95.0 - 95.3	79.3	79.3	64.2 - 94.4	-	-	-	-	-	-	2 trials = 0 trials <	- -	- -
PYRNTE	LEAF3	3	3.0	2.5	0.7 - 5.7	81.9	91.7	57.1 - 96.9	-	-	-	63.5	55.4	42.9 - 92.1	78.6	78.6	57.1 - 100.0	- - -	1 trial > 2 trials = 0 trials <	- - -
PYRNTE	LEAF3	2	1.6	1.6	0.7 - 2.5	74.4	74.4	57.1 - 91.7	-	-	-	49.1	49.1	42.9 - 55.4	78.6	78.6	57.1 - 100.0	- - -	- - -	0 trials > 2 trials = 0 trials <
33-39 DA-B																				
PYRNTE	LEAF1	7	4.2	3.3	0.6 - 11.3	92.7	95.8	78.8 - 100.0	93.6	96.7	80.9 - 100.0	88.0	95.3	72.8 - 95.8	69.8	69.8	53.3 - 86.2	- - -	- - -	- - -
PYRNTE	LEAF1	4	3.0	2.0	0.6 - 7.5	96.6	100.0	86.4 - 100.0	93.6	96.7	80.9 - 100.0	-	-	-	-	-	-	0 trials > 4 trials = 0 trials <	- - -	- - -
PYRNTE	LEAF1	3	5.8	3.6	2.6 - 11.3	87.6	88.2	78.8 - 95.8	-	-	-	88.0	95.3	72.8 - 95.8	69.8	69.8	53.3 - 86.2	- - -	0 trials > 3 trials = 0 trials <	- - -
PYRNTE	LEAF1	2	3.1	3.1	2.6 - 3.6	92.0	92.0	88.2 - 95.8	-	-	-	95.6	95.6	95.3 - 95.8	69.8	69.8	53.3 - 86.2	- - -	- - -	1 trial > 1 trial = 0 trials <

Target	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control												No of trials where FF-075 is >, <, = compared to Amistar	No of trials where FF-075 is >, <, = compared to Proline	No of trials where FF-075 is >, <, = compared to Tazer 250 SC
						FF-075 at 1.0 l/ha			Amistar at 0.6 l/ha			Proline at 0.8 l/ha			Tazer 250 SC at 0.6 l/ha					
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max			
PYRNTE	LEAF2	7	11.2	6.9	2.0 - 35.4	92.2	94.6	81.2 - 97.1	88.5	87.2	84.2 - 95.4	88.0	89.8	74.3 - 100.0	78.3	78.3	65.4 - 91.1	- - -	- - -	- - -
PYRNTE	LEAF2	4	11.9	5.1	2.0 - 35.4	94.2	95.8	87.9 - 97.1	88.5	87.2	84.2 - 95.4	-	-	-	-	-	-	0 trials > 4 trials = 0 trials <	- - -	- - -
PYRNTE	LEAF2	3	10.3	9.4	6.5 - 14.9	89.6	93.1	81.2 - 94.6	-	-	-	88.0	89.8	74.3 - 100.0	78.3	78.3	65.4 - 91.1	- - -	0 trials > 3 trials = 0 trials <	- - -
PYRNTE	LEAF2	2	8.0	8.0	6.5 - 9.4	93.9	93.9	93.1 - 94.6	-	-	-	94.9	94.9	89.8 - 100.0	78.3	78.3	65.4 - 91.1	- - -	- - -	1 trial > 1 trial = 0 trials <
PYRNTE	LEAF3	3	13.8	13.0	7.9 - 20.4	72.7	92.6	32.8 - 92.7	73.1	86.8	44.2 - 88.3	-	-	-	-	-	-	- - -	- - -	- - -
PYRNTE	LEAF3	3	13.8	13.0	7.9 - 20.4	72.7	92.6	32.8 - 92.7	73.1	86.8	44.2 - 88.3	-	-	-	-	-	-	0 trials > 2 trials = 1 trial <	- - -	- - -

Conclusions

The presented results demonstrate the leaf pathogen PYRNTE to be moderately susceptible (L3, 2nd assessment) to susceptible (L1-L3, 1st assessment and L1-L2, 2nd assessment; most of all the trials) to FF-075 applied at 1.0 l/ha (at the B timing) in the EPPO North-east zone when considering severity as the parameter of comparison. Same trend was observed at both evaluated assessments. Furthermore, this was a trend observed also when evaluating the effect observed after the application of Proline and Tazer 250 SC. The effect of FF-075 was statistically comparable or superior to that of the reference products in most of the trials presented.

Overall, the effect observed after one application of FF-075 along the crop life cycle of winter cereals at 1.0 l/ha is recommended in the EPPO North-east zone as a highly effective protective treatment to prevent PYRNTE under a wide range of environmental conditions. It's performance, furthermore, is comparable to the effect observed after using the commercial treatments.

PYRNTR

% of control of Pest Severity (PESSEV)

Leaf level 1-2 (L1-L2) (% of control of pest severity) one application

In Table 3.2-116, a summary of the efficacy results for leaf levels L1-L2 of winter cereals in one trial is presented. Assessments shown were carried out 33-39 days after the application (B timing thus DA-B).

Table 3.2-116: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (HORVW, SECCW, TRZAW and TTLWI) (EPPO North-east zone), concerning % of control of *Pyrenophora tritici-repentis* (PYRNTR) in terms of % of severity (PESSEV), assessed in L1-L2 leaves after one application (B)

Target	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control						No of trials where FF-075 is >, <, = compared to Pro-line
						FF-075 at 1.0 l/ha			Proline at 0.8 l/ha			
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	
33-39 DA-B												
PYRNTR	LEAF1	1	5.0	-	-	62.1	-	-	64.5	-	-	0 trials > 1 trial = 0 trials <
PYRNTR	LEAF2	1	8.1	-	-	79.7	-	-	80.7	-	-	0 trials > 1 trial = 0 trials <

Conclusion

The presented results clearly demonstrate the leaf pathogen PYRNTR was moderately susceptible to FF-075 applied at 1.0 l/ha in the EPPO North-east zone when considering severity as the parameter of comparison. The test product displayed equivalent control as the observed after the application of Pro-line in all assessed leaves.

Considering the effect observed after the application of FF-075, one application (timing B) along the crop life cycle of winter cereals at 1.0 l/ha is recommended in the EPPO North-east zone as an effective protective fungicide against PYRNTR under a wide range of environmental conditions. It's performance, furthermore, is comparable to the effect observed after using the commercial treatment.

RAMUCC

% of control of Pest Severity (PESSEV)

Leaf level 1 to 3 (L1-L3) (% of control of pest severity)

In Table 3.2-117, a summary of the efficacy results for L1 to L3 in one to two trials are presented. Assessments shown were carried out at 15-22 and 29-45 days after the application (B timing thus DA-B).

Table 3.2-117: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (HORVW, SECCW, TRZAW and TTLWI) (EPP0 North-east zone), concerning % of control of *Ramularia collo-cygni* (RAMUCC) in terms of % of severity (PESSEV), assessed in L1-L3 after one application at B

[illegible]

Target	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control												No of trials	No of trials	No of trials
RAMUCC	LEAF2	2	4.4	4.4	3.8 - 5.0	90.0	90.0	83.2 - 96.8	94.5	-	-	80.6	-	-	85.9	-	-	-	-	-
RAMUCC	LEAF2	1	3.8	-	-	96.8	-	-	94.5	-	-	-	-	-	-	-	-	0 trials > 1 trial = 0 trials <	- - -	- - -
RAMUCC	LEAF2	1	5.0	-	-	83.2	-	-	-	-	-	80.6	-	-	85.9	-	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Conclusions

The presented results show the leaf pathogen RAMUCC to be moderately tolerant (L1, 2nd assessment) or susceptible (for most of the leaves assessed, L3, 1st assessment and L2, 2nd assessment) to FF-075 applied at 1.0 l/ha in the EPPO North-east zone when considering % of severity as the parameter of comparison. The differences arose after the assessment of different leaf levels (L1 to L3). The test product displayed equivalent control as the observed after the application of Amistar, Proline and Tazer 250 SC for all leaves assessed.

Considering the effect observed after the application of FF-075, one application (timing B) along the crop life cycle of winter cereals at 1.0 l/ha is recommended in the EPPO North-east zone as an effective protective fungicide against SEPTTR under a wide range of environmental conditions. Its performance, furthermore, is comparable or superior to the effect observed after using the commercial treatments.

RHYNSE

% of control of Pest Severity (PESSEV)

Leaf level 2-3 (L2-L3) (% of control of pest severity) one application

In Table 3.2-118, a summary of the efficacy results for leaf levels L2-L3 of winter cereals in one trial is presented. Assessments shown were carried out at 15-22 and 33-39 days after the application (since timed at B, later within the recommended application BBCH range, named as DA-B).

Table 3.2-118: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (HORVW, SECCW, TRZAW and TTLWI) (EPPO North-east zone), concerning % of control of *Rhynchosporium secalis* (RHYNSE) in terms of % of severity (PESSEV), assessed in L2-L3 leaves after one application (B)

Target	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control						No of trials where FF-075 is >, <, = compared to Amistar
						FF-075 at 1.0 l/ha			Amistar at 0.6 l/ha			
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	
15-22 DA-B												
RHYNSE	LEAF3	1	0.4	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <
33-39 DA-B												
RHYNSE	LEAF2	1	0.7	-	-	100.0	-	-	88.1	-	-	0 trials > 1 trial = 0 trials <
RHYNSE	LEAF3	1	4.2	-	-	70.2	-	-	68.3	-	-	0 trials > 1 trial = 0 trials <

Conclusions

The presented results demonstrate the leaf pathogen RHYNSE was moderately susceptible (L3, 2nd assessment) to susceptible L3, 1st assessment and L2, 2nd assessment) to FF-075 applied at 1.0 l/ha (at the B timing) in the EPPO North-east zone when considering severity as the parameter of comparison. Same trend was observed at both evaluated assessments. Furthermore, this was a trend observed also when evaluating the effect observed after the application of Amistar. The effect of FF-075 was statistically comparable to that of the reference product tested.

Overall, the effect observed after one application of FF-075 along the crop life cycle of winter cereals at 1.0 l/ha is recommended in the EPPO North-east zone as a highly effective protective treatment to prevent RHYNSE under a wide range of environmental conditions. It's performance, furthermore, is comparable to the effect observed after using the commercial treatment.

SEPTTR

% of control of Pest Severity (PESSEV)

Leaf level 1-3 (L1-L3) (% of control of pest severity) one application

In Table 3.2-119, a summary of the efficacy results for leaf levels L1-L3 of winter cereals in eight to three trials is presented. Assessments shown were carried out at 15-22 and 33-39 days after the application (since timed at B, later within the recommended application BBCH range, named as DA-B).

Table 3.2-119: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (HORVW, SECCW, TRZAW and TTLWI) (EPPO North-east zone), concerning % of control of *Zymoseptoria tritici* (SEPTTR) in terms of % of severity (PESSEV), assessed in L1-L3 leaves after one application (B)

Target	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control												No of trials where FF-075 is >, <, = compared to Amistar	No of trials where FF-075 is >, <, = compared to Proline	No of trials where FF-075 is >, <, = compared to Tazer 250 SC
						FF-075 at 1.0 l/ha			Amistar at 0.6 l/ha			Proline at 0.8 l/ha			Tazer 250 SC at 0.6 l/ha					
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max			
15-22 DA-B																				
SEPTTR	LEAF1	3	1.5	0.3	0.2 - 3.9	99.6	100.0	98.7 - 100.0	-	-	-	100.0	-	-	98.8	98.8	97.5 - 100.0	- - -	- - -	- - -
SEPTTR	LEAF1	1	0.3	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	- - -	0 trials > 1 trial = 0 trials <	- - -
SEPTTR	LEAF1	2	2.1	2.1	0.2 - 3.9	99.4	99.4	98.7 - 100.0	-	-	-	-	-	-	98.8	98.8	97.5 - 100.0	- - -	- - -	0 trials > 2 trials = 0 trials <
SEPTTR	LEAF2	6	7.2	6.2	0.4 - 15.4	74.2	74.7	36.0 - 100.0	-	-	-	71.2	86.3	27.3 - 100.0	68.5	65.0	44.1 - 100.0	- - -	- - -	- - -
SEPTTR	LEAF2	3	3.7	3.5	0.4 - 7.3	71.8	79.4	36.0 - 100.0	-	-	-	71.2	86.3	27.3 - 100.0	100.0	-	-	- - -	0 trials > 3 trials = 0 trials <	- - -
SEPTTR	LEAF2	4	8.1	8.2	0.4 - 15.4	82.4	81.3	67.0 - 100.0	-	-	-	100.0	-	-	68.5	65.0	44.1 - 100.0	- - -	- - -	1 trial > 3 trials =

Target	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control												No of trials -	No of trials -	No of trials 0 trials <
SEPTTR	LEAF3	8	22.3	15.3	0.3 - 70.8	66.7	73.6	22.2 - 100.0	100.0	-	-	69.2	69.4	37.9 - 100.0	39.8	34.5	22.6 - 67.7	-	-	-
SEPTTR	LEAF3	1	0.3	-	-	100.0	-	-	100.0	-	-	-	-	-	-	-	-	0 trials > 1 trial = 0 trials <	-	-
SEPTTR	LEAF3	4	8.7	8.8	1.0 - 16.1	69.8	73.6	31.9 - 100.0	-	-	-	69.2	69.4	37.9 - 100.0	67.7	-	-	-	0 trials > 4 trials = 0 trials <	-
SEPTTR	LEAF3	4	36.7	36.4	3.1 - 70.8	59.9	65.8	22.2 - 85.9	-	-	-	76.9	-	-	39.8	34.5	22.6 - 67.7	-	-	2 trials > 2 trials = 0 trials <
33-39 DA-B																				
SEPTTR	LEAF1	7	6.0	3.0	0.9 - 15.9	75.3	86.4	24.0 - 100.0	-	-	-	72.1	84.4	19.7 - 100.0	70.5	84.3	17.8 - 95.8	-	-	-
SEPTTR	LEAF1	4	4.7	2.2	0.9 - 13.6	73.7	85.5	24.0 - 100.0	-	-	-	72.1	84.4	19.7 - 100.0	73.8	-	-	-	0 trials > 4 trials = 0 trials <	-
SEPTTR	LEAF1	4	6.1	3.6	1.3 - 15.9	76.9	80.7	46.1 - 100.0	-	-	-	68.8	-	-	70.5	84.3	17.8 - 95.8	-	-	1 trial > 2 trials = 1 trial <
SEPTTR	LEAF2	8	20.0	9.5	1.9 - 57.5	64.2	71.6	39.4 - 85.7	65.2	-	-	68.3	72.0	42.3 - 86.7	54.4	62.2	13.3 - 80.1	-	-	-
																		0 trials >	-	-

Target	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control												No of trials 1 trial = 0 trials <	No of trials - -	No of trials - -
			1.9	-	-	76.7	-	-	65.2	-	-	-	-	-	-	-	-			
SEPTTR	LEAF2	1																		
SEPTTR	LEAF2	4	19.4	7.6	4.8 - 57.5	65.3	71.6	40.4 - 77.5	-	-	-	68.3	72.0	42.3 - 86.7	80.1	-	-	-	0 trials > 4 trials = 0 trials <	- - -
SEPTTR	LEAF2	4	21.6	14.0	5.7 - 52.6	62.1	61.6	39.4 - 85.7	-	-	-	62.8	-	-	54.4	62.2	13.3 - 80.1	- - -	- - -	1 trial > 3 trials = 0 trials <
SEPTTR	LEAF3	7	37.1	21.8	8.6 - 90.1	46.5	52.0	10.7 - 75.8	71.6	-	-	52.8	57.4	15.2 - 81.4	36.6	33.0	11.7 - 65.0	- - -	- - -	- - -
SEPTTR	LEAF3	1	11.5	-	-	70.7	-	-	71.6	-	-	-	-	-	-	-	-	0 trials > 1 trial = 0 trials <	- - -	- - -
SEPTTR	LEAF3	4	33.8	19.3	8.6 - 87.9	52.7	62.2	10.7 - 75.8	-	-	-	52.8	57.4	15.2 - 81.4	65.0	-	-	- - -	0 trials > 3 trials = 1 trial <	- - -
SEPTTR	LEAF3	3	43.3	23.1	16.8 - 90.1	38.7	28.0	15.8 - 72.3	-	-	-	60.7	-	-	36.6	33.0	11.7 - 65.0	- - -	- - -	1 trial > 2 trials = 0 trials <

Conclusions

The presented results indicate the leaf pathogen SEPTTR to be moderately tolerant (L3, 2nd assessment), to moderately susceptible (L2-L3, 1st assessment and L1-L2, 2nd assessment) or susceptible (L1, 1st assessment) after FF-075 was applied at 1.0 l/ha (at the B timing) in the EPPO North-east zone when considering severity as the parameter of comparison. Furthermore, this was a trend observed also when evaluating the effect observed after the application of most of the reference products tested (Tazer 250 SC performed a general low control of SEPTTR in L3) The effect of FF-075 was statistically equivalent or superior when compared to reference product tested (Amistar, Proline and Tazer 250 SC) in all presented trials.

Green leaf area (%GRNARE)

% of green Leaf Area (GRNARE)

Plant C (% of green leaf area-GRNARE) at B

In Table 3.2-120, a summary of the green leaf area of the plants (Plant C) after application of various treatments to prevent disease progress in seventeen trials is shown. The assessment was carried out 33-65 days after the application (DA-B).

Table 3.2-120: Summary of the efficacy results of FF-075 used as preventive fungicide against several pathogens in winter cereals (HORVW, SECCW, TRZAW and TTLWI) (EPPO North-east zone), concerning percentage of green leaf area assessed in plant after one application (aimed B).

Target	Number of trials	Infestation of the untreated control (% GRNARE)			% GRNARE												No of trials where FF-075 is >, <, = compared to Amistar	No of trials where FF-075 is >, <, = compared to Proline	No of trials where FF-075 is >, <, = compared to Tazer 250 SC
					FF-075 at 1.0 l/ha			Amistar at 0.6 l/ha			Proline at 0.8 l/ha			Tazer 250 SC at 0.6 l/ha					
		Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max			
33-65 DA-B																			
Overall	17	49.6	46.1	10.2 - 83.6	64.1	80.0	17.6 - 100.0	49.5	41.8	19.0 - 92.0	72.3	79.4	14.8 - 99.0	75.2	81.3	48.3 - 99.0	- - -	- - -	- - -
Overall	6	39.7	34.8	12.4 - 78.0	51.3	38.1	21.3 - 96.5	49.5	41.8	19.0 - 92.0	-	-	-	-	-	-	0 trials > 6 trials = 0 trials <	- - -	- - -
Overall	8	59.0	69.4	10.2 - 83.6	74.2	81.0	17.6 - 100.0	-	-	-	72.3	79.4	14.8 - 99.0	-	-	-	- - -	1 trial > 7 trials = 0 trials <	- - -
Overall	6	59.0	69.4	20.2 - 78.8	76.1	81.3	44.5 - 100.0	-	-	-	-	-	-	75.2	81.3	48.3 - 99.0	- - -	- - -	1 trial > 5 trials = 0 trials <

Conclusion

The use of FF-075 at 1.0 l/ha successfully maintained the % of green leaf area in the treated field since this value was significantly superior to that observed in the untreated control in all assessed trials. Moreover, the effect was statistically comparable or superior to the values of the reference products tested (Amistar, Proline and Tazer 250 SC).

Considering the mentioned effect, the application of FF-075 after one application (B) along the crop life cycle of winter cereals at 1.0 l/ha is recommended in the EPPO North-east zone as an effective protective fungicide that significantly preserves the % of GRNARE of the crop under a wide range of environmental conditions.

Two applications on winter cereals (AB)

Pest Severity (efficacy)

PUCCRE

% of control of Pest Severity (PESSEV)

Leaf level 1 to 3 (L1-L3) (% of control of pest severity)

In Table 3.2-121, a summary of the efficacy results for L1 to L3 in one trial are presented. Assessments shown were carried out at 29-45 days after first application (DA-A) and 15-22 as well as 33-39 days after the second application (DA-B).

Table 3.2-121: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (HORVW, SECCW, TRZAW and TTLWI) (EPPO North-east zone), concerning % of control of *Puccinia recondita* (PUCCRE) in terms of % of severity (PESSEV), assessed in L1-L3 after two step-wise applications (AB)

Target	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control									No of trials where FF-075 is >, <, = compared to Amistar	No of trials where FF-075 is >, <, = compared to Proline
						FF-075 at 1.0 l/ha			Amistar at 0.6 l/ha			Proline at 0.8 l/ha				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
29-45 DA-A																
PUCCRE	LEAF2	1	1.8	-	-	100.0	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
PUCCRE	LEAF3	1	6.3	-	-	100.0	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
15-22 DA-B																
PUCCRE	LEAF1	1	13.8	-	-	100.0	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
PUCCRE	LEAF2	1	20.6	-	-	100.0	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
33-39 DA-B																
PUCCRE	LEAF1	1	43.1	-	-	89.1	-	-	80.3	-	-	84.6	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Conclusions

The presented results show the leaf pathogen Puccinia to be susceptible to FF-075 applied twice at 1.0 l/ha in the EPPO North-east zone when considering % of severity as the parameter of comparison. The test product displayed equivalent control as the observed after the application of Amistar and Pro-line for all leaves assessed.

Considering the effect observed after the application of FF-075, two applications (timing AB) along the crop life cycle of winter cereals at 1.0 l/ha are recommended in the EPPO North-east zone as an effective protective fungicide against Puccinia under a wide range of environmental conditions. Its performance, furthermore, is comparable to the effect observed after using the commercial treatments.

SEPTTR

% of control of Pest Severity (PESSEV)

Leaf level 1 to 3 (L1-L3) (% of control of pest severity) at AB

In Table 3.2-122, a summary of the efficacy results for L1 to L3 in one trial is presented. Assessments shown were carried out at 29-45 days after first application (DA-A) and 15-22 days after the second application (DA-B).

Table 3.2-122: Summary of the efficacy results of FF-075 used as preventive fungicide in winter cereals (HORVW, SECCW, TRZAW and TTLWI) (EPPO North-east zone), concerning % of control of *Zymoseptoria tritici* (SEPTTR) in terms of % of incidence (PESSEV), assessed in leaf 1 to 3 (L1 to L3) after two step-wise applications (AB)

Target	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control									No of trials where FF-075 is >, <, = compared to Amistar	No of trials where FF-075 is >, <, = compared to Proline
						FF-075 at 1.0 l/ha			Amistar at 0.6 l/ha			Proline at 0.8 l/ha				
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max		
29-45 DA-A																
SEPTTR	LEAF2	1	6.9	-	-	100.0	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
SEPTTR	LEAF3	1	20.0	-	-	97.5	-	-	79.6	-	-	88.7	-	-	1 trial > 0 trials = 0 trials <	1 trial > 0 trials = 0 trials <
15-22 DA-B																
SEPTTR	LEAF1	1	11.9	-	-	95.3	-	-	52.5	-	-	81.3	-	-	1 trial > 0 trials = 0 trials <	0 trials > 1 trial = 0 trials <
SEPTTR	LEAF2	1	20.0	-	-	94.2	-	-	69.4	-	-	79.7	-	-	1 trial > 0 trials = 0 trials <	1 trial > 0 trials = 0 trials <

Conclusion

The presented results demonstrate the leaf pathogen SEPTTR was susceptible (L1-L3 overall the evaluation) to FF-075 applied at 1.0 l/ha twice in the EPPO North-east zone when considering % of severity as the parameter of comparison. This was comparable with the control observed after the application of the used reference products (Amistar and Proline) when assessing younger leaves (L1) or superior, when assessing older leaves (L2 and L3 in most of the cases).

Considering the effect observed after the application of FF-075, two applications (AB) along the crop life cycle of winter cereals at 1.0 l/ha is recommended in the EPPO North-east zone as an effective protective fungicide against SEPTTR under a wide range of environmental conditions since progression of the disease was held in the field even if high incidence was observed.

Overall Conclusions

One application on winter cereals (A)

After the use of FF-075 as a preventative fungicide treatment in winter cereals ((HORVW, SECCW, TRZAW and TTLWI) in one application (A) it was evident the following results (overall sensitivity of the pathogen per assessed plant part is shown in Table 3.2-123).

ERYSGR

The pathogen was susceptible (L3) to FF-075 when applied once on the crop at 1.0 l/ha in the EPPO North-east zone. Its use was in all cases, comparable to the commercial treatments (Proline and Tazer 250 SC).

PUCCHD

The pathogen was moderately tolerant (L3, 2nd assessment) or susceptible (L3, 1st assessment and L1-L2, 2nd assessment) to FF-075 when applied once on the crop at 1.0 l/ha in the EPPO North-east zone. Its use was in all cases, comparable to the commercial treatments (Amistar, Proline and Tazer 250 SC).

PUCCST

The pathogen was susceptible (L2-L3) to FF-075 after applied once on the crop at 1.0 l/ha in the EPPO North-east zone. Its use was in all cases, comparable to the commercial treatments (Proline and Tazer 250 SC).

PYRNTE

The pathogen was moderately tolerant (L1-L2, 2nd assessment) or moderately (L3, 2nd assessment) to susceptible (L3, 1st assessment) to FF-075 when applied once on the crop at 1.0 l/ha in the EPPO North-east zone. Its use was in all cases comparable or superior to the commercial treatments (Amistar, Proline and Tazer 250 SC).

RAMUCC

The pathogen was susceptible (L3) to FF-075 when applied once on the crop at 1.0 l/ha in the EPPO North-east zone. Its use was in all cases, comparable to the commercial treatments (Proline and Tazer 250 SC).

RHYNSE

The pathogen was susceptible (L3) to FF-075 when applied once on the crop at 1.0 l/ha in the EPPO North-east zone. Its use was comparable to the commercial treatment (Amistar).

SEPTTR

The pathogen was susceptible (L2-L3) to FF-075 when applied once on the crop at 1.0 l/ha in the EPPO North-east zone. Its use was in all cases comparable or superior to the commercial treatments (Amistar, Proline and Tazer 250 SC).

Table 3.2-123: Overall control level of FF-075 against ERYSGR, PUCCHD, PUC CST, PYRNTE, RAMUCC, RHYNSE and SEPTTR after one application (A) in winter cereals in the EPPO North-east zone (in brackets assessed plant parts)

Susceptible	$\geq 80.0\%$	ERYSGR (L3) PUCCHD (L1-L3) PUC CST (L2-L3) RAMUCC (L3) RHYNSE (L3)
Moderately susceptible	60.0 – 79.9%	PYRNTE (L1- L3) overall SEPTTR (L2-L3)
Moderately tolerant	40.0 – 59.9%	-
Tolerant	$\leq 39.9\%$	-

Finally, the use of FF-075 permitted to preserve % of green leaf area in the treated crops after the application. Moreover, the effect was statistically comparable or superior to the commercial treatments (Amistar, Proline and Tazer 250 SC).

One application on winter cereals (B)

After the use of FF-075 as a preventative fungicide treatment in winter cereals ((HORVW, SECCW, TRZAW and TTLWI) in one application (B) it was evident the following results (overall sensitivity of the pathogen per assessed plant part is shown in Table 3.2-124).

ERYSGR

The pathogen was moderately (L3, 1st assessment) to susceptible (L2-3, 2nd assessment) to FF-075 when applied once on the crop at 1.0 l/ha in the EPPO North-east zone. Its use was in all cases, comparable to the commercial treatments (Amistar, Proline and Tazer 250 SC).

PUCCHD

The pathogen was susceptible (L1-L3, 1st assessment and L1-L2, 2nd assessment) to FF-075 when applied once on the crop at 1.0 l/ha in the EPPO North-east zone. Its use was in all cases, comparable or superior to the commercial treatments (Amistar, Proline and Tazer 250 SC).

PUCCRE

The pathogen was susceptible (L1-L3 overall the evaluation) to FF-075 when applied once on the crop at 1.0 l/ha in the EPPO North-east zone. Its use was in all cases, comparable to the commercial treatments (Proline and Tazer 250 SC).

PUCRR

The pathogen was moderately susceptible (L3) to susceptible (L2) to FF-075 when applied once on the crop at 1.0 l/ha in the EPPO North-east zone. Its use was in all cases, comparable to the commercial treatments (Amistar).

PUCST

The pathogen was susceptible (L2-L3, 1st assessment and L1-L2, 2nd assessment) to FF-075 after applied once on the crop at 1.0 l/ha in the EPPO North-east zone. Its use was comparable to the commercial treatments (Proline and Tazer 250 SC).

PYRNTE

The pathogen was moderately susceptible (L3, 2nd assessment) to susceptible (L1-L3, 1st assessment and L1-L2, 2nd assessment; most of the trials) to FF-075 when applied once on the crop at 1.0 l/ha in the EPPO North-east zone. Its use was superior to comparable to the commercial treatments in most trials (Proline and Tazer 250 SC).

PYRNTR

The pathogen was moderately susceptible (L1-L2) to FF-075 when applied once on the crop at 1.0 l/ha in the EPPO North-east zone. Its use was in all cases comparable to the commercial treatments (Proline).

RAMUCC

The pathogen was moderately tolerant (L1, 2nd assessment) or susceptible (L3, 1st assessment and L2, 2nd assessment) to FF-075 when applied once on the crop at 1.0 l/ha in the EPPO North-east zone. Its use was in all cases, comparable to the commercial treatments (Amistar, Proline and Tazer 250 SC).

RHYNSE

The pathogen was moderately susceptible (L3, 2nd assessment) to susceptible L3, 1st assessment and L2, 2nd assessment) to FF-075 when applied once on the crop at 1.0 l/ha in the EPPO North-east zone. Its use was comparable or superior to the commercial treatments (Proline and Tazer 250 SC).

SEPTTR

The pathogen was moderately tolerant (for assessed L3, 2nd assessment) to susceptible (for all rest of leaves in both assessments) to FF-075 when applied once on the crop at 1.0 l/ha in the EPPO North-east zone. Its use was comparable (Amistar and Proline) or superior (Tazer 250 SC) to the commercial treatment.

Table 3.2-124: Overall control level of FF-075 against ERYSGR, PUCCHD, PUCCRE, PUCCRR, PUCCST, PYRNTE, PYRNTR, RAMUCC, RHYNSE and SEPTTR after one application (B) in winter cereals in the EPPO North-east zone (in brackets assessed plant parts)

Susceptible	$\geq 80.0\%$	ERYSGR (L2-L3) overall PUCCHD (L1-L3) PUCCRE (L1-L3) PUCCST (L1-L3) PYRNTE (L1- L3) RHYNSE (L1-L3)
Moderately susceptible	60.0 – 79.9%	PUCCRR (L2-L3) overall PYRNTR (L1-L2) RAMUCC (L1-L3) overall SEPTTR (L2-L3) overall
Moderately tolerant	40.0 – 59.9%	-
Tolerant	$\leq 39.9\%$	-

Finally, the use of FF-075 permitted to preserve % of green leaf area in the treated crops after the application. Moreover, the effect was statistically comparable or superior to the commercial treatments (Amistar, Proline and Tazer 250 SC).

Two applications on winter cereals (AB)

After the use of FF-075 as a preventative fungicide treatment in winter cereals after two step-wise applications it was evident the following results (overall sensitivity of the pathogen per assessed plant part is shown in Table 3.2-125:

PUCCRE

The pathogen resulted susceptible (L1-L3) to FF-075 when applied twice on the crop at 1.0 l/ha in the EPPO North-east zone. Its use was comparable to the commercial treatment (Amistar and Proline).

SEPTTR

The pathogen resulted susceptible (L1-L3 overall the evaluation) to FF-075 when applied twice on the crop at 1.0 l/ha in the EPPO North-east zone. Its use was comparable to the commercial treatment (Amistar and Proline).

Table 3.2-125: Overall control level of FF-075 against PUCCRE and SEPTTR after two step-wise applications (AB) in winter cereals in the EPPO North-east zone (in brackets assessed plant parts)

Susceptible	$\geq 80.0\%$	PUCCRE (L1-L3) SEPTTR (L1-L3)
Moderately susceptible	60.0 – 79.9%	-
Moderately tolerant	40.0 – 59.9%	-
Tolerant	$\leq 39.9\%$	-

Finally, the use of FF-075 permitted to preserve % of green leaf area in the treated crops after two applications. Moreover, the effect was statistically comparable to the commercial treatments (Amistar, and Proline).

Spring cereals

Material and methods

In total, six field trials were carried out in Poland during 2020 (6), to assess the efficacy of the foliar preventative fungicide FF-075 against PUCCCA(1 trial), PYRNTE (4 trials) and RHYNSE (1 trial) in cereals planted in spring (AVESS and HORVS). The trials were carried out according to GEP by officially recognised testing organisations and the guideline(s) EPPO PP 1/135(4), PP 1/152(4), PP 1/181(4), PP 1/225(2) and EPPO PP 1/26(4) were used.

Detailed information on the experiments and application methods is given in Table 3.2-126 and Appendix 4. For further information on the reference product(s) please refer to Table 3.2-8.

As the application of FF-075 is recommended as a preventive treatment against the infection of the mentioned pathogens, low infestation levels of the untreated control were also considered for the assessment of efficacy. Data supporting the effect of one (B) is presented. In presented trials, the application (named B) took place at BBCH 31-47 in HORVS and BBCH 31- 39 in AVESS.

In case of no infestation during one assessment or in a whole trial, the data was excluded. Data presented corresponds to the assessment carried out on one up to three fully developed leaves of a tiller (leaf levels) two to three weeks after each application. The leaf levels presented include leaf 1 to 3 (L1-L3). In each evaluation, the parameter assessed was efficacy (percentage of control) expressed as the percentage of infestation as well-known as percentage of severity (PESSEV). Regarding the percentage of green leaf area (GRNARE), the effect was summarized for all trials conducted for the whole set of cereals in one season (spring) after either the applications. Even when available, no pest incidence (PESINC) data was included. The reason for this is the strong variation on this parameter depending on the infestation of diseases presented in the crop. At times PESINC reached very high values already at early assessments, poorly reflecting the control performed for the treatments (included the reference product) as compared with the strong evidence that is obtained after the evaluation of pest severity (PESSEV) in the crop. In regard to the percentage of green leaf area (GRNARE), the effect was summarized for all trials conducted for the whole set of cereals in one season (winter).

Table 3.2-126: Experimental details and application methods in the efficacy trials with FF-075 against PUCCCA, PYRNTE and RHYNSE in spring cereals in the EPPO North-east zone (numerals in brackets indicate the number of trials, except for the information on guidelines)

Total number of trials		<u>6</u>
Guidelines	General guidelines	EPPO PP 1/135(4), PP 1/152(4), PP 1/181(4), PP 1/225(2)
	Specific guidelines	EPPO PP 1/26(4)
	GEP	Yes (6)
Experimental design	Plot design	RCBD (6)
	Plot size	21-24 m ²
	Number of replications	4 (6)
Crop	Trials per crop	Spring barley (5) Oat (1)
	Varieties per crop	Spring barley: Kucyk (1), KWS Irina (1), Melius (1), Suweren (1) Texas (1) Oat: Harnas (1)
	Sowing period	Spring barley: March-April 2020 Oat: March 2020
Application	Crop stage (BBCH)* at application	Spring barley: BBCH 31 – BBCH 47 Oat: BBCH 31 – BBCH 39
	Timing Pests	Post-emergence PUCCCA (1) PYRNTE (4) RHYNSE (1)
	Number of applications	1 (6), however conducted at two time points in the same plot, therefore assessments at DA-B shown
	Intervals between applications	
	Spray volumes	200 - 300 l/ha
Assessment	Assessment types	% severity, % incidence, % green leaf area
	Assessment dates	12-22 DA-A, 31-42 DA-A; 19-22 DA-B and 31-40 DA-B
Other relevant information	Soil type	Sandy loam (6)
	Soil pH	pH 5.3 – pH 6.8 and n.s. (1)

	Natural/artificial inoculation	Natural (6)
	Field / Greenhouse	F (6)
	Application rate of test product	1.0 L/ha product

Results

One application on spring cereals (A)

Pest Severity (efficacy)

ERYSGR

% of control of Pest Severity (PESSEV)

Leaf level 3 (L3) (% of control of pest severity)

In Table 3.2-127, a summary of the efficacy results for L3 in one trial is presented. Assessments shown were carried out at 12-22 and 31-42 days after the application (A timing thus DA-A).

Table 3.2-127: Summary of the efficacy results of FF-075 used as preventive fungicide in spring cereals (AVESS and HORVS) (EPPO North-east zone), concerning % of control of *Blumeria graminis* (ERYSGR) in terms of % of severity (PESSEV), assessed in L3 after one application at A

Target	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control						No of trials where FF-075 is >, <, = compared to Amistar
						FF-075 at 1.0 l/ha			Amistar at 0.6 l/ha			
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	
12-22 DA-A												
ERYSGR	LEAF3	1	0.6	-	-	100.0	-	-	83.3	-	-	1 trial > 0 trials = 0 trials <
31-42 DA-A												
ERYSGR	LEAF 3	1	2.3	-	-	87.5	-	-	95.0	-	-	0 trials > 1 trial = 0 trials <

Conclusions

The presented results show the leaf pathogen ERYSGR to be susceptible to FF-075 applied at 1.0 l/ha in the EPPO North-east zone when considering % of severity as the parameter of comparison. Furthermore, the test product displayed equivalent or superior control as the observed after the application of Amistar for the leaf assessed.

Considering the effect observed after the application of FF-075, one application (timing A) along the crop life cycle of spring cereals at 1.0 l/ha is recommended in the EPPO North-east zone as an effective protective fungicide against ERYSGR. Its performance, furthermore, is comparable or superior to the effect observed after using the commercial treatments.

PUCCCA

% of control of Pest Severity (PESSEV)

Leaf level 1-2 (L1-L2) (% of control of pest severity)

In Table 3.2-128, a summary of the efficacy results for L1-L2 in one trial is presented. Assessments shown were carried out at 31-42 days after the application (A timing thus DA-A).

Table 3.2-128: Summary of the efficacy results of FF-075 used as preventive fungicide in spring cereals (AVESS and HORVS) (EPPO North-east zone), concerning % of control of *Puccinia coronata* var. *avenae* (PUCCCA) in terms of % of severity (PESSEV), assessed in L1-L2 after one application at A

Target	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control						No of trials where FF-075 is >, <, = compared to Pro-line
						FF-075 at 1.0 l/ha			Proline at 0.8 l/ha			
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	
31-42 DA-A												
PUCCCA	LEAF1	1	0.4	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <
PUCCCA	LEAF2	1	0.2	-	-	75.0	-	-	75.0	-	-	0 trials > 1 trial = 0 trials <

Conclusions

The presented results show the leaf pathogen Puccinia to be moderately (L2) to susceptible (L1) to FF-075 applied at 1.0 l/ha in the EPPO North-east zone when considering % of severity as the parameter of comparison. The differences arose after the assessment of different leaf levels (L1 to L2). The product achieved the higher control when the younger leaf was assessed as expected, considering that older leaf accumulate higher volumes of disease inoculum and are more sensible. Furthermore, the test product displayed equivalent control as the observed after the application of Proline for the leaves assessed.

Considering the effect observed after the application of FF-075, one application (timing A) along the crop life cycle of spring cereals at 1.0 l/ha is recommended in the EPPO North-east zone as an effective protective fungicide against Puccinia. Its performance, furthermore, is comparable to the effect observed after using the commercial treatments.

PYRNTE

% of control of Pest Severity (PESSEV)

Leaf level 1 to 3 (L1-L3) (% of control of pest severity)

In Table 3.2-129, a summary of the efficacy results for L1 to L3 in two to four trials are presented. Assessments shown were carried out at 12-22 and 31-42 days after the application (A timing thus DA-A

Table 3.2-129: Summary of the efficacy results of FF-075 used as preventive fungicide in spring cereals (AVESS and HORVS) (EPPO North-east zone), concerning % of control of *Pyrenophora teres* (PYRNTE) in terms of % of severity (PESSEV), assessed in L1-L3 after one application at A

Target	Grouping	N° trials	Infestation of the untreated control (% PESSEV)			% control															No of trials where FF-075 is >, <, = compared to Amistar	No of trials where FF-075 is >, <, = compared to Mirador Xtra	No of trials where FF-075 is >, <, = compared to Proline	No of trials where FF-075 is >, <, = compared to Tazer 250 SC	
						FF-075 at 1.0 l/ha			Amistar at 0.6 l/ha			Mirador Xtra at 1 l/ha			Proline at 0.8 l/ha			Tazer 250 SC at 0.6 l/ha							
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max					
12-22 DA-A																									
PYRNTE	LEAF2	2	0.9	0.9	0.5 - 1.2	100.0	100.0	100.0 - 100.0	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-
PYRNTE	LEAF2	1	0.5	-	-	100.0	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	0 trials > 1 trial = 0 trials <	-	-	-	-
PYRNTE	LEAF2	1	1.2	-	-	100.0	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	0 trials > 1 trial = 0 trials <	-	
PYRNTE	LEAF3	3	5.5	2.4	2.2 - 11.8	80.4	87.7	55.7 - 97.7	94.6	-	-	-	-	-	90.3	-	-	26.8	-	-	-	-	-	-	-
PYRNTE	LEAF3	1	2.2	-	-	97.7	-	-	94.6	-	-	-	-	-	-	-	-	-	-	-	0 trials > 1 trial = 0 trials <	-	-	-	-
PYRNTE	LEAF3	1	11.8	-	-	87.7	-	-	-	-	-	-	-	-	90.3	-	-	-	-	-	-	-	0 trials > 1 trial = 0 trials <	-	

Target	Grouping	N° trials	Infestation of the untreated control (%)			% control														No of trials where EE-	No of trials where EE-	No of trials where EE-	No of trials where EE-
PYRNTE	LEAF3	1	2.4	-	-	55.7	-	-	-	-	-	-	-	-	-	-	-	26.8	-	-	-	1 trial > 0 trials = 0 trials <	
31-42 DA-A																							
PYRNTE	LEAF1	3	4.8	6.8	0.5 - 7.1	55.8	56.7	10.7 - 100.0	-	-	-	57.0	-	-	33.7	-	-	49.3	-	-	-	-	
PYRNTE	LEAF1	1	0.5	-	-	100.0	-	-	-	-	-	57.0	-	-	-	-	-	-	-	-	1 trial > 0 trials = 0 trials <	-	
PYRNTE	LEAF1	1	6.8	-	-	10.7	-	-	-	-	-	-	-	33.7	-	-	-	-	-	-	0 trials > 0 trials = 1 trial <	-	
PYRNTE	LEAF1	1	6.8	-	-	10.7	-	-	-	-	-	-	-	33.7	-	-	-	-	-	-	1 trial > 0 trials = 0 trials <	-	
PYRNTE	LEAF2	4	6.3	6.0	2.1 - 11.1	65.6	63.8	40.9 - 93.8	85.4	-	-	38.6	-	-	63.9	-	-	35.7	-	-	-	-	
PYRNTE	LEAF2	1	2.1	-	-	93.8	-	-	85.4	-	-	-	-	-	-	-	-	-	-	0 trials > 1 trial = 0 trials <	-	-	
PYRNTE	LEAF2	1	2.5	-	-	68.8	-	-	-	-	-	38.6	-	-	-	-	-	-	-	1 trial > 0 trials > 0 trials >	-	-	
PYRNTE	LEAF2	1	11.1	-	-	58.7	-	-	-	-	-	-	-	63.9	-	-	-	-	-	0 trials > 1 trial =	-	-	

Target	Grouping	N° trials	Infestation of the untreated control (%)			% control															No of trials where EE-	No of trials where EE-	No of trials where EE-	No of trials where EE-
																							0 trials <	
PYRNTE	LEAF2	1	9.5	-	-	40.9	-	-	-	-	-	-	-	-	-	-	35.7	-	-	-	-	-	-	1 trial > 0 trials = 0 trials <
PYRNTE	LEAF3	3	9.7	6.5	3.9 - 18.6	72.2	72.9	47.4 - 96.4	89.4	-	-	61.4	-	-	-	-	45.0	-	-	-	-	-	-	-
PYRNTE	LEAF3	1	3.9	-	-	96.4	-	-	89.4	-	-	-	-	-	-	-	-	-	-	0 trials > 1 trial = 0 trials <	-	-	-	
PYRNTE	LEAF3	1	6.5	-	-	72.9	-	-	-	-	-	61.4	-	-	-	-	-	-	-	-	0 trials > 1 trial = 0 trials <	-	-	
PYRNTE	LEAF3	1	18.6	-	-	47.4	-	-	-	-	-	-	-	-	-	-	45.0	-	-	-	-	-	0 trials > 1 trial = 0 trials <	

Conclusions

The presented results show the leaf pathogen PYRNTE to be moderately tolerant (L1, 2nd assessment), moderately (L2-L3, 2nd assessment) or susceptible (L2-L3, 1st assessment) to FF-075 applied at 1.0 l/ha in the EPPO North-east zone when considering % of severity as the parameter of comparison. The differences arose after the assessment of different leaf levels (L1 to L3). The test product displayed equivalent or superior control as the observed after the application of Amistar, Proline and Tazer 250 SC for all leaves assessed.

Considering the effect observed after the application of FF-075, one application (timing A) along the crop life cycle of spring cereals at 1.0 l/ha is recommended in the EPPO North-east zone as an effective protective fungicide against PYRNTE under a wide range of environmental conditions. It's performance, furthermore, is comparable or superior to the effect observed after using the commercial treatments.

RHYNSE

% of control of Pest Severity (PESSEV)

Leaf level 1-3 (L1-L3) (% of control of pest severity)

In Table 3.2-130, a summary of the efficacy results for L1-L3 in one trial is presented. Assessments shown were carried out at 31-42 days after the application (A timing thus DA-A).

Table 3.2-130: Summary of the efficacy results of FF-075 used as preventive fungicide in spring cereals (AVESS and HORVS) (EPPO North-east zone), concerning % of control of *Rhynchosporium secalis* (RHYNSE) in terms of % of severity (PESSEV), assessed in L1-L3 after one application at A

Target	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control						No of trials where FF-075 is >, <, = compared to Tazer 250 SC
						FF-075 at 1.0 l/ha			Tazer 250 SC at 0.6 l/ha			
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	
31-42 DA-A												
RHYNSE	LEAF1	1	0.8	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <
RHYNSE	LEAF2	1	9.0	-	-	100.0	-	-	82.3	-	-	1 trial > 0 trials = 0 trials <
RHYNSE	LEAF3	1	19.5	-	-	86.5	-	-	73.5	-	-	1 trial > 0 trials = 0 trials <

Conclusions

The presented results show the leaf pathogen RHYNSE to be susceptible to FF-075 applied at 1.0 l/ha in the EPPO North-east zone when considering % of severity as the parameter of comparison. The product achieved the higher control when younger leaves were assessed as expected, considering that older leaf accumulate higher volumes of disease inoculum and are more sensible. Furthermore, the test product displayed equivalent or superior control as the observed after the application of Tazer 250 SC for the leaves assessed.

Considering the effect observed after the application of FF-075, one application (timing A) along the crop life cycle of spring cereals at 1.0 l/ha is recommended in the EPPO North-east zone as an effective protective fungicide against RHYNSE. It's performance, furthermore, is comparable or superior to the effect observed after using the commercial treatments.

Green leaf area (%GRNARE)

% of green Leaf Area (GRNARE)

Plant C (% of green leaf area-GRNARE) at A

In Table 3.2-131, a summary of the green leaf area of the plants (Plant C) after application of various treatments to prevent disease progress in six trials is shown.

Table 3.2-131: Summary of the efficacy results of FF-075 used as preventive fungicide against several pathogens in spring cereals (AVESS and HORVS) (EPPO North-east zone), concerning percentage of green leaf area assessed in plant after one application (timing A).

Target	Grouping	N° of trials	Infestation of the untreated control (% GRNARE)			% control															No of trials where FF-075 is >, <, = compared to Amistar	No of trials where FF-075 is >, <, = compared to Mira-dor Xtra	No of trials where FF-075 is >, <, = compared to Proline	No of trials where FF-075 is >, <, = compared to Tazer 250 SC
						FF-075 at 1.0 l/ha			Amistar at 0.6 l/ha			Mirador Xtra at 1 l/ha			Proline at 0.8 l/ha			Tazer 250 SC at 0.6 l/ha						
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max				
31-53 DA-A																								
Overall	Spring cereals	6	37.4	31.0	8.6 - 91.5	46.1	39.4	12.9 - 94.3	33.8	-	-	12.8	-	-	51.9	51.9	37.8 - 66.0	66.7	66.7	39.5 - 93.8	-	-	-	-
Overall	Spring cereals	1	13.5	-	-	25.0	-	-	33.8	-	-	-	-	-	-	-	-	-	-	-	0 trials > 0 trials = 1 trial <	-	-	-
Overall	Spring cereals	1	8.6	-	-	12.9	-	-	-	-	-	12.8	-	-	-	-	-	-	-	-	-	0 trials > 1 trial = 0 trials <	-	-
Overall	Spring cereals	2	43.0	43.0	37.3 - 48.8	52.5	52.5	39.3 - 65.8	-	-	-	-	-	-	51.9	51.9	37.8 - 66.0	-	-	-	-	-	0 trials > 2 trials = 0 trials <	-
Overall	Spring cereals	2	58.1	58.1	24.6 - 91.5	66.9	66.9	39.4 - 94.3	-	-	-	-	-	-	-	-	-	66.7	66.7	39.5 - 93.8	-	-	-	0 trials > 2 trials = 0 trials <

Conclusion

The use of FF-075 in application at 1.0 l/ha successfully permitted the preservation the % of green leaf area in the treated field since this value was significantly superior to that observed in the untreated control in all assessed trials. Moreover, the effect was statistically comparable or to the values of most the reference products tested (Mirador Xtra, Proline and Tazer 250 SC).

Considering the mentioned effect after the application of FF-075, one application (A) along the crop life cycle of spring cereals at 1.0 l/ha is recommended in the EPPO North-east zone as an effective protective fungicide that significantly preserves the % of GRNARE of the crop under a wide range of environmental conditions.

One application on spring cereals (B)

Pest Severity (efficacy)

ERYSGR

% of control of Pest Severity (PESSEV)

Leaf level 2-3 (L2-L3) (% of control of pest severity)

In Table 3.2-132, a summary of the efficacy results for L2-L3 in one trial is presented. Assessments shown were carried out at 19-22 and 31-40 days after the application (B timing thus DA-B).

Table 3.2-132: Summary of the efficacy results of FF-075 used as preventive fungicide in spring cereals (AVESS and HORVS) (EPPO North-east zone), concerning % of control of *Blumeria graminis* (ERYSGR) in terms of % of severity (PESSEV), assessed in L2-L3 after one application at B

Target	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control						No of trials where FF-075 is >, <, = compared to Amistar
						FF-075 at 1.0 l/ha			Amistar at 0.6 l/ha			
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	
19-22 DA-B												
ERYSGR	LEAF 3	1	2.3	-	-	90.8	-	-	91.7	-	-	0 trials > 1 trial = 0 trials <
31-40 DA-B												
ERYSGR	LEAF2	1	2.7	-	-	90.4	-	-	95.0	-	-	0 trials > 1 trial = 0 trials <

Conclusions

The presented results show the leaf pathogen ERYSGR to be susceptible to FF-075 applied at 1.0 l/ha in the EPPO North-east zone when considering % of severity as the parameter of comparison. Furthermore, the test product displayed equivalent control as the observed after the application of Amistar for the leaves assessed.

Considering the effect observed after the application of FF-075, one application (timing B) along the crop life cycle of spring cereals at 1.0 l/ha is recommended in the EPPO North-east zone as an effective protective fungicide against ERYSGR. It's performance, furthermore, is comparable to the effect observed after using the commercial treatments.

PUCCCA

% of control of Pest Severity (PESSEV)

Leaf level 1-2 (L1-L2) (% of control of pest severity) one application

In Table 3.2-133, a summary of the efficacy results for leaf levels L1-L2 of spring cereals in one trial is presented. Assessments shown were carried out at 19-22 and 31-40 days after the application (since timed at B, later within the recommended application BBCH range, named as DA-B).

Table 3.2-133: Summary of the efficacy results of FF-075 used as preventive fungicide in spring cereals (AVESS and HORVS) (EPPO North-east zone), concerning % of control of *Puccinia coronata* var. *avenae* (PUCCCA) in terms of % of severity (PESSEV), assessed in L1-L2 leaves after one application (B)

Target	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control						No of trials where FF-075 is >, <, = compared to Pro-line
						FF-075 at 1.0 l/ha			Proline at 0.8 l/ha			
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	
19-22 DA-B												
PUCCCA	LEAF1	1	0.4	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <
PUCCCA	LEAF2	1	0.2	-	-	75.0	-	-	100.0	-	-	0 trials > 0 trials = 1 trials <
31-40 DA-B												
PUCCCA	LEAF1	1	3.1	-	-	96.7	-	-	97.5	-	-	0 trials > 1 trial = 0 trials <
PUCCCA	LEAF2	1	7.0	-	-	95.7	-	-	95.7	-	-	0 trials > 1 trial = 0 trials <

Conclusions

The presented results demonstrate the leaf pathogen Puccinia was susceptible (L1-L2 overall the evaluation) to FF-075 applied at 1.0 l/ha (at the B timing) in the EPPO North-east zone when considering severity as the parameter of comparison. Same trend was observed at both evaluated assessments. Furthermore, this was a trend observed also when evaluating the effect observed after the application of Proline. The effect of FF-075 was statistically comparable to that of the reference products for all leaves assessed in the whole trial.

Overall, the effect observed after the application of FF-075, one application along the crop life cycle of spring cereals at 1.0 l/ha is recommended in the EPPO North-east zone as a highly effective protective treatment to prevent Puccinia under a wide range of environmental conditions. Its performance, furthermore, is comparable to the effect observed after using the commercial treatment.

PYRNTE

% of control of Pest Severity (PESSEV)

Leaf level 1-3 (L1-L3) (% of control of pest severity) one application

In Table 3.2-134, a summary of the efficacy results for leaf levels L1-L3 of spring cereals in four to two trials is presented. Assessments shown were carried out at 19-22 and 31-40 days after the application (since timed at B, later within the recommended application BBCH range, named as DA-B

Table 3.2-134: Summary of the efficacy results of FF-075 used as preventive fungicide in spring cereals (AVESS and HORVS) (EPPO North-east zone), concerning % of control of *Pyrenophora teres* (PYRNTE) in terms of % of severity (PESSEV), assessed in L1-L3 leaves after one application (B)

Target	Grouping	N° trials	Infestation of the untreated control (% PESSEV)			% control												No of trials where FF-075 is >, <, = compared to Amistar	No of trials where FF-075 is >, <, = compared to Proline	No of trials where FF-075 is >, <, = compared to Tazer 250 SC
						FF-075 at 1.0 l/ha			Amistar at 0.6 l/ha			Proline at 0.8 l/ha			Tazer 250 SC at 0.6 l/ha					
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max			
19-22 DA-B																				
PYRNTE	LEAF1	3	4.8	6.8	0.5 - 7.1	83.0	86.7	62.3 - 100.0	-	-	-	90.8	90.8	81.5 - 100.0	53.9	-	-	-	-	-
PYRNTE	LEAF1	2	3.7	3.7	0.5 - 6.8	93.4	93.4	86.7 - 100.0	-	-	-	90.8	90.8	81.5 - 100.0	-	-	-	-	0 trials > 2 trial = 0 trials <	-
PYRNTE	LEAF1	1	7.1	-	-	62.3	-	-	-	-	-	-	-	-	53.9	-	-	-	-	1 trial > 0 trials = 0 trials <
PYRNTE	LEAF2	4	6.3	6.0	2.1 - 11.1	76.5	85.7	45.1 - 89.6	87.9	-	-	79.6	79.6	77.0 - 82.2	38.8	-	-	-	-	-
PYRNTE	LEAF2	1	2.1	-	-	89.6	-	-	87.9	-	-	-	-	-	-	-	-	0 trials > 1 trial = 0 trials <	-	-
PYRNTE	LEAF2	2	6.8	6.8	2.5 - 11.1	85.7	85.7	82.8 - 88.7	-	-	-	79.6	79.6	77.0 - 82.2	-	-	-	-	0 trials > 2 trial = 0 trials <	-
PYRNTE	LEAF2	1	9.5	-	-	45.1	-	-	-	-	-	-	-	-	38.8	-	-	-	-	1 trial > 0 trials =

Target	Grouping	N° trials	Infestation of the untreated control (%)			% control												No of trials where FF.	No of trials where FF.	No of trials where FF. 0 trials <
PYRNTE	LEAF3	3	9.7	6.5	3.9 - 18.6	70.4	64.6	50.3 - 96.4	90.9	-	-	77.5	-	-	48.7	-	-	-	-	-
PYRNTE	LEAF3	1	3.9	-	-	96.4	-	-	90.9	-	-	-	-	-	-	-	-	0 trials > 1 trial = 0 trials <	-	-
PYRNTE	LEAF3	1	6.5	-	-	64.6	-	-	-	-	-	77.5	-	-	-	-	-	-	0 trials > 1 trial = 0 trials <	-
PYRNTE	LEAF3	1	18.6	-	-	50.3	-	-	-	-	-	-	-	-	48.7	-	-	-	-	0 trials > 1 trial = 0 trials <
31-40 DA-B																				
PYRNTE	LEAF1	4	7.6	7.4	2.3 - 13.5	78.4	82.7	52.6 - 95.8	98.3	-	-	83.2	83.2	78.8 - 87.6	50.9	-	-	-	-	-
PYRNTE	LEAF1	1	4.2	-	-	95.8	-	-	98.3	-	-	-	-	-	-	-	-	0 trials > 1 trial = 0 trials <	-	-
PYRNTE	LEAF1	2	6.4	6.4	2.3 - 10.5	82.7	82.7	77.0 - 88.3	-	-	-	83.2	83.2	78.8 - 87.6	-	-	-	-	0 trials > 2 trial = 0 trials <	-
PYRNTE	LEAF1	1	13.5	-	-	52.6	-	-	-	-	-	-	-	-	50.9	-	-	-	-	0 trials > 1 trial = 0 trials <
PYRNTE	LEAF2	2	6.3	6.3	5.8 - 6.8	84.3	84.3	73.7 - 95.0	-	-	-	76.8	-	-	-	-	-	-	-	-

Target	Grouping	N° trials	Infestation of the untreated control (%)			% control											No of trials where FF.	No of trials where FF.	No of trials where FF.
PYRNTE	LEAF2	1	5.8	-	-	95.0	-	-	90.3	-	-	-	-	-	-	-	0 trials > 1 trial = 0 trials <	-	-
PYRNTE	LEAF2	1	6.8	-	-	73.7	-	-	-	-	-	76.8	-	-	-	-	-	0 trials > 1 trial = 0 trials <	-

Conclusions

The presented results demonstrate the leaf pathogen PYRNTE was moderately susceptible (L2-L3, 1st assessment and L1, 2nd assessment) to susceptible (L1, 1st assessment and L2, 2nd assessment) to FF-075 applied at 1.0 l/ha (at the B timing) in the EPPO North-east zone when considering severity as the parameter of comparison. Same trend was observed at both evaluated assessments. Furthermore, this was a trend observed also when evaluating the effect observed after the application of Amistar and Proline but not Tazer 250 SC, which displayed lower control of the disease. The effect of FF-075 was statistically comparable to superior to that of the reference products in most of the trials presented.

Overall, the effect observed after one application of FF-075 along the crop life cycle of spring cereals at 1.0 l/ha is recommended in the EPPO North-east zone as an effective to highly effective protective treatment to prevent PYRNTE under a wide range of environmental conditions. It's performance, furthermore, is comparable to the effect observed after using the commercial treatments.

RHYNSE

% of control of Pest Severity (PESSEV)

Leaf level 1-3 (L1-L3) (% of control of pest severity) one application

In Table 3.2-135, a summary of the efficacy results for leaf levels L1-L3 of spring cereals in one trial is presented. Assessments shown were carried out at 19-22 and 31-40 days after the application (since timed at B, later within the recommended application BBCH range, named as DA-B

Table 3.2-135: Summary of the efficacy results of FF-075 used as preventive fungicide in spring cereals (AVESS and HORVS) (EPPO North-east zone), concerning % of control of *Rhynchosporium secalis* (RHYNSE) in terms of % of severity (PESSEV), assessed in L1-L3 leaves after one application (B)

Target	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control						No of trials where FF-075 is >, <, = compared to Tazer 250 SC
						FF-075 at 1.0 l/ha			Tazer 250 SC at 0.6 l/ha			
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	
19-22 DA-B												
RHYNSE	LEAF1	1	0.8	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <
RHYNSE	LEAF2	1	9.0	-	-	100.0	-	-	74.5	-	-	1 trial > 0 trials = 0 trials <
RHYNSE	LEAF3	1	19.5	-	-	81.0	-	-	62.2	-	-	1 trial > 0 trials = 0 trials <
31-40 DA-B												
RHYNSE	LEAF1	1	8.5	-	-	86.2	-	-	73.2	-	-	1 trial > 0 trials = 0 trials <
RHYNSE	LEAF2	1	26.5	-	-	63.7	-	-	49.1	-	-	1 trial > 0 trials = 0 trials <

Conclusions

The presented results, the leaf pathogen RHYNSE was moderately (L2, 2nd assessment) to susceptible (L1-L3, 1st assessment and L1, 2nd assessment) to FF-075 applied at 1.0 l/ha (at the B timing) in the EPPO North-east zone when considering severity as the parameter of comparison. The effect of FF-075 was statistically superior to that of the reference product tested in most of the leaves assessed.

Overall, the effect observed after one application of FF-075 along the crop life cycle of spring cereals at 1.0 l/ha is recommended in the EPPO North-east zone as a highly effective protective treatment to prevent RHYNSE under a wide range of environmental conditions. It's performance, furthermore, is superior to the effect observed after using the commercial treatment.

Green leaf area (%GRNARE)

% of green Leaf Area (GRNARE)

Plant C (% of green leaf area-GRNARE) at B

In Table 3.2-136, a summary of the green leaf area of the plants (Plant C) after application of various treatments to prevent disease progress in six trials is shown. The assessment was carried out 21-40 days after the application (DA-B).

Table 3.2-136: Summary of the efficacy results of FF-075 used as preventive fungicide against several pathogens in spring cereals (AVESS and HORVS) (EPPO North-east zone), concerning percentage of green leaf area assessed in plant after one application (timing B).

Target	N° of trials	Infestation of the untreated control (% GRNARE)			% GRNARE												No of trials where FF-075 is >, <, = compared to Amistar	No of trials where FF-075 is >, <, = compared to Proline	No of trials where FF-075 is >, <, = compared to Tazer 250 SC
					FF-075 at 1.0 l/ha			Amistar at 0.6 l/ha			Proline at 0.8 l/ha			Tazer 250 SC at 0.6 l/ha					
		Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max			
21-40 DA-B																			
Overall	6	37.4	31.0	8.6 - 91.5	52.1	46.7	17.8 - 94.9	39.1	-	-	45.4	49.8	16.4 - 70.0	67.2	67.2	40.4 - 93.9	-	-	-
Overall	1	13.5	-	-	36.8	-	-	39.1	-	-	-	-	-	-	-	-	0 trials > 1 trial = 0 trials <	-	-
Overall	3	31.6	37.3	8.6 - 48.8	46.2	50.8	17.8 - 70.0	-	-	-	45.4	49.8	16.4 - 70.0	-	-	-	-	0 trials > 3 trials = 0 trials <	-
Overall	1	58.1	58.1	24.6 - 91.5	68.7	68.7	42.5 - 94.9	-	-	-	-	-	-	67.2	67.2	40.4 - 93.9	-	-	1 trial > 1 trial = 0 trials <

Conclusion

The use of FF-075 in application at 1.0 l/ha successfully permitted the preservation the % of green leaf area in the treated field since this value was significantly superior to that observed in the untreated control in all assessed trials. Moreover, the effect was statistically comparable or superior to the values of the reference products tested (Amistar, Proline and Tazer 250 SC).

Considering the mentioned effect, the application of FF-075 after one application (B) along the crop life cycle of spring cereals at 1.0 l/ha is recommended in the EPPO North-east zone as an effective protective fungicide that significantly preserves the % of GRNARE of the crop under a wide range of environmental conditions.

Overall Conclusions

One application on spring cereals (A)

After the use of FF-075 as a preventative fungicide treatment in spring cereals (AVESS and HORVS) after one application it was evident the following results (overall sensitivity of the pathogen per assessed plant part is shown in Table 3.2-137).

ERYSGR

The pathogen was susceptible (L3) to FF-075 when applied once on the crop at 1.0 l/ha in the EPPO North-east zone. Its use was comparable or superior to the commercial treatment (Amistar).

PUCCCA

The pathogen was moderately (L2) to susceptible (L1) to FF-075 when applied once on the crop at 1.0 l/ha in the EPPO North-east zone. Its use was comparable to the commercial treatment (Proline).

PYRNTE

The pathogen was moderately tolerant (L1, 2nd assessment), moderately (L2-L3, 2nd assessment) or susceptible (L2-L3, 1st assessment) to FF-075 when applied once on the crop at 1.0 l/ha in the EPPO North-east zone. Its use was comparable or superior to the commercial treatment (Amistar, Proline and Tazer 250 SC).

RHYNSE

The pathogen was susceptible (L1-L3) to FF-075 when applied once on the crop at 1.0 l/ha in the EPPO North-east zone. Its use was comparable or superior to the commercial treatment (Tazer 250 SC).

Table 3.2-137: Overall control level of FF-075 against ERYSGR, PUCCCA, PYRNTE and RHYNSE after one application (B) in spring cereals in the EPPO North-east zone (in brackets assessed plant parts)

Susceptible	≥ 80.0%	ERYSGR (L3) PUCCCA (L1-L2) RHYNSE (L1-L3)
Moderately susceptible	60.0 – 79.9%	PYRNTE (L1- L3) overall
Moderately tolerant	40.0 – 59.9%	-
Tolerant	≤ 39.9%	-

Finally, the use of FF-075 permitted to preserve % of green leaf area in the treated crops after the application. Moreover, the effect was statistically comparable to that of most of the commercial treatments (Mirador Xtra, Proline and Tazer 250 SC).

One application on spring cereals (B)

After the use of FF-075 as a preventative fungicide treatment in spring cereals (AVESS and HORVS) after one application it was evident the following results (overall sensitivity of the pathogen per assessed plant part is shown in Table 3.2-138).

ERYSGR

The pathogen was susceptible (L3-L3) to FF-075 when applied once on the crop at 1.0 l/ha in the EPPO North-east zone. Its use was comparable to the commercial treatment (Amistar).

PUCCCA

The pathogen was susceptible (L1-L2 overall the evaluation) to FF-075 when applied once on the crop at 1.0 l/ha in the EPPO North-east zone. Its use was comparable to superior to the commercial treatment (Amistar and Proline but not Tazer 250 SC).

PYRNTE

The pathogen was moderately susceptible (L2-L3, 1st assessment and L1, 2nd assessment) to susceptible (L1, 1st assessment and L2, 2nd assessment) to FF-075 when applied once on the crop at 1.0 l/ha in the EPPO North-east zone. Its use was comparable to superior to the commercial treatment (Amistar and Proline and Tazer 250 SC).

RHYNSE

The pathogen was moderately susceptible (L2, 2nd assessment) to susceptible (L1-L3, 1st assessment and L1, 2nd assessment) to FF-075 when applied once on the crop at 1.0 l/ha in the EPPO North-east zone. Its use was comparable to superior to the commercial treatment (Tazer 250 SC).

Table 3.2-138: Overall control level of FF-075 against ERYSGR, PUCCCA, PYRNTE, RHYNSE after one application (B) in spring cereals in the EPPO North-east zone (in brackets assessed plant parts)

Susceptible	≥ 80.0%	ERYSGR (L2-L3) PUCCCA (L1-L2) RHYNSE (L1-L2)
Moderately susceptible	60.0 – 79.9%	PYRNTE (L1- L3)
Moderately tolerant	40.0 – 59.9%	-
Tolerant	≤ 39.9%	-

Finally, the use of FF-075 permitted to preserve % of green leaf area in the treated crops after the application. Moreover, the effect was statistically comparable to that of the commercial treatments (Amistar, Proline and Tazer 250 SC).

Oilseed rape

Material and methods

In total, four field trials were carried out in Poland during 2019 (2) and 2020 (2), to assess the efficacy of the foliar preventative fungicide FF-075 against SCLESC (4 trials) in winter oilseed rape (BRSNW). The trials were carried out according to GEP by officially recognised testing organisations and the guideline(s) EPPO PP 1/135(4), PP 1/152(4), PP 1/181(4), PP 1/225(2) and EPPO PP 1/78(3) were used.

Detailed information on the experiments and application methods is given in Table 3.2-139. For further information on the reference product(s) please refer to Table 3.2-8.

As the application of FF-075 is recommended as a preventive treatment against the infection of the mentioned pathogens, low infestation levels of the untreated control were also considered for the assessment of efficacy. Data supporting the effect of one application is presented. In presented trials, the application took place at BBCH 65 in all cases.

In case of no infestation during one assessment or in a whole trial, the data was excluded. Data presented corresponds to the assessment carried out on infected stems (25 at least per plot) as percentage at BBCH growth stages 50-85 (optimal 79-85). The assessment was scaled using the infection stages as follows: 0 no infected, 1 0-50% infection, 2 > 50% infection, but strength of stem unaffected, 3 > 50% infection, stem weakened and 4 death. Additionally, the degree of pod infection was assessed at BBCH growth stage 71-85 (optimal 79-85). As for stems the percentage of infected pods from at least 25 plants per plot were assessed. In each evaluation, the parameter assessed was efficacy (percentage of control) expressed as the percentage of infestation as well-known as percentage of severity (PESSEV).

Table 3.2-139: Experimental details and application methods in the efficacy trials with FF-075 against ALTEBA and SCLESC in winter oilseed rape in the EPPO North-east zone (numerals in brackets indicate the number of trials, except for the information on guidelines)

Total number of trials		4
Guidelines	General guidelines	EPPO PP 1/135(4), PP 1/152(4), PP 1/181(4), PP 1/225(2)
	Specific guidelines	EPPO PP 1/78(3)
	GEP	Yes (4)
Experimental design	Plot design	RCBD (4)
	Plot size	20-30 m ²
	Number of replications	4 (4)
Crop	Trials per crop	Oilseed rape (4)
	Varieties per crop	Oilseed rape: Architekt (1), Konkret (1), Monolit (1), Zakari GS (1)
	Sowing period	Oilseed rape: August 2018, August 2019
Application	Crop stage (BBCH)* at application	Oilseed rape: BBCH 65
	Timing	Post-emergence
	Pests	ALTEBA (1) SCLESC (4)
	Number of applications	1 (4)
	Intervals between applications	
Assessment	Spray volumes	200 - 300 l/ha
	Assessment types	% severity, % incidence, % green leaf area
Other relevant information	Assessment dates	48-54 DA-A
	Soil type	Sandy loam (4)
	Soil pH	pH 6.11 – pH 7.7 and n.s. (1)

	Natural/artificial inoculation	Natural (4)
	Field / Greenhouse	F (4)
	Application rate of test product	0.8 L/ha product

Results

One application on oilseed rape

Pest Severity (efficacy)

ALTEBA

% of control of Pest Severity (PESSEV)

Total of Pods (% of control of pest severity)

In Table 3.2-140, a summary of the efficacy results for the total of pods infected (out of a sample of 25 units per plot) in oilseed rape in one trial is presented. The assessment was carried out at 48-54 days after the application.

Table 3.2-140: Summary of the efficacy results of FF-075 used as preventive fungicide in oilseed rape (BRSNW) (EPPO North-east zone), concerning % of control of (*Alternaria brassicae*) (ALTEBA) in terms of % of severity (PESSEV), assessed in total of pods after one application

Target	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control						No of trials where FF-075 is >, <, = compared to Pro-line
						FF-075 at 0.8 l/ha			Proline at 0.7-0.8 l/ha			
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	
48-54 DA-A												
ALTEBA	PODTOT	1	10.0	-	-	81.7	-	-	67.5	-	-	0 trials > 1 trial = 0 trials <

Conclusions

The presented results, show the plant pathogen ALTEBA affecting pods, was susceptible to FF-075 applied at 0.80 l/ha in the EPPO North-east zone when considering severity as the parameter of comparison. The effect of FF-075 was statistically comparable to that of the reference product (Proline).

Overall, the effect observed after the application of FF-075, one application along the crop life cycle of oilseed rape at 0.80 l/ha is recommended in the EPPO North-east zone as a highly effective protective treatment to prevent ALTEBA under a wide range of environmental conditions. Its performance, furthermore, is comparable to the effect observed after using the commercial treatment.

SCLESC

% of control of Pest Severity (PESSEV)

Disease in stems (diseased and categorised) (% of control of pest severity)

In Table 3.2-141, a summary of the efficacy results for the sampling of stems infected (out of a sample of 25 units per plot) in oilseed rape in one trial is presented. The assessment was carried out at 48-54 days after the application.

In Table 3.2-142, a summary of the efficacy results for the sampling of stems infected divided in diseased categories (out of a sample of 25 units per plot) in oilseed rape in one trial is presented. The assessment was carried out at 48-54 days after the application.

Table 3.2-141: Summary of the efficacy results of FF-075 used as preventive fungicide in oilseed rape (BRSNW) (EPPO North-east zone), concerning % of control of (*Sclerotinia sclerotiorum*) (SCLESC) in terms of % of severity (PESSEV), assessed in a sample of stems after one application

Target	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control						No of trials where FF-075 is >, <, = compared to Pro-line
						FF-075 at 0.8 l/ha			Proline at 0.7-0.8 l/ha			
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	
48-54 DA-A												
SCLESC	STEM	1	8.8	-	-	44.9	-	-	51.2	-	-	0 trials > 1 trial = 0 trials <

Table 3.2-142: Summary of the efficacy results of FF-075 used as preventive fungicide in oilseed rape (BRSNW) (EPPO North-east zone), concerning % of control of (*Sclerotinia sclerotiorum*) (SCLESC) in terms of % of severity (PESSEV), assessed in a sample of stems and categorised after one application

Target	Grouping	Number of trials	Infestation of the untreated control (% PESSEV)			% control						No of trials where FF-075 is >, <, = compared to Proline
						FF-075 at 0.8 l/ha			Proline at 0.7-0.8 l/ha			
			Mean	Median	Min & Max	Mean	Median	Min & Max	Mean	Median	Min & Max	
48-54 DA-A												
SCLESC	CLASS0	1	62.0	-	-	54.8	-	-	54.0	-	-	0 trials > 1 trial = 0 trials <
SCLESC	CLASS1	1	24.5	-	-	89.8	-	-	85.7	-	-	0 trials > 1 trial = 0 trials <
SCLESC	CLASS2	1	11.8	-	-	87.3	-	-	91.5	-	-	0 trials > 1 trial = 0 trials <
SCLESC	CLASS3	1	1.8	-	-	100.0	-	-	100.0	-	-	0 trials > 1 trial = 0 trials <

Conclusions

The presented results demonstrate the plant pathogen SCLESC affecting stems was moderately tolerant to FF-075 applied at 0.80 l/ha in the EPPO North-east zone when considering the severity of the stem diseased. After the classification of diseased stems in a range of damage for the stems (classified in four different diseased ranges) as the parameter for evaluation of the efficacy of the treatment, high efficacy control was observed, for all classes presenting disease (Class 1 to 3). The effect of FF-075 was statistically comparable to that of the reference product (Proline) for the diseased stems and for all diseased classes.

Overall Conclusions

One application on oilseed rape

After the use of FF-075 as a preventative fungicide treatment in oilseed rape (BRSNW) after one application it was evident the following results (overall sensitivity of the pathogen per assessed plant part is shown in Table 3.2-143):

ALTEBA

The pathogen resulted susceptible (after assessment of pods) to FF-075 when applied once on the crop at a rate of 0.8 l/ha in the EPPO North-east zone. Its use was comparable to the commercial treatment (Proline).

SCLESC

The pathogen resulted moderately tolerant (after assessment of stems) to FF-075 when applied once on the crop at a rate of 0.8 l/ha in the EPPO North-east zone. Its use was comparable to the commercial treatment (Proline). Additionally, after classifying the stems using a scale of damage (classes 0-4= no disease, 4 death), after the treatment with FF-075, high efficacy for classes 1-3 was observed. Furthermore, the effect was statistically comparable with the commercial treatment (Proline).

Table 3.2-143: Overall control level of FF-075 against SCLESC after the application in oilseed rape in the EPPO North-east zone (in brackets assessed plant parts)

Susceptible	≥ 80.0%	ALTEBA (pods)
Moderately susceptible	60.0 – 79.9%	SCLESC (stem, in 3 trials)
Moderately tolerant	40.0 – 59.9%	-
Tolerant	≤ 39.9%	-

Minor use

All uses included in the current GAP depicted in chapter 3.1 of this document are evaluated and described in chapter 3.2.3 of this document.

Yield (and relevant quality indicators), from efficacy trials (in the presence of challenging pest populations)

FF-075 is a fungicide. Thus, no special selectivity trials are requested to show the effect of an application on the yield and quality of crop and crop products. The selectivity results assessed in the efficacy trials are detailed shown and explained in chapter 3.4 Adverse effects on treated crops in this document.

Comments of zRMS:	<p>All details about efficacy methodology used during efficacy trials are presented above by Applicant. The reports include a detailed data on soil and field conditions, agro-technological procedures, fore-crop as well as meteorological conditions and technical details of the spraying etc. Submitted efficacy trials are correctly performed according to appropriate EPPO standards.</p> <p><u>The following efficacy scale was used:</u></p> <ul style="list-style-type: none"> - L – limiting (0-60% efficacy) - ME – moderately efficiency (60-80%) - E – efficiently (>80%) <p>We are dealing with the active substances used commonly for many years in many countries. We must emphasize that each pest should be representative by enough field efficacy tests (at least 6 for major pest and at least 3 for minor pest). However, in Poland (ZRMS) lack of registered fungicides with azoxystrobin and prothioconazole in one plant protection product. So, Applicant should present for major crop at least 6 trials (optimally 10) and for minor crops – at least 6 trials carried out during two growing seasons. Each cMS should decide if documentation can be acceptable, according to their national rules.</p> <p>Studies were carried out by testing unit mandated to conduct research in the field of efficacy of plant protection products by the Chief Inspector of Plant Health and Seed Inspection and are officially GEP recognized.</p> <p>Applicant correctly presented results separately for Maritime and N-E EPPO zone. Lack of trials for MED and S-E EPPO zone. Also, Applicant correctly present results separately for winter and spring cereals. However, within winter and spring cereals, the results of each cereal for each disease unit should be presented separately. Such a presentation of the results would make it easier for the cMS to make a final decision.</p> <p>MARITIME EPPO ZONE:</p> <p>✓ WINTER CEREALS:</p> <p>Applicant submitted in total 39 field trials showing the results in research into product efficacy carried out on winter cereals (winter wheat at BBCH 30-65 – 29 trials; winter barley at BBCH 31-49 – 9 trials; winter triticale at BBCH 31-39 – 1 trial).</p> <p>Following fungal diseases were studied during trials: ERYSGH (1 trial), ERYSGT (2 trials), FUSASP (2 trials), LEPTNO (2 trials), PUCCSI (1 trial), PUCGST (2 trials), PYRNTE (2 trials), PYRNTR (1 trial), RHYNSE (4 trials), PUCCHD (6 trials), PUCCRE (5 trials), PUCCRT (7 trials) and SEPTTR (26 trials).</p> <p>In the opinion of ZRMS for most fungal diseases Applicant submitted not enough trials (at least 6 should be presented). Following diseases from winter cereals were not assessed by ZRMS due to not acceptable number of trials: ERYSGH, ERYSGT, FUSASP, LEPTNO, PUCGST, PUCCSI, PYRNTE, PYRNTR. Those pests should be deleted from GAP table and label project. However, final decision is left to cMS.</p> <p>Following fungal diseases, the cMS from Maritime EPPO zone can consider as acceptable in GAP table and label project: RHYNSE (4 trials on winter barley), PUCCHD (6 trials on winter barley), PUCCRE (5 trials: 4 trials on winter barley, 1 on winter triticale), PUCCRT (7 trials on winter wheat) and SEPTTR (26</p>
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	<p>trials on winter wheat).</p> <ul style="list-style-type: none"> • <u>One application on winter cereals (A)</u> After the use of FF-075 as a preventative fungicide treatment in winter cereals (HORVW, TRZAW and TTLWI) in one application. <p>RHYNSE – The leaf pathogen RHYNSE resulted moderately susceptible (L3 in the first and second assessments) to susceptible (L1-L2, second assessment) to FF-075 applied at 1.0 l/ha on the winter cereals. Furthermore, the test product displayed comparable control as the observed after the application of the reference product (Curbatur/Proline) in all leaves and assessments after the application (for all the considered trials).</p> <p>PUCCHD – The leaf pathogen PUCCHD was susceptible to FF-075 applied once at a rate of 1.00 l/ha on the winter cereals. The effect was observed either at the first or second assessment in all assessed leaves (L1 to L3). Its effect was comparable (in most of the trials) or even superior to the control performed by the reference product tested (Curbatur/Proline).</p> <p>PUCCRE - The leaf pathogen PUCCRE resulted susceptible to FF-075 applied at a rate of 1.00 l/ha on the winter cereals in the EPPO Maritime zone. The effect was observed for the shown assessment in every leaf considered for disease assessment. The effect of the test product was either comparable (as compared with Curabatur/ Proline) or superior (as compared with the application of Amistar) to the control performed by the reference products tested the latter was true for all the assessed leaves and in all trials considered for the comparison.</p> <p>PUCCRT – The leaf pathogen PUCCRT resulted susceptible to FF-075 applied at a rate of 1.00 l/ha on the winter cereals. The effect was observed when considering L1 for disease assessment. The effect of the test product was comparable (considering all trials) as the control performed by the treatment of Curbatur/Proline (reference product tested).</p> <p>SEPTTR – The leaf pathogen SEPTTR resulted moderate tolerant (L2- 2nd assessment) to moderate susceptible (L3-1st assessment, L1 and L3-2nd assessment) to FF-075 applied at 1.0 l/ha on the winter cereals. This, was comparable with the control observed after the application of Curbatur/Proline for most of leaves in most of considered trials, but significant superior as compared with the application of Amistar for all leaves assessed and trials considered.</p> <ul style="list-style-type: none"> • <u>One application on winter cereals (B)</u> After the use of FF-075 as a preventative fungicide treatment in winter cereals (HORVW, TRZAW and TTLWI) in one application. <p>RHYNSE – The pathogen was moderately susceptible (L3 in the first assessment) to susceptible (L1-L3, second assessment) to FF-075 when applied once on the crop at 1.0 l/ha). Its use was comparable to the commercial treatment (Amistar and Curbatur/Proline).</p> <p>PUCCHD – The leaf pathogen PUCCHD resulted moderate susceptible (L3 in the second assessment) to susceptible (L1 to L3 in the first assessment and L1 to L2 in second assessment) to FF-075 after its use when applied once on the winter cereals at a rate of 1.00 l/ha. Its effect was comparable to the to the control performed by the commercial treatment tested (Curbatur/Proline) for all assessed leaves and in all presented trials.</p> <p>PUCCRE – The pathogen was susceptible to FF-075 after the use (L1-L3 over-all the time assessed) when applied once on the crop at 1.0 l/ha. Its use was comparable (Curbatur/Proline) or superior (Amistar) to the commercial treat-</p>
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	<p>ments</p> <p>PUCCRT – The leaf pathogen PUCCRT resulted susceptible to FF-075 after the use (L1 in the assessment shown) when applied at a rate of 1.00 l/ha. The effect of the test product was comparable (considering both trials) as the control performed by the Curbatur/Proline, the commercial treatment.</p> <p>SEPTTR – The pathogen was moderately tolerant (L1-L3 overall the time assessed) to FF-075 when applied once on the crop at 1.0 l/ha). Its use was comparable to the commercial treatment (Amistar and Curbatur/Proline).</p> <ul style="list-style-type: none"> • <u>Two applications on winter cereals (AB)</u> After the use of FF-075 as a preventative fungicide treatment in winter cereals after two stepwise applications <p>RHYNSE – two applications were not studied</p> <p>PUCCHD – two applications were not studied</p> <p>PUCCRE – two applications were not studied</p> <p>PUCCRT – The leaf pathogen PUCCRT resulted to be moderately susceptible (all leaves assessed 26-41 DA-B) to susceptible (in leaves assessed in the first assessments and 12-25 DA-B) to FF-075 applied at 1.0 l/ha twice. The effect of the use FF-075 was statistically comparable to superior as compared with the control observed after the application of Curbatur/Proline and Amistar overall the evaluation (all assessed leaves in all assessments).</p> <p>SEPTTR – The pathogen resulted moderately susceptible (L1-1st assessment, L2 and L3-2nd assessment) to susceptible (L3-1st assessment and L1-2nd assessment) to FF-075 when applied twice on the crop at 1.0 l/ha in the EPPO Maritime zone. Its use was comparable to the commercial treatment (Amistar, Curbatur/Proline and Torero).</p> <p>✓ SPRING CEREALS:</p> <p>Applicant submitted in total 2 field trials showing the results in research into product efficacy carried out on spring cereals (spring wheat at BBCH 31-43 and spring barley at BBCH 31-51).</p> <p>Following fungal diseases were studied during trials: ERYSGH (1), ERSGR (1), PUCCHD (1), PYRNTE (1) and RHYNSE (1). In the opinion of ZRMS for all fungal diseases Applicant submitted not enough trials (at least 6 should be presented). Also, for spring cereals not acceptable number of trials was presented. Only 2 trials carried out on different cereals is not accepted. At least 6 trials should be presented. cMS can consider extrapolating results from winter cereals. However, even then the number of trials is very limited for most fungal diseases. In our opinion, only for PUCCHD such extrapolation could be possible. However, final decision is left to cMS.</p> <ul style="list-style-type: none"> • <u>One application on spring cereals (A)</u> After the use of FF-075 as a preventative fungicide treatment in spring cereals (HORVS and TRZAS) after one application. <p>PUCCHD The leaf pathogen PUCCHD resulted susceptible to FF-075 applied at a rate of 1.00 l/ha in the EPPO Maritime zone when considering % of severity as the parameter of comparison. Furthermore, the test product displayed equivalent (as compared with Amistar and Proline) control as the observed after the application of the reference products.</p>
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	<ul style="list-style-type: none"> • <u>One application on spring cereals (B)</u> After the use of FF-075 as a preventative fungicide treatment in spring cereals (HORVS and TRZAS) after one application <p>PUCCHD The leaf pathogen PUCCHD resulted susceptible to FF-075 applied at a rate of 1.00 l/ha in the EPPO Maritime zone when considering % of severity as the parameter of comparison. Furthermore, the test product displayed equivalent (as compared with Amistar and proline) control as the observed after the application of the reference products.</p> <ul style="list-style-type: none"> • <u>Two applications on winter cereals (AB)</u> – was not studied. <p>✓ WINTER OILSEED RAPE:</p> <p>Four field trials were carried out in Germany (2), United Kingdom (1) and Ireland (1) during 2020 (4), to assess the efficacy of FF-075 against SCLESC (4 trials) in winter oilseed rape (BRSNW).</p> <p>In the opinion of ZRMs only 4 trials on winter oilseed rape are not accepted (it is a major crop, so at least 6 trials should be presented). Also, against SLESC the number of trials is not sufficient. However, final decision about acceptance or not the winter oilseed rape in GAP table and label project is left to cMS.</p> <ul style="list-style-type: none"> • <u>One application on oilseed rape</u> After the use of FF-075 as a preventative fungicide treatment in oilseed rape (BRSNW) after one application <p>SCLESC The pathogen resulted moderately susceptible (after assessment of stems) to FF-075 when applied once on the crop at 0.8 l/ha in the EPPO Maritime zone. Its use was comparable to the commercial treatment (Proline).</p> <ul style="list-style-type: none"> • <u>Two applications on winter cereals (AB)</u> – was not studied. <p>North-East EPPO zone:</p> <p>✓ WINTER CEREALS:</p> <p>Applicant submitted in total 18 field trials showing the results in research into product efficacy carried out on winter cereals (winter wheat at BBCH 31-43 – 8 trials; winter barley at BBCH 31-45 – 6 trials; winter triticale at BBCH 30-41 – 3 trials and winter rye at BBCH 31-43 – 1 trial).</p> <p>Following fungal diseases were studied during trials: ERYSGH (2 trial), PUCCR (1), PUCCST (1), PYRNTR (1), RAMUCC (2), RHYNSE (2), PUCCHD (3), PUCCRE (3), PYRNTE (7) and SEPTTR (10).</p> <p>In the opinion of ZRMS for most fungal diseases Applicant submitted not enough trials (at least 6 should be presented for major and 3 for minor). Following diseases from winter cereals were not assessed by ZRMS due to not acceptable number of trials: ERYSGH, PUCCR, PUCCST, PYRNTR, RAMUCC, RHYNSE. Those pests should be deleted from GAP table and label project. However, final decision is left to cMS.</p> <p>Following fungal diseases cMS should consider as acceptable in GAP table and label project by cMS from N-E EPPO zone: PUCCHD (3 trials on winter barley), PUCCRE (3 trials on winter wheat), PYRNTE (7 trials on winter barley) and SEPTTR (10 trials: 8 trials on winter wheat and 2 trials on winter triticale).</p> <ul style="list-style-type: none"> • <u>One application on winter cereals (A)</u> After the use of FF-075 as a
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	<p>preventative fungicide treatment in winter cereals ((HORVW, SECCW, TRZAW and TTLWI) in one application (A).</p> <p>PUCCHD – The pathogen was moderately tolerant (L3, 2nd assessment) or susceptible (L3, 1st assessment and L1-L2, 2nd assessment) to FF-075 when applied once on the crop at 1.0 l/ha in the EPPO North-east zone. Its use was in all cases, comparable to the commercial treatments (Amistar, Proline and Tazer 250 SC).</p> <p>PUCCRE – not studied at this application</p> <p>PYRNTE - The pathogen was moderately tolerant (L1-L2, 2nd assessment) or moderately (L3, 2nd assessment) to susceptible (L3, 1st assessment) to FF-075 when applied once on the crop at 1.0 l/ha in the EPPO North-east zone. Its use was in all cases comparable or superior to the commercial treatments (Amistar, Proline and Tazer 250 SC).</p> <p>SEPTTR – The pathogen was susceptible (L2-L3) to FF-075 when applied once on the crop at 1.0 l/ha in the EPPO North-east zone. Its use was in all cases comparable or superior to the commercial treatments (Amistar, Proline and Tazer 250 SC).</p> <ul style="list-style-type: none"> • <u>One application on winter cereals (B)</u> After the use of FF-075 as a preventative fungicide treatment in winter cereals ((HORVW, SECCW, TRZAW and TTLWI) in one application (B). <p>PUCCHD – The pathogen was susceptible (L1-L3, 1st assessment and L1-L2, 2nd assessment) to FF-075 when applied once on the crop at 1.0 l/ha in the EPPO North-east zone. Its use was in all cases, comparable or superior to the commercial treatments (Amistar, Proline and Tazer 250 SC).</p> <p>PUCCRE –The pathogen was susceptible (L1-L3 overall the evaluation) to FF-075 when applied once on the crop at 1.0 l/ha in the EPPO North-east zone. Its use was in all cases, comparable to the commercial treatments (Proline and Tazer 250 SC).</p> <p>PYRNTE -The pathogen was moderately susceptible (L3, 2nd assessment) to susceptible (L1-L3, 1st assessment and L1-L2, 2nd assessment; most of the trials) to FF-075 when applied once on the crop at 1.0 l/ha in the EPPO North-east zone. Its use was superior to comparable to the commercial treatments in most trials (Proline and Tazer 250 SC).</p> <p>SEPTTR – The pathogen was moderately tolerant (for assessed L3, 2nd assessment) to susceptible (for all rest of leaves in both assessments) to FF-075 when applied once on the crop at 1.0 l/ha in the EPPO North-east zone. Its use was comparable (Amistar and Proline) or superior (Tazer 250 SC) to the commercial treatment.</p> <ul style="list-style-type: none"> • <u>Two applications on winter cereals (AB)</u> After the use of FF-075 as a preventative fungicide treatment in winter cereals after two step-wise applications it <p>PUCCHD – two applications were not studied.</p> <p>PUCCRE – The pathogen resulted susceptible (L1-L3) to FF-075 when applied twice on the crop at 1.0 l/ha in the EPPO North-east zone. Its use was comparable to the commercial treatment (Amistar and Proline).</p> <p>PYRNTE -two applications were not studied.</p> <p>SEPTTR – The pathogen resulted susceptible (L1-L3 overall the evaluation) to</p>
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	<p>FF-075 when applied twice on the crop at 1.0 l/ha in the EPPO North-east zone. Its use was comparable to the commercial treatment (Amistar and Proline).</p> <p>✓ SPRING CEREALS:</p> <p>In total, six field trials were carried out in Poland during 2020 (6), to assess the efficacy of the foliar preventative fungicide FF-075 against ERYSGR (1 trial), PUCCCA (1 trial), PYRNTE (4 trials) and RHYNSE (1 trial) in cereals planted in spring (AVESS and HORVS).</p> <p>In the opinion of ZRMS for all fungal diseases Applicant submitted not enough trials (at least 6 should be presented). Also, for spring cereals not acceptable number of trials was presented. At least 6 trials should be presented for representative crop, ex. spring wheat or spring barley. Only, if we assessed spring cereals as one group number of trials seems to be acceptable. cMS from N-E EPPO zone can also consider extrapolating results from winter cereals. However, even then the number of trials is very limited for most fungal diseases. In our opinion, only for RHYNSE such extrapolation could be possible. However, final decision is left to cMS. Below we presented results from RHYNSE (in the case of extrapolation) and PYRNTE (in the case of acceptance limited number of trials by cMS).</p> <ul style="list-style-type: none"> • <u>One application on spring cereals (A)</u> After the use of FF-075 as a preventative fungicide treatment in spring cereals (AVESS and HORVS) after one application. <p>RHYNSE The pathogen was susceptible (L1-L3) to FF-075 when applied once on the crop at 1.0 l/ha in the EPPO North-east zone. Its use was comparable or superior to the commercial treatment (Tazer 250 SC).</p> <p>PYRNTE The pathogen was moderately tolerant (L1, 2nd assessment), moderately (L2-L3, 2nd assessment) or susceptible (L2-L3, 1st assessment) to FF-075 when applied once on the crop at 1.0 l/ha in the EPPO North-east zone. Its use was comparable or superior to the commercial treatment (Amistar, Proline and Tazer 250 SC).</p> <ul style="list-style-type: none"> • <u>One application on spring cereals (B)</u> After the use of FF-075 as a preventative fungicide treatment in spring cereals (AVESS and HORVS) after one application <p>RHYNSE The pathogen was moderately susceptible (L2, 2nd assessment) to susceptible (L1-L3, 1st assessment and L1, 2nd assessment) to FF-075 when applied once on the crop at 1.0 l/ha in the EPPO North-east zone. Its use was comparable to superior to the commercial treatment (Tazer 250 SC)</p> <p>PYRNTE The pathogen was moderately susceptible (L2-L3, 1st assessment and L1, 2nd assessment) to susceptible (L1, 1st assessment and L2, 2nd assessment) to FF-075 when applied once on the crop at 1.0 l/ha in the EPPO North-east zone. Its use was comparable to superior to the commercial treatment (Amistar and Proline and Tazer 250 SC).</p> <ul style="list-style-type: none"> • <u>Two applications on winter cereals (AB)</u> – was not studied. <p>✓ WINTER OILSEED RAPE:</p> <p>In total, four field trials were carried out in Poland during 2019 (2) and 2020 (2), to assess the efficacy of the foliar preventative fungicide FF-075 against ALTEBA (1trial) and SCLESC (4 trials) in winter oilseed rape (BRSNW).</p>
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	<p>In the opinion of ZRMs only 4 trials on winter oilseed rape are not accepted (it is a major crop, so at least 6 trials should be presented). Also, against SLESC (4) and ALTEBA (1) the number of trials is not sufficient. However, final decision about acceptance or not the winter oilseed rape in GAP table and label project is left to cMS. Below, we present results for SCLESC. Only SCLESC should be consider by cMS in our opinion.</p> <ul style="list-style-type: none"> • <u>One application on oilseed rape</u> After the use of FF-075 as a preventative fungicide treatment in oilseed rape (BRSNW) after one application <p>SCLESC The pathogen was moderately tolerant (after assessment of stems) to FF-075 when applied once on the crop at 0.8 l/ha in the EPPO North-east zone. Its use was comparable to the commercial treatment (Proline). Additionally, after classifying the stems using a scale of damage (classes 0-4= no disease, 4 death), after the treatment with FF-075, high efficacy for classes 1-3 was observed. Furthermore, the effect was statistically comparable with the commercial treatment (Proline).</p> <ul style="list-style-type: none"> • <u>Two applications on winter cereals (AB)</u> – was not studied. <p>Summary the assessment for cMS: The relevance of extrapolations between crops should be confirmed at the national level with respect to national conventions and importance of pest and crop. Trials were carried out in the Maritime and North-East EPPO zone. Individual Member States should consider whether the results from other EPPO zones are also relevant to their area.</p> <p>The number of submitted trials for most diseases does not meet EPPO PP 1/226 in all EPPO zones, however reduced number of trials is possible according to EPPO standard PP 1/307 with reference to the product. Concerned Member States will need to consider the current authorized uses for the reference product in their own Member State. However, the reference products based on the same active ingredients (similar formulation) were not used in the trials to prove the comparability with the test product. Therefore, such a cohesiveness seems impossible in the opinion of the ZRMs.</p> <p>cMS need to consider whether the proposed provisions in the GAP or label design are appropriate, the application window and number of applications. Not all diseases have been studied to demonstrate the efficacy of one and two doses, and for some only one application per season has been studied. It is the opinion of the ZRMs that the approved applications should be consistent with the over-dose studies performed by the Applicant. Alternatively, if cMS already has a registered product of identical formulation, they may consider accepting certain records based on already registered labels if internal regulations permit.</p> <p>ASSESSMENT FOR POLAND</p> <p>In Poland (N-E EPPO zone) we can use for assessment also results from neighboring countries from other EPPO zone (ex. CZ, DE).</p> <p>No plant protection product with both active substances – prothioconazole and azoxystrobin is registered in Poland, so we need at least 6 valid trials for major and minor crops.</p> <p>Poland has own extrapolation results. The extrapolation results from winter cereals to spring cereals is possible when Applicant submitted enough number of trials for representative crop (ex. winter wheat) and at least 1-2 efficacy trials</p>
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	<p>against each disease for each species of spring cereals.</p> <p>It is not acceptable to sum/combine different species of cereals as a group (ex. winter cereals) and then extrapolate results from other group (ex. spring cereals). Always for a representative plant (e.g., winter wheat) there should be a set of results and for extrapolated cereals - at least 1-2 studies confirming the community should be presented.</p> <p>✓ WINTER CEREALS:</p> <p>In Poland we can accept in the label project following fungal diseases:</p> <p>PUCCHD (rdza jęczmienia) – Applicant submitted trials carried out on winter barley in DE (4 trials), CZ (1 trial) and PL (3 trials). On the basis on 8 valid trials PUCCHD can be included in Polish label. Two applications were not studied during trials, so only one application per season can be accepted. PUCCHD was not included in GAP table and label project for registration. So, that is why the ZRMs are only indicating that this application could be accepted.</p> <p>PYRNTE (plamistość siatkowa jęczmienia) – Applicant submitted trials carried out in Poland on winter barley (7 trials). Submitted number of trials are sufficient for including control PYRNTE by FF-075 in winter barley. However, Applicant included only PYRNTE for spring barley, in the opinion of ZRMs also winter barley should be included for this disease in label and GAP project. Two applications were not studied during trials, so only one application per season can be accepted.</p> <p>SEPTTR (septorioza paskowana liści pszenicy) - Applicant submitted trials carried out in Poland on winter wheat (17 trials: DE-8, CZ-1, PL-8) and winter triticale (2 trials: PL). Submitted number of trials are sufficient for including control SEPTTR by FF-075 in winter wheat and winter triticale. Two applications and proposed window Application (BBCH 30-69) can be accepted. Applicant also submitted 2 trials for winter triticale against SEPTTR, on the basis on extrapolating results from wheat, this crop can be also included in GAP table. Winter durum and spelt should be deleted from GAP table and label project due to lack of trials.</p> <p>PUCCRT (rdza brunatna pszenicy) - Applicant submitted trials carried out on winter wheat in DE (5 trials), CZ (1 trial) and PL (1 trial). On the basis on 7 valid trials PUCCRT can be included in Polish label. Two applications and proposed window Application (BBCH 30-69) can be accepted. Winter triticale spelt and durum should be deleted from GAP table and label project due to lack of trials.</p> <p>Due to not enough number of trials following fungal diseases should be deleted from GAP table and Polish label project: ERYSGH, ERYSGT, FUSASP, LEPTNO, PUCCSI, PUCST, PYRNTR, RHYNSE, RAMUCC.</p> <p>✓ SPRING CEREALS:</p> <p>Limited number of trials, only 5 carried out on spring cereals (spring barley-5 trials, oat-1 trial) was presented by Applicant.</p> <p>Only PYRNTE (plamistość siatkowa jęczmienia) can be accepted on spring barley (on the basis on extrapolating results from winter barley, because on spring barley only 4 valid trials were presented for the assessment). Two applications were not studied during trials, so only one application per season can be accepted. However, narrow application window was studied during trials in the opinion of ZRMs and on the basis on submitted trials we can accepted: BBCH</p>
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	<p>30-49.</p> <p>RHYNSE, ERYSGR, PUCCCA should be deleted from GAP table and Polish label project due to not enough of number of trials and lack of possibility for extrapolating results.</p> <p>✓ WINTER OILSEED RAPE:</p> <p>Applicant submitted in total 6 valid trials carried out on winter oilseed rape in Poland (4 trials) and DE (2 trials). Only, SCLESC can be accepted in GAP table and Polish label project. ALTEBA should be deleted from GAP table and label project due to not enough of number trials (only 1 trial was presented by Applicant).</p> <p>Application window for winter oilseed rape to control SCLESC (zgnilizna twardzikowa) can be accepted. However, only one application per season can be accepted. Two doses were not studied during trials.</p>
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3.3 Information on the occurrence or possible occurrence of the development of resistance (KCP 6.3)

Prothioconazole is a fungicide, which belongs to FRAC group 3, G1 respectively, called DMI-fungicides (DeMethylation Inhibitors).

It is a systemic fungicide that interferes with fungal sterol biosynthesis resulting in the impairment of membrane function and limitation of fungal growth.

DMI fungicides act by inhibiting the Cytochrome P450-dependent C-14 demethylase reaction in fungal sterol biosynthesis. Blockage of the sterol biosynthesis leads to a reduction in the normal sterol pathway end products and an accumulation of other abnormal sterols.

The Fungicide Resistance Action Committee (FRAC) classification for prothioconazole's mode of action is as follows (FRAC, 2020):

MOA	TARGET SITE AND CODE	GROUP NAME	CHEMICAL OR BIOLOGICAL GROUP	FRAC CODE
<p>G</p> <p>Sterol biosynthesis in membranes</p>	<p>G1</p> <p>C14-demethylase in sterol biosynthesis</p> <p>(<i>erg11/cyp51</i>)</p>	<p>DMI-fungicides (DeMethylation Inhibitors)</p> <p>(SBI: Class I)</p>	<p>triazolinthiones</p>	<p>3</p>

Azoxystrobin is a fungicide, which belongs to FRAC group 11, C3 respectively, called QoI-fungicides (Quinone outside Inhibitors).

The Qo fungicides inhibit plant pathogens by blocking the pathogens ability to produce energy. They do this by blocking the transfer of electrons at the Quinone "outside" site of the bc1 complex (complex III in the electron transport chain).

The Fungicide Resistance Action Committee (FRAC) classification for azoxystrobin's mode of action is as follows (FRAC, 2021):

MOA	TARGET SITE AND CODE	GROUP NAME	CHEMICAL OR BIOLOGICAL GROUP	FRAC CODE
C Quinone outside Inhibitors	C3 complex III: cytochrome bc1 (ubiquinol oxidase) at Qo site (cyt b gene)	Qol-fungicides	Methoxy-acrylates	11

3.3.1 Mode of action

DMI fungicides act by inhibiting the Cytochrome P450-dependent C-14 demethylase reaction in fungal sterol biosynthesis. Blockage of the sterol biosynthesis leads to a reduction in the normal sterol pathway end products and an accumulation of other abnormal sterols.

The Qo fungicides inhibit plant pathogens by blocking the pathogens ability to produce energy. They do this by blocking the transfer of electrons at the Quinone "outside" site of the bc1 complex (complex III in the electron transport chain).

3.3.2 Mechanism of resistance

There are big differences in the activity spectra of DMI fungicides.

Resistance is known in various fungal species. Several resistance mechanisms are known including target site mutations in *cyp51* (erg 11) gene, e.g. V136A, Y137F, A379G, I381V; *cyp51* promotor; ABC transporters and others.

Prothioconazole, as a DMI fungicide, is classified by the FRAC (2020) as medium risk of resistance.

For Qol-fungicides, resistance is known in various fungal species. Target site mutations in *cyt b* gene (G143A, F129L) and additional mechanisms are known for this group.

Based on the current evidence the resistance risk assessment for DMI, SBI-Class I, Triazoles will be medium. It is known a cross resistance between DMI fungicide active against the same fungus. DMI fungicides show no cross resistance to other SBI classes. The published use pattern for all SBI classes covered by the FRAC SBI Working Group guidelines for management strategy reflects the resistance risk assessment. The active ingredient has systemic properties, is very rapidly absorbed into the plant and akropetal distributed in the transpiration stream. This results in both a protective and curative action. The result of the effect of prothioconazole is the abnormal formation of fungal infection structures and a strong inhibition of mycelial growth and spore germination. A penetration of the plant or the seed is thus prevented. The active ingredient is selective on a wide range of dicotyledonous and monocotyledonous crop species. Resistance is known in various fungal species. Several resistance mechanisms are known including a number of target site mutations on the *cyp51* gene (cytochrome p450), overexpression of the *cyp51* gene and effects on ABC transporters.

Azoxystrobin, as a Qol-fungicide, is classified by the FRAC (2021) as a high risk of resistance. All of the resistance pathogens bear a single site mutation at position 143 in the *cyt b* gene at the G143A site. In many cases, the presence of the mutated allele was associated with a decrease in / loss of disease control. Increasing the dose of a QoI compound is therefore not expected to be effective in controlling QoI resistant strains. However, rust pathogens (*Puccinia* spp, *Phakopsora*, *Hemileia*) have not developed resistance to QoI fungicides up to date. Recently, it has been shown that the G143A amino acid

substitution most likely does not occur, when there is an intron after the nucleotide triplet coding for the glycine (G) at position 143 (Grasso *et al.*, 2006). The self-splicing process requires a specific and conserved recognition sequence 4 to 6 bases upstream from the splicing site and therefore a mutation in the triplet coding for G143 resulting in cytochrome b deficiency that is lethal. This gene structure is present in all rust species studied so far as well as in *Alternaria solani* (Grasso *et al.*, 2006) and *Pyrenophora teres* (Sierotzki *et al.*, 2007). In addition, a second mutation, F129L, has been detected in *Pythium aphanidermatum*, *Pyricularia grisea*, *Alternaria solani*, *Plasmopara viticola*, *Pyrenophora teres* and *Pyrenophora tritici-repentis*. The F129L resistance factors are significantly lower in comparison with the G143A mutation and field performance of QoI containing mixtures remains good. In the latter two pathogens additionally also the G137R mutation has been found, however, at very low frequency and with small resistance factors.

In different *Puccinia* species, the presence of an intron has been observed directly after the triplet GGT that encodes for glycine at position 143. In all rust species included in this study, as well as in *Alternaria solani* and *Pyrenophora teres*, the codon GGT at position 143 is located exactly at the exon/intron boundary and is likely part of the signal sequences essential for the recognition of the intronic RNA to be excised. The authors predict that a nucleotide substitution in codon 143 (GGT → GCT), which is two nucleotides upstream from the exon/intron junction, will strongly affect the splicing process, leading to a deficient cytochrome b. The substitution of guanine to cytosine obviously does not allow a proper pairing of the exonic nucleotides with the intronic IGS sequence in the pre-mRNA molecule. Therefore, this substitution will be lethal, and individuals carrying this mutation will not survive. This mechanism has been recently confirmed to have a strong effect on the availability of cytochrome b transcripts in yeast (Vallières *et al.* 2012). As a consequence, it is concluded that resistance to QoI fungicides based on the G143A mutation is not likely to evolve in species such as rusts (*Puccinia* spp, *U. appendiculatus*, *P. pachyrhizi*, *H. vastatrix*), *P. teres* and *A. solani*. The presence of such an intron has also been reported in *Monilinia laxa*, *Monilinia fruticola* (Miessner and Stammler, 2010, Luo *et al.*, 2010) and *Guignardia bidwellii* (Miessner *et al.*, 2011) In the fungal species investigated so far, the presence of an intron was conserved over all investigated isolates within a species, even after many years of high selection pressure by QoIs. There is only one exception, *Botrytis cinerea*, where two forms of the cytochrome b gene have been reported (Banno *et al.*, 2009). However, it cannot be excluded that mutations other than G143A conferring resistance may arise in upcoming populations selected by the use of QoI fungicides. For *A. solani* and *P. teres* the mutations F129L and/or G137R have been reported (Sierotzki *et al.* 2007, www.frac.info) as a mechanism for QoI tolerance. Both mutations are of minor importance, however, because they generally lead to lower resistance factors (www.frac.info) than the G143A mutation and it has been found that these two mutations have no, or only limited impact on the field efficacy of QoIs (Semar *et al.* 2007). The results give some confidence around the continued sustainability of disease control with QoI fungicides in pathogens containing an intron after codon 143 in the cytochrome b gene providing responsible resistance management practices are implemented.

3.3.3 Evidence of resistance

Numerous cases of resistance to DMI fungicides have been documented (FRAC, 2018), involving, in particular, pathogenic organisms in cereals and oilseed rape targeted by the present application as shown in the table below.

Pathogen	Crop	Reference	Remarks
<i>Erysiphe graminis f.sp. hordei</i>	Barley	Fletcher & Wolfe 1981	Field
<i>Erysiphe graminis f.sp. tritici</i>	Wheat	De Waard et al. 1986	Field

<i>Fusarium asiaticum</i> <i>Fusarium graminearum</i>	Wheat	Yin et al. 2009	Lab study on isolates from China
<i>Fusarium graminearum</i>	Wheat	Spolti et al. 2014	Field
<i>Mycosphaerella graminicola</i>	Wheat	Metcalf et al. 2000 Mavroedi & Shaw 2005 HGCA 2005 Cools et al. 2005	Field experiments Field experiments Field Laboratory
<i>Pseudocercospora herpotrichoides</i> Lente or R type	Wheat	Leroux & Marchegay 1991	Field
<i>Puccinia striiformis</i>	Wheat	Bayles et al. 2000 Napier et al. 2000	Sensitivity shift laboratory
<i>Pyrenopeziza brassicae</i>	Oilseed rape	Carter et al. 2014	Field
<i>Pyrenophora teres</i>	Barley	Sheridan et al. 1985	Field
<i>Pyrenophora tritici-repentis</i>	Wheat	Reimann & Deising 2005	Field
<i>Rhynchosporium secalis</i>	Barley	Hunter et al. 1986 Kendall & Hollomon 1990 Kendall et al. 1993 Cooke et al. 2004	Glasshouse Field Field isolates field

3.3.4 Cross-resistance

It is generally wise to accept that cross resistance is present between DMI fungicides active against the same fungus. DMI fungicides are Sterol Biosynthesis Inhibitors (SBIs) but show no cross resistance to other SBI classes (FRAC, 2020).

For QoI-fungicides, cross resistance is shown between all members of the QoI group.

3.3.5 Sensitivity data

No baseline or sensitivity data is provided as the active substances prothioconazole and azoxystrobin have been used commercially in Europe for many years.

3.3.6 Use pattern

FF-075 is a soluble concentrate (SC) containing 200 g/L prothioconazole and 150 g/L azoxystrobin for control of white mould, dark leaf spot, net blotch, yellow rust, brown rust, crown rust, leaf blotch and

head blight complex with a post-emergence application of 0.8 – 1.0 L/ha on oilseed rape and cereals (professional use).

3.3.7 Resistance risk assessment of unrestricted use pattern

Inherent risk – fungicide

The inherent risk of prothioconazole, as a DMI fungicide, is considered as medium (FRAC, 2020).

The inherent risk of axozystrobin, as a QoI-fungicide, is considered as high (FRAC, 2021).

Inherent risk – target pests

The risk of resistance development to fungicides is classified from high to low depending on the pathogens targeted by the present application, as shown in the table below (FRAC, 2019).

Pathogen	Crop	Risk class
<i>Blumeria graminis</i>	Wheat/barley	High
<i>Erysiphe cruciferarum</i>	Various	Medium
<i>Mycosphaerella graminicola</i> (<i>Zymoseptoria tritici</i>)	Wheat	Medium
<i>Pyrenopeziza brassicae</i>	Oilseed rape	Medium
<i>Pyrenophora teres</i>	Barley	Medium
<i>Pyrenophora tritici-repentis</i>	Wheat	Medium
<i>Fusarium</i> spp.	Various	Low
<i>Leptosphaeria maculans</i>	Oilseed rape	Low
<i>Puccinia</i> spp.	Wheat/barley, various	Low
<i>Rhynchosporium commune</i> (<i>secalis</i>)	Barley	Low

Agronomic risk

The agronomic risk interacts in a complex way, whereas the fungicide and pathogen risks are inherent. The agronomic risk varies depending on different factors (e.g. climatic conditions, agricultural practice).

The use of mitigation measures can reduce the agronomic risk, thus allowing reducing the combined risk to low levels.

3.3.8 Test methods

No special test methods are provided due to the long use of both active substances.

3.3.9 Acceptability of the resistance risk

Thus, the resistance risk is considered acceptable when FF-075 is used according to Good Agricultural Practices and label recommendations.

3.3.10 Management strategies

The Fungicide Resistance Action Committee (FRAC) provides recommendations for resistance management for **SBI fungicides**.

Utilization of fungicide resistance management strategies in practice is one of the most important tools to slow down the evolution of fungicide resistant plant pathogens.

General use recommendations (all crops):

The SBI fungicides represent one of the most potent classes of fungicides available to the grower for the control of many economically important pathogens. It is in the best interest of all those involved in recommending and using these fungicides that they are utilised in such a way that their effectiveness is maintained.

The working group concentrates its resources on the major crop/pathogen targets from the point of view of resistance risk. Inevitably many, still important pathogens are omitted. To help in making recommendations for crops and pathogens not directly covered, the following general recommendations can be made:

- Repeated application of SBI fungicides alone should not be used on the same crop in one season against a high-risk pathogen in areas of high disease pressure for that particular pathogen.
- For crop/pathogen situations where repeated spray applications (e.g. orchard crops/powdery mildew) are made during the season, alternation (block sprays or in sequence) or mixtures with an effective non cross-resistant fungicide are recommended (see FRAC Code List).
- Where alternation or the use of mixtures is not feasible because of a lack of effective or compatible non cross-resistant partner fungicides, then input of SBI's should be reserved for critical parts of the season or crop growth stage.
- If the performance of SBIs should decline and sensitivity testing has confirmed the presence of less sensitive isolates, SBIs should only be used in mixture or alternation with effective non cross-resistant partner fungicides.
- The introduction of new classes of chemistry offers opportunities for more effective resistance management. The use of different modes of action should be maximized for the most effective resistance management strategies.
- Users must adhere to the manufacturers' recommendations. In many cases, reports of "resistance" have, on investigation, been attributed to cutting recommended use rates, or to poorly timed applications.
- Fungicide input is only one aspect of crop management. Fungicide use does not replace the need for resistant crop varieties, good agronomic practice, plant hygiene/sanitation, etc.
- Exclusive frequency measurements of single cyp51 mutations are not sufficient to describe the sensitivity situation towards DMIs but can help to better understand the background of sensitivity shifts.

Specific recommendations for cereals:

- The recommendations for the use of DMI fungicides in mixture or alternation programmes with different mode of action fungicides remain unchanged. It needs to be emphasized that it

is essential for resistance management purposes to follow strictly the manufacturer's and FRAC recommendations.

- Repeated application of DMI fungicides alone should not be used on the same crop in one season against risky pathogens (e.g. cereal powdery mildews, barley net blotch, scald) in areas of high disease pressure for that particular pathogen.
- Reduced rates of DMIs can contribute to accelerate the shift to less sensitive populations. It is critical to use effective rates of DMIs in order to ensure robust disease control and effective resistance management. DMIs must provide effective disease control and be used at manufacturers recommended rates.
- When used in mixture recommended effective rates of the SBI must be maintained. Split and reduced rate programmes, using multiple repeated applications at dose rates below manufacturer's recommendations, provide continuous selection pressure and accelerate the development of resistant populations, and therefore must not be used.
- To ensure good performance and particularly resistance management in situations of even low disease pressure it is essential to adhere to dosages and spray timings as recommended by manufacturers. Curative applications should be avoided. Application timing has to be appropriate to all mix partners' characteristics. Mixing with a non-cross resistant fungicide at effective dose rates contributes to a more effective disease control and resistance management.
- The amine fungicides are effective non-cross-resistant partner fungicides for DMIs on cereals for the control of pathogens included in the label recommendation of each respective product.

The Fungicide Resistance Action Committee (FRAC) provides recommendations for resistance management for **QoI-fungicides**.

General use recommendations (all crops):

Strategies for the management of QoI fungicide resistance, in all crops, are based on the statements listed below. These statements serve as a fundamental guide for the development of local resistance management programs.

Resistance management strategies have been further enhanced in order to be proactive and to prevent the occurrence of resistance to QoI fungicides developing in other areas and pathogens. Specific guidelines by crop follow the general guidelines given here.

A fundamental principle that must be adhered to when applying resistance management strategies for QoI fungicides is that:

- The QoI fungicides (azoxystrobin, coumoxystrobin, dimoxystrobin, enoxastrobin, famoxadone, fenamidone, fenaminostrobin, fluoxastrobin, flufenoxystrobin, kresoxim-methyl, mandestrobin, metominostrobin, orysastrobin, pyraoxystrobin, picoxystrobin, pyraclostrobin, pyrametastrobin, pyribencarb, triclopyricarb, trifloxystrobin) are in the same cross-resistance group; FRAC Code 11.
- The QoI fungicide in subgroup A (metyltetraprole), Code 11A fungicide, is not cross resistant with Code 11 fungicides on the pathogens with G143A mutation.
- Fungicide programmes must deliver effective disease management. Apply QoI fungicide based products at effective rates and intervals according to manufacturers' recommendations. Effective disease management is a critical component to delay the build-up of resistant pathogen populations.
- The number of applications of QoI fungicide based products within a total disease management program must be limited whether applied solo or in mixtures with other fungicides. This limitation is inclusive to all QoI fungicides. Limitation of QoI fungicides within a spray programme provides time and space when the pathogen population is not influenced by QoI fungicide selection pressure.

- Limitation of the total number of QoI applications is detailed in the specific crop recommendations. In consideration of the cross-resistance profile of subgroups 11 and 11A, the maximum allowed number of QoI-containing sprays is increased by one, where both QoI fungicides (code 11) and QoI fungicides in subgroup A (code 11A) are included in a spray program in a given cropping season. All crop-specific recommendations will be regularly reviewed based on sensitivity monitoring.
- A consequence of limitation of QoI fungicide based products is the need to alternate them with effective fungicides from different cross-resistance groups (refer to the specific crop recommendations).
- QoI fungicides, containing only the solo product, should be used in single or block applications in alternation with fungicides from a different cross-resistance group. Specific recommendation on size of blocks is given for specific crops.
- QoI fungicides, applied as tank mix or as a co-formulated mixture with an effective mixture partner, should be used in single or block applications in alternation with fungicides from a different cross-resistance group. Specific recommendations on size of blocks are given for specific crops.
- Mixture partners for QoI fungicides should be chosen carefully to contribute to effective control of the targeted pathogen(s). The mixture partner must have a different mode of action, and in addition it may increase spectrum of activity or provide needed curative activity. Use of mixtures containing only QoI fungicides (including two-way mixtures of code 11 fungicide and code 11A fungicide) must not be considered as an anti-resistance measure. Where local regulations do not allow mixtures, then strict alternations with non-cross resistant fungicides (no block applications) are necessary.
- An effective partner for a QoI fungicide is one that provides satisfactory disease control when used alone on the target disease.
- QoI fungicides are very effective at preventing spore germination and should therefore be used at the early stages of disease development (preventive treatment).

Specific recommendations for cereals:

Where the guidelines were followed, field performance of QoI containing spray programs was good. It continues to be essential to use non-cross resistant mixture partners (e.g. SBIs, multisites) to ensure robust disease management. This will also help to delay the evolution of resistance, especially in regions with no resistance or where resistance is at low levels.

- Apply QoI fungicides always in mixtures with non-cross resistant fungicides to control cereal pathogens. At the rate chosen the respective partner(s) on its/ their own has/ have to provide effective disease control. Refer to manufacturers recommendations for rates.
- Apply a maximum of 2 QoI fungicide containing sprays per cereal crop. Limiting the number of sprays is an important factor in delaying the build-up of resistant pathogen populations.
- Apply QoI fungicides according to manufacturers recommendations for the target disease (or complex) at the specific crop growth stage indicated.
- Apply the QoI fungicide preventively or as early as possible in the disease cycle. Do not rely only on the curative potential of QoI fungicides.
- Split / reduced rate program, using repeated applications, which provide continuous selection pressure, accelerate the development of resistant populations and therefore must not be used.

3.3.11 Implementation of the management strategy

Resistance management strategies are communicated in two forms: product label recommendations and practical use guidelines tailored to particular situations or regions. Label recommendations form the basis of the resistance management strategy, providing instruction relevant to all product usages, and all appropriate resistance management statements and restrictions for the relevant country.

3.3.12 Monitoring, reporting and reaction to changes in performance

Continuing observation of field performance may be conducted post-registration by the applicant if necessary. In case of development of resistant strains, the relevant authorities would be informed in a timely manner and a revised resistance management strategy would be agreed.

As a summary, the risk of resistance to FF-075 is considered acceptable when the product is used according to the GAPs and taking into account the proposed management strategies.

Comments of zRMS:	<p>Evaluation was carried out in accordance with the Uniform Principles. The agronomic risk for active ingredients which include Euskatel Pro (product code: FF-075) is estimated as high for azoxystrobin and medium for prothioconazole (. </p> <p>Without any precautions the resistance risk will be unacceptable. The abidance of the requirements within the good agricultural practice is necessary. The resistance management is coordinated by FRAC recommendations. Applying the anti-resistance use recommendations, development of resistance can be considerably decreased or avoided. The restriction should be put on the label.</p> <p><u>Agronomic parameters reducing the risk of a development of resistance are:</u></p> <ul style="list-style-type: none"> • fungicide control strategies including chemical, non-chemical, biological and cultural practices, • wide crop rotations, • low disease pressure, • alternation with other (different modes of action) active substances, • high level of activity on the target disease species, • low residual activity, • chemical diversity. <p><u>Agronomic parameters increasing the risk of a development of resistance are:</u></p> <ul style="list-style-type: none"> • repeated applications during a crop cycle, • control of diseases with a sole active ingredient (mostly meaning a single site of action), • mono cropping, • high disease pressure, • application of sublethal concentrations of the fungicide, • long lasting residual activity, • chemical similarity. <p>Without any precautions the resistance risk is unacceptable. The abidance of the requirements within the good agricultural practice is necessary. The resistance management is coordinated by FRAC recommendations. Applying the anti-resistance use recommendations, development of resistance can be considerably decreased or avoided. The restriction should be put on the label.</p> <p>Since the agronomic factors influencing the risk of resistance development tend to vary between the member states, the individual and detailed assess-ment of the resistance risk (Evaluation of the Agronomic risk of resistance, Management of resistance, Use pattern, Proposed Risk Modifiers) has to be finalised on national level.</p>
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3.4 Adverse effects on treated crops (KCP 6.4)

Information on trials submitted (3.4: Adverse effects on treated crops)

The adverse effects of FF-075 on a variety of crops (winter and spring wheat, winter and spring barley, winter rye, winter triticale, oats and winter oilseed rape) in the EPPO Mediterranean and EPPO Maritime zones of the Central, Southern and Northern regulatory zone were tested in a series of trials.

In total, in all 45 efficacy trials the evaluation of selectivity of FF-075 was included. All trials were conducted according to GEP and followed the appropriate EPPO standards by officially recognised testing organisations.

For the overview of included trials please refer to chapter 3.2 – Information on trials submitted of this document.

3.4.1 Phytotoxicity to host crop (KCP 6.4.1)

In total, in 73 efficacy trials phytotoxicity symptoms were assessed. The distribution of trials by location and year are described in Table 3.4-1 and Table 3.4-2.

Table 3.4-1: Number of efficacy trials, in which phytotoxicity was assessed sorted by country and year

Year			
Country	2019	2020	Total
Czech Republic	2	1	3
Germany	4	11	15
Denmark		2	2
France	1	5	6
Ireland		5	5
Poland	3	25	28
Sweden		2	2
United Kingdom		13	13
Total	10	63	73

Table 3.4-2: Number of efficacy trials, in which phytotoxicity was assessed sorted by country and EPPO climatic zones

EPPO zone		
Country	Maritime	North-east
Czech Republic	3	-
Germany	15	-
Denmark	2	-
France	6	-
Ireland	5	-
Poland	-	28
Sweden	2	-
United Kingdom	13	-
Total	46	28

3.4.1.1 EPPO Maritime zone

Winter cereals

Material and methods

In total, 39 efficacy trials were carried out in the Czech Republic, Denmark, France, Germany, Ireland, Sweden and the United Kingdom in 2018 and 2019 to determine the phytotoxicity effects of FF-075 on winter cereals. The trials were carried out according to GEP by officially recognised testing organisations and the guidelines EPPO PP 1/26(4), PP 1/135(4), PP 1/152(4), PP 1/181(4) and PP 1/225(2) were used.

The following crop phytotoxicity symptoms were assessed: general phytotoxicity, vigor and lodging.

Phytotoxicity in effectiveness trials

The phytotoxic effect of FF-075 on winter cereals was assessed in 39 effectiveness trials against different diseases as follows: ERYSGH, ERYSGT, FUSASP, LEPTNO, PUCCHD, PUCCRE, PUCCRT, PUCCSI, PUCCST, PYRNTE, PYRNTR, RHYNSE and SEPTTR..

The detailed information on the experiments, application methods and assessment of phytotoxicity are given in Table 3.4-3 and Appendix 4. For further information on the reference products please refer to Table 3.2-8

Table 3.4-3: Experimental details for assessment of phytotoxicity with FF-075 in winter cereals in the EPPO Maritime zone (numerals in brackets indicate the number of trials, except for the information on guidelines) (Effectiveness trials)

Total number of trials		39
Guidelines	General guidelines	EPPO PP 1/135(4), PP 1/152(4), PP 1/181(4), PP 1/214(4), PP 1/225(2)
	Specific guidelines	EPPO PP 1/26(4)
	GEP	Yes (39)
Experimental design	Plot design	RCBD (39)
	Plot size	17.5-36 m ²
	Number of replications	4 (39)
Crop	Trials per crop	Winter wheat (29) Winter barley (9) Winter triticale (1)
	Varieties per crop	Winter wheat: Benchmark (1), Boss (1), Complice (1), Costello (1), Crusoe (2), Diamanto (1), Firefly (2), Frisky (1), JB Diego (1), Kashmir (1), Kinetic (1), KWS Barrel (1), Norin (1), RGT Gravity (1), Rubisco (4), Siskin (1), Skyfall (2), Tobak (5), Torp (1) Winter barley: Flagon (1), Henriette (1), KWS Higgins (1), KWS Kosmos (1), KWS Orwell (1), KWS Tower (1), Lomerit (1), Quadriga (1), SU Jule (1) Winter triticale: Lombardo (1)
	Sowing period	Winter wheat: September-October 2018, September-December 2019 Winter barley: September-October 2019 or n.s. (1) Winter triticale: October 2019
Application	Crop stage (BBCH)* at application	Winter wheat: BBCH 30 - BBCH 65 Winter barley: BBCH 31 – BBCH 49 Winter triticale: BBCH 31 – BBCH 39
	Timing	Post-emergence

	Number of applications	1 (32), however conducted at two time points in the same plot, therefore assessments at DA-B shown
	Intervals between applications	2 (7)
	Spray volumes	20-36 days
Assessment	Assessment types	150 - 300 l/ha
	Assessment dates	% general phytotoxicity, vigor (score), lodging
Other relevant information	Soil type	12-25 DA-A, 27-43 DA-A, 48-10 DA-A; 7-24 DA-B, 26-41 DA-B and 44-72 DA-B
	Soil pH	Clay loam (4), loam (3), loamy sand (2), sand (1), sandy clay loam (4), sandy loam (6), silt (1), silt loam (7), silty clay (2), silty clay loam (4), n.s. (5)
	Natural/artificial inoculation	pH 5.3 – pH 7.4 and n.s. (23)
	Field / Greenhouse	Natural (39)
	Application rate of test product	F (39)
		1.0 L/ha product

* BBCH for crops

Results

In total, 39 trials were conducted in winter cereals to determine the effect of FF-075 on winter wheat, winter barley and winter triticale on a wide range of commercially grown varieties.

29 trials were carried out in winter wheat, 9 trials in winter barley and one trial in winter triticale. No phytotoxicity symptoms caused by FF-075 at the proposed dose rate of 1.0 L/ha were recorded in almost all, except one trial.

In one trial conducted in winter barley, phytotoxicity symptoms regarding vigor were observed. The main symptoms were observed in the untreated control. The symptoms after application of FF-075 were only minor and comparable to the symptoms observed after application of the reference product. The effects did not have any negative influence on the yield of the plants.

Conclusions

No phytotoxicity symptoms caused by FF-075 at the proposed use rate of 1.0 L/ha (corresponding to 200 g/L prothioconazole and 150 g/L azoxystrobin) were observed in any trials, except in one.

The symptoms observed in one trial were only minor and had no influence on the health of the plants.

Spring cereals

Material and methods

Two efficacy trials were carried out in Sweden in 2020 to determine the phytotoxicity effects of FF-075 on spring cereals. The trials were carried out according to GEP by officially recognised testing organisations and the guidelines EPPO PP 1/26(4), PP 1/135(4), PP 1/152(4), PP 1/181(4), PP 1/214(4) and PP 1/225(2) were used.

The following crop phytotoxicity symptoms were assessed: general phytotoxicity and vigor.

Phytotoxicity in effectiveness trials

The phytotoxic effect of FF-075 on spring cereals was assessed in two effectiveness trials against different diseases as follows: ERYSGH, ERYSGR, PUCCHD, PYRNTE and RHYNSE.

The detailed information on the experiments, application methods and assessment of phytotoxicity are given in Table 3.4-4. For further information on the reference products please refer to Table 3.2 8.

Table 3.4-4: Experimental details for assessment of phytotoxicity with FF-075 in spring cereals in the EP-PO Maritime zone (numerals in brackets indicate the number of trials, except for the information on guidelines) (Effectiveness trials)

Total number of trials		<u>2</u>
Guidelines	General guidelines	EPPO PP 1/135(4), PP 1/152(4), PP 1/181(4), PP 1/214(4), PP 1/225(2)
	Specific guidelines	EPPO PP 1/26(4)
	GEP	Yes (2)
Experimental design	Plot design	RCBD (2)
	Plot size	18-30 m ²
	Number of replications	4 (2)
Crop	Trials per crop	Spring wheat (1) Spring barley (1)
	Varieties per crop	Spring wheat: KWS Chilham (1) Spring barley: Vilde (1)
	Sowing period	Spring wheat: April 2020 Spring barley: April 2020
Application	Crop stage (BBCH)* at application	Spring wheat: BBCH 31 – BBCH 43 Spring barley: BBCH 31 – BBCH 51
	Timing	Post-emergence
	Number of applications	1 (2), however conducted at two time points in the same plot, therefore assessments at DA-B shown
	Intervals between applications	
	Spray volumes	200 l/ha
Assessment	Assessment types	% general phytotoxicity, vigor (score)
	Assessment dates	15-18 DA-A, 37-39 DA-A, 43-61 DA-A; 21-22 DA-B, 28-43 DA-B
Other relevant information	Soil type	Loam (1), sandy loam (1)
	Soil pH	pH 5.75 and n.s. (1)
	Natural/artificial inoculation	Natural (2)
	Field / Greenhouse	F (2)
	Application rate of test product	1.0 L/ha product

* BBCH for crops

Results

Two trials were conducted in spring cereals to determine the effect of FF-075 on spring wheat on a range of commercially grown varieties.

No phytotoxicity symptoms caused by FF-075 at the proposed dose rate of 1.0 L/ha were recorded in any trials.

Conclusions

No phytotoxicity symptoms caused by FF-075 at the proposed use rate of 1.0 L/ha (corresponding to 200 g/L prothioconazole and 150 g/L azoxystrobin) were observed in any trials conducted in spring cereals.

Oilseed rape

Material and methods

In total, four efficacy trials were carried out in Germany, Ireland and the United Kingdom in 2020 to determine the phytotoxicity effects of FF-075 on winter oilseed rape. The trials were carried out according to GEP by officially recognised testing organisations and the guidelines EPPO PP 1/26(4), PP 1/135(4), PP 1/152(4), PP 1/181(4) and PP 1/225(2) were used.

The following crop phytotoxicity symptoms were assessed: general phytotoxicity and vigor.

Phytotoxicity in effectiveness trials

The phytotoxic effect of FF-075 on winter oilseed rape was assessed in four effectiveness trials against SCLESC.

The detailed information on the experiments, application methods and assessment of phytotoxicity are given in Table 3.4-5. For further information on the reference products please refer to Table 3.2-8.

Table 3.4-5: Experimental details for assessment of phytotoxicity with FF-075 in winter oilseed rape in the EPPO Maritime zone (numerals in brackets indicate the number of trials, except for the information on guidelines) (Effectiveness trials)

Total number of trials		<u>4</u>
Guidelines	General guidelines	EPPO PP 1/135(4), PP 1/152(4), PP 1/181(4), PP 1/225(2)
	Specific guidelines	EPPO PP 1/78(3)
	GEP	Yes (4)
Experimental design	Plot design	RCBD (4)
	Plot size	24-45 m ²
	Number of replications	4 (4)
Crop	Trials per crop	Oilseed rape (4)
	Varieties per crop	Oilseed rape: Elgar (1), Expansion (1), Trezzor (1), Windozz (1)
	Sowing period	Oilseed rape: August-September 2019
Application	Crop stage (BBCH)* at application	Oilseed rape: BBCH 65
	Timing	Post-emergence
	Number of applications	1 (4)
	Intervals between applications	
	Spray volumes	200 - 300 l/ha
Assessment	Assessment types	% general phytotoxicity, vigor (score)
	Assessment dates	51-83 DA-A

Other relevant information	Soil type	Coarse sandy loam (1), loam (1), sandy clay loam (1), silt loam (1)
	Soil pH	pH 6.5 and n.s. (3)
	Natural/artificial inoculation	Natural (4)
	Field / Greenhouse	F (4)
	Application rate of test product	0.8 L/ha product

* BBCH for crops

Results

In total, four trials were conducted in winter oilseed rape to determine the effect of FF-075 on a range of commercially wide grown varieties.

Conclusions

No phytotoxicity symptoms caused by FF-075 at the proposed use rate of 1.0 L/ha (corresponding to 200 g/L prothioconazole and 150 g/L azoxystrobin) were observed in any trials conducted in winter oilseed rape.

• EPPO North-east zone

Winter cereals

Material and methods

In total, 18 efficacy trials were carried out in Poland in 2019 and 2020 to determine the phytotoxicity effects of FF-075 on winter cereals. The trials were carried out according to GEP by officially recognised testing organisations and the guidelines EPPO PP 1/26(4), PP 1/135(4), PP 1/152(4), PP 1/181(4) and PP 1/225(2) were used.

The following crop phytotoxicity symptoms were assessed: general phytotoxicity and vigor.

Phytotoxicity in effectiveness trials

The phytotoxic effect of FF-075 on winter cereals was assessed in 18 effectiveness trials against different diseases as follows: ERYSGR, ERYSGT, PUCCHD, PUCCRE, PUCCSI, PUCCST, PYRNTE, PYRNTR, RAMUCC, RHYNSE and SEPTTR

The detailed information on the experiments, application methods and assessment of phytotoxicity are given in Table 3.4-6 and Appendix 4. For further information on the reference products please refer to Table 3.2-8.

Table 3.4-6: Experimental details for assessment of phytotoxicity with FF-075 in winter cereals in the EPPO North-east zone (numerals in brackets indicate the number of trials, except for the information on guidelines) (Effectiveness trials)

Total number of trials		<u>18</u>
Guidelines	General guidelines	EPPO PP 1/135(4), PP 1/152(4), PP 1/181(4), PP 1/225(2)
	Specific guidelines	EPPO PP 1/26(4)
	GEP	Yes (18)
Experimental design	Plot design	RCBD (18)
	Plot size	18-30 m ²
	Number of replications	4 (18)
Crop	Trials per crop	Winter wheat (8)

		Winter barley (6) Winter triticale (3) Winter rye (1)
	Varieties per crop	Winter wheat: Euforia (1), Faustus (2), Hybery (2), Patras (1), Princeps (1), Toras (1) Winter barley: Gloria (3), Quadriga (1), Wootan (1), Zenek (1) Winter triticale: Meloman (2), Rotondo (1) Winter rye: Dolaro (1)
	Sowing period	Winter wheat: September 2018, September-October 2019 Winter barley: September 2019, September 2020 Winter triticale: September-October 2019 Winter rye: September 2019
Application	Crop stage (BBCH)* at application	Winter wheat: BBCH 31 - BBCH 43 Winter barley: BBCH 31 – BBCH 45 Winter triticale: BBCH 30 – BBCH 41 Winter rye: BBCH 31 – BBCH 43
	Timing	Post-emergence
	Number of applications	1 (17), however conducted at two time points in the same plot, therefore assessments at DA-B shown
	Intervals between applications	2 (1) with intervals of 31 days.
	Spray volumes	200 - 300 l/ha
Assessment	Assessment types	% general phytotoxicity, vigor (score)
	Assessment dates	16-24 DA-A, 29-45 DA-A and 48-89 DA-A, 15-22 DA-B, 33-39 DA-B and 45-65 DA-B,
Other relevant information	Soil type	Loamy sand (1), sandy loam (15), silty clay (2)
	Soil pH	pH 5.5 – pH 7 and n.s. (7)
	Natural/artificial inoculation	Natural (18)
	Field / Greenhouse	F (18)
	Application rate of test product	1.0 L/ha product

* BBCH for crops

Results

In total, 18 trials were conducted in winter cereals to determine the effect of FF-075 on winter wheat, winter barley, winter rye and winter triticale on a wide range of commercially grown varieties.

Eight trials were carried out in winter wheat, six trials in winter barley, three trials in winter triticale and one trial in winter rye.

No phytotoxicity symptoms caused by FF-075 at the proposed dose rate of 1.0 L/ha were recorded in any trials, except in six trials.

In four trials conducted in winter barley, in one trial conducted in winter triticale and in one trial conducted in winter wheat, phytotoxicity symptoms regarding vigor were observed. The main symptoms were observed in the untreated control. The symptoms after application of FF-075 were only minor and comparable to the symptoms observed after application of the reference product. The effects did not have any negative influence on the yield of the plants.

Table 3.4-7: Phytotoxicity of product for vigor (Scale 1-10)

Number of trials with...		Efficacy trials (1 trial with symptoms)		
		FF-075	Proline	Tazer
	Score reduction vigour (scale 1-10)	N	N	N
Maximum of vigour reduction recorded during the trials	>0.0-0.5	-	-	-
	>0.5-1.0	-	-	-
	>1.0-1.5	-	-	-
	>1.5	-	-	-
Level of symptoms at the last assessments	0.0	-	-	-
	>0.0-0.5	-	-	-
	>0.5-1.0	1	-1	-
	>1.0-1.5	-	-	-
	>1.5	-	-	-

Conclusions

No phytotoxicity symptoms caused by FF-075 at the proposed use rate of 1.0 L/ha (corresponding to 200 g/L prothioconazole and 150 g/L azoxystrobin) were observed in any trials, except in six.

The symptoms observed in these trials were only minor and had no influence on the health of the plants.

Spring cereals

Material and methods

In total, six efficacy trials were carried out in Poland in 2020 to determine the phytotoxicity effects of FF-075 on spring cereals. The trials were carried out according to GEP by officially recognised testing organisations and the guidelines EPPO PP 1/26(4), PP 1/135(4), PP 1/152(4), PP 1/181(4) and PP 1/225(2) were used.

The following crop phytotoxicity symptoms were assessed: general phytotoxicity and vigor.

Phytotoxicity in effectiveness trials

The phytotoxic effect of FF-075 on spring cereals was assessed in six effectiveness trials against different diseases as follows: PUCCCA, PYRNTE and RHYNSE. The detailed information on the experiments, application methods and assessment of phytotoxicity are given in Table 3.4-8. For further information on the reference products please refer to Table 3.2-8.

Table 3.4-8: Experimental details for assessment of phytotoxicity with FF-075 in spring cereals in the EPPO North-east zone (numerals in brackets indicate the number of trials, except for the information on guidelines) (Effectiveness trials)

Total number of trials		6
Guidelines	General guidelines	EPPO PP 1/135(4), PP 1/152(4), PP 1/181(4), PP 1/225(2)
	Specific guidelines	EPPO PP 1/26(4)
	GEP	Yes (6)
Experimental	Plot design	RCBD (6)

design	Plot size	21-24 m ²
	Number of replications	4 (6)
Crop	Trials per crop	Spring barley (5) Oat (1)
	Varieties per crop	Spring barley: Kucyk (1), KWS Irina (1), Melius (1), Suweren (1) Texas (1) Oat: Harnas (1)
	Sowing period	Spring barley: March-April 2020 Oat: March 2020
Application	Crop stage (BBCH)* at application	Spring barley: BBCH 31 – BBCH 47 Oat: BBCH 31 – BBCH 39
	Timing	Post-emergence
	Number of applications	1 (6), however conducted at two time points in the same plot, therefore assessments at DA-B shown
	Intervals between applications	
	Spray volumes	200 - 300 l/ha
Assessment	Assessment types	% general phytotoxicity, vigor (score)
	Assessment dates	12-22 DA-A, 31-42 DA-A and 47-53 DA-A; 19-22 DA-B and 31-40 DA-B
Other relevant information	Soil type	Sandy loam (6)
	Soil pH	pH 5.3 – pH 6.8 and n.s. (1)
	Natural/artificial inoculation	Natural (6)
	Field / Greenhouse	F (6)
	Application rate of test product	1.0 L/ha product

* BBCH for crops

Results

In total, six trials were conducted in spring cereals to determine the effect of FF-075 on spring oat and spring barley on a wide range of commercially grown varieties.

Five trials were carried out in spring barley and one trial in spring oat.

No phytotoxicity symptoms caused by FF-075 at the proposed dose rate of 1.0 L/ha were recorded in any trials.

Conclusions

No phytotoxicity symptoms caused by FF-075 at the proposed use rate of 1.0 L/ha (corresponding to 200 g/L prothioconazole and 150 g/L azoxystrobin) were observed in any trials conducted in spring cereals.

Oilseed rape

Material and methods

In total, four efficacy trials were carried out in Poland in 2019 and 2020 to determine the phytotoxicity effects of FF-075 on winter oilseed rape. The trials were carried out according to GEP by officially recognised testing organisations and the guidelines EPPO PP 1/78(3), PP 1/135(4), PP 1/152(4), PP 1/181(4) and PP 1/225(2) were used.

The following crop phytotoxicity symptoms were assessed: general phytotoxicity.

Phytotoxicity in effectiveness trials

The phytotoxic effect of FF-075 on winter oilseed rape was assessed in four effectiveness trials against different diseases as follows: ALTEBA and SCLESC.. The detailed information on the experiments, application methods and assessment of phytotoxicity are given in Table 3.4-9. For further information on the reference products please refer to Table 3.2-8.

Table 3.4-9: Experimental details for assessment of phytotoxicity with FF-075 in winter oilseed rape in the EPPO North-east zone (numerals in brackets indicate the number of trials, except for the information on guidelines) (Effectiveness trials)

Total number of trials		<u>4</u>
Guidelines	General guidelines	EPPO PP 1/135(4), PP 1/152(4), PP 1/181(4), PP 1/225(2)
	Specific guidelines	EPPO PP 1/78(3)
	GEP	Yes (4)
Experimental design	Plot design	RCBD (4)
	Plot size	20-30 m ²
	Number of replications	4 (4)
Crop	Trials per crop	Oilseed rape (4)
	Varieties per crop	Oilseed rape: Architekt (1), Konkret (1), Monolit (1), Zakari GS (1)
	Sowing period	Oilseed rape: August 2018, August 2019
Application	Crop stage (BBCH)* at application	Oilseed rape: BBCH 65
	Timing	Post-emergence
	Number of applications	1 (4)
	Intervals between applications	
	Spray volumes	200 - 300 l/ha
Assessment	Assessment types	% general phytotoxicity, vigor (score)
	Assessment dates	48-54 DA-A
Other relevant information	Soil type	Sandy loam (4)
	Soil pH	pH 6.11 – pH 7.7 and n.s. (1)
	Natural/artificial inoculation	Natural (4)
	Field / Greenhouse	F (4)
	Application rate of test product	0.8 L/ha product

* BBCH for crops

Results

In total, four trials were conducted in winter oilseed rape to determine the effect of FF-075 on a wide range of commercially grown varieties.

No phytotoxicity symptoms caused by FF-075 at the proposed dose rate of 1.0 L/ha were recorded in any trials.

Comments of zRMS:	<p>Both EU Directive 91/414 (EU, 1991) and EPPO PP 1/226 (3) – Number of efficacy trials requires testing phytotoxicity at normal (N) and double (2N) recommended dose. However, EPPO 1/135 (3) – Phytotoxicity assessment states: ‘EP-PO Standards on fungicides, insecticides and plant growth regulators, on the other hand, include only a relatively simple special section on phytotoxicity as-assessment, because, for these types of plant protection products, phytotoxic effects will be less frequent’. Selectivity trials were not required, which is in accordance with EPPO 1/135 (3).</p> <p>Azoxystrobin and prothioconazole are used for many years in agriculture practice and there is lack of information’s about any adverse effects than already knows. So, no specials studies are required in the opinion of Evaluator.</p> <p>The crop safety of applying Euskatel Pro at recommended dose (1,0 l/ha for cereals and 0,8 l/ha for winter oilseed rape) was evaluated in 46 trials carried</p>
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	<p>out in Maritime EPPO zone and 28 trials performed in N-E EPPO zone. Lack of trials for MED and S-E EPPO zone.</p> <p><u>Winter cereals:</u></p> <ul style="list-style-type: none"> ✓ Maritime EPPO zone: winter wheat (29 trials, BBCH 30-65), winter barley (9 trials, BBCH 31-49), winter triticale (1 trial, BBCH 31-39). ✓ N-E EPPO zone: winter wheat (8 trials, BBCH 31-43), winter barley (6 trials, BBCH 31-45), winter triticale (3 trials, BBCH 30-41), winter rye (1 trial, BBCH 31-43). <p><u>Spring cereals:</u></p> <ul style="list-style-type: none"> ✓ Maritime EPPO zone: spring wheat (1 trial, BBCH 31-43), spring barley (1 trial, BBCH 31-51) ✓ N-E EPPO zone: spring barley (5 trials, BBCH 31-47), oat (1 trial, BBCH 31-39). <p><u>Winter oilseed rape:</u></p> <ul style="list-style-type: none"> ✓ Maritime EPPO zone: 4 trials from DE (BBCH 65) ✓ N-E EPPO zone: 4 trials from PL (BBCH 65). <p>No adverse effects on cereals (winter and spring) and winter oilseed rape regarding phytotoxicity were observed in any of submitted efficacy trials treated with Euskatel Pro in the Maritime and North-east EPPO zone.</p> <p>In the opinion of Evaluator only for winter cereals and winter oilseed rape Applicant submitted acceptable number of phytotoxicity results, both in Maritime and N-E EPPO zone. For spring cereals, only for spring barley acceptable number of trials was presented for N-E EPPO zone. For Maritime EPPO zones, only 2 trials on different spring cereals (barley and wheat) carried out in one country (Sweden) should not been accepted. However, final decision is left to each cMS.</p> <p>In the opinion of evaluator, based on lack of phytotoxicity trials performed in MED and S-E EPPO zone. Registration in those zones should not be possible. However, final decision is left to each cMS.</p>
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3.4.2 Effect on the yield of treated plants or plant product (KCP 6.4.2)

In total, 35 trials were carried out to evaluate the impact on the yield of treated plants and plant products after application of FF-075. The distribution of trials by location and year are described in Table 3.4-10 and Table 3.4-11.

Table 3.4-10: Number of selectivity (yield) trials included in the dossier sorted by country and year

Year	2019	2020	Total
Country			
Germany	4	5	9
The Czech Republic	1	1	2
France	1	-	2
Ireland	-	3	3
Poland	3	9	12
The United Kingdom	-	7	7
Total	10	25	35

Table 3.4-11: Number of selectivity (yield) trials included in the dossier sorted by country and EPPO climatic zones

EPPO zone	Maritime	North-east
Country		
Germany	9	-
The Czech Republic	2	
France	1	-
Ireland	3	-
Poland	-	12
The United Kingdom	7	-
Total	22	12

3.4.2.1 EPPO Maritime zone

Winter cereals

Material and methods

In total, 20 field trials were carried out in the Czech Republic, Germany, France, Ireland and the United Kingdom in 2019 and 2020 to assess the effect of the fungicide FF-075 on the yield of winter cereals. The trials were carried out according to GEP by officially recognised testing organisations and the guideline(s) EPPO PP 1/26(4), PP1/135(4), PP1/152(4), PP1/181(4) and PP1/225(2) were used.

Detailed information on the experiments and application methods is given in Table 3.4-12. For further information on the reference products please refer to Table 3.2-8.

Table 3.4-12: Experimental details and application methods in the selectivity (yield) trials with FF-075 in winter cereals in the EPPO Maritime zone (numerals in brackets indicate the number of trials, except for the information on guidelines) (efficacy trials)

Total number of trials		<u>20</u>
Guidelines	General guidelines	EPPO PP 1/135(4), PP 1/152(4), PP 1/181(4), PP 1/225(2)
	Specific guidelines	EPPO PP 1/26(4)
	GEP	Yes (20)
Experimental design	Plot design	RCBD (20)
	Plot size	17.5-36 m ²
	Number of replications	4 (20)
Crop	Trials per crop	Winter wheat (13) Winter barley (6) Winter triticale (1)
	Varieties per crop	Winter wheat: Benchmark (1), Crusoe (1), Firefly (2), JB Diego (1), Kashmir (1), Kinetic (1), Rubisco (1), Skyfall (1), Tobak (4) Winter barley: Flagon (1), Henriette (1), KWS Orwell (1), KWS Tower (1), Lomerit (1), Quadriga (1) Winter triticale: Lombardo (1)
	Sowing period	Winter wheat: September-October 2018, September-October 2019 Winter barley: September-October 2019 or n.s. (1) Winter triticale: October 2019

Application	Crop stage (BBCH)* at application	Winter wheat: BBCH 31 - BBCH 65 Winter barley: BBCH 31 – BBCH 49 Winter triticale:BBCH 31 – BBCH 39
	Timing	Post-emergence
	Number of applications	1 (14), however conducted at two time points in the same plot, therefore assessments at DA-B shown; 2 (6)
	Intervals between applications	20-36 days
	Spray volumes	180 - 300 l/ha
Assessment	Assessment types	Yield (t/ha)
	Assessment dates	56-113 DA-A, 54-89 DA-B
Other relevant information	Soil type	Clay loam (2), loam (1), loamy sand (2), sandy clay loam (1), sandy loam (4), silt loam (3), silty clay loam (3), n.s. (4)
	Soil pH	pH 5.3 – pH 7.4 and n.s. (12)
	Natural/artificial inoculation	Natural (20)
	Field / Greenhouse	F (20)
	Application rate of test product	1.0 L/ha product

Results

For winter wheat, a total of 13 trials were carried out between 2019 and 2020 in the Czech Republic, Germany, France, Ireland and the United Kingdom.

Seven trials were conducted with a single application rate of the proposed label rate of 1.0 L/ha of FF-075 and six trials were conducted with two applications with an interval of 20 to 36 days between the two applications. Each applied dose rate was the proposed label dose rate of 1.0 l/ha.

In winter barley, a total of six trials were carried out in 2020 in Germany, Ireland and the United Kingdom. The trials were conducted with a single application of the proposed label rate of 1.0 L/ha of FF.075.

One trial was conducted in winter triticale in 2020 in Germany. One application of the proposed label rate of 1.0 L/ha of FF-075 was applied.

The yield results are presented in Table 3.4-13 to Table 3.4-19. No negative effect was observed in all treated crops after the application of 1.0 L/ha FF-075. The same was observed after two applications of FF-075 .

Table 3.4-13: Yield effect of FF-075 in efficacy trials on winter wheat, after one application of FF-075 – after application A – EPPO Maritime zone

Grouping Reference product	Grouping Yield	Number of trials	Untreated control abso- lute figures		Yield						No of trials where 1 l/ha of FF- 075 is >, <, = com- pared to the un- treated control	No of trials where 1 l/ha of FF-075 is >, <, = com- pared to Joao/Proline	No of trials where l/ha of FF-075 is >, <, = compared to Mirador Xtra
					FF-075 at 1.0 (l/ha)		Joao/Proline at 0.6-0.8 (l/ha)		Mirador Xtra at 1.0 (l/ha)				
			Mean	Min & Max	Mean	Min & Max	Mean	Min & Max	Mean	Min & Max			
Overall	YIELD % of untreated	7	8.3	7.2 - 11.1	107.8	101.6 - 115.9	104.6	99.8 - 109.9	108.5	101.8 - 119.6	4 trials > 3 trials = 0 trials <	1 trial > 2 trials = 0 trials <	0 trials > 4 trials = 0 trials <
Joao/Proline	YIELD % of untreated	3	8.8	7.2 - 11.1	107.7	104.0 - 113.1	104.6	99.8 - 109.9	-	-		1 trial > 2 trials = 0 trials <	
Mirador Xtra	YIELD % of untreated	4	8.0	7.4 - 8.3	107.8	101.6 - 115.9	-	-	108.5	101.8 - 119.6			0 trials > 4 trials = 0 trials <
Overall	YIELD T-MET/ha	7	8.3	7.2 - 11.1	9.0	7.5 - 11.8	9.1	7.5 - 11.1	8.7	7.5 - 9.9	0 trials > 3 trials = 4 trials <	0 trials > 3 trials = 0 trials <	0 trials > 4 trials = 0 trials <
Joao/Proline	YIELD T-MET/ha	3	8.8	7.2 - 11.1	9.4	7.5 - 11.8	9.1	7.5 - 11.1	-	-		0 trials > 3 trials = 0 trials <	
Mirador Xtra	YIELD T-MET/ha	4	8.0	7.4 - 8.3	8.7	7.9 - 9.6	-	-	8.7	7.5 - 9.9			0 trials > 4 trials = 0 trials <

Table 3.4-14: Yield effect of FF-075 in efficacy trials on winter wheat, after one application of FF-075 – after application B – EPPO Maritime zone.

Grouping	Grouping	Number	Untreated control abso-	% of the untreated control	No of trials	No of trials	No of trials
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Reference product	Yield	of trials	lute figures		FF-075 at 1.0 (l/ha)		Joao/Proline at 0.6-0.8 (l/ha)		Mirador Xtra at 1.0 (l/ha)		where 1 l/ha of FF-075 is >, <, = compared to the untreated control	where 1 l/ha of FF-075 is >, <, = compared to Joao/Proline	where 1 l/ha of FF-075 is >, <, = compared to Mirador Xtra
			Mean	Min & Max	Mean	Min & Max	Mean	Min & Max	Mean	Min & Max			
Overall	YIELD % of untreated	6	8.4	7.2 - 11.1	111.3	106.9 - 119.9	107.6	102.8 - 114.5	108.8	104.7 - 115.2	4 trials > 2 trials = 0 trials <	0 trials > 3 trials = 0 trials <	0 trials > 3 trials = 0 trials <
Joao/Proline	YIELD % of untreated	3	8.8	7.2 - 11.1	110.8	108.9 - 114.5	107.6	102.8 - 114.5	-	-		0 trials > 3 trials = 0 trials <	
Mirador Xtra	YIELD % of untreated	3	8.0	7.4 - 8.3	111.7	106.9 - 119.9	-	-	108.8	104.7 - 115.2			0 trials > 3 trials = 0 trials <
Overall	YIELD T-MET/ha	6	8.4	7.2 - 11.1	9.3	7.8 - 12.1	9.4	7.4 - 11.7	8.7	7.8 - 9.5	0 trials > 2 trials = 4 trials <	0 trials > 3 trials = 0 trials <	0 trials > 3 trials = 0 trials <
Joao/Proline	YIELD T-MET/ha	3	8.8	7.2 - 11.1	9.7	7.8 - 12.1	9.4	7.4 - 11.7	-	-		0 trials > 3 trials = 0 trials <	
Mirador Xtra	YIELD T-MET/ha	3	8.0	7.4 - 8.3	8.9	7.9 - 9.9	-	-	8.7	7.8 - 9.5			0 trials > 3 trials = 0 trials <

Table 3.4-15: Yield effect of FF-075 in efficacy trials on winter wheat, after two applications of FF-075 after two applications AB– EPPO Maritime zone.

Grouping Yield	Number of trials	Untreated control absolute figures	Yield		No of trials where 1 l/ha	No of trials where 1 l/ha of
			FF-075	Joao/Proline		

				at 1.0 (l/ha)		at 0.6-0.8 (l/ha)		of FF-075 is >, <, = compared to the untreated control	FF-075 is >, <, = compared to Joao/Proline
		Mean	Min & Max	Mean	Min & Max	Mean	Min & Max		
YIELD % of untreated	6	8.4	6.3 - 11.3	119.6	109.2 - 142.4	115.5	109.8 - 128.1	6 trials > 0 trials = 0 trials <	1 trial > 5 trials = 0 trials <
YIELD T-MET/ha	6	8.4	6.3 - 11.3	10.0	9.0 - 13.0	9.7	8.1 - 12.7	0 trials > 0 trials = 6 trials <	1 trial > 5 trials = 0 trials <

Table 3.4-16 Yield effect of FF-075 in efficacy trials on winter barley, after one application of FF-075 – after application A– EPPO Maritime zone.

Grouping Reference product	Grouping Yield	N° of trials	Untreated control absolute figures		Yield								No of trials where 1 l/ha of FF-075 is >, <, = compared to the untreated control	No of trials where 1 l/ha of FF-075 is >, <, = compared to Joao/Proline	No of trials where l/ha of FF-075 is >, <, = compared to Minis- ter	No of trials where l/ha of FF-075 is >, <, = compared to Mira- dor Xtra
					FF-075 at 1.0 (l/ha)		Joao/Proline at 0.6-0.8 (l/ha)		Minister at 1.0 (l/ha)		Mirador Xtra at 1.0 (l/ha)					
			Mean	Min & Max	Mean	Min & Max	Mean	Min & Max	Mean	Min & Max	Mean	Min & Max				
Overall	YIELD % of untreated	6	6.6	3.6 - 8.1	110.4	100.5 - 127.6	111.2	98.7 - 125.4	105.0	-	110.8	-	2 trials > 4 trials = 0 trials <	0 trials > 4 trials = 0 trials <	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
Joao Proline	YIELD % of untreated	4	6.1	3.6 - 8.1	112.0	100.5 - 127.6	111.2	98.7 - 125.4	-	-	-	-		0 trials > 4 trials = 0 trials <		
Minister	YIELD % of untreated	1	7.6	-	106.4	-	-	-	105.0	-	-	-			0 trials > 1 trial = 0 trials <	
Mirador Xtra	YIELD % of untreated	1	7.5	-	110.8	-	-	-	-	-	110.8	-				0 trials > 1 trial = 0 trials <
Overall	YIELD T-MET/ha	6	6.6	3.6 - 8.1	7.2	4.5 - 8.9	6.7	4.5 - 8.7	8.0	-	8.3	-	0 trials > 4 trials = 2 trials <	0 trials > 4 trials = 0 trials <	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
Joao Proline	YIELD T-MET/ha	4	6.1	3.6 - 8.1	6.7	4.5 - 8.9	6.7	4.5 - 8.7	-	-	-	-		0 trials > 4 trials = 0 trials <		
Minister	YIELD	1	7.6	-	8.0	-	-	-	8.0	-	-	-			0 trials > 1 trial =	

Grouping Reference	Grouping Yield	N° of	Untreated control absolute	Yield								No of trials	No of trials where 1 l/ha	No of trials	No of trials
	T-MET/ha													0 trials <	
Mirador Xtra	YIELD T-MET/ha	1	7.5	-	8.3	-	-	-	-	-	8.3	-			0 trials > 1 trial = 0 trials <

Table 3.4-17: Yield effect of FF-075 in efficacy trials on winter barley, after one application of FF-075 – after application B– EPPO Maritime zone.

Grouping Reference product	Grouping Yield	N° of trials	Untreated control absolute figures		Yield								No of trials where 1 l/ha of FF-075 is >, <, = compared to the untreated control	No of trials where 1 l/ha of FF-075 is >, <, = compared to Joao/Proline	No of trials where l/ha of FF-075 is >, <, = compared to Minis- ter	No of trials where l/ha of FF-075 is >, <, = compared to Mira- dor Xtra
					FF-075 at 1.0 (l/ha)		Joao/Proline at 0.6-0.8 (l/ha)		Minister at 1.0 (l/ha)		Mirador Xtra at 1.0 (l/ha)					
			Mean	Min & Max	Mean	Min & Max	Mean	Min & Max	Mean	Min & Max	Mean	Min & Max				
Overall	YIELD % of untreated	6	6.6	3.6 - 8.1	107.8	101.5 - 113.8	109.7	97.9 - 116.6	104.6	-	113.6	-	1 trial > 5 trials = 0 trials <	0 trials > 4 trials = 0 trials <	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
Joao/Proline	YIELD % of untreated	4	6.1	3.6 - 8.1	107.1	101.5 - 112.4	109.7	97.9 - 116.6	-	-	-	-		0 trials > 4 trials = 0 trials <		
Minister	YIELD % of untreated	1	7.6	-	104.6	-	-	-	104.6	-	-	-			0 trials > 1 trial = 0 trials <	
Mirador Xtra	YIELD % of untreated	1	7.5	-	113.8	-	-	-	-	-	113.6	-				0 trials > 1 trial = 0 trials <
Overall	YIELD T-MET/ha	6	6.6	3.6 - 8.1	7.1	3.7 - 9.1	6.7	4.0 - 9.0	8.0	-	8.6	-	0 trials > 5 trials = 1 trial <	0 trials > 4 trials = 0 trials <	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
Joao/Proline	YIELD T-MET/ha	4	6.1	3.6 - 8.1	6.6	3.7 - 9.1	6.7	4.0 - 9.0	-	-	-	-		0 trials > 4 trials = 0 trials <		
Minister	YIELD	1	7.6	-	8.0	-	-	-	8.0	-	-	-			0 trials > 1 trial =	

Grouping Reference	Grouping Yield	N° of	Untreated control absolute		Yield								No of trials	No of trials where 1 l/ha	No of trials	No of trials
	T-MET/ha														0 trials <	
Mirador Xtra	YIELD T-MET/ha	1	7.5	-	8.6	-	-	-	-	-	8.6	-				0 trials > 1 trial = 0 trials <

Table 3.4-18: Yield effect of FF-075 in efficacy trials on winter triticale, after one application of FF-075 – after application A – EPPO Maritime zone.

Grouping Yield	Number of trials	Untreated control absolute figures		Yield				No of trials where 1 l/ha of FF-075 is >, <, = compared to the untreated control	No of trials where 1 l/ha of FF-075 is >, <, = compared to Pro- line
				FF-075 at 1.0 (l/ha)		Proline at 0.8 (l/ha)			
		Mean	Min & Max	Mean	Min & Max	Mean	Min & Max		
YIELD % of untreated	1	6.7	-	109.8	-	114.1	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
YIELD t/ha	1	6.7	-	7.3	-	7.6	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Table 3.4-19: Yield effect of FF-075 in efficacy trials on winter triticale, after one application of FF-075 – after application B – EPPO Maritime zone.

Grouping Yield	Number of trials	Untreated control absolute figures		Yield				No of trials where 1 l/ha of FF-075 is >, <, = compared to the untreated control	No of trials where 1 l/ha of FF-075 is >, <, = compared to Pro- line
				FF-075 at 1.0 (l/ha)		Proline at 0.8 (l/ha)			
		Mean	Min & Max	Mean	Min & Max	Mean	Min & Max		
YIELD % of untreated	1	6.7	-	114.3	-	118.2	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
YIELD t/ha	1	6.7	-	7.6	-	7.9	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Conclusions

FF-075 at the proposed label rate of 1.0 L/ha (corresponding to 200 g/l of prothioconazole and 150 g/l of azoxystrobin) had no negative effect on the yield of winter cereals in the presence of diseases.

Oilseed rape

Material and methods

In total, two field trials were carried out in Germany and the United Kingdom in 2020 to assess the effect of the fungicide FF-075 on the yield of oilseed rape. The trials were carried out according to GEP by officially recognised testing organisations and the guidelines EPPO PP1/78(3), PP1/135(4), PP1/152(4), PP1/181(4) and PP1/225(2) were used.

Detailed information on the experiments and application methods is given in Table 3.4-20. For further information on the reference products please refer to Table 3.2-8.

Table 3.4-20: Experimental details and application methods in the selectivity (yield) trials with FF-075 in winter oilseed rape in the EPPO Maritime zone (numerals in brackets indicate the number of trials, except for the information on guidelines) (efficacy trials)

Total number of trials		<u>2</u>
Guidelines	General guidelines	EPPO PP 1/135(4), PP 1/152(4), PP 1/181(4), PP 1/225(2)
	Specific guidelines	EPPO PP 1/78(3)
	GEP	Yes (2)
Experimental design	Plot design	RCBD (2)
	Plot size	24-39 m ²
	Number of replications	4 (2)
Crop	Trials per crop	Oilseed rape (2)
	Varieties per crop	Oilseed rape: Expansion (1), Windozz (1)
	Sowing period	Oilseed rape: August 2019
Application	Crop stage (BBCH)* at application	Oilseed rape: BBCH 65
	Timing	Post-emergence
	Number of applications	1 (2)
	Intervals between applications	
	Spray volumes	200 - 300 l/ha
Assessment	Assessment types	Yield (t/ha)
	Assessment dates	81-86 DA-A
Other relevant information	Soil type	Loam (1), sandy clay loam (1)
	Soil pH	pH 6.5 and n.s. (1)
	Natural/artificial inoculation	Natural (2)
	Field / Greenhouse	F (2)
	Application rate of test product	0.8 L/ha product

Results

For oilseed rape, a total of two trials were carried out in 2020 in Germany and the United Kingdom. The results are shown in Table 3.4-21.

Table 3.4-21: Yield effect of FF-075 in efficacy trials on oilseed rape after one application – EPPO Maritime zone.

Grouping Yield	Number of trials	Untreated control absolute figures		Yield				No of trials where 0.8 l/ha of FF- 075 is >, <, = compared to the untreated control	No of trials where 0.8 l/ha of FF- 075 is >, <, = compared to the standard
				FF-075 at 0.8 (l/ha)		Joao/Proline at 0.7 (l/ha)			
		Mean	Min & Max	Mean	Min & Max	Mean	Min & Max		
YIELD % of untreated	2	3.8	3.0 - 4.7	98.2	95.8 - 100.7	100.6	93.5 - 107.7	0 trials > 2 trials = 0 trials <	0 trials > 2 trials = 0 trials <
YIELD T-MET/ha	2	3.8	3.0 - 4.7	3.8	3.0 - 4.5	3.8	3.2 - 4.4	0 trials > 2 trials = 0 trials <	0 trials > 2 trials = 0 trials <

Conclusions

FF-075 at the proposed label rate of 0.8 L/ha (corresponding to 160 g/l of prothioconazole and 120 g/l of azoxystrobin) had no negative effect on the yield of oilseed rape in the presence of diseases.

3.4.2.2 EPPO North-east zone

Winter cereals

Material and methods

In total, seven field trials were carried out in Poland in 2019 and 2020 to assess the effect of the fungicide FF-075 on the yield of winter cereals. The trials were carried out according to GEP by officially recognised testing organisations and the guidelines EPPO PP1/26(4), PP1/135(4), PP1/152(4), PP1/181(4) and PP1/225(2) were used.

Detailed information on the experiments and application methods is given in Table 3.4-22 and Appendix 4. For further information on the reference products please refer to Table 3.2-8.

Table 3.4-22: Experimental details and application methods in the selectivity (yield) trials with FF-075 in winter cereals in the EPPO North-east zone (numerals in brackets indicate the number of trials, except for the information on guidelines) (efficacy trials)

Total number of trials		<u>7</u>
Guidelines	General guidelines	EPPO PP 1/135(4), PP 1/152(4), PP 1/181(4), PP 1/225(2)
	Specific guidelines	EPPO PP 1/26(4)
	GEP	Yes (7)
Experimental design	Plot design	RCBD (7)
	Plot size	18-24 m ²
	Number of replications	4 (7)
Crop	Trials per crop	Winter wheat (2) Winter barley (4) Winter triticale (1)
	Varieties per crop	Winter wheat: Euforia (1), Princeps (1) Winter barley: Gloria (2), Quadriga (1), Wootan (1) Winter triticale: Meloman (1)
	Sowing period	Winter wheat: September 2018, September 2019 Winter barley: September 2019 Winter triticale: September 2019
Application	Crop stage (BBCH)* at application	Winter wheat: BBCH 31 - BBCH 43 Winter barley: BBCH 31 – BBCH 45 Winter triticale: BBCH 32 – BBCH 41
	Timing	Post-emergence
	Number of applications	1 (6), however conducted at two time points in the same plot, therefore assessments at DA-B shown
	Intervals between applications	2 (1) with intervals of 31 days.
	Spray volumes	200 - 300 l/ha
Assessment	Assessment types	Yield (t/ha)
	Assessment dates	80-104 DA-A, 61-79 DA-B
Other relevant information	Soil type	Loamy sand (1), sandy loam (4), silty clay (2)
	Soil pH	pH 5.9 – pH 7 and n.s. (3)

	Natural/artificial inoculation	Natural (7)
	Field / Greenhouse	F (7)
	Application rate of test product	1.0 L/ha product

Results

For winter wheat, a total of two trials were carried out between 2019 and 2020 in Poland. Results are shown in Table 3.4-23 to Table 3.4-29.

Table 3.4-23: Yield effect of FF-075 in efficacy trials on winter wheat, after one application A – EPPO North-east zone.

Grouping Yield	Number of trials	Untreated control absolute figures		Yield				No of trials where 1 l/ha of FF-075 is >, <, = com- pared to the untreated control	No of trials where 1 l/ha of FF-075 is >, <, = com- pared to the standard
				FF-075 at 1.0 (l/ha)		Tazer 250 SC at 0.6 (l/ha)			
		Mean	Min & Max	Mean	Min & Max	Mean	Min & Max		
YIELD % of untreated	1	6.6	-	127.3	-	113.6	-	1 trial > 0 trials = 0 trials <	1 trial > 0 trials = 0 trials <
YIELD T-MET/ha	1	6.6	-	8.4	-	7.5	-	0 trials > 0 trials = 1 trial <	1 trial > 0 trials = 0 trials <

Table 3.4-24: Yield effect of FF-075 in efficacy trials on winter wheat, after one application – after application B – EPPO North-east zone.

Grouping Yield	Number of trials	Untreated control absolute figures		Yield				No of trials where 1 l/ha of FF-075 is >, <, = com- pared to the untreated control	No of trials where 1 l/ha of FF-075 is >, <, = com- pared to the standard
				FF-075 at 1.0 (l/ha)		Tazer 250 SC at 0.6 (l/ha)			
		Mean	Min & Max	Mean	Min & Max	Mean	Min & Max		
YIELD % of untreated	1	6.6	-	121.2	-	118.2	-	1 trial > 0 trials = 0 trials <	0 trials > 1 trial = 0 trials <
YIELD T-MET/ha	1	6.6	-	8.0	-	7.8	-	0 trials > 0 trials = 1 trial <	0 trials > 1 trial = 0 trials <

Table 3.4-25: Yield effect of FF-075 in efficacy trials on winter wheat, after two applications – after applications AB – EPPO North-east zone.

Grouping Yield	Number of trials	Untreated control absolute figures		Yield				No of trials where 1 l/ha of FF-075 is >, <, = com- pared to the untreated control	No of trials where 1 l/ha of FF-075 is >, <, = com- pared to the standard
				FF-075 at 1.0 (l/ha)		Joao/Proline at 0.8 (l/ha)			
		Mean	Min & Max	Mean	Min & Max	Mean	Min & Max		
YIELD % of untreated	1	5.8	-	125.9	-	120.7	-	1 trial > 0 trials = 0 trials <	0 trials > 1 trial = 0 trials <
YIELD T-MET/ha	1	5.8	-	7.3	-	7.0	-	0 trials > 0 trials = 1 trial <	0 trials > 1 trial = 0 trials <

Table 3.4-26: Yield effect of FF-075 in efficacy trials on winter barley, after one application – after application A - EPPO North-east zone

Grouping Reference product	Grouping Yield	Number of trials	Untreated control abso- lute figures		Yield						No of trials where 1 l/ha of FF- 075 is >, <, = com- pared to the un- treated control	No of trials where 1 l/ha of FF-075 is >, <, = compared to Joao/Proline	No of trials where l/ha of FF-075 is >, <, = compared to Amistar
					FF-075 at 1.0 (l/ha)		Joao/Proline at 0.8 (l/ha)		Amistar at 0.6 (l/ha)				
			Mean	Min & Max	Mean	Min & Max	Mean	Min & Max	Mean	Min & Max			
Overall	YIELD % of untreated	4	6.5	3.0 - 9.6	109.0	101.0 - 114.6	110.4	-	110.3	106.0 - 114.8	0 trials > 4 trials = 0 trials <	0 trials > 1 trial = 0 trials <	0 trials > 3 trials = 0 trials <
Joao/Proline	YIELD % of untreated	1	9.6	-	114.6	-	110.4	-	-	-		0 trials > 1 trial = 0 trials <	
Amistar	YIELD % of untreated	3	5.4	3.0-7.4	107.1	101.0 - 113.3	-	-	110.3	106.0 - 114.8			0 trials > 3 trials = 0 trials <
Overall	YIELD T-MET/ha	4	6.5	3.0 - 9.6	7.1	3.4 - 11.0	10.6	-	6.0	3.3 - 8.5	0 trials > 4 trials = 0 trials <	0 trials > 1 trial = 0 trials <	0 trials > 3 trials = 0 trials <
Joao/Proline	YIELD T-MET/ha	1	9.6	-	11.0	-	10.6	-	-	-		0 trials > 1 trial = 0 trials <	
Amistar	YIELD T-MET/ha	3	5.4	3.0 - 7.4	5.8	3.4 - 7.9	-	-	6.0	3.3 - 8.5			0 trials > 3 trials = 0 trials <

Table 3.4-27: Yield effect of FF-075 in efficacy trials on winter barley, after one application – after application B - EPPO North-east zone

Grouping	Grouping	Number	Untreated control abso-	Yield						No of trials	No of trials	No of trials
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Reference product	Yield	of trials	Yield figures		FF-075 at 1.0 (l/ha)		Joao/Proline at 0.8 (l/ha)		Amistar at 0.6 (l/ha)		where 1 l/ha of FF-075 is >, <, = compared to the untreated control	where 1 l/ha of FF-075 is >, <, = compared to Joao/Proline	where 1 l/ha of FF-075 is >, <, = compared to Amistar
			Mean	Min & Max	Mean	Min & Max	Mean	Min & Max	Mean	Min & Max			
Overall	YIELD % of untreated	4	6.5	3.0 - 9.6	106.1	100.8 - 111.5	107.3	-	109.0	105.1 - 113.3	0 trials > 4 trials = 0 trials <	0 trials > 1 trial = 0 trials <	0 trials > 3 trials = 0 trials <
Joao/Proline	YIELD % of untreated	1	9.6	-	111.5	-	107.3	-	-	-		0 trials > 1 trial = 0 trials <	
Amistar	YIELD % of untreated	3	5.4	3.0 - 7.4	104.3	100.8 - 106.7	-	-	109.0	105.1 - 113.3			0 trials > 3 trials = 0 trials <
Overall	YIELD T-MET/ha	4	6.5	3.0 - 9.6	6.9	3.2 - 10.7	10.3	-	5.9	3.4 - 8.1	0 trials > 4 trials = 0 trials <	0 trials > 1 trial = 0 trials <	0 trials > 3 trials = 0 trials <
Joao/Proline	YIELD T-MET/ha	1	9.6	-	10.7	-	10.3	-	-	-		0 trials > 1 trial = 0 trials <	
Amistar	YIELD T-MET/ha	3	5.4	3.0 - 7.4	5.6	3.2 - 7.5	-	-	5.9	3.4 - 8.1			0 trials > 3 trials = 0 trials <

Table 3.4-28: Yield effect of FF-075 in efficacy trials on winter triticale, after one application – after application A -EPPO North-east zone

Grouping Yield	Number of trials	Untreated control absolute figures	Yield		No of trials where 1 l/ha	No of trials where 1 l/ha
			FF-075	Joao/Proline		

				at 1.0 (l/ha)		at 0.8 (l/ha)		of FF-075 is >, <, = compared to the untreated control	of FF-075 is >, <, = compared to the standard
		Mean	Min & Max	Mean	Min & Max	Mean	Min & Max		
YIELD % of untreated	1	3.9	-	128.2	-	128.2	-	1 trial > 0 trials = 0 trials <	0 trials > 1 trial = 0 trials <
YIELD T-MET/ha	1	3.9	-	5.0	-	5.0	-	0 trials > 0 trials = 1 trial <	0 trials > 1 trial = 0 trials <

Table 3.4-29: Yield effect of FF-075 in efficacy trials on winter triticale, after one application – after application B - EPPO North-east zone

Grouping Yield	Number of trials	Untreated control absolute figures		Yield				No of trials where 1 l/ha of FF-075 is >, <, = com- pared to the untreated control	No of trials where 1 l/ha of FF-075 is >, <, = com- pared to the standard
				FF-075 at 1.0 (l/ha)		Joao/Proline at 0.8 (l/ha)			
		Mean	Min & Max	Mean	Min & Max	Mean	Min & Max		
YIELD % of untreated	1	3.9	-	133.3	-	125.6	-	1 trial > 0 trials = 0 trials <	0 trials > 1 trial = 0 trials <
YIELD T-MET/ha	1	3.9	-	5.2	-	4.9	-	1 trial > 0 trials = 0 trials <	0 trials > 1 trial = 0 trials <

Conclusions

FF-075 at the proposed label rate of 1.0 L/ha (corresponding to 200 g/l of prothioconazole and 150 g/l of azoxystrobin) had no negative effect on the yield of winter cereals in the presence of diseases.

Spring cereals

Material and methods

In total, two field trials were carried out in Poland in 2020 to assess the effect of the fungicide FF-075 on the yield of spring cereals. The trials were carried out according to GEP by officially recognised testing organisations and the guidelines EPPO PP1/26(4), PP1/135(4), PP1/152(4), PP1/181(4) and PP1/225(2) were used.

Detailed information on the experiments and application methods is given in Table 3.4-30. For further information on the reference products please refer to Table 3.2-8.

Table 3.4-30: Experimental details and application methods in the selectivity (yield) trials with FF-075 in spring cereals in the EPPO North-east zone (numerals in brackets indicate the number of trials, except for the information on guidelines) (efficacy trials)

Total number of trials		<u>2</u>
Guidelines	General guidelines	EPPO PP 1/135(4), PP 1/152(4), PP 1/181(4), PP 1/225(2)
	Specific guidelines	EPPO PP 1/26(4)
	GEP	Yes (2)
Experimental design	Plot design	RCBD (2)
	Plot size	21 m ²
	Number of replications	4 (2)
Crop	Trials per crop	Spring barley (1) Oat (1)
	Varieties per crop	Spring barley: Texas (1) Oat: Harnas (1)
	Sowing period	Spring barley: March 2020 Oat: March 2020
Application	Crop stage (BBCH)* at application	Spring barley: BBCH 31 – BBCH 39 Oat: BBCH 31 – BBCH 39
	Timing	Post-emergence
	Number of applications	1 (2), however conducted at two time points in the same plot, therefore assessments at DA-B shown
	Intervals between applications	
	Spray volumes	300 l/ha
Assessment	Assessment types	Yield (t/ha)
	Assessment dates	64-72 DA-A; 52-59 DA-B
Other relevant information	Soil type	Sandy loam (2)
	Soil pH	pH 6.3 – pH 6.5
	Natural/artificial inoculation	Natural (2)
	Field / Greenhouse	F (2)
	Application rate of test product	1.0 L/ha product

Results

For spring barley, one trial was carried out in 2020 in Poland. One trial was conducted for spring oat in 2020 in Poland. The results for spring barley are shown in Table 3.4-31 and Table 3.4-32 and for spring oat in Table 3.4-33 and Table 3.4-34.

Table 3.4-31: Yield effect of FF-075 in efficacy trials on spring barley after one application – after application A – EPP0 North-east zone.

Grouping Yield	Number of trials	Untreated control absolute figures		Yield				No of trials where 1 l/ha of FF-075 is >, <, = com- pared to the untreated control	No of trials where 1 l/ha of FF-075 is >, <, = com- pared to the standard
				FF-075 at 1.0 (l/ha)		Amistar at 0.6 (l/ha)			
		Mean	Min & Max	Mean	Min & Max	Mean	Min & Max		
YIELD % of untreated	1	3.9	-	115.4	-	110.3	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
YIELD T-MET/ha	1	3.9	-	4.5	-	4.3	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Table 3.4-32: Yield effect of FF-075 in efficacy trials on spring barley after one application – after application B – EPPO North-east zone.

Table 07: 075 Yield effect of 1.0 l/ha of FF-075 on emergency trials on spring barley after one application and after application 2 - DFFC North East zone									
Grouping Yield	Number of trials	Untreated control absolute figures		YIELD				No of trials where 1 l/ha of FF-075 is >, <, = com- pared to the untreated control	No of trials where 1 l/ha of FF-075 is >, <, = com- pared to the standard
				FF-075 at 1.0 (l/ha)		Amistar at 0.6 (l/ha)			
		Mean	Min & Max	Mean	Min & Max	Mean	Min & Max		
YIELD % of untreated	1	3.9	-	115.4	-	110.3	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
YIELD T-MET/ha	1	3.9	-	4.5	-	4.3	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Table 3.4-33: Yield effect of FF-075 in efficacy trials on spring oat after one application – after application A – EPPO North-east zone

Grouping Yield	Number of trials	Untreated control absolute figures		Yield				No of trials where 1 l/ha of FF-075 is >, <, = com- pared to the untreated control	No of trials where 1 l/ha of FF-075 is >, <, = com- pared to the standard
				FF-075 at 1.0 (l/ha)		JOAO/Proline at 0.8 (l/ha)			
		Mean	Min & Max	Mean	Min & Max	Mean	Min & Max		
Yield % of untreated	1	7.0	-	104.0	-	104.5	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
Yield T-MET/ha	1	7.0	-	7.2	-	7.3	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Table 3.4-34: Yield effect of FF-075 in efficacy trials on spring oat after one application – after application B – EPPO North-east zone

Table 01: Fertilizer effect of 11-075 in chemical trials on spring oat after one application at 110 North East zone									
Grouping Yield	Number of trials	Untreated control absolute figures		Yield				No of trials where 1 l/ha of FF-075 is >, <, = com- pared to the untreated control	No of trials where 1 l/ha of FF-075 is >, <, = com- pared to the standard
				FF-075 at 1.0 (l/ha)		JOAO/Proline at 0.8 (l/ha)			
		Mean	Min & Max	Mean	Min & Max	Mean	Min & Max		
Yield % of untreated	1	7.0	-	110.1	-	109.6	-	1 trial > 0 trials = 0 trials <	0 trials > 1 trial = 0 trials <
Yield T-MET/ha	1	7.0	-	7.7	-	7.6	-	1 trial > 0 trials = 0 trials <	0 trials > 1 trial = 0 trials <

Conclusions

FF-075 at the proposed label rate of 1.0 L/ha (corresponding to 200 g/l of prothioconazole and 150 g/l of azoxystrobin) had no negative effect on the yield of spring barley and spring oat in the presence of diseases.

Oilseed rape

Material and methods

In total, three field trials were carried out in Poland in 2019 and 2020 to assess the effect of the fungicide FF-075 on the yield of oilseed rape. The trials were carried out according to GEP by officially recognised testing organisations and the guidelines EPPO PP1/78(3), PP1/135(4), PP1/152(4), PP1/181(4) and PP1/225(2) were used.

Detailed information on the experiments and application methods is given in. For further information on the reference products please refer to Table 3.2-8.

Table 3.4-35: : Experimental details and application methods in the selectivity (yield) trials with FF-075 in winter oilseed rape in the EPPO North-east zone (numerals in brackets indicate the number of trials, except for the information on guidelines) (efficacy trials)

Total number of trials		<u>3</u>
Guidelines	General guidelines	EPPO PP 1/135(4), PP 1/152(4), PP 1/181(4), PP 1/225(2)
	Specific guidelines	EPPO PP 1/78(3)
	GEP	Yes (3)
Experimental design	Plot design	RCBD (3)
	Plot size	20-30 m ²
	Number of replications	4 (3)
Crop	Trials per crop	Oilseed rape (3)
	Varieties per crop	Oilseed rape: Architekt (1), Konkret (1), Monolit (1)
	Sowing period	Oilseed rape: August 2018, August 2019
Application	Crop stage (BBCH)* at application	Oilseed rape: BBCH 65
	Timing	Post-emergence
	Number of applications	1 (3)
	Intervals between applications	
Assessment	Spray volumes	200 l/ha
	Assessment types	Yield (t/ha)
	Assessment dates	48-54 DA-A
Other relevant information	Soil type	Sandy loam (3)
	Soil pH	pH 6.11 – pH 6.8 and n.s. (1)
	Natural/artificial inoculation	Natural (3)
	Field / Greenhouse	F (3)
	Application rate of test product	0.8 L/ha product

Results

For oilseed rape, a total of three trials were carried out between 2019 and 2020 in Poland. The results are shown in Table 3.4-36

Table 3.4-36: Yield effect of FF-075 in efficacy trials on oilseed rape – EPPO North-east zone.

Grouping reference products	Grouping Yield	Number of trials	Untreated control absolute figures		Yield						No of trials where 0.8 l/ha of FF-075 is >, <, = compared to the untreated control	No of trials where 0.8 l/ha of FF- 075 is >, <, = compared to Joao/Proline	No of trials where l/ha of FF-075 is >, <, = compared to Amistar
					FF-075 at 0.8 (l/ha)		Joao/Proline at 0.7-0.8 (l/ha)		Amistar at 0.6 (l/ha)				
			Mean	Min & Max	Mean	Min & Max	Mean	Min & Max	Mean	Min & Max			
Overall Joao/Proline	YIELD % of untreated	3	3.0	2.1 - 4.0	112.7	107.3 - 122.5	110.3	101.8 - 122.5	110.7	106.3 - 115.0	2 trials > 1 trial = 0 trials <	0 trials > 3 trials = 0 trials <	0 trials > 2 trials = 0 trials <
Amistar	YIELD % of untreated	2	3.5	3.0 - 4.0	115.4	108.3-122.5	-	-	110.7	106.3 - 115.0			0 trials > 2 trials = 0 trials <
Overall Joao/Proline	YIELD T-MET/ha	3	3.0	2.1 - 4.0	3.5	2.2 - 4.9	3.4	2.1 - 4.9	3.9	3.2 - 4.6	0 trials > 1 trial = 2 trials <	0 trials > 3 trials = 0 trials <	0 trials > 2 trials = 0 trials <
Amistar	YIELD T-MET/ha	2	3.5	3.0 - 4.0	4.1	3.3-4.9	-	-	3.9	3.2 - 4.6			0 trials > 2 trials = 0 trials <

Conclusions

FF-075 at the proposed label rate of 0.8 L/ha (corresponding to 160 g/l of prothioconazole and 120 g/l of azoxystrobin) had no negative effect on the yield of oilseed rape in the presence of diseases.

Comments of zRMS:	<p>Effect of Euskatel Pro (product code: FF-075) on yield was studied in 22 trials in Maritime EPPO zone and 12 trials in N-E EPPO zone.</p> <p><u>Winter cereals:</u></p> <ul style="list-style-type: none"> ✓ Maritime EPPO zone: 20 trials (winter wheat – 13 trials, BBCH 31-65; winter barley – 6 trials, BBCH 31-45; winter triticale – 1 trial, BBCH 31-39). ✓ N-E EPPO zone: 7 trials (winter wheat – 2 trials, BBCH 31-43; winter barley – 4 trials, BBCH 31-45; winter triticale – 1 trial, BBCH 32-41). <p><u>Spring cereals:</u></p> <ul style="list-style-type: none"> ✓ Maritime EPPO zone: lack of trials ✓ N-E EPPO zone: 2 trials (spring barley BBCH 31-39 and spring oat BBCH 31-39). <p><u>Winter oilseed rape:</u></p> <ul style="list-style-type: none"> ✓ Maritime EPPO zone: 2 trials (DE, UK), BBCH 65 ✓ N-E EPPO zone: 3 trials (PL), BBCH 65. <p>ZRMs agree with Applicant. No negative effects on the yield of cereals and winter oilseed rape were observed. No significant reductions in crop yield were recorded during trials harvested in any of the plots treated with Euskatel Pro at recommended dose rate (1,0 l/ha for cereals and 0,8 l/ha for winter oilseed rape).</p> <p>In the opinion of ZRMs only in case of winter cereals, both for Maritime and N-E EPPO zone submitted number of trials was presented. For winter oilseed rape only for N-E EPPO zone documentation is sufficient. For spring cereals, not sufficient documentation for in N-E and Maritime EPPO zone was submitted by Applicant. Lack of trials carried out in MED EPPO zone.</p> <p>In conclusion, no negative influence of the product Euskatel Pro on the yield, is to be expected when applied at the intended rate and used according to the label recommendations. Each CMS should decide about acceptance of submitted documentation by Applicant. For Poland, only for winter and spring cereals and winter oilseed rape documentation is sufficient.</p>
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3.4.3 Effects on the quality of plants or plant products (KCP 6.4.3)

In total, 29 trials were carried out to evaluate the impact on the quality of plants and plant products after application of FF-075. The distribution of trials by location and year are described in Table 3.4-37 and Table 3.4-38.

Table 3.4-37: Number of selectivity (yield) trials included in the dossier sorted by country and year

Year	2019	2020	Total
Country			
The Czech Republic	1	1	2

Germany	4	5	9
France	1	-	2
Poland	3	9	12
The United Kingdom	-	5	5
Total	9	20	29

Table 3.4-38: Number of selectivity (yield) trials included in the dossier sorted by country and EPPO climatic zones

EPPO zone	Maritime	North-east
Country		
Germany	9	-
The Czech Republic	2	-
France	1	-
Poland	-	12
The United Kingdom	5	-
Total	17	12

3.4.3.1 EPPO Maritime zone

Winter cereals

Material and methods

In total, 15 field trials were carried out in the Czech Republic, Germany, France and the United Kingdom in 2019 and 2020 to assess the effect of the fungicide FF-075 on the quality of winter cereals. The trials were carried out according to GEP by officially recognised testing organisations and the guidelines EPPO PP1/26(4), PP1/135(4), PP1/152(4), PP1/181(4) and PP1/225(2) were used.

Detailed information on the experiments and application methods is given in Table 3.4-39. For further information on the reference products please refer to Table 3.2-8.

Table 3.4-39: Experimental details and application methods in the selectivity (quality) trials with FF-075 in winter cereals in the EPPO Maritime zone (numerals in brackets indicate the number of trials, except for the information on guidelines) (efficacy trials)

Total number of trials		15
Guidelines	General guidelines	EPPO PP 1/135(4), PP 1/152(4), PP 1/181(4), PP 1/225(2)
	Specific guidelines	EPPO PP 1/26(4)
	GEP	Yes (15)
Experimental design	Plot design	RCBD (15)
	Plot size	17.5-36 m ²
	Number of replications	4 (15)
Crop	Trials per crop	Winter wheat (9) Winter barley (5) Winter triticale (1)
	Varieties per crop	Winter wheat: Benchmark (1), Crusoe (1), Kashmir (1), Rubisco (1), Skyfall (1), Tobak (4) Winter barley: Flagon (1), Henriette (1), KWS Orwell

		(1), Lomerit (1), Quadriga (1) Winter triticale: Lombardo (1)
	Sowing period	Winter wheat: September-October 2018, September-October 2019 Winter barley: September-October 2019 Winter triticale: October 2019
Application	Crop stage (BBCH)* at application	Winter wheat: BBCH 31 - BBCH 55 Winter barley: BBCH 31 – BBCH 49 Winter triticale: BBCH 31 – BBCH 39
	Timing	Post-emergence
	Number of applications	1 (9) however conducted at two time points in the same plot, therefore assessments at DA-B shown
	Intervals between applications	2 (6) 20-36 days
	Spray volumes	180 - 300 l/ha
Assessment	Assessment types	Moisture content (% of untreated; %), Hectoliter weight (% of untreated; kg), Weight (% of untreated; t), Thousand Grain Weight (% of untreated; g)
	Assessment dates	56-113 DA-A, 54-116 DA-B
Other relevant information	Soil type	Clay loam (1), loam (1), loamy sand (2), sandy clay loam (1), sandy loam (4), silt loam (3), silty clay loam (3)
	Soil pH	pH 5.3 – pH 7.4 and n.s. (7)
	Natural/artificial inoculation	Natural (15)
	Field / Greenhouse	F (15)
	Application rate of test product	1.0 L/ha product

Results

Three studies conducted in 2020 in Germany and the United Kingdom on winter wheat revealed no negative impact of FF-075 on quality of plants after one application (Table 3.4-40 and Table 3.4-41).

Six studies were conducted with two applications of FF-075 in 2019 in the Czech Republic, Germany and France on winter wheat. The results are shown in Table 3.4-42 and revealed no negative impact of FF-075 on quality.

On winter barley five studies were carried out in 2020 in the Czech Republic, Germany and the United Kingdom. The results on quality after one application FF-075 are shown in Table 3.4-43 and Table 3.4-44. No negative impact on quality was observed.

One trial conducted in winter triticale in 2020 in Germany revealed no negative impact of FF-075 on quality of plants after one application (Table 3.4-45 and Table 3.4-46).

Table 3.4-40: Quality effect of FF-075 in efficacy trials on winter wheat after one application – after application A - EPPO Maritime zone

Grouping Reference product	Grouping Quality	Number of trials	Untreated control absolute figures		Quality				No of trials where 1 l/ha of FF-075 is >, <, = compared to the un- treated control	No of trials where 1 l/ha of FF-075 is >, <, = com- pared to Joao/Proline
					FF-075 at 1.0 (l/ha)		Joao/Proline at 0.6-0.8 (l/ha)			
			Mean	Min & Max	Mean	Min & Max	Mean	Min & Max		
Overall	MOICON % of untreated	3	13.8	13.1 - 14.4	100.9	100.6 - 101.3	100.7	100.0 - 101.9	0 trials > 2 trials = 0 trials <	0 trials > 2 trials = 0 trials <
Overall	MOICON %	3	13.8	13.1 - 14.4	13.9	13.2 - 14.5	13.9	13.1 - 14.5	0 trials > 2 trials = 0 trials <	0 trials > 2 trials = 0 trials <
Overall	HLW % of untreated	1	77.4	-	101.2	-	101.8	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
Overall	HLW kg	1	77.4	-	78.3	-	78.8	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
Overall	WEIGHT % of untreated	2	7.6	7.2 - 7.9	108.7	104.1 - 113.2	107.1	104.4 - 109.9	0 trials > 0 trials = 0 trials <	0 trials > 0 trials = 0 trials <
Overall	WEIGHT t	2	7.6	7.2 - 7.9	8.2	7.5 - 9.0	8.1	7.5 - 8.7	0 trials > 0 trials = 0 trials <	0 trials > 0 trials = 0 trials <

Table 3.4-41: Quality effect of FF-075 in efficacy trials on winter wheat after one application – after application B - EPPO Maritime zone

Grouping Reference product	Grouping Quality	Number of trials	Untreated control absolute fig- ures		Quality				No of trials where 1 l/ha of FF-075 is >, <, = compared to the untreated control	No of trials where 1 l/ha of FF-075 is >, <, = compared to Joao/Proline
					FF-075 at 1.0 (l/ha)		Joao/Proline at 0.6-0.8 (l/ha)			
			Mean	Min & Max	Mean	Min & Max	Mean	Min & Max		
TRZAW	MOICON % of untreated	3	13.8	13.1 - 14.4	101.4	100.8 - 102.4	101.1	100.7 - 101.8	0 trials > 2 trials = 0 trials <	0 trials > 2 trials = 0 trials <
TRZAW	MOICON %	3	13.8	13.1 - 14.4	13.9	13.2 - 14.6	13.9	13.2 - 14.5	0 trials > 2 trials = 0 trials <	0 trials > 2 trials = 0 trials <
TRZAW	HLW % of untreated	1	77.4	-	101.4	-	102.3	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
TRZAW	HLW kg	1	77.4	-	78.5	-	79.2	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
TRZAW	WEIGHT % of untreated	2	7.6	7.2 - 7.9	112.0	109.3 - 114.6	108.8	103.1 - 114.6	n.a.	n.a.
TRZAW	WEIGHT t	2	7.6	7.2 - 7.9	8.5	7.8 - 9.1	8.2	7.4 - 9.1	n.a.	n.a.

Table 3.4-42: Quality effect of FF-075 in efficacy trials on winter wheat after two applications – after applications AB - EPPO Maritime zone

Grouping Quality	Number of trials	Untreated control absolute figures		Quality				No of trials where 1 l/ha of FF-075 is >, <, = compared to the untreated control	No of trials where 1 l/ha of FF-075 is >, <, = compared to Joao/Proline
				FF-075 at 1.0 (l/ha)		Joao/Proline at 0.6-0.8 (l/ha)			
		Mean	Min & Max	Mean	Min & Max	Mean	Min & Max		
MOICON % of untreated	6	14.4	6.1 - 17.5	102.8	99.7 - 110.3	101.3	98.6 - 108.8	0 trials > 6 trials = 0 trials <	0 trials > 6 trials = 0 trials <
MOICON %	6	14.4	6.1 - 17.5	14.7	6.8 - 17.7	14.5	6.7 - 17.5	0 trials > 6 trials = 0 trials <	0 trials > 6 trials = 0 trials <
HLW % of untreated	5	72.7	65.7 - 76.4	103.8	101.3 - 106.9	104.0	102.0 - 111.0	2 trials > 3 trials = 0 trials <	1 trial > 4 trials = 0 trials <
HLW kg	5	72.7	65.7 - 76.4	75.4	70.3 - 79.4	75.5	73.0 - 77.9	0 trials > 3 trials = 2 trials <	1 trial > 4 trials = 0 trials <
WEIGHT % of untreated	3	10.9	8.8 - 12.2	124.6	113.8 - 142.6	117.6	111.2 - 127.8	3 trials > 0 trials = 0 trials <	1 trial > 2 trials = 0 trials <
WEIGHT kg	3	10.9	8.8 - 12.2	13.4	12.6 - 14.4	12.7	11.3 - 13.9	0 trials > 0 trials = 3 trials <	0 trials > 3 trials = 0 trials <

Table 3.4-43: Quality effect of FF-075 in efficacy trials on winter barley after one application – after application A - EPPO Maritime zone

Grouping	Grouping	Number	Untreated control abso-	Quality				No of trials	No of trials	No of trials
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Reference product	Quality	of trials	lute figures		FF-075 at 1.0 (l/ha)		Joao/Proline at 0.6-0.8 (l/ha)		Minister at 1.0 (l/ha)		where 1 l/ha of FF-075 is >, <, = compared to the untreated control	where 1 l/ha of FF-075 is >, <, = compared to Joao/Proline	where l/ha of FF-075 is >, <, = compared to Minister
			Mean	Min & Max	Mean	Min & Max	Mean	Min & Max	Mean	Min & Max			
Overall	MOICON % of untreated	4	12.6	10.0 - 14.9	98.4	92.3 - 102.3	99.1	95.3 - 102.8	101.4	-	0 trials > 3 trials = 0 trials <	0 trials > 2 trials = 0 trials <	0 trials > 0 trials = 0 trials <
Joao/Proline	MOICON % of untreated	3	12.7	10.0 - 14.9	97.0	92.3 - 100.8	99.1	95.3 - 102.8	-	-		0 trials > 2 trials = 0 trials <	
Minister	MOICON % of untreated	1	12.6	-	102.3	-	-	-	101.4	-			0 trials > 0 trials = 0 trials <
Overall	MOICON %	4	12.6	10.0 - 14.9	12.4	9.8 - 13.7	12.5	10.3 - 14.2	12.8	-	0 trials > 3 trials = 0 trials <	0 trials > 2 trials = 0 trials <	0 trials > 1 trial = 0 trials <
Joao/Proline	MOICON %	3	12.7	10.0 - 14.9	12.2	9.8 - 13.7	12.5	10.3 - 14.2	-	-		0 trials > 2 trials = 0 trials <	
Minister	MOICON %	1	12.6	-	12.9	-	-	-	12.8	-			0 trials > 1 trial = 0 trials <
Overall	HLW % of untreated	3	67.0	62.8 - 69.5	100.4	99.7 - 101.6	100.5	99.7 - 101.2	100.2	-	0 trials > 3 trials = 0 trials <	0 trials > 2 trials = 0 trials <	0 trials > 1 trial = 0 trials <

Grouping Reference product	Grouping Quality	Number of trials	Untreated control absolute figures		Quality						No of trials where 1 l/ha of FF-075 is >, <, = compared to the untreated control	No of trials where 1 l/ha of FF-075 is >, <, = compared to Joao/Proline	No of trials where l/ha of FF-075 is >, <, = compared to Minister
					FF-075 at 1.0 (l/ha)		Joao/Proline at 0.6-0.8 (l/ha)		Minister at 1.0 (l/ha)				
			Mean	Min & Max	Mean	Min & Max	Mean	Min & Max	Mean	Min & Max			
Joao/Proline	HLW % of untreated	2	65.7	62.8 - 68.7	100.6	99.7 - 101.6	100.5	99.7 - 101.2	-	-		0 trials > 2 trials = 0 trials <	
Minister	HLW % of untreated	1	69.5	-	100.0	-	-	-	100.2	-			0 trials > 1 trial = 0 trials <
Overall	HLW kg	3	67.0	62.8 - 69.5	67.2	63.8 - 69.5	66.0	63.5 - 68.5	69.6	-	0 trials > 3 trials = 0 trials <	0 trials > 2 trials = 0 trials <	0 trials > 1 trial = 0 trials <
Joao/Proline	HLW kg	2	65.7	62.8 - 68.7	66.1	63.8 - 68.5	66.0	63.5 - 68.5	-	-		0 trials > 2 trials = 0 trials <	
Minister	HLW kg	1	69.5	-	69.5	-	-	-	69.6	-			0 trials > 1 trial = 0 trials <
Overall	WEIGHT % of untreated	2	4.3	3.4 - 5.3	117.6	108.3 - 126.9	118.8	112.2 - 125.5	-	-	0 trials > 0 trials = 0 trials <	0 trials > 0 trials = 0 trials <	.
Overall	WEIGHT t	2	4.3	3.4 - 5.3	5.0	4.3 - 5.7	5.1	4.3 - 5.9	-	-	0 trials > 0 trials = 0 trials <	0 trials > 0 trials = 0 trials <	-

Table 3.4-44: Quality effect of FF-075 in efficacy trials on winter barley after one application – after application B - EPPO Maritime zone

Grouping Reference product	Grouping Quality	Number of trials	Untreated control absolute figures		Quality						No of trials where 1 l/ha of FF- 075 is >, <, = compared to the un- treated control	No of trials where 1 l/ha of FF-075 is >, <, = compared to Joao/Proline	No of trials where l/ha of FF-075 is >, <, = compared to Minister
					FF-075 at 1.0 (l/ha)		Joao/Proline at 0.6-0.8 (l/ha)		Minister at 1.0 (l/ha)				
			Mean	Min & Max	Mean	Min & Max	Mean	Min & Max	Mean	Min & Max			
Overall	MOICON % of untreated	4	12.6	10.0 - 14.9	97.8	93.1 - 103.2	98.0	92.9 - 101.2	102.3	-	0 trials > 3 trials = 0 trials <	0 trials > 2 trials = 0 trials <	0 trials > 0 trials = 0 trials <
Joao/Proline	MOICON % of untreated	3	12.7	10.0 - 14.9	96.0	93.1 - 100.8	98.0	92.9 - 101.2	-	-		0 trials > 2 trials = 0 trials <	
Minister	MOICON % of untreated	1	12.6	-	103.2	-	-	-	102.3	-			0 trials > 0 trials = 0 trials <
Overall	MOICON %	4	12.6	10.0 - 14.9	12.4	9.4 - 13.8	12.3	10.1 - 13.8	12.9	-	0 trials > 3 trials = 0 trials <	0 trials > 2 trials = 0 trials <	0 trials > 1 trial = 0 trials <
Joao/Proline	MOICON %	3	12.7	10.0 - 14.9	12.2	9.4 - 13.8	12.3	10.1 - 13.8	-	-		0 trials > 2 trials = 0 trials <	
Minister	MOICON %	1	12.6	-	13.0	-	-	-	12.9	-			0 trials > 1 trial = 0 trials <
Overall	HLW	3	67.0	62.8 - 69.5	100.6	98.7 - 102.2	101.0	100.6 - 101.3	100.8	-	0 trials > 3 trials =	0 trials > 2 trials =	0 trials > 1 trial =

Grouping Reference product	Grouping Quality	Number of trials	Untreated control absolute figures		Quality						No of trials where 1 l/ha of FF-075 is >, <, = compared to the untreated control	No of trials where 1 l/ha of FF-075 is >, <, = compared to Joao/Proline	No of trials where l/ha of FF-075 is >, <, = compared to Minister
					FF-075 at 1.0 (l/ha)		Joao/Proline at 0.6-0.8 (l/ha)		Minister at 1.0 (l/ha)				
			Mean	Min & Max	Mean	Min & Max	Mean	Min & Max	Mean	Min & Max			
	% of untreated										0 trials <	0 trials <	0 trials <
Joao/Proline	HLW % of untreated	2	65.7	62.8 - 68.7	99.8	98.7 - 100.9	101.0	100.6 - 101.3	-	-		0 trials > 2 trials = 0 trials <	
Minister	HLW % of untreated	1	69.5	-	102.2	-	-	-	100.8	-			0 trials > 1 trial = 0 trials <
Overall	HLW kg	3	67.0	62.8 - 69.5	67.4	62.0 - 71.0	66.4	63.6 - 69.1	70.0	-	0 trials > 3 trials = 0 trials <	0 trials > 2 trials = 0 trials <	0 trials > 1 trial = 0 trials <
Joao/Proline	HLW kg	2	65.7	62.8 - 68.7	65.6	62.0 - 69.3	66.4	63.6 - 69.1	-	-		0 trials > 2 trials = 0 trials <	
Minister	HLW kg	1	69.5	-	71.0	-	-	-	70.0	-			0 trials > 1 trial =
Overall	WEIGHT % of untreated	2	4.3	3.4 - 5.3	106.2	104.5 - 107.8	114.1	113.2 - 115.0	-	-	0 trials > 0 trials = 0 trials <	0 trials > 0 trials = 0 trials <	-
Overall	WEIGHT t	2	4.3	3.4 - 5.3	4.6	3.6 - 5.7	5.0	3.8 - 6.1	-	-	0 trials > 0 trials = 0 trials <	0 trials > 0 trials = 0 trials <	-

Table 3.4-45: Quality effect of FF-075 in efficacy trials on winter triticale after one application – after application A- EPP0 Maritime zone

Grouping Quality	Number of trials	Untreated control absolute figures		Quality				No of trials where 1 l/ha of FF-075 is >, <, = compared to the untreated control	No of trials where 1 l/ha of FF-075 is >, <, = compared to Proline
				FF-075 at 1.0 (l/ha)		Proline at 0.8 (l/ha)			
		Mean	Min & Max	Mean	Min & Max	Mean	Min & Max		
MOICON % of untreated	1	13.2	-	100.5	-	102.7	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
MOICON %	1	13.2	-	13.3	-	13.6	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
HLW % of untreated	1	75.3	-	100.7	-	101.3	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
HLW kg	1	75.3	-	75.8	-	76.2	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
WEIGHT % of untreated	1	6.6	-	109.7	-	114.6	-	0 trials > 0 trials = 0 trials <	0 trials > 0 trials = 0 trials <
WEIGHT t	1	6.6	-	7.2	-	7.6	-	0 trials > 0 trials = 0 trials <	0 trials > 0 trials = 0 trials <
TKW % of untreated	1	39.6	-	108.7	-	105.1	-	1 trial > 0 trials = 0 trials <	0 trials > 1 trial = 0 trials <

Grouping Quality	Number of trials	Untreated control absolute figures		Quality				No of trials where 1 l/ha of FF-075 is >, < = compared to the untreated control	No of trials where 1 l/ha of FF-075 is >, < = compared to Proline
				FF-075 at 1.0 (l/ha)		Proline at 0.8 (l/ha)			
		Mean	Min & Max	Mean	Min & Max	Mean	Min & Max		
TKW g	1	39.6	-	43.0	-	41.6	-	0 trials > 0 trials = 1 trial <	0 trials > 1 trial = 0 trials <

Table 3.4-46: Quality effect of FF-075 in efficacy trials on winter triticale after one application – after application B - EPPO Maritime zone

Grouping Quality	Number of trials	Untreated control absolute figures		Quality				No of trials where 1 l/ha of FF-075 is >, <, = compared to the untreated control	No of trials where 1 l/ha of FF-075 is >, <, = compared to Proline
				FF-075 at 1.0 (l/ha)		Proline at 0.8 (l/ha)			
		Mean	Min & Max	Mean	Min & Max	Mean	Min & Max		
MOICON % of untreated	1	13.2	-	102.0	-	100.9	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
MOICON %	1	13.2	-	13.5	-	13.4	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
HLW % of untreated	1	75.3	-	100.9	-	101.7	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
HLW kg	1	75.3	-	76.0	-	76.5	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
WEIGHT % of untreated	1	6.6	-	114.6	-	118.2	-	0 trials > 0 trials = 0 trials <	0 trials > 0 trials = 0 trials <
WEIGHT t	1	6.6	-	7.6	-	7.8	-	0 trials > 0 trials = 0 trials <	0 trials > 0 trials = 0 trials <
								1 trial >	0 trials >

Grouping Quality	Number of trials	Untreated control absolute figures		Quality				No of trials where 1 l/ha of FF-075 is >, <, = compared to the untreated control	No of trials where 1 l/ha of FF-075 is >, <, = compared to Proline
				FF-075 at 1.0 (l/ha)		Proline at 0.8 (l/ha)			
		Mean	Min & Max	Mean	Min & Max	Mean	Min & Max		
TKW % of untreated	1	39.6	-	109.5	-	108.7	-	0 trials = 0 trials <	1 trial = 0 trials <
TKW g	1	39.6	-	43.3	-	43.0	-	0 trials > 0 trials = 1 trial <	0 trials > 1 trial = 0 trials <

Conclusions

Results show that sole treatments with FF-075 at the dose rates of 1.0 L/ha do not have any negative impact on the quality of winter cereals tested in these trials.

Oilseed rape

Material and methods

In total, two field trials were carried out in Germany and the United Kingdom in 2020 to assess the effect of the fungicide FF-075 on the quality of oilseed rape. The trials were carried out according to GEP by officially recognised testing organisations and the guidelines EPPO PP1/78(3), PP1/135(4), PP1/152(4), PP1/181(4) and PP1/225(2) were used.

Detailed information on the experiments and application methods is given in Table 3.4-47 and Appendix 4. For further information on the reference products please refer to Table 3.2-8.

Table 3.4-47 Experimental details and application methods in the selectivity (quality) trials with FF-075 in winter oilseed rape in the EPPO Maritime zone (numerals in brackets indicate the number of trials, except for the information on guidelines) (efficacy trials)

Total number of trials		<u>2</u>
Guidelines	General guidelines	EPPO PP 1/135(4), PP 1/152(4), PP 1/181(4), PP 1/225(2)
	Specific guidelines	EPPO PP 1/78(3)
	GEP	Yes (2)
Experimental design	Plot design	RCBD (2)
	Plot size	24-39 m ²
	Number of replications	4 (2)
Crop	Trials per crop	Oilseed rape (2)
	Varieties per crop	Oilseed rape: Expansion (1), Windozz (1)
	Sowing period	Oilseed rape: August 2019
Application	Crop stage (BBCH)* at application	Oilseed rape: BBCH 65
	Timing	Post-emergence
	Number of applications	1 (2)
	Intervals between applications	
Assessment	Spray volumes	200 - 300 l/ha
	Assessment types	Moisture content (% of untreated; %), Weight (% of untreated; t)
Other relevant information	Assessment dates	81-86 DA-A
	Soil type	Loam (1), sandy clay loam (1)
	Soil pH	pH 6.5 and n.s. (1)
	Natural/artificial inoculation	Natural (2)
	Field / Greenhouse	F (2)
Application rate of test product		0.8 L/ha product

Results

Two studies conducted in 2020 in Germany and the United Kingdom on oilseed rape revealed no negative impact of FF-075 on quality of plants (see Table 3.4-48)

Table 3.4-48: Quality effect of FF-075 in efficacy trials on oilseed rape - EPPO Maritime zone

Grouping Quality	Number of trials	Untreated control absolute figures		Quality				No of trials where 0.8 l/ha of FF- 075 is >, <, = compared to the untreated control	No of trials where 0.8 l/ha of FF- 075 is >, <, = compared to the standard
				FF-075 at 0.8 (l/ha)		Joao/Proline at 0.7 (l/ha)			
		Mean	Min & Max	Mean	Min & Max	Mean	Min & Max		
MOICON % of untreated	2	8.4	8.1 - 8.8	101.7	98.3 - 105.2	101.5	99.7 - 103.3	0 trials > 2 trials = 0 trials <	0 trials > 2 trials = 0 trials <
MOICON %	2	8.4	8.1 - 8.8	8.6	8.5 - 8.6	8.6	8.4 - 8.8	0 trials > 2 trials = 0 trials <	0 trials > 2 trials = 0 trials <
WEIGHT % of untreated	2	3.0	3.0 - 3.1	98.4	95.7 - 101.1	100.5	93.2 - 107.9	n.s.	n.s.
WEIGHT t	2	3.0	3.0 - 3.1	3.0	3.0 - 3.0	3.1	2.9 - 3.2	n.s.	n.s.

Conclusions

Results show that sole treatments with FF-075 at the dose rates of 0.8 L/ha do not have any negative impact on the quality of oilseed rape tested in these trials.

• EPPO North-east zone

Winter cereals

Material and methods

In total, seven field trials were carried out in Poland in 2019 and 2020 to assess the effect of the fungicide FF-075 on the quality of winter cereals. The trials were carried out according to GEP by officially recognised testing organisations and the guidelines EPPO PP1/26(4), PP1/135(4), PP152(4), PP1/181(4) and PP1/225(2) were used.

Detailed information on the experiments and application methods is given in. For further information on the reference products please refer to Table 3.2-8.

Table 3.4-49: Experimental details and application methods in the selectivity (quality) trials with FF-075 in winter cereals in the EPPO North-east zone (numerals in brackets indicate the number of trials, except for the information on guidelines) (efficacy trials)

Total number of trials		<u>7</u>
Guidelines	General guidelines	EPPO PP 1/135(4), PP 1/152(4), PP 1/181(4), PP 1/225(2)
	Specific guidelines	EPPO PP 1/26(4)
	GEP	Yes (7)
Experimental design	Plot design	RCBD (7)
	Plot size	18-24 m ²
	Number of replications	4 (7)
Crop	Trials per crop	Winter wheat (2) Winter barley (4) Winter triticale (1)
	Varieties per crop	Winter wheat: Euforia (1), Princeps (1) Winter barley: Gloria (2), Quadriga (1), Wootan (1) Winter triticale: Meloman (1)
	Sowing period	Winter wheat: September 2018, September 2019 Winter barley: September 2019 Winter triticale: September 2019
Application	Crop stage (BBCH)* at application	Winter wheat: BBCH 31 - BBCH 43 Winter barley: BBCH 31 – BBCH 45 Winter triticale: BBCH 32 – BBCH 41
	Timing	Post-emergence
	Number of applications Intervals between applications	1 (6), however conducted at two time points in the same plot, therefore assessments at DA-B shown 2 (1) with intervals of 31 days.
	Spray volumes	200 - 300 l/ha
Assessment	Assessment types	Moisture content (% of untreated; %), Hectoliter weight (% of untreated; kg), Thousand Grain Weight (% of untreated; g)
	Assessment dates	80-167 DA-A, 61-136 DA-B
Other relevant information	Soil type	Loamy sand (1), sandy loam (4), silty clay (2)
	Soil pH	pH 5.9 – pH 7 and n.s. (3)
	Natural/artificial inoculation	Natural (7)

	Field / Greenhouse	F (7)
	Application rate of test product	1.0 L/ha product

* BBCH for crops

Results

Two studies conducted between 2019 and 2020 in Poland on winter wheat. One trial was carried out with a single application and one with two applications with an interval of 31 days. The results for single application are shown in Table 3.4-50 and Table 3.4-51 and for two applications in Table 3.4-52. Both studies revealed no negative impact of FF-075 on quality of plants.

On winter barley four studies conducted in 2020 in Poland revealed no negative impact of FF-075 on quality of plants (Table 3.4-53 and Table 3.4-54).

One trial conducted in 2020 in Poland on triticale revealed no negative impact of FF-075 on quality of plants. Results are shown in Table 3.4-55 and Table 3.4-56.

Table 3.4-50: Quality effect of FF-075 in efficacy trials on winter wheat after one application – after application A - EPPO North-east zone

Grouping Quality	Number of trials	Untreated control absolute figures		Quality				No of trials where 1 l/ha of FF-075 is >, <, = com- pared to the untreated control	No of trials where 1 l/ha of FF-075 is >, <, = com- pared to the standard
				FF-075 at 1.0 (l/ha)		Tazer 250 SC at 0.6 (l/ha)			
		Mean	Min & Max	Mean	Min & Max	Mean	Min & Max		
MOICON % of untreated	1	10.4	-	101.0	-	101.9	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
MOICON %	1	10.4	-	10.5	-	10.6	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Table 3.4-51: Quality effect of FF-075 in efficacy trials on winter wheat after one application – after application B - EPPO North-east zone

Grouping Quality	Number of trials	Untreated control absolute figures		Quality				No of trials where 1 l/ha of FF-075 is >, <, = com- pared to the untreated control	No of trials where 1 l/ha of FF-075 is >, <, = com- pared to the standard
				FF-075 at 1.0 (l/ha)		Tazer 250 SC at 0.6 (l/ha)			
		Mean	Min & Max	Mean	Min & Max	Mean	Min & Max		
MOICON % of untreated	1	10.4	-	103.2	-	101.4	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
MOICON %	1	10.4	-	10.7	-	10.6	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Table 3.4-52: Quality effect of FF-075 in efficacy trials on winter wheat after two applications - EPPO North-east zone

Grouping Quality	Number of trials	Untreated control absolute figures		Quality				No of trials where 1 l/ha of FF-075 is >, <, = compared to the untreated con- trol	No of trials where 1 l/ha of FF-075 is >, <, = compared to the standard
				FF-075 at 1.0 (l/ha)		Joao/Proline at 0.8 (l/ha)			
		Mean	Min & Max	Mean	Min & Max	Mean	Min & Max		
MOICON % of untreated	1	12.0	-	101.0	-	101.3	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
MOICON %	1	12.0	-	12.1	-	12.1	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
TKW % of untreated	1	39.0	-	113.2	-	108.0	-	1 trial > 0 trials = 0 trials <	0 trials > 1 trial = 0 trials <
TKW g	1	39.0	-	44.1	-	42.1	-	0 trials > 0 trials = 1 trial <	0 trials > 1 trial = 0 trials <
HLW % of untreated	1	74.1	-	99.3	-	102.4	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
HLW kg	1	74.1	-	73.5	-	75.8	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Table 3.4-53: Quality effect of FF-075 in efficacy trials on winter barley after one application – after application A - EPPO North-east zone

Grouping Reference product	Grouping Quality	Number of trials	Untreated control absolute figures		Quality						No of trials where 1 l/ha of FF- 075 is >, <, = compared to the un- treated control	No of trials where 1 l/ha of FF-075 is >, <, = compared to Joao/Proline	No of trials where l/ha of FF-075 is >, <, = compared to Amistar
					FF-075 at 1.0 (l/ha)		Joao/Proline at 0.8 (l/ha)		Amistar at 0.6 (l/ha)				
			Mean	Min & Max	Mean	Min & Max	Mean	Min & Max	Mean	Min & Max			
Overall	MOICON % of untreated	4	10.4	8.8 - 11.5	100.4	98.2 - 103.9	96.3	-	99.5	97.7 - 101.0	0 trials > 4 trials = 0 trials <	0 trials > 1 trial = 0 trials <	0 trials > 3 trials = 0 trials <
Joao/Proline	MOICON % of untreated	1	10.9	-	98.2	-	96.3	-	-	-		0 trials > 1 trial = 0 trials <	
Amistar	MOICON % of untreated	3	10.2	8.8 - 11.5	101.1	98.3 - 103.9	-	-	99.5	97.7 - 101.0			0 trials > 3 trials = 0 trials <
Overall	MOICON %	4	10.4	8.8 - 11.5	10.4	8.9 - 11.3	10.5	-	10.2	8.6 - 11.5	0 trials > 4 trials = 0 trials <	0 trials > 1 trial = 0 trials <	0 trials > 3 trials = 0 trials <
Joao/Proline	MOICON %	1	10.9	-	10.7	-	10.5	-	-	-		0 trials > 1 trial = 0 trials <	
Amistar	MOICON %	3	10.2	8.8 - 11.5	10.3	8.9 - 11.3	-	-	10.2	8.6 - 11.5			0 trials > 3 trials = 0 trials <
Overall	HLW % of untreated	2	61.9	61.9 - 61.9	100.6	99.0 - 102.3	97.7	-	98.3	-	0 trials > 2 trials = 0 trials <	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Grouping Reference product	Grouping Quality	Number of trials	Untreated control absolute figures		Quality						No of trials where 1 l/ha of FF-075 is >, <, = compared to the untreated control	No of trials where 1 l/ha of FF-075 is >, <, = compared to Joao/Proline	No of trials where 1 l/ha of FF-075 is >, <, = compared to Amistar
					FF-075 at 1.0 (l/ha)		Joao/Proline at 0.8 (l/ha)		Amistar at 0.6 (l/ha)				
			Mean	Min & Max	Mean	Min & Max	Mean	Min & Max	Mean	Min & Max			
Joao/Proline	HLW % of untreated	1	61.9	-	102.3	-	97.7	-	-	-		0 trials > 1 trial = 0 trials <	
Amistar	HLW % of untreated	1	61.9	-	99.0	-	-	-	98.3	-			0 trials > 1 trial = 0 trials <
Overall	HLW kg	2	61.9	61.9 - 61.9	62.3	61.3 - 63.3	60.5	-	60.9	-	0 trials > 2 trials = 0 trials <	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
Joao/Proline	HLW kg	1	61.9	-	63.3	-	60.5	-	-	-		0 trials > 1 trial = 0 trials <	
Amistar	HLW kg	1	61.9	-	61.3	-	-	-	60.9	-			0 trials > 1 trial = 0 trials <

Table 3.4-54: Quality effect of FF-075 in efficacy trials on winter barley after one application – after application B - EPPO North-east zone

Grouping Reference product	Grouping Quality	Number of trials	Untreated control absolute figures		Quality						No of trials where 1 l/ha of FF- 075 is >, <, = compared to the un- treated control	No of trials where 1 l/ha of FF-075 is >, <, = compared to Joao/Proline	No of trials where l/ha of FF-075 is >, <, = compared to Amistar
					FF-075 at 1.0 (l/ha)		Joao/Proline at 0.8 (l/ha)		Amistar at 0.6 (l/ha)				
			Mean	Min & Max	Mean	Min & Max	Mean	Min & Max	Mean	Min & Max			
Overall	MOICON % of untreated	4	10.4	8.8 - 11.5	98.3	94.3 - 101.0	100.0	-	100.4	98.3 - 102.9	0 trials > 4 trials = 0 trials <	0 trials > 1 trial = 0 trials <	0 trials > 3 trials = 0 trials <
Joao/Proline	MOICON % of untreated	1	10.9	-	99.1	-	100.0	-	-	-		0 trials > 1 trial = 0 trials <	
Amistar	MOICON % of untreated	3	10.2	8.8 - 11.5	98.1	94.3 - 101.0	-	-	100.4	98.3 - 102.9			0 trials > 3 trials = 0 trials <
Overall	MOICON %	4	10.4	8.8 - 11.5	10.2	8.3 - 11.4	10.9	-	10.2	8.8 - 11.3	0 trials > 4 trials = 0 trials <	0 trials > 1 trial = 0 trials <	0 trials > 3 trials = 0 trials <
Joao/Proline	MOICON %	1	10.9	-	10.8	-	10.9	-	-	-		0 trials > 1 trial = 0 trials <	
Amistar	MOICON %	3	10.2	8.8 - 11.5	10.0	8.3 - 11.4	-	-	10.2	8.8 - 11.3			0 trials > 3 trials = 0 trials <
Overall	HLW % of untreated	2	61.9	61.9 - 61.9	100.7	98.8 - 102.6	101.3	-	95.8	-	0 trials > 2 trials = 0 trials <	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Grouping Reference product	Grouping Quality	Number of trials	Untreated control absolute figures		Quality						No of trials where 1 l/ha of FF-075 is >, <, = compared to the untreated control	No of trials where 1 l/ha of FF-075 is >, <, = compared to Joao/Proline	No of trials where 1 l/ha of FF-075 is >, <, = compared to Amistar
					FF-075 at 1.0 (l/ha)		Joao/Proline at 0.8 (l/ha)		Amistar at 0.6 (l/ha)				
			Mean	Min & Max	Mean	Min & Max	Mean	Min & Max	Mean	Min & Max			
Joao/Proline	HLW % of untreated	1	61.9	-	102.6	-	101.3	-	-	-		0 trials > 1 trial = 0 trials <	
Amistar	HLW % of untreated	1	61.9	-	98.8	-	-	-	95.8	-			0 trials > 1 trial = 0 trials <
Overall	HLW kg	2	61.9	61.9 - 61.9	62.4	61.2 - 63.5	62.7	-	59.4	-	0 trials > 2 trials = 0 trials <	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
Joao/Proline	HLW kg	1	61.9	-	63.5	-	62.7	-	-	-		0 trials > 1 trial = 0 trials <	
Amistar	HLW kg	1	61.9	-	61.2	-	-	-	59.4	-			0 trials > 1 trial = 0 trials <

Table 3.4-55: Quality effect of FF-075 in efficacy trials on winter triticale after one application - after application A - EPPO North-east zone

Grouping Quality	Number of trials	Untreated control absolute figures		Quality				No of trials where 1 l/ha of FF-075 is >, <, = com- pared to the untreated control	No of trials where 1 l/ha of FF-075 is >, <, = com- pared to the standard
				FF-075 at 1.0 (l/ha)		Joao/Proline at 0.8 (l/ha)			
		Mean	Min & Max	Mean	Min & Max	Mean	Min & Max		
MOICON % of untreated	1	8.5	-	116.5	-	110.6	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
MOICON %	1	8.5	-	9.9	-	9.4	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Table 3.4-56: Quality effect of FF-075 in efficacy trials on winter triticale after one application - after application B - EPPO North-east zone

Grouping Quality	Number of trials	Untreated control absolute figures		Quality				No of trials where 1 l/ha of FF-075 is >, <, = com- pared to the untreated control	No of trials where 1 l/ha of FF-075 is >, <, = com- pared to the standard
				FF-075 at 1.0 (l/ha)		Joao/Proline at 0.8 (l/ha)			
		Mean	Min & Max	Mean	Min & Max	Mean	Min & Max		
MOICON % of untreated	1	8.5	-	107.1	-	114.1	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
MOICON %	1	8.5	-	9.1	-	9.7	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Conclusions

Results show that sole treatments with FF-075 at the dose rates of 1.0 L/ha do not have any negative impact on the quality of winter cereals tested in these trials.

Spring cereals

Material and methods

In total, two field trials were carried out in Poland in 2020 to assess the effect of the fungicide FF-075 on the quality of spring cereals. The trials were carried out according to GEP by officially recognised testing organisations and the guidelines EPPO PP1/26(4), PP1/135(4), PP1/152(4), PP1/181(4) and PP1/225(2) were used.

Detailed information on the experiments and application methods is given in Table 3.4-57. For further information on the reference products please refer to Table 3.2-8.

Table 3.4-57: Experimental details and application methods in the selectivity (quality) trials with FF-075 in spring cereals in the EPPO North-east zone (numerals in brackets indicate the number of trials, except for the information on guidelines) (efficacy trials)

Total number of trials		<u>2</u>
Guidelines	General guidelines	EPPO PP 1/135(4), PP 1/152(4), PP 1/181(4), PP 1/225(2)
	Specific guidelines	EPPO PP 1/26(4)
	GEP	Yes (2)
Experimental design	Plot design	RCBD (2)
	Plot size	21 m ²
	Number of replications	4 (2)
Crop	Trials per crop	Spring barley (1) Oat (1)
	Varieties per crop	Spring barley: Texas (1) Oat: Harnas (1)
	Sowing period	Spring barley: March 2020 Oat: March 2020
Application	Crop stage (BBCH)* at application	Spring barley: BBCH 31 – BBCH 39 Oat: BBCH 31 – BBCH 39
	Timing	Post-emergence
	Number of applications	1 (2), however conducted at two time points in the same plot, therefore assessments at DA-B shown
	Intervals between applications	
	Spray volumes	300 l/ha
Assessment	Assessment types	Moisture content (% of untreated; %), Thousand Grain Weight (% of untreated; g), Hectoliter weight (% of untreated; kg)
	Assessment dates	64-72 DA-A; 25-59 DA-B
Other relevant information	Soil type	Sandy loam (2)
	Soil pH	pH 6.3 – pH 6.5
	Natural/artificial inoculation	Natural (2)
	Field / Greenhouse	F (2)
	Application rate of test product	1.0 L/ha product

Results

For spring barley, one trial was carried out in 2020 in Poland. One trial was conducted for spring oat in 2020 in Poland. The results for spring barley are shown in Table 3.4-58 and Table 3.4-59 and for spring oat in Table 3.4-60 and Table 3.4-61. No negative impact on quality was observed in both trials.

Table 3.4-58: Quality effect of FF-075 in efficacy trials on spring barley after one application – after application A - EPPO North east zone

Grouping Quality	Number of trials	Untreated control absolute figures		Quality				No of trials where 1 l/ha of FF-075 is >, <, = compared to the untreated control	No of trials where 1 l/ha of FF-075 is >, <, = compared to the standard
				FF-075 at 1.0 (l/ha)		Amistar at 0.6 (l/ha)			
		Mean	Min & Max	Mean	Min & Max	Mean	Min & Max		
MOICON % of untreated	1	12.7	-	102.4	-	101.6	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
MOICON %	1	12.7	-	13.0	-	12.9	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
HLW % of untreated	1	69.3	-	102.2	-	102.2	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
HLW kg	1	69.3	-	70.8	-	70.8	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Table 3.4-59: Quality effect of FF-075 in efficacy trials on spring barley after one application – after application B - EPPO North east zone

Grouping Quality	Number of trials	Untreated control absolute figures		Quality				No of trials where 1 l/ha of FF-075 is >, <, = com- pared to the untreated control	No of trials where 1 l/ha of FF-075 is >, <, = com- pared to the standard
				FF-075 at 1.0 (l/ha)		Amistar at 0.6 (l/ha)			
		Mean	Min & Max	Mean	Min & Max	Mean	Min & Max		
MOICON % of untreated	1	12.7	-	101.6	-	103.2	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
MOICON %	1	12.7	-	12.9	-	13.1	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
HLW % of untreated	1	69.3	-	101.0	-	99.3	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
HLW kg	1	69.3	-	70.0	-	68.8	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Table 3.4-60: Quality effect of FF-075 in efficacy trials on spring oat after one application – after application A - EPPO North east zone

Grouping Quality	Number of trials	Untreated control absolute figures (% of untreated)		Quality				No of trials where 1 l/ha of FF-075 is >, <, = com- pared to the untreated control	No of trials where 1 l/ha of FF-075 is >, <, = com- pared to the standard
				FF-075 at 1 (l/ha)		JOAO/Proline at 0.8 (l/ha)			
		Mean	Min & Max	Mean	Min & Max	Mean	Min & Max		
MOICON % of untreated	1	11.3	-	104.4	-	104.0	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
MOICON %	1	11.3	-	11.8	-	11.8	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
TKW % of untreated	1	33.0	-	97.8	-	98.6	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
TKW g	1	33.0	-	32.3	-	32.5	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
HLW % of untreated	1	66.7	-	98.8	-	98.9	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
HLW kg	1	66.7	-	65.9	-	66.0	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Table 3.4-61: Quality effect of FF-075 in efficacy trials on spring oat after one application – after application B - EPPO North east zone

Grouping	Number	Untreated control absolute figures	Quality	No of trials	No of trials
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Quality	of trials	(% of untreated)		FF-075 at 1.0 (l/ha)		JOAO/Proline at 0.8 (l/ha)		where 1 l/ha of FF-075 is >, <, = compared to the untreated control	where 1 l/ha of FF-075 is >, <, = compared to the standard
		Mean	Min & Max	Mean	Min & Max	Mean	Min & Max		
MOICON % of untreated	1	11.3	-	101.3	-	102.4	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
MOICON %	1	11.3	-	11.5	-	11.6	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
TKW % of untreated	1	33.0	-	98.6	-	98.4	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
TKW g	1	33.0	-	32.5	-	32.5	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
HLW % of untreated	1	66.7	-	96.0	-	96.7	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <
HLW kg	1	66.7	-	64.0	-	64.5	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <

Conclusions

Results show that sole treatments with FF-075 at the dose rates of 1.0 L/ha do not have any negative impact on the quality of spring cereals tested in these trials.

Oilseed rape

Material and methods

In total, three field trials were carried out in Poland in 2019 and 2020 to assess the effect of the fungicide FF-075 on the quality of crop. The trials were carried out according to GEP by officially recognised testing organisations and the guidelines EPPO PP1/78(3), PP1/135(4), PP1/152(4), PP1/181(4) and PP1/225(2) used.

Detailed information on the experiments and application methods is given in Table 3.4-62. For further information on the reference products please refer to Table 3.2-8.

Table 3.4-62: Experimental details and application methods in the selectivity (quality) trials with FF-075 in winter oilseed rape in the EPPO North-east zone (numerals in brackets indicate the number of trials, except for the information on guidelines) (efficacy trials)

Total number of trials		<u>3</u>
Guidelines	General guidelines	EPPO PP 1/135(4), PP 1/152(4), PP 1/181(4), PP 1/225(2)
	Specific guidelines	EPPO PP 1/78(3)
	GEP	Yes (3)
Experimental design	Plot design	RCBD (3)
	Plot size	20-30 m ²
	Number of replications	4 (3)
Crop	Trials per crop	Oilseed rape (3)
	Varieties per crop	Oilseed rape: Architekt (1), Konkret (1), Monolit (1)
	Sowing period	Oilseed rape: August 2018, August 2019
Application	Crop stage (BBCH)* at application	Oilseed rape: BBCH 65
	Timing	Post-emergence
	Number of applications	1 (3)
	Intervals between applications	
Assessment	Spray volumes	200 l/ha
	Assessment types	Moisture content (% of untreated; %), Thousand Grain Weight (% of untreated; g), Hectoliter weight (% of untreated; kg)
Other relevant information	Assessment dates	48-54 DA-A
	Soil type	Sandy loam (3)
	Soil pH	pH 6.11 – pH 6.8 and n.s. (1)
	Natural/artificial inoculation	Natural (3)
	Field / Greenhouse	F (3)
Application rate of test product		0.8 L/ha product

Results

Three studies conducted between 2019 and 2020 in Poland on oilseed rape revealed no negative impact of FF-075 on quality of plants. In Table 3.4-63 the results are shown.

Table 3.4-63: Quality effect of FF-075 in efficacy trials on oilseed rape after one application - EPPO North east zone

Grouping Reference product	Grouping Quality	Number of trials	Untreated control abso- lute figures		Quality						No of trials where 0.8 l/ha of FF- 075 is >, <, = com- pared to the un- treated control	No of trials where 0.8 l/ha of FF- 075 is >, <, = compared to Joao/Proline	No of trials where l/ha of FF-075 is >, <, = compared to Amistar
					FF-075 at 0.8 (l/ha)		Joao/Proline at 0.7-0.8 (l/ha)		Amistar at 0.6 (l/ha)				
			Mean	Min & Max	Mean	Min & Max	Mean	Min & Max	Mean	Min & Max			
Overall Joao/Proline	MOICON % of untreated	3	8.7	7.9 - 10.3	102.6	100.7 - 105.7	102.2	98.8 - 107.6	101.9	101.6 - 102.1	0 trials > 3 trials = 0 trials <	0 trials > 3 trials = 0 trials <	0 trials > 2 trials = 0 trials <
Amistar	MOICON % of untreated	2	9.1	8.0-10.3	103.2	100.7-105.7	-	-	101.9	101.6 - 102.1			0 trials > 2 trials = 0 trials <
Overall Joao/Proline	MOICON %	3	8.7	7.9 - 10.3	8.9	8.0 - 10.4	8.9	7.8 - 10.4	9.3	8.1 - 10.6	0 trials > 3 trials = 0 trials <	0 trials > 3 trials = 0 trials <	0 trials > 2 trials = 0 trials <
Amistar	MOICON %	2	9.1	8.0-10.3	9.4	8.4 - 10.4	-	-	9.3	8.1 - 10.6			0 trials > 2 trials = 0 trials <
Overall	TKW % of untreated	2	4.9	4.9 - 5.0	104.8	104.6 - 105.0	104.2	104.0 - 104.4	103.7	102.2 - 105.2	1 trial > 1 trial = 0 trials <	0 trials > 2 trials = 0 trials <	0 trials > 2 trials = 0 trials <
Overall	TKW g	2	4.9	4.9 - 5.0	5.2	5.1 - 5.2	5.1	5.1 - 5.2	5.1	5.0 - 5.2	0 trials > 1 trial = 1 trial >	0 trials > 2 trials = 0 trials <	0 trials > 2 trials = 0 trials <
Overall	HLW	1	62.7	-	100.9	-	100.5	-	-	-	0 trials > 1 trial =	0 trials > 1 trial =	

Grouping Reference product	Grouping Quality	Number of trials	Untreated control abso- lute figures		Quality						No of trials where 0.8 l/ha of FF- 075 is >, <, = com- pared to the un- treated control 0 trials <	No of trials where 0.8 l/ha of FF- 075 is >, <, = compared to Joao/Proline 0 trials <	No of trials where l/ha of FF-075 is >, <, = compared to Amistar
					FF-075 at 0.8 (l/ha)		Joao/Proline at 0.7-0.8 (l/ha)		Amistar at 0.6 (l/ha)				
			Mean	Min & Max	Mean	Min & Max	Mean	Min & Max	Mean	Min & Max			
	% of untreated												
Overall	HLW kg	1	62.7	-	63.3	-	63.0	-	-	-	0 trials > 1 trial = 0 trials <	0 trials > 1 trial = 0 trials <	

Conclusions

Results show that sole treatments with FF-075 at the dose rate of 0.8 L/ha do not have any negative impact on the quality of oilseed rape tested in these trials.

Comments of zRMS:	<p>Effect of Euskatel Pro (product code: FF-075) on the quality of yield was studied in 29 trials (Maritime EPPO zone – 17 trials and N-E EPPO zone – 12 trials).</p> <p><u>Winter cereals:</u></p> <ul style="list-style-type: none"> ✓ Maritime EPPO zone: 15 trials (winter wheat – 9 trials, BBCH 31-55; winter barley – 5 trials, BBCH 31-49; winter triticale – 1 trial, BBCH 31-49). ✓ N-E EPPO zone: 7 trials (winter wheat – 2 trials, BBCH 31-43; winter barley – 4 trials, BBCH 31-45; winter triticale – 1 trial, BBCH 32-41). <p><u>Spring cereals:</u></p> <ul style="list-style-type: none"> ✓ Maritime EPPO zone: lack of trials ✓ N-E EPPO zone: 2 trials (spring barley BBCH 31-39 and spring oat BBCH 31-39). <p><u>Winter oilseed rape:</u></p> <ul style="list-style-type: none"> ✓ Maritime EPPO zone: 2 trials (DE, UK), BBCH 65 ✓ N-E EPPO zone: 3 trials (PL), BBCH 65. <p>ZRMs agree with Applicant. No negative effects on the yield of cereals and winter oilseed rape were observed. No significant reductions in quality of yield were recorded during trials harvested in any of the plots treated with Euskatel Pro at recommended dose rate (1,0 l/ha for cereals and 0,8 l/ha for winter oilseed rape).</p> <p>In the opinion of ZRMs only in case of winter cereals, both for Maritime and N-E EPPO zone submitted number of trials was presented. For winter oilseed rape only for N-E EPPO zone documentation is sufficient. For spring cereals, not sufficient documentation for in N-E and Maritime EPPO zone was submitted by Applicant.</p> <p>For N-E, 2 trials carried out on spring cereals should be accepted.</p> <p>In conclusion, no negative influence of the product Euskatel Pro on the quality of yield, is to be expected when applied at the intended rate and used according to the label recommendations. Each cMS should decide about acceptance of submitted documentation by Applicant. For Poland, only for winter and spring cereals and winter oilseed rape documentation is sufficient. Also, cMS from MED EPPO zone should decide whether he can accept the lack of tests performed in the stable zone and should consider the possible extrapolation results from other EPPO zone.</p>
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3.4.4 Effects on transformation processes (KCP 6.4.4)

Since applications of FF-075 are made at an early stage of the crop's development, it is unlikely that prothioconazole and azoxystrobin have a negative effect on the crop products after a biological transformation process like brewing.

Both active substances are well known for many years. Thus, no special studies regarding the transformation process are included in this document.

Comments of zRMS:	Both active substances are well known for many years. Thus, no special studies regarding the transformation process are included in this document.
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	However, ZRMs do not agree that FF-075 are made at an early stage of the crop's development. Application window for winter cereals is 30-59 BBCH or 30-69 (depending on pest), spring cereals – BBCH 30-69 and winter oilseed rape – BBCH 55-69. In the absence of studies, in the opinion of ZRMs – cMS should consider following entry in the label: <i>We cannot exclude the possibility of an impact on transformation processes.</i>
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3.4.5 Impact on treated plants or plant products to be used for propagation (KCP 6.4.5)

The only way of propagation, which is applicable for the relevant crops included in the GAP of FF-075, is via plant seeds. Therefore, any effect of FF-075 on seed germination would be expected to have a potential effect on the suitability of seeds from treated plants to be used for propagation purposes. It is generally assumed that, if no residues are present in the plant at normal harvest time, no effects are expected on plant parts for propagation.

The above depicted results of phytotoxicity, yield and quality aspects after an application of FF-075 show that the application has mostly no negative effect on the crops and crop products.

Comments of zRMS:	No assessments are available. Concerned member states may decide if waiving of propagation data is acceptable. No indication from agricultural practice is known that fungicides with the active substances prothioconazole and/or azoxystrobin have affected cereal crops or oilseed rape used for propagation purposes. No negative influence of the product FF-065 is to be expected when applied at the intended dose rate and used according to the label recommendations.
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3.5 Observations on other undesirable or unintended side-effects (KCP 6.5)

3.5.1 Impact on succeeding crops (KCP 6.5.1)

Neither positive nor adverse effects on other plants including succeeding crops were detected while carrying out the above-mentioned efficacy trials with an application of FF-075.

Both active substances are well known for many years. Thus, no special studies regarding succeeding crops are included in this document.

Comments of zRMS:	The applicant did not perform trials for this annex point. The requirements of the EPPO Standard PP 1/207 (Effects on succeeding crops) are therefore not fulfilled. However, both active substances are well known for many years. Azoxystrobin and prothioconazole are not persistent in soil. The half-life is approx: 80 days and 3 days. There are no known effects on plant growth and development or soil activity; it is reasonable to consider that the application of Euskatel Pro (product code: FF-075) according to label recommendations has no adverse effects on succeeding crops. So, statement was accepted: <i>There are no known effects on plant growth and development or soil activity; it is reasonable to consider that the application of Euskatel Pro (product code: FF-075) according to label recommendations has no adverse effects on succeeding crops.</i>
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3.5.2 Impact on other plants including adjacent crops (KCP 6.5.2)

Neither positive nor adverse effects on other plants including adjacent crops were detected while carrying out the above-mentioned efficacy trials with an application of FF-075.

Both active substances are well known for many years. Thus, no special studies regarding adjacent crops are included in this document.

Tank cleaning

Both active substances are well known for many years. Thus, no special studies regarding tank cleaning are included in this document.

Comments of zRMS:	No assessment following the EPPO Standard PP 1/256 'Effects on adjacent crops' was carried out. This assessment may be waived, since Euskatel Pro (product code: FF-075) does not have any herbicidal activity. Also, neither positive nor adverse effects on other plants including adjacent crops were detected while carrying out the above-mentioned efficacy trials with an application of FF-075.
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3.5.3 Effects on beneficial and other non-target organisms (KCP 6.5.3)

There were no adverse effects on beneficial and other non-target organisms observed in any of the conducted effectiveness trials.

Detailed studies on the possible adverse effects to beneficial organisms are submitted and summarised in Part B, Section 9 (Ecotoxicology).

Compatibility with current management practices including IPM

No special studies are included for the current management practices in this document.

Comments of zRMS:	ZRMs agree with Applicant. For more information, see the results of the standard ecotoxicological tests being presented in dRR Part B section 9.
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Summary and conclusion

The active substances prothioconazole and azoxystrobin are well known for many years. Thus, no special studies are included for other undesirable or unintended side-effects in this document. No negative effects were depicted in the conducted efficacy trials presented in this document.

3.6 Other/special studies

No other studies available.

Comments of zRMS:	Statement accepted.
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3.7 List of test facilities including the corresponding certificates

Table 3.7-1: List of test facilities

Test facility	Address	Certificate (Yes or No)
Agrolab A/S	Røjleskovvej 18 5500 Middelfart Denmark	Yes
Agrolab Sverige AB	Kölbäcks säteri 1 596 91 Skänninge Sweden	Yes
Anadiag Polska	Ul. Sadowa 16/22, 95-100 Zgierz, POLAND	Yes
ANTEDIS SAS France S.A.S	48 rue de la Madeleine 60000 BEAUVAIS	Yes
Crop Research Ltd	Mountdoyle, Moynalvey, Summerhill, Co. Meath A83 Y188 Ireland	Yes
Eurofins Agrosience Services Ltd.	Slade Lane Wilson Melbourne Derbyshire DE73 8AG UK	Yes
EUROFINS AGROSCIENCE SERVICES France SAS	3, rue d'Italie F-67230 Benfeld France	Yes
Field Research Support	Max-Planck-Straße 5 D-31515 Wunstorf	Yes
FieldArm Limited	7 Wycke Lane, Tollesbury, Essex, CM9 8ST, UK	Yes
Instytut Ochrony Roslin	Ul. Gliwicka 29, 44-153 Sosnowice	Yes
InTec Agro Trials, s.r.o.	Blatnicka 179 687 24 Uhersky Ostroh Czech Republic	Yes
PHYLIAE	3005 La Vieille route 76190 Valliquerville France	Yes
Poznań University of Life Sciences, Research and Education Center Gorzyń	Agronomy Department; ul. Wojska Polskiego 28, 60-637 Poznań Poland	Yes
Prime Crop Research Ltd	Walnut Tree Farm, Henley Ipswich, Suffolk, UK IP6 0QS	Yes
SAGEA Centro di Saggio s.r.l.	Via San Sudario, 15 12050 Castagnito d'Alba (CN) ITALY	Yes
SAGEA Iberia S.L.	Polígono Industrial Novaparc-C/Herradores, 11	Yes

Test facility	Address	Certificate (Yes or No)
	41820 Carrión de los Céspedes (Seville) SPAIN	
STAPHYT Sp. z o.o.	ul. Ziębicka 2 60-164 Poznań POLAND	Yes
SynTech Research Poland Sp. z o.o.	69/1 Jagiellonska 85-027 Bydgoszcz Poland	Yes
Trialtec GmbH	Kampenredder 5 24363 Haby Deutschland	Yes

Appendix 1 Lists of data considered in support of the evaluation

Tables considered not relevant can be deleted as appropriate.

MS to blacken authors of vertebrate studies in the version made available to third parties/public.

List of data submitted by the applicant and relied on

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Vertebrate study Y/N	Owner
KCP 3.0	TSGE Deutschland GmbH	2021	Biological Assessment Dossier FF-075 2021-FF-075-BADC/S+UK Unpublished	N	Jiangsu Rotam Chemistry Co., Ltd

List of data submitted or referred to by the applicant and relied on, but already evaluated at EU peer review

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Vertebrate study Y/N	Owner
KCP XX	Author	YYYY	Title Company Report N	Y/N	Owner

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Vertebrate study Y/N	Owner
			Source GLP/non GLP/GEP/non GEP Published/Unpublished		

The following tables are to be completed by MS

List of data submitted by the applicant and not relied on

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Vertebrate study Y/N	Owner
KCP XX	Author	YYYY	Title Company Report N Source GLP/non GLP/GEP/non GEP Published/Unpublished	Y/N	Owner

List of data relied on not submitted by the applicant but necessary for evaluation

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Vertebrate study Y/N	Owner
KCP XX	Author	YYYY	Title Company Report N Source GLP/non GLP/GEP/non GEP Published/Unpublished	Y/N	Owner