

REGISTRATION REPORT
Part B
Section 3
Efficacy Data and Information
Concise summary

Product code: A22773A
Product name: ORONDIS EVO
Chemical active substances:
Azoxystrobin, 250 g/L
Oxathiapiprolin, 12 g/L

Central Zone
Zonal Rapporteur Member State: Poland

CORE ASSESSMENT
(New authorisation)

Applicant: Syngenta
Submission date: November 2021
MS Finalisation date: June 2022 (initial Core Assessment)
April 2023 (final Core Assessment)

Version history

When	What
November 2021	Initial dRR – Syngenta
June 2022	Initial zRMS assessment The report in the dRR format has been prepared by the Applicant, therefore all comments, additional evaluations and conclusions of the zRMS are presented in grey commenting boxes. Minor changes are introduced directly in the text and highlighted in grey. Not agreed or not relevant information are struck through and shaded for transparency .
April 2023	Final report (Core Assessment updated following the commenting period) Additional information/assessments included by the zRMS in the report in response to comments received from the cMS and the Applicant are highlighted in yellow.

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Applicants wishing to avail of information in this registration report should seek advice from the regulatory authority to which the application is made concerning the requirements in their country.

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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)

Comments of zRMS:

Conclusions from the assessment were prepared using grey commenting boxes placed at the end of each chapter. Textual changes were done using grey highlights in the text. The parts of the text amended or added by the zRMS evaluator are highlighted in grey, whereas the parts struck off are ~~visibly marked with the grey font~~.

3.1 Summary and conclusions of zRMS on Section 3: Efficacy (KCP 6)

Abstract

Abstract of the evaluation, by the cMS PL:

This application has been submitted for the authorization of new product A22773A (Orondis Evo) in Poland, Belgium, Czech Republic, Germany, Hungary, Ireland, Netherlands, Romania and Slovenia. A22773A contains two active substances: azoxystrobin (250 g/L) and oxathiapiprolin (12 g/L). This product is intended to control of disease pathogens in vegetables (lettuce, leek, cucumber, squash, pumpkin, tomato, zucchini, bell pepper, spring onion, salad plants, watermelon, melon, eggplant) and hop.

GAP Table

The differences between water volume in efficacy trials and intended in the GAP table have been observed. The cMSs are kindly asked to consider these amounts on the national level. The below table presents both water volumes.

Crop	Water volume in efficacy trials	Water volume in the GAP table
<i>Maritime EPPO zone</i>		
Lettuce	300-500 l/ha	200-800 l/ha
Leek	300-600 l/ha	200-800 l/ha
Cucurbits	200-400 l/ha	200-1000 l/ha
Hop	1000-2500 l/ha	700-3300 l/ha
<i>North-East EPPO zone</i>		
Leek	340-600 l/ha	200-800 l/ha
Lettuce	300-600 l/ha	200-800 l/ha
Tomato	300-700 l/ha	200-1200 l/ha
<i>South-East EPPO zone</i>		
Tomato	250-600 l/ha	200-1200 l/ha
Cucurbits	200-600 l/ha	200-1000 l/ha

MED

Based on the trial results from all EPPO climatic zones, it can be concluded that A22773A applied at dose rate of 1 l pr/ha is the most effective to control of intended disease pathogens in vegetables and hop.

Efficacy

Data show that A22773A at the proposed application rates was similar or better compared to the reference products. The test product was effective to control of target uses. Due to the limited number of trials, the cMSs are kindly asked to use extrapolation and consider some uses on the national level. Please, see in the chapter 3.2.3.

Selectivity

No phytotoxicity symptoms were noted in efficacy and selectivity trials. A22773A at proposed dose rate of 1 l pr/ha is safe for the target crops. Moreover, the test product has not adverse effect on the yield of tomato, lettuce

and leek.

Resistance risk

The resistance management strategy for A22773A is based on limitation of number of applications (two applications per crop) and use of alternation with products from different cross resistance groups. The general anti-resistance recommendations are presented in the chapter 3.3.

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

1	2	3	4	5	6	7	8	9	10	11	11	12	13	14	15
Use- No. (e)	Member state(s)	Crop and/ or situation (crop destination / purpose of crop)	F, Fn, Fpn G, Gn, Gpn or I	Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)	Application				Application rate				PHI (days)	Remarks: e.g. g safener/synergist per ha (f)	zRMS Conclusion (efficacy)
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	g OXTP/ha a) max. rate per appl. b) max. total rate per crop/season	g AZT/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max			
Zonal uses (field or outdoor uses, certain types of protected crops)															
BE-2	Belgium	lettuce (LACSA)	F	Bremia lactucae	foliar	BBCH 11 - 49	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-800	14	maximum 2 application per year on the same field	A
BE-3	Belgium	leek (ALLPO)	F	Alternaria porri	foliar	BBCH 11 - 49	a) 2 b) 2	12-14	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-800	7		C
BE-4	Belgium	leek (ALLPO)	F	Phytophthora porri	foliar	BBCH 11 - 49	a) 2 b) 2	12-14	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-800	7		A
BE-5	Belgium	leek (ALLPO)	F	Puccinia allii	foliar	BBCH 11 - 49	a) 2 b) 2	12-14	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-800	7		C
BE-6	Belgium	leek (ALLPO)	F	Puccinia porri	foliar	BBCH 11 - 49	a) 2 b) 2	12-14	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-800	7		A
CZ-1	Czech Republic	cucumber (CUMSA)	F	Cladosporium sp.	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-1000	3		C
CZ-2	Czech Republic	cucumber (CUMSA)	F	Pseudoperonospora cubensis	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-1000	3	cucurbits horizontal grown	C
CZ-3	Czech Republic	cucumber (CUMSA)	F	Didymella bryoniae	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-1000	3		C
CZ-4	Czech Republic	hop (HUMLU)	F	Pseudoperonospora humuli	foliar	BBCH 21-89	a) 2 b) 2	12-16	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	700-3300	28		C
CZ-5	Czech Republic	leek (ALLPO)	F	Alternaria porri	foliar	BBCH 11 - 49	a) 2 b) 2	12-14	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-800	7		C
CZ-6	Czech Republic	leek (ALLPO)	F	Phytophthora porri	foliar	BBCH 11 - 49	a) 2 b) 2	12-14	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-800	7		A

1	2	3	4	5	6	7	8	9	10	11	11	12	13	14	15
Use- No. (e)	Member state(s)	Crop and/ or situation (crop destination / purpose of crop)	F, Fn, G, Gn, Gpn or I	Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)	Application				Application rate				PHI (days)	Remarks: e.g. g safener/synergist per ha (f)	zRMS Conclusion (efficacy)
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	g OXTP/ha a) max. rate per appl. b) max. total rate per crop/season	g AZT/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max			
CZ-7	Czech Republic	leek (ALLPO)	F	<i>Puccinia allii</i>	foliar	BBCH 11 - 49	a) 2 b) 2	12-14	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-800	7		C
CZ-8	Czech Republic	leek (ALLPO)	F	<i>Puccinia porri</i>	foliar	BBCH 11 - 49	a) 2 b) 2	12-14	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-800	7		A
CZ-9	Czech Republic	lettuce (LACSA)	F	<i>Bremia lactucae</i>	foliar	BBCH 11 - 49	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-800	14	maximum 2 application per year on the same field	A
CZ-10	Czech Republic	squash, pumpkin	F	<i>Cladosporium sp.</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-1000	3		C
CZ-11	Czech Republic	squash, pumpkin	F	<i>Pseudoperonospora cubensis</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-1000	3	cucurbits horizontal grown	C
CZ-12	Czech Republic	squash, pumpkin	F	<i>Didymella bryoniae</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-1000	3		C
CZ-13	Czech Republic	tomato (LYPES)	F	<i>Alternaria sp.</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-1200	3		C
CZ-14	Czech Republic	tomato (LYPES)	F	<i>Phytophthora infestans</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-1200	3	tomato horizontal grown	C
CZ-15	Czech Republic	zucchini (CUUPG)	F	<i>Cladosporium sp.</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-1000	3		€
CZ-16	Czech Republic	zucchini (CUUPG)	F	<i>Pseudoperonospora cubensis</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-1000	3	cucurbits horizontal grown	€
CZ-17	Czech Republic	zucchini (CUUPG)	F	<i>Didymella bryoniae</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-1000	3		€
CZ-29	Czech Republic	bell pepper (CPSAN)	F	<i>Alternaria sp.</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-1200	3		C
CZ-30	Czech Republic	spring onion	F	<i>Phytophthora porri</i>	foliar	BBCH 11 - 49	a) 2 b) 2	12-14	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-800	7		C

1	2	3	4	5	6	7	8	9	10	11	11	12	13	14	15
Use- No. (e)	Member state(s)	Crop and/ or situation (crop destination / purpose of crop)	F, Fn, G, Gn, Gpn or I	Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)	Application				Application rate				PHI (days)	Remarks: e.g. g safener/synergist per ha (f)	zRMS Conclusion (efficacy)
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	g OXTP/ha a) max. rate per appl. b) max. total rate per crop/season	g AZT/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max			
CZ-31	Czech Republic	salad plants	F	<i>Bremia lactucae</i>	foliar	BBCH 11 - 49	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-800	14	maximum 2 application per year on the same field	C
DE-1	Germany	hops (HUMLU)	F	<i>Pseudoperonospora humuli</i>	foliar	BBCH 21-89	a) 2 b) 2	12-16	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	700-3300	28	On drained soil, application from Apr-Oct only Dose rate and water volume: up to BBCH 37: 0.3 L/ha in 700 to 1300 L water/ha up to BBCH 55: 0.6 L/ha in 1300 to 1900 L water/ha above BBCH 55: 1 L/ha in 1900 to 3300 L water/ha	N
DE-15	Germany	hops (HUMLU)	F	<i>Pseudoperonospora humuli</i>	foliar	BBCH 21-89	a) 1 b) 1	-	a) 1 b) 1	a) 12 b) 12	a) 250 b) 250	700-3300	28	On drained soil, application from Apr-Oct only Dose rate and water volume: up to BBCH 37: 0.3 L/ha in 700 to 1300 L water/ha up to BBCH 55: 0.6 L/ha in 1300 to 1900 L water/ha above BBCH 55: 1 L/ha in 1900 to 3300 L water/ha	N
DE-2	Germany	leek (ALLPO)	F	<i>Alternaria porri</i>	foliar	BBCH 11 - 49	a) 1 b) 1	-	a) 1 b) 1	a) 12 b) 12	a) 250 b) 250	200-800	7	On drained soil, application from April to October only	N
DE-3	Germany	leek (ALLPO)	F	<i>Phytophthora porri</i>	foliar	BBCH 11 - 49	a) 1 b) 1	-	a) 1 b) 1	a) 12 b) 12	a) 250 b) 250	200-800	7	On drained soil, application from April to October only	A
DE-4	Germany	leek (ALLPO)	F	<i>Puccinia allii</i>	foliar	BBCH 11 - 49	a) 1 b) 1	-	a) 1 b) 1	a) 12 b) 12	a) 250 b) 250	200-800	7	On drained soil, application from April to October only	A
DE-5	Germany	leek (ALLPO)	F	<i>Puccinia porri</i>	foliar	BBCH 11 - 49	a) 1 b) 1	-	a) 1 b) 1	a) 12 b) 12	a) 250 b) 250	200-800	7	On drained soil, application from April to October only	A

1	2	3	4	5	6	7	8	9	10	11	11	12	13	14	15
Use- No. (e)	Member state(s)	Crop and/ or situation (crop destination / purpose of crop)	F, Fn, G, Gn, Gpn or I	Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)	Application				Application rate				PHI (days)	Remarks: e.g. g safener/synergist per ha (f)	zRMS Conclusion (efficacy)
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	g OXTP/ha a) max. rate per appl. b) max. total rate per crop/season	g AZT/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max			
DE-16	Germany	lettuce (LACSA LACSS)	F	<i>Bremia lactucae</i>	foliar	BBCH 11 - 49 11-41	a) 1 b) 1	-	a) 1 b) 1	a) 12 b) 12	a) 250 b) 250	200- 800	14	On drained soil, application from April to October only	A
DE-6	Germany	lettuce (LACSA LACSS)	F	<i>Bremia lactucae</i>	foliar	BBCH 41 - 49	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 800	14	On drained soil, application from April to October only max 2 application per year on same field	A
HU-1	Hungary	bell pepper (CPSAN)	F	<i>Phytophthora capsici</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1200	3		N
HU-2	Hungary	cucumber (CUMSA)	F	<i>Cladosporium sp.</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		C
HU-3	Hungary	cucumber (CUMSA)	F	<i>Pseudoperonospora cubensis</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3	cucurbits horizontal grown	C
HU-11	Hungary	tomato (LYPES)	F	<i>Alternaria sp.</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1200	3		C
HU-12	Hungary	tomato (LYPES)	F	<i>Phytophthora infestans</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1200	3	tomato horizontal grown	A
HU-13	Hungary	watermelon (CITLA)	F	<i>Cladosporium sp.</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		C
HU-14	Hungary	watermelon (CITLA)	F	<i>Pseudoperonospora cubensis</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3	cucurbits horizontal grown	C
HU-15	Hungary	watermelon (CITLA)	F	<i>Didymella bryoniae</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		C
IE-1	Ireland	hop (HUMLU)	F	<i>Pseudoperonospora humuli</i>	foliar	BBCH 21-89	a) 2 b) 2	12-16	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	700- 3300	28		C
IE-2	Ireland	leek (ALLPO)	F	<i>Alternaria porri</i>	foliar	BBCH 11 - 49	a) 2 b) 2	12-14	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 800	7		C

1	2	3	4	5	6	7	8	9	10	11	11	12	13	14	15
Use- No. (e)	Member state(s)	Crop and/ or situation (crop destination / purpose of crop)	F, Fn, G, Gn, Gpn or I	Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)	Application				Application rate				PHI (days)	Remarks: e.g. g safener/synergist per ha (f)	zRMS Conclusion (efficacy)
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	g OXTP/ha a) max. rate per appl. b) max. total rate per crop/season	g AZT/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max			
IE-3	Ireland	leek (ALLPO)	F	<i>Phytophthora porri</i>	foliar	BBCH 11 - 49	a) 2 b) 2	12-14	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 800	7		A
IE-4	Ireland	leek (ALLPO)	F	<i>Puccinia allii</i>	foliar	BBCH 11 - 49	a) 2 b) 2	12-14	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 800	7		C
IE-5	Ireland	leek (ALLPO)	F	<i>Puccinia porri</i>	foliar	BBCH 11 - 49	a) 2 b) 2	12-14	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 800	7		A
IE-6	Ireland	lettuce (LACSA)	F	<i>Bremia lactucae</i>	foliar	BBCH 11 - 49	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 800	14	maximum 2 application per year on the same field	A
NL- 2	Netherlands	leek (ALLPO)	F	<i>Alternaria porri</i>	foliar	BBCH 11 - 49	a) 1 b) 1	-	a) 1 b) 1	a) 12 b) 12	a) 250 b) 250	200- 800	7		C
NL- 3	Netherlands	leek (ALLPO)	F	<i>Phytophthora porri</i>	foliar	BBCH 11 - 49	a) 1 b) 1	-	a) 1 b) 1	a) 12 b) 12	a) 250 b) 250	200- 800	7		A
NL- 4	Netherlands	leek (ALLPO)	F	<i>Puccinia allii</i>	foliar	BBCH 11 - 49	a) 1 b) 1	-	a) 1 b) 1	a) 12 b) 12	a) 250 b) 250	200- 800	7		C
NL- 5	Netherlands	leek (ALLPO)	F	<i>Puccinia porri</i>	foliar	BBCH 11 - 49	a) 1 b) 1	-	a) 1 b) 1	a) 12 b) 12	a) 250 b) 250	200- 800	7		A
NL- 6	Netherlands	lettuce (LACSA)	F	<i>Bremia lactucae</i>	foliar	BBCH 11 - 49	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 800	14	max 2 application on the same field	A
PL- 17	Poland	hop (HUMLU)	F	<i>Pseudoperonospora humuli</i>	foliar	BBCH 21-89	a) 2 b) 2	12-16	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	700- 3300	28		N possible authoriz. under art. 51
PL- 20	Poland	lettuce (LACSA)	F	<i>Bremia lactucae</i>	foliar	BBCH 11 - 49	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 800- 300- 600	14	maximum 2 application per year on the same field	A

1	2	3	4	5	6	7	8	9	10	11	11	12	13	14	15
Use- No. (e)	Member state(s)	Crop and/ or situation (crop destination / purpose of crop)	F, Fn, G, Gn, Gpn or I	Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)	Application				Application rate				PHI (days)	Remarks: e.g. g safener/synergist per ha (f)	zRMS Conclusion (efficacy)
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	g OXTP/ha a) max. rate per appl. b) max. total rate per crop/season	g AZT/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max			
PL-33	Poland	leek (ALLPO)	F	<i>Puccinia porri</i>	foliar	BBCH 11 - 49	a) 2 b) 2	12-14	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 800	7		N possible authoriz. under art. 51
PL-29	Poland	tomato (LYPES)	F	<i>Phytophthora infestans</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1200	3	tomato horizontal grown	N possible authoriz. under art. 51
RO-1	Romania	bell pepper (CPSAN)	F	<i>Phytophthora capsici</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1200	3		C
RO-2	Romania	cucumber (CUMSA)	F	<i>Cladosporium sp.</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		C
RO-3	Romania	cucumber (CUMSA)	F	<i>Pseudoperonospora cubensis</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3	cucurbits horizontal grown	C
RO-11	Romania	tomato (LYPES)	F	<i>Alternaria sp.</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1200	3		C
RO-12	Romania	tomato (LYPES)	F	<i>Phytophthora infestans</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1200	3	tomato horizontal grown	A
RO-13	Romania	watermelon (CITLA)	F	<i>Cladosporium sp.</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		C
RO-14	Romania	watermelon (CITLA)	F	<i>Pseudoperonospora cubensis</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3	cucurbits horizontal grown	C
RO-15	Romania	watermelon (CITLA)	F	<i>Didymella bryoniae</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		C
SI-1	Slovenia	bell pepper (CPSAN)	F	<i>Phytophthora capsici</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1200	3		C
SI-2	Slovenia	cucumber (CUMSA)	F	<i>Cladosporium sp.</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		C

1	2	3	4	5	6	7	8	9	10	11	11	12	13	14	15
Use- No. (e)	Member state(s)	Crop and/ or situation (crop destination / purpose of crop)	F, Fn, G, Gn, Gpn or I	Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)	Application				Application rate				PHI (days)	Remarks: e.g. g safener/synergist per ha (f)	zRMS Conclusion (efficacy)
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	g OXTP/ha a) max. rate per appl. b) max. total rate per crop/season	g AZT/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max			
SI-3	Slovenia	cucumber (CUMSA)	F	<i>Pseudoperonospora cubensis</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3	cucurbits horizontal grown	C
SI-4	Slovenia	eggplant (SOLME)	F	<i>Alternaria sp.</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1200	3		C
SI-5	Slovenia	eggplant (SOLME)	F	<i>Oidium neolycopersici</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1200	3		C
SI-6	Slovenia	eggplant (SOLME)	F	<i>Phytophthora infestans</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1200	3		C
SI-12	Slovenia	lettuce (LACSA)	F	<i>Bremia lactucae</i>	foliar	BBCH 11 - 49	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 800	14	maximum 2 application per year on the same field	C
SI-13	Slovenia	melon (CUMME)	F	<i>Cladosporium sp.</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		C
SI-14	Slovenia	melon (CUMME)	F	<i>Pseudoperonospora cubensis</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3	cucurbits horizontal grown	C
SI-15	Slovenia	melon (CUMME)	F	<i>Didymella bryoniae</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		C
SI-16	Slovenia	tomato (LYPES)	F	<i>Alternaria sp.</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1200	3		C
SI-17	Slovenia	tomato (LYPES)	F	<i>Phytophthora infestans</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1200	3	tomato horizontal grown	A
SI-18	Slovenia	watermelon (CITLA)	F	<i>Cladosporium sp.</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		C
SI-19	Slovenia	watermelon (CITLA)	F	<i>Pseudoperonospora cubensis</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3	cucurbits horizontal grown	C
SI-20	Slovenia	watermelon (CITLA)	F	<i>Didymella bryoniae</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		C

1	2	3	4	5	6	7	8	9	10	11	11	12	13	14	15
Use- No. (e)	Member state(s)	Crop and/ or situation (crop destination / purpose of crop)	F, Fn, G, Gn, Gpn or I	Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)	Application				Application rate				PHI (days)	Remarks: e.g. g safener/synergist per ha (f)	zRMS Conclusion (efficacy)
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	g OXTP/ha a) max. rate per appl. b) max. total rate per crop/season	g AZT/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max			
SI-21	Slovenia	zucchini (CUUPG)	F	<i>Cladosporium sp.</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		C
SI-22	Slovenia	zucchini (CUUPG)	F	<i>Pseudoperonospora cubensis</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3	cucurbits horizontal grown	C
SI-23	Slovenia	zucchini (CUUPG)	F	<i>Didymella bryoniae</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		C
Interzonal uses (use as seed treatment, in greenhouses (or other closed places of plant production), as post-harvest treatment or for treatment of empty storage rooms)															
n/a															
Minor uses according to Article 51 (zonal uses)															
AT-1	Austria	hop (HUMLU)	F	<i>Pseudoperonospora humuli</i>	foliar	BBCH 21-31-89	a) 2 b) 2	12-16	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	700- 3300 3000	28		n.r.
AT-2	Austria	leek (ALLPO)	F	<i>Alternaria porri</i>	foliar	BBCH 11 - 49	a) 2 b) 2	12-14	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 800	7		n.r.
AT-3	Austria	leek (ALLPO)	F	<i>Phytophthora porri</i>	foliar	BBCH 11 - 49	a) 2 b) 2	12-14	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 800	7		n.r.
AT-4	Austria	leek (ALLPO)	F	<i>Puccinia allii</i>	foliar	BBCH 11 - 49	a) 2 b) 2	12-14	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 800	7		n.r.
AT-5	Austria	leek (ALLPO)	F	<i>Puccinia porri</i>	foliar	BBCH 11 - 49	a) 2 b) 2	12-14	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 800	7		n.r.
AT-6	Austria	lettuce (LACSA)	F	<i>Bremia lactucae</i>	foliar	BBCH 11 - 49	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 800	14	maximum 2 application per year on the same field	n.r.
BE-1	Belgium	hop (HUMLU)	F	<i>Pseudoperonospora humuli</i>	foliar	BBCH 21-89	a) 2 b) 2	12-16	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	700- 3300	28		n.r.

1	2	3	4	5	6	7	8	9	10	11	11	12	13	14	15
Use- No. (e)	Member state(s)	Crop and/ or situation (crop destination / purpose of crop)	F, Fn, G, Gn, Gpn or I	Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)	Application				Application rate				PHI (days)	Remarks: e.g. g safener/synergist per ha (f)	zRMS Conclusion (efficacy)
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	g OXTP/ha a) max. rate per appl. b) max. total rate per crop/season	g AZT/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max			
BE-7	Belgium	spring onion	F	<i>Phytophthora porri</i>	foliar	BBCH 11 - 49	a) 2 b) 2	12-14	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 800	7		n.r.
BE-8	Belgium	Ornamental Pot plants (NNNZT)	F	<i>Peronosporaceae</i>	foliar	BBCH 11 - 49	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 800	-	Minor use, risk assessment covered by lettuce (risk envelope). maximum 2 application per year on the same field	n.r.
BE-9	Belgium	Ornamental Trees and shrubs > 150 cm (NNNZG + NNNHB)	F	<i>Peronosporaceae</i>	foliar	BBCH 21-89	a) 2 b) 2	12-16	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	700- 1200	-	Minor use, risk assessment covered by hop (risk envelope). Water volume range reduced from max. 3300 L/ha to max. 1200 L/ha	n.r.
BE-10	Belgium	Ornamental Trees and shrubs 50cm - 150 cm (NNNZG + NNNHB)	F	<i>Peronosporaceae</i>	foliar	BBCH 11 - 49	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 800	-	Downward spraying only. Minor use, risk assessment covered by lettuce (risk envelope). maximum 2 application per year on the same field	n.r.
BE-11	Belgium	Ornamental Trees and shrubs < 50cm (NNNZG + NNNHB)	F	<i>Peronosporaceae</i>	foliar	BBCH 11 - 49	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 800	-	Minor use, risk assessment covered by lettuce (risk envelope). maximum 2 application per year on the same field	n.r.
DE-18	Germany	Ornamental Pot-plants (NNNZT)	F	<i>Peronosporaceae</i>	foliar	BBCH 11 - 49	a) 1 b) 1	-	a) 1 b) 1	a) 12 b) 12	a) 250 b) 250	200- 800	14	On drained soil, application from April to October only Minor use, risk assessment covered by lettuce (risk envelope).	n.r.

1	2	3	4	5	6	7	8	9	10	11	11	12	13	14	15
Use- No. (e)	Member state(s)	Crop and/ or situation (crop destination / purpose of crop)	F, Fn, G, Gn, Gpn or I	Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)	Application				Application rate				PHI (days)	Remarks: e.g. g safener/synergist per ha (f)	zRMS Conclusion (efficacy)
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	g OXTP/ha a) max. rate per appl. b) max. total rate per crop/season	g AZT/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max			
DE- 7	Germany	Ornamental Pot-plants (NNNZT)	F	<i>Peronosporaceae</i>	foliar	BBCH 41–49	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 800	14	On drained soil, application from April to October only. Minor use, risk assessment covered by lettuce (risk envelope). Max 2 application per year on the same field	n.r.
DE- 8	Germany	Ornamental Trees and shrubs > 150 cm (NNNZG + NNNHB)	F	<i>Peronosporaceae</i>	foliar	BBCH 21-89	a) 2 b) 2	12-16	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	700- 1200	-	On drained soil, application from Apr-Oct only. Minor use, risk assessment covered by hop (risk envelope). Water volume range reduced from max. 3300 L/ha to max. 1200 L/ha	n.r.
DE- 20	Germany	Ornamental Trees and shrubs > 150 cm (NNNZG + NNNHB)	F	<i>Peronosporaceae</i>	foliar	BBCH 21-89	a) 1 b) 1	-	a) 1 b) 1	a) 12 b) 12	a) 250 b) 250	700- 1200	-	On drained soil, application from Apr-Oct only. Minor use, risk assessment covered by hop (risk envelope). Water volume range reduced from max. 3300 L/ha to max. 1200 L/ha	n.r.
DE- 21	Germany	Ornamental Trees and shrubs 50cm – 150 cm (NNNZG + NNNHB)	F	<i>Peronosporaceae</i>	foliar	BBCH 11–49	a) 1 b) 1	-	a) 1 b) 1	a) 12 b) 12	a) 250 b) 250	200- 800	14	On drained soil, application from April to October only. Downward spraying only. Minor use, risk assessment covered by lettuce (risk envelope).	n.r.

1	2	3	4	5	6	7	8	9	10	11	11	12	13	14	15
Use- No. (e)	Member state(s)	Crop and/ or situation (crop destination / purpose of crop)	F, Fn, G, Gn, Gpn or I	Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)	Application				Application rate				PHI (days)	Remarks: e.g. g safener/synergist per ha (f)	zRMS Conclusion (efficacy)
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	g OXTP/ha a) max. rate per appl. b) max. total rate per crop/season	g AZT/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max			
DE- 9	Germany	Ornamental Frees and shrubs – 50cm – 150 cm (NNNZG + NNNHB)	F	<i>Peronosporaceae</i>	foliar	BBCH 41–49	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 800	14	On drained soil, application from April to October only. Downward spraying only. Minor use, risk assessment covered by lettuce (risk envelope). Max 2 application per year on the same field	n.r.
DE- 23	Germany	Ornamental Frees and shrubs < 50cm (NNNZG + NNNHB)	F	<i>Peronosporaceae</i>	foliar	BBCH 11–49	a) 1 b) 1	-	a) 1 b) 1	a) 12 b) 12	a) 250 b) 250	200- 800	14	On drained soil, application from April to October only. Minor use, risk assessment covered by lettuce (risk envelope).	n.r.
DE- 10	Germany	Ornamental Frees and shrubs < 50cm (NNNZG + NNNHB)	F	<i>Peronosporaceae</i>	foliar	BBCH 41–49	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 800	14	On drained soil, application from April to October only. Minor use, risk assessment covered by lettuce (risk envelope). Max 2 application per year on the same field	n.r.
HU- 4	Hungary	eggplant (SOLME)	F	<i>Alternaria sp.</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1200	3		n.r.
HU- 5	Hungary	eggplant (SOLME)	F	<i>Oidium neolycopersici</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1200	3		n.r.
HU- 6	Hungary	eggplant (SOLME)	F	<i>Phytophthora infestans</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1200	3		n.r.
HU- 7	Hungary	hop (HUMLU)	F	<i>Pseudoperonospora humuli</i>	foliar	BBCH 21-89	a) 2 b) 2	12-16	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	700- 3300	28		n.r.
HU- 8	Hungary	melon (CUMME)	F	<i>Cladosporium sp.</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		n.r.

1	2	3	4	5	6	7	8	9	10	11	11	12	13	14	15
Use- No. (e)	Member state(s)	Crop and/ or situation (crop destination / purpose of crop)	F, Fn, G, Gn, Gpn or I	Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)	Application				Application rate				PHI (days)	Remarks: e.g. g safener/synergist per ha (f)	zRMS Conclusion (efficacy)
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	g OXTP/ha a) max. rate per appl. b) max. total rate per crop/season	g AZT/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max			
HU-9	Hungary	melon (CUMME)	F	<i>Pseudoperonospora cubensis</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		n.r.
HU-10	Hungary	melon (CUMME)	F	<i>Didymella bryoniae</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		n.r.
HU-16	Hungary	zucchini (CUUPG)	F	<i>Cladosporium sp.</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		n.r.
HU-17	Hungary	zucchini (CUUPG)	F	<i>Pseudoperonospora cubensis</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		n.r.
HU-18	Hungary	zucchini (CUUPG)	F	<i>Didymella bryoniae</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		n.r.
NL-1	Netherlands	hop (HUMLU)	F	<i>Pseudoperonospora humuli</i>	foliar	BBCH 21-89	a) 2 b) 2	12-16	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	700- 3300	28		n.r.
NL-7	Netherlands	Ornamental Pot plants (NNNZT)	F	<i>Peronosporaceae</i>	foliar	BBCH 11 - 49	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 800	-	Minor use, risk assessment covered by lettuce (risk envelope). max 2 application on the same field	n.r.
NL-8	Netherlands	spring onion	F	<i>Phytophthora porri</i>	foliar	BBCH 11 - 49	a) 1 b) 1	-	a) 1 b) 1	a) 12 b) 12	a) 250 b) 250	200- 800	7		n.r.
NL-9	Netherlands	Ornamental Trees and shrubs > 150 cm (NNNZG + NNNHB)	F	<i>Peronosporaceae</i>	foliar	BBCH 21-89	a) 2 b) 2	12-16	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	700- 1200	-	Minor use, risk assessment covered by hop (risk envelope). Water volume range reduced from max. 3300 L/ha to max. 1200 L/ha	n.r.

1	2	3	4	5	6	7	8	9	10	11	11	12	13	14	15
Use- No. (e)	Member state(s)	Crop and/ or situation (crop destination / purpose of crop)	F, Fn, G, Gn, Gpn or I	Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)	Application				Application rate				PHI (days)	Remarks: e.g. g safener/synergist per ha (f)	zRMS Conclusion (efficacy)
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	g OXTP/ha a) max. rate per appl. b) max. total rate per crop/season	g AZT/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max			
NL-10	Netherlands	Ornamental Trees and shrubs 50cm - 150 cm (NNNZG + NNNHB)	F	<i>Peronosporaceae</i>	foliar	BBCH 11 - 49	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-800	-	Downward spraying only. Minor use, risk assessment covered by lettuce (risk envelope). max 2 application on the same field	n.r.
NL-11	Netherlands	Ornamental Trees and shrubs < 50cm (NNNZG + NNNHB)	F	<i>Peronosporaceae</i>	foliar	BBCH 11 - 49	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-800	-	Minor use, risk assessment covered by lettuce (risk envelope). max 2 application on the same field	n.r.
PL-1	Poland	cucumber (CUMSA)	F	<i>Cladosporium sp.</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-1000	3		n.r.
PL-2	Poland	cucumber (CUMSA)	F	<i>Pseudoperonospora cubensis</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-1000	3		n.r.
PL-3	Poland	cucumber (CUMSA)	F	<i>Didymella bryoniae</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-1000	3		n.r.
PL-4	Poland	zucchini (CUUPG)	F	<i>Cladosporium sp.</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-1000	3		n.r.
PL-5	Poland	zucchini (CUUPG)	F	<i>Pseudoperonospora cubensis</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-1000	3		n.r.
PL-6	Poland	zucchini (CUUPG)	F	<i>Didymella bryoniae</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-1000	3		n.r.
PL-7	Poland	melon (CUMME)	F	<i>Cladosporium sp.</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-1000	3		n.r.
PL-8	Poland	melon (CUMME)	F	<i>Alternaria cucumerina</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-1000	3		n.r.

1	2	3	4	5	6	7	8	9	10	11	11	12	13	14	15
Use- No. (e)	Member state(s)	Crop and/ or situation (crop destination / purpose of crop)	F, Fn, G, Gn, Gpn or I	Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)	Application				Application rate				PHI (days)	Remarks: e.g. g safener/synergist per ha (f)	zRMS Conclusion (efficacy)
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	g OXTP/ha a) max. rate per appl. b) max. total rate per crop/season	g AZT/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max			
PL- 9	Poland	melon (CUMME)	F	<i>Pseudoperonospora cubensis</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		n.r.
PL- 10	Poland	melon (CUMME)	F	<i>Didymella bryoniae</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		n.r.
PL- 11	Poland	squash, pumpkin	F	<i>Cladosporium sp.</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		n.r.
PL- 12	Poland	squash, pumpkin	F	<i>Pseudoperonospora cubensis</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		n.r.
PL- 13	Poland	squash, pumpkin	F	<i>Didymella bryoniae</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		n.r.
PL- 14	Poland	watermelon (CITLA)	F	<i>Cladosporium sp.</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		n.r.
PL- 15	Poland	watermelon (CITLA)	F	<i>Pseudoperonospora cubensis</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		n.r.
PL- 16	Poland	watermelon (CITLA)	F	<i>Didymella bryoniae</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		n.r.
PL- 18	Poland	salad plants	F	<i>Bremia lactucae</i>	foliar	BBCH 11 - 49	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 800	14	for baby leaf only BBCH 11- 19 maximum 2 application per year on the same field	n.r.
PL- 19	Poland	salad plants	F	<i>botrytis cinerea</i>	foliar	BBCH 11 - 49	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 800	14	for baby leaf only BBCH 11- 19 maximum 2 application per year on the same field	n.r.
PL- 21	Poland	lettuce (LACSA)	F	<i>botrytis cinerea</i>	foliar	BBCH 11 - 49	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 800	14	maximum 2 application per year on the same field	n.r.

1	2	3	4	5	6	7	8	9	10	11	11	12	13	14	15
Use- No. (e)	Member state(s)	Crop and/ or situation (crop destination / purpose of crop)	F, Fn, Fpn G, Gn, Gpn or I	Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)	Application				Application rate				PHI (days)	Remarks: e.g. g safener/synergist per ha (f)	zRMS Conclusion (efficacy)
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	g OXTP/ha a) max. rate per appl. b) max. total rate per crop/season	g AZT/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max			
PL-38	Poland	spinach and similar leaves	F	<i>Peronospora farinosa</i> f. sp. <i>spinaciae</i>	foliar	BBCH 11 - 49	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-800	14	maximum 2 application per year on the same field	n.r.
PL-39	Poland	sweet basil (OCIBA)	F	<i>Peronospora belbahrii</i>	foliar	BBCH 11 - 49	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-800	14	maximum 2 application per year on the same field	n.r.
PL-40	Poland	sweet basil (OCIBA)	F	<i>Peronospora belbahrii</i>	foliar	BBCH 11 - 49	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-800	14	maximum 2 application per year on the same field	n.r.
PL-30	Poland	leek (ALLPO)	F	<i>Alternaria porri</i>	foliar	BBCH 11 - 49	a) 2 b) 2	12-14	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-800	7		n.r.
PL-31	Poland	leek (ALLPO)	F	<i>Phytophthora porri</i>	foliar	BBCH 11 - 49	a) 2 b) 2	12-14	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-800	7		n.r.
PL-32	Poland	leek (ALLPO)	F	<i>Puccinia allii</i>	foliar	BBCH 11 - 49	a) 2 b) 2	12-14	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-800	7		n.r.
PL-23	Poland	bell pepper (CPSAN)	F	<i>Alternaria sp.</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-1200	3		n.r.
PL-24	Poland	bell pepper (CPSAN)	F	<i>Phytophthora capsici</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-1200	3		n.r.
PL-25	Poland	eggplant (SOLME)	F	<i>Alternaria sp.</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-1200	3		n.r.
PL-26	Poland	eggplant (SOLME)	F	<i>Oidium neolyopersici</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-1200	3		n.r.
PL-27	Poland	eggplant (SOLME)	F	<i>Phytophthora infestans</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-1200	3		n.r.
PL-28	Poland	tomato (LYPES)	F	<i>Alternaria sp.</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-1200	3		n.r.

1	2	3	4	5	6	7	8	9	10	11	11	12	13	14	15
Use- No. (e)	Member state(s)	Crop and/ or situation (crop destination / purpose of crop)	F, Fn, G, Gn, Gpn or I	Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)	Application				Application rate				PHI (days)	Remarks: e.g. g safener/synergist per ha (f)	zRMS Conclusion (efficacy)
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	g OXTP/ha a) max. rate per appl. b) max. total rate per crop/season	g AZT/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max			
PL-34	Poland	Ornamentals (Pot plants, Tree and Shrubs < 150 cm)	F	<i>Peronosporaceae</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	-	Minor use, risk assessment covered by cucumber (risk envelope).	n.r.
PL-35	Poland	Ornamentals (Trees and shrubs > 150 cm, Afforestation, Forest tree plantation, Reforestation)	F	<i>Peronosporaceae</i>	foliar	BBCH 21-89	a) 2 b) 2	12-16	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	700- 1200	-	Minor use, risk assessment covered by hop (risk envelope). Water volume range reduced from max. 3300 L/ha to max. 1200 L/ha	n.r.
PL-36	Poland	Ornamentals (Pot plants, Tree and Shrubs < 150 cm)	F	<i>Phytophthora sp.</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	-	Minor use, risk assessment covered by cucumber (risk envelope).	n.r.
PL-37	Poland	Ornamentals (Trees and shrubs > 150 cm, Afforestation, Forest tree plantation, Reforestation)	F	<i>Phytophthora sp.</i>	foliar	BBCH 21-89	a) 2 b) 2	12-16	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	700- 1200	-	Minor use, risk assessment covered by hop (risk envelope). Water volume range reduced from max. 3300 L/ha to max. 1200 L/ha	n.r.
PL-71	Poland	spring onion	F	<i>Phytophthora porri</i>	foliar	BBCH 11 - 49	a) 2 b) 2	12-14	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 800	7		n.r.
RO-4	Romania	eggplant (SOLME)	F	<i>Alternaria sp.</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1200	3		n.r.

1	2	3	4	5	6	7	8	9	10	11	11	12	13	14	15
Use- No. (e)	Member state(s)	Crop and/ or situation (crop destination / purpose of crop)	F, Fn, G, Gn, Gpn or I	Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)	Application				Application rate				PHI (days)	Remarks: e.g. g safener/synergist per ha (f)	zRMS Conclusion (efficacy)
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	g OXTP/ha a) max. rate per appl. b) max. total rate per crop/season	g AZT/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max			
RO-5	Romania	eggplant (SOLME)	F	<i>Oidium neolycopersici</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1200	3		n.r.
RO-6	Romania	eggplant (SOLME)	F	<i>Phytophthora infestans</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1200	3		n.r.
RO-7	Romania	hop (HUMLU)	F	<i>Pseudoperonospora humuli</i>	foliar	BBCH 21-89	a) 2 b) 2	12-16	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	700- 3300	28		n.r.
RO-8	Romania	melon (CUMME)	F	<i>Cladosporium sp.</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		n.r.
RO-9	Romania	melon (CUMME)	F	<i>Pseudoperonospora cubensis</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		n.r.
RO-10	Romania	melon (CUMME)	F	<i>Didymella bryoniae</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		n.r.
RO-16	Romania	zucchini (CUUPG)	F	<i>Cladosporium sp.</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		n.r.
RO-17	Romania	zucchini (CUUPG)	F	<i>Pseudoperonospora cubensis</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		n.r.
RO-18	Romania	zucchini (CUUPG)	F	<i>Didymella bryoniae</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		n.r.
RO-34	Romania	Lettuce (LACSA)	F	<i>Bremia lactucae</i>	foliar	BBCH 11 - 49	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 800	14	maximum 2 application per year on the same field	n.r.
RO-35	Romania	Leek (ALLPO)	F	<i>Alternaria porri</i>	foliar	BBCH 11 - 49	a) 2 b) 2	12-14	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 800	7		n.r.
RO-36	Romania	Leek (ALLPO)	F	<i>Phytophthora porri</i>	foliar	BBCH 11 - 49	a) 2 b) 2	12-14	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 800	7		n.r.
RO-37	Romania	Leek (ALLPO)	F	<i>Puccinia allii</i>	foliar	BBCH 11 - 49	a) 2 b) 2	12-14	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 800	7		n.r.

1	2	3	4	5	6	7	8	9	10	11	11	12	13	14	15
Use- No. (e)	Member state(s)	Crop and/ or situation (crop destination / purpose of crop)	F, Fn, G, Gn, Gpn or I	Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)	Application				Application rate				PHI (days)	Remarks: e.g. g safener/synergist per ha (f)	zRMS Conclusion (efficacy)
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	g OXTP/ha a) max. rate per appl. b) max. total rate per crop/season	g AZT/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max			
RO-38	Romania	Leek (ALLPO)	F	<i>Puccinia porri</i>	foliar	BBCH 11 - 49	a) 2 b) 2	12-14	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 800	7		n.r.
RO-39	Romania	spring onion	F	<i>Phytophthora porri</i>	foliar	BBCH 11 - 49	a) 2 b) 2	12-14	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 800	7		n.r.
RO-40	Romania	squash, pumpkin	F	<i>Cladosporium sp.</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		n.r.
RO-41	Romania	squash, pumpkin	F	<i>Pseudoperonospora cubensis</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		n.r.
RO-42	Romania	squash, pumpkin	F	<i>Didymella bryoniae</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		n.r.
SK-1	Slovakia	cucumber (CUMSA)	F	<i>Cladosporium sp.</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		n.r.
SK-2	Slovakia	cucumber (CUMSA)	F	<i>Pseudoperonospora cubensis</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		n.r.
SK-3	Slovakia	eggplant (SOLME)	F	<i>Alternaria sp.</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1200	3		n.r.
SK-4	Slovakia	eggplant (SOLME)	F	<i>Oidium neolyopersici</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1200	3		n.r.
SK-5	Slovakia	eggplant (SOLME)	F	<i>Phytophthora infestans</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1200	3		n.r.
SK-6	Slovakia	leek (ALLPO)	F	<i>Alternaria porri</i>	foliar	BBCH 11 - 49	a) 2 b) 2	12-14	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 800	7		n.r.
SK-7	Slovakia	leek (ALLPO)	F	<i>Phytophthora porri</i>	foliar	BBCH 11 - 49	a) 2 b) 2	12-14	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 800	7		n.r.
SK-8	Slovakia	leek (ALLPO)	F	<i>Puccinia allii</i>	foliar	BBCH 11 - 49	a) 2 b) 2	12-14	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 800	7		n.r.

1	2	3	4	5	6	7	8	9	10	11	11	12	13	14	15
Use- No. (e)	Member state(s)	Crop and/ or situation (crop destination / purpose of crop)	F, Fn, G, Gn, Gpn or I	Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)	Application				Application rate				PHI (days)	Remarks: e.g. g safener/synergist per ha (f)	zRMS Conclusion (efficacy)
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	g OXTP/ha a) max. rate per appl. b) max. total rate per crop/season	g AZT/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max			
SK-9	Slovakia	leek (ALLPO)	F	<i>Puccinia porri</i>	foliar	BBCH 11 - 49	a) 2 b) 2	12-14	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 800	7		n.r.
SK-10	Slovakia	lettuce (LACSA)	F	<i>Bremia lactucae</i>	foliar	BBCH 11 - 49	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 800	14	maximum 2 application per year on the same field	n.r.
SK-11	Slovakia	melon (CUMME)	F	<i>Cladosporium sp.</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		n.r.
SK-12	Slovakia	melon (CUMME)	F	<i>Pseudoperonospora cubensis</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		n.r.
SK-13	Slovakia	tomato (LYPES)	F	<i>Alternaria sp.</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1200	3		n.r.
SK-14	Slovakia	tomato (LYPES)	F	<i>Phytophthora infestans</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1200	3		n.r.
SK-15	Slovakia	watermelon (CITLA)	F	<i>Cladosporium sp.</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		n.r.
SK-16	Slovakia	watermelon (CITLA)	F	<i>Pseudoperonospora cubensis</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		n.r.
SK-17	Slovakia	zucchini (CUUPG)	F	<i>Cladosporium sp.</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		n.r.
SK-18	Slovakia	zucchini (CUUPG)	F	<i>Pseudoperonospora cubensis</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1000	3		n.r.
SK-35	Slovakia	bell pepper (CPSAN)	F	<i>Alternaria sp.</i>	foliar	BBCH 11 - 89	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 1200	3		n.r.
SK-36	Slovakia	spring onion	F	<i>Phytophthora porri</i>	foliar	BBCH 11 - 49	a) 2 b) 2	12-14	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 800	7		n.r.
SK-37	Slovakia	salad plants	F	<i>Bremia lactucae</i>	foliar	BBCH 11 - 49	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200- 800	14	maximum 2 application per year on the same field	n.r.

1	2	3	4	5	6	7	8	9	10	11	11	12	13	14	15
Use- No. (e)	Member state(s)	Crop and/ or situation (crop destination / purpose of crop)	F, Fn, Fpn G, Gn, Gpn or I	Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)	Application				Application rate				PHI (days)	Remarks: e.g. g safener/synergist per ha (f)	zRMS Conclusion (efficacy)
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	g OXTP/ha a) max. rate per appl. b) max. total rate per crop/season	g AZT/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max			
SK-39	Slovakia	spinach and similar leaves	F	<i>Peronospora farinosa</i> f. sp. <i>spinaciae</i>	foliar	BBCH 11 - 49	a) 2 b) 2	7	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-800	14	maximum 2 application per year on the same field	n.r.
SI-7	Slovenia	hop (HUMLU)	F	<i>Pseudoperonospora humuli</i>	foliar	BBCH 21-89	a) 2 b) 2	12-16	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	700-3300	28		n.r.
SI-8	Slovenia	leek (ALLPO)	F	<i>Alternaria porri</i>	foliar	BBCH 11 - 49	a) 2 b) 2	12-14	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-800	7		n.r.
SI-9	Slovenia	leek (ALLPO)	F	<i>Phytophthora porri</i>	foliar	BBCH 11 - 49	a) 2 b) 2	12-14	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-800	7		n.r.
SI-10	Slovenia	leek (ALLPO)	F	<i>Puccinia allii</i>	foliar	BBCH 11 - 49	a) 2 b) 2	12-14	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-800	7		n.r.
SI-11	Slovenia	leek (ALLPO)	F	<i>Puccinia porri</i>	foliar	BBCH 11 - 49	a) 2 b) 2	12-14	a) 1 b) 2	a) 12 b) 24	a) 250 b) 500	200-800	7		n.r.
Minor uses according to Article 51 (interzonal uses)															
n/a															

* 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

Remarks table heading:

(a) e.g. wettable powder (WP), emulsifiable concentrate (EC), granule (GR)

(b) Catalogue of pesticide formulation types and international coding system CropLife International Technical Monograph n°2, 6th Edition Revised May 2008

(c) g/kg or g/l

(d) Select relevant

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

(f) No authorization possible for uses where the line is highlighted in grey, Use should be crossed out when the notifier no longer supports this use.

Remarks columns:	1	Numeration necessary to allow references	7	Growth stage at first and last treatment (BBCH Monograph, Growth Stages of Plants, 1997, Blackwell, ISBN 3-8263-3152-4), including where relevant, information on season at time of application
	2	Use official codes/nomenclatures of EU Member States	8	The maximum number of application possible under practical conditions of use must be provided.
	3	For crops, the EU and Codex classifications (both) should be used; when relevant, the use situation should be described (e.g. fumigation of a structure)	9	Minimum interval (in days) between applications of the same product
	4	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	10	For specific uses other specifications might be possible, e.g.: g/m ³ in case of fumigation of empty rooms. See also EPPO-Guideline PP 1/239 Dose expression for plant protection products.
	5	Scientific names and EPPO-Codes of target pests/diseases/ weeds or, when relevant, the common names of the pest groups (e.g. biting and sucking insects, soil born insects, foliar fungi, weeds) and the developmental stages of the pests and pest groups at the moment of application must be named.	11	The dimension (g, kg) must be clearly specified. (Maximum) dose of a.s. per treatment (usually g, kg or L product / ha).
	6	Method, e.g. high volume spraying, low volume spraying, spreading, dusting, drench	12	If water volume range depends on application equipments (e.g. ULVA or LVA) it should be mentioned under “application: method/kind”.
		Kind, e.g. overall, broadcast, aerial spraying, row, individual plant, between the plants - type of equipment used must be indicated.	13	PHI - minimum pre-harvest interval
			14	Remarks may include: Extent of use/economic importance/restrictions

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 summarizes the information related to the efficacy data for the authorization of the plant protection product A22773A containing:

- 250 g/L azoxystrobin, which was included (Directive 1998/47/EC) then renewed (Directive 737/2007/EC) for the inclusion into Annex I of Council Directive 91/414/EEC and approved in accordance with Regulation (EC) No. 1107/2009 by Commission Implementing Regulation (EC) No. 703/2011 (amending Commission Implementing Regulation (EC) No. 540/2011).

The SANCO report for azoxystrobin (SANCO/11027/2011 Rev 2) is considered to provide the relevant review information or a reference to where such information can be found.

The Annex I Inclusion Directive for azoxystrobin (1998/47/EC) and Renewal Directive (737/2007/EC) provides specific provisions under Part B which need to be considered by the applicant in the preparation of their submission and by the MS prior to granting an authorization.

For the implementation of the uniform principles of Annex VI, the conclusions of the review report on the azoxystrobin, and in particular Appendices I and II thereof, as finalized in the Standing Committee on the Food Chain and Animal Health on 17th June 2011 shall be taken into account.

- 12 g/L oxathiapiprolin, which was approved under Regulation 1107/2009 by Regulation No 540/2011 and Regulation 2017/239, in force.

The EFSA Scientific Review for oxathiapiprolin (EFSA Journal 2016;14(7):4504) is considered to provide the relevant review information or a reference to where such information can be found.

The Annex I Inclusion Directive for Oxathiapiprolin (2017/239 of 10th February 2017) provides no specific provisions for oxathiapiprolin which need to be considered by the applicant in the preparation of their submission and by the MS prior to granting an authorisation since none are needed.

For the implementation of the uniform principles of Annex VI, the conclusions of the review report on Oxathiapiprolin, and in particular Appendices I and II thereof, as finalised in the Standing Committee on the Food Chain and Animal Health on 07/12/2016 (SANTE/11169/2016 rev 3 - and updates of 25 March 2021) shall be taken into account. Consideration of active substances for Annex 1 inclusion does not include an evaluation of efficacy. Therefore there are no concerns to address arising from the inclusion directive of Oxathiapiprolin relating to efficacy.

The data presented in this document fully support the registration of A22773A for the control of Peronosporaceae (e.g. *Phytophthora infestans* on tomato, *Bremia lactucae* on lettuce, *Pseudoperonospora cubensis* on cucurbits, *Phytophthora porri* on leek, *Pseudoperonospora humuli* on hop) and other diseases (e.g. powdery mildew of tomato; *Alternaria* spp. on tomato and leek; *Puccinia* spp. on bulb. Vegetables; *Didymella bryoniae* and *Cladosporium cucumerinum* on cucurbits) **in open field in cMSs of the Central Regulatory zone (Austria, Belgium, Czech Republic, Germany, Hungary, Ireland, Netherlands, Poland, Romania, Slovakia, and Slovenia).**

The detailed assessment of the individual trial and study data is located in the following report:

Report:	KCP 6 / 01 Biological Assessment Dossier A22773A Syngenta File No. VV-881245
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A22773A is a suspension concentrate (SC) formulation containing 250 g azoxystrobin and 12 g

oxathiapiprolin per litre product.

Azoxystrobin is a methoxy-acrylate that belongs to the strobilurins chemical family. The mode of action is that of a Quinone outside inhibitor (QoI) that disrupts the mitochondrial respiration of fungi by binding to the Quinol outer binding site of the cytochrome bc1 complex. The subsequent interference with electron flow through the electron transport chain, which has been demonstrated using isolated fungal mitochondria, causes the inhibition of ATP formation, a fundamental biochemical process in all classes of fungi. Deprivation of ATP hinders cellular processes requiring energy, such as spore germination and mycelial growth. The inhibition of spore germination is a characteristic property of azoxystrobin. The QoI fungicides are classified as Group 11 fungicides (C3: complex III: cytochrome bc1 (ubiquinol oxidase) at Qo site *cyt b gene*) by the FRAC and are considered to be at high risk to the development of fungicide resistance.

Azoxystrobin acts directly at the active site and all the metabolites that have been examined show lower activity on a screen for mitochondrial electron transport inhibition than azoxystrobin itself.

Azoxystrobin is readily absorbed by plant foliage and systemic movement following uptake leads to an even distribution of azoxystrobin throughout the leaves with no evidence for accumulation at either leaf tips or margins. When applied to the base of a leaf or stem it can be demonstrated by both autoradiography and disease bioassay to move from the site of application acropetally (towards the tip) but not basipetally (towards the base); this indicates that the compound moves in the xylem but not in the phloem tissue. As a broad spectrum systemic, translaminar, preventative and protectant fungicide, azoxystrobin inhibits spore germination and development and mycelial growth and sporulation and it is recommended that applications begin when conditions are favourable for disease infection and/or at the first signs of infection. Azoxystrobin will give up to 8 weeks protection against target diseases, depending on the extent of new growth following application.

Oxathiapiprolin is a preventive fungicide with limited curative, and residual activity against oomycete fungi and used for the control of Phytophthora and downy mildews of numerous crops. Oxathiapiprolin belongs to the chemical group Piperidinyl thiazole isoxazolines, mode of action OSBPI oxysterol binding protein homologue inhibition, FRAC code 49. Oxathiapiprolin inhibits an oxysterol binding protein (OSBP) homologue. Oxysterol binding proteins are implicated in the movement of lipids between membranes, among other processes. Inhibiting OSBP may disrupt other processes in the fungal cell, such as signaling, maintaining cell membranes, and the formation of more complex lipids that are essential for the cell to survive.

Mode of action

Table 3.2-1: Details of the active substances

Active substance	Azoxystrobin	Oxathiapiprolin
Concentration (Unit: g/kg or g/L...)	250 g/L	12 g/L
Chemical group	strobilurins	Piperidinyl thiazole isoxazolines
Mode of action	Quinone outside inhibitor (QoI) Systemic, translaminar, preventative and slightly protectant fungicide. It disrupts the mitochondrial respiration of fungi.	OSBPI oxysterol binding protein homologue inhibition Preventative with residual disease control. It acts via an oxysterol binding protein.
Plant translocation	It is readily absorbed by plant foliage and systemic movement following uptake leads to an even distribution of azoxystrobin throughout the leaves with no evidence for accumulation at either leaf tips or margins. It moves from the site of application acropetally (towards the tip) but not basipetally (towards the base); this indicates that the compound moves in the xylem but not in the phloem tissue.	Locally systemic fungicide, translaminar mobility, translocated in the xylem
Biological action	Preventive fungicide with some curative, and residual activity	Preventive fungicide with some curative, and residual activity

Description of the plant protection product

A22773A is a suspension concentrate (SC) formulation containing 250 g azoxystrobin and 12 g oxathiapiprolin per litre product

In all the crops, for the use against all the target pathogens, the proposed maximum rate of A22773A is 1 L PR/ha with a maximum of 2 applications per season, which will deliver each 250 g azoxystrobin and 12 g oxathiapiprolin per hectare. In order to support the proposed use of A22773A, data are presented from **trials conducted over 3 seasons (2018, 2019 and 2020) in a wide range of European countries in the all the concerned EPPO zones for field uses: Maritime, North East and South East**. The combination of azoxystrobin and oxathiapiprolin in A22773A will provide high control against Peronosporaceae and other disease with good crop safety and intrinsic resistance management strategy.

Table 3.2-2: Simplified table of requested uses for the product code – Central Regulatory zone – field use

USES		Member State	(and major minor status)	Requested registered uses (e.g. rates + no. applications)	Comments/ other relevant details on the GAPS	EPPO zone
Crop(s)	Target(s)					
DOWNY MILDEW						
solanaceae	Phytophthora spp.	Czech Republic	Minor	1 L PR/ha max. 2 appl.s	7 days minimum interval	Central
		Hungary	Major			
		Poland	Minor			
		Romania	Major			
		Slovakia	Minor			
		Slovenia	Minor			
lettuce	Bremia sp.	Austria	Minor	1 L PR/ha max. 2 appl.s	7 days minimum interval	Central
		Belgium	Minor			
		Czech Republic	Minor			
		Germany	Minor			
		Ireland	Minor			
		Netherlands	Minor			
		Poland	Minor			
		Slovakia	Minor			
Slovenia	Minor					
endive, wild lettuce, garden purslane	Bremia sp.	Poland	Minor	1 L PR/ha max. 2 appl.s	7 days minimum interval	Central
cucurbits (edible and inedible peel)	Pseudoperonospora cubensis	Czech Republic	Minor	1 L PR/ha max. 2 appl.s	7 days minimum interval	Central
		Hungary	MAJOR			
		Poland	Minor			
		Romania	MAJOR			
		Slovakia	Minor			
		Slovenia	Minor			
leek	Phytophthora porri	Austria	Minor	1 L PR/ha max. 2 appl.s	12-14 days spray interval	Central
		Belgium	Minor			
		Czech Republic	Minor			
		Germany	Minor			
		Ireland	Minor			
		Netherlands	Minor			
		Poland	Minor			
		Slovakia	Minor			
Slovenia	Minor					
spring onion	Phytophthora porri	Belgium	Minor	1 L PR/ha max. 2 appl.s	12-14 days spray interval	Central
		Netherlands	Minor			
hop	Pseudoperonospora humuli	Austria	Minor	1 L PR/ha max. 2 appl.s	12-16 days spray interval	Central
		Belgium	Minor			
		Czech Republic	Minor			
		Germany	MAJOR			
		Hungary	MAJOR			
		Ireland	Minor			
		Netherlands	Minor			
		Poland	Minor			
Romania	Minor					
Slovenia	Minor					
pot plants, trees and shrubs (<50cm; 50-150 cm; >150cm)	Pseudonosperaceae	Belgium	Minor	1 L PR/ha max. 2 appl.s	7 days minimum interval	Central
		Germany	Minor			
		Netherlands	Minor			
		Poland	Minor			

USES		Member State	(and major minor status)	Requested registered uses (e.g. rates + no. applications)	Comments/ other relevant details on the GAPs	EPPO zone
Crop(s)	Target(s)					
OTHER DISEASES						
cucurbits (edible and inedible peel)	<i>Cladosporium</i> sp.	Czech Republic	Minor	1 L PR/ha max. 2 appl.s	7 days minimum interval	Central
		Hungary	Minor			
		Poland	Minor			
		Romania	Minor			
		Slovakia	Minor			
		Slovenia	Minor			
cucurbits (edible and inedible peel)	<i>Didymella bryoniae</i>	Czech Republic	Minor	1 L PR/ha max. 2 appl.s	7 days minimum interval	Central
		Hungary	Minor			
		Poland	Minor			
		Romania	Minor			
		Slovenia	Minor			
eggplant	<i>Oidium neolycopersici</i>	Hungary	Minor	1 L PR/ha max. 2 appl.s	7 days minimum interval	Central
		Poland	Minor			
		Romania	Minor			
		Slovakia	Minor			
		Slovenia	Minor			
leek	<i>Alternaria</i> sp.	Austria	Minor	1 L PR/ha max. 2 appl.s	12-14 days spray interval	Central
		Belgium	Minor			
		Czech Republic	Minor			
		Germany	Minor			
		Ireland	Minor			
		Netherlands	Minor			
		Poland	Minor			
		Slovakia	Minor			
Slovenia	Minor					
leek	<i>Puccinia allii</i> , <i>Puccinia porri</i>	Austria	Minor	1 L PR/ha max. 2 appl.s	12-14 days spray interval	Central
		Belgium	Minor			
		Czech Republic	Minor			
		Germany	Minor			
		Ireland	Minor			
		Netherlands	Minor			
		Poland	Minor			
		Slovakia	Minor			
Slovenia	Minor					
lettuce, endive, wild lettuce, garden purslane	<i>Botrytis cinerea</i>	Poland	Minor	1 L PR/ha max. 2 appl.s	7 days minimum interval	Central
melon	<i>Alternaria cucumerina</i>	Poland	Minor	1 L PR/ha max. 2 appl.s	7 days minimum interval	Central
solanaceae	<i>Alternaria</i> sp.	Czech Republic	Minor	1 L PR/ha max. 2 appl.s	7 days minimum interval	Central
		Hungary	Minor			
		Poland	Minor			
		Romania	Minor			
		Slovakia	Minor			
	Slovenia	Minor				

According to EPPO PP 1/239 Dose expression and to SANCO 10055/2013:

A22773A applied at 0.5 L PR/ 10000m2 Leaf Wall Area (LWA) in single trial reports for crops with vertical growing systems correspond to 1 L PR/ha (multiplication coefficient = 2).

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

Description of the target pests

Table 3.2-3: Glossary of pests mentioned in the dossier

EPPO code	Scientific name	Common name
PHYTIN	<i>Phytophthora infestans</i>	Late blight
BREMLA	<i>Bremia lactucae</i>	Downy mildew of lettuce
PSPECU	<i>Pseudoperonospora cubensis</i>	Downy mildew of cucurbits
PHYTPO	<i>Phytophthora porri</i>	Downy mildew of leek
PSPEHU	<i>Pseudoperonospora humuli</i>	Downy mildew of hop
LEVETA	<i>Leveillula taurica</i>	Powdery mildew of tomato
OIDINL	<i>Oidium neolycopersici</i>	Powdery mildew of tomato
ALTEAL	<i>Alternaria alternata</i>	-
ALTESO	<i>Alternaria solani</i>	Early blight
DIDYBR	<i>Didymella bryoniae</i> (preferred: <i>Stagonosporopsis cucurbitacearum</i>)	Leaf spot of cucurbits
CLADCU	<i>Cladosporium cucumerinum</i>	Scab of cucumber
PUCCAL	<i>Puccinia allii</i>	Rust of garlic
PUCCPO	<i>Puccinia porri</i>	Rust of leek

Tomato – Late blight (*Phytophthora infestans*)

Late blight can be a devastating disease of tomato and potato. Although tomato is generally an intensively-cultivated crop and farmers therefore justify the expense of fungicides, several factors make late blight a particularly difficult problem. First, there is very little resistance available in commercial tomato cultivars, which means that with favourable weather conditions it is difficult to manage the disease even with fungicides. Second, unlike potato, the edible portion of tomato is directly exposed to fungicide applications. This complicates management practices near harvest time. Finally, pathogen populations from tomato and potato appear to be separate and adapted only to one host.

The symptoms of late blight on tomatoes may vary, depending on the age of the lesion and the immediately preceding environment. Very young lesions on tomato foliage appear as irregularly shaped, small (2-10 mm) lesions with or without a small surrounding area of collapsed but still green tissue. Lesions later turn brown. Older lesions are larger and assume a circular appearance unless delimited by the leaflet margin. They are usually not delimited by the veins. Older lesions are typically surrounded by a zone of collapsed tissue that is not yet necrotic. The non-necrotic tissue may also appear somewhat chlorotic. If there are many lesions on a single leaflet, the entire leaves can turn chlorotic. On tomato fruits, lesions are firm, large, irregular, brownish-green blotches; the lesion surface has a greasy, rough appearance.

Sporulation may be evident on the collapsed tissue and on the outermost portions of the necrotic areas of a lesion if it has been in a saturated atmosphere (100% RH) for more than 7 or 8 h. The length of time required for sporulation is dependent on temperature and host resistance. On resistant cultivars, sporulation might not appear until some hours after it would appear on a susceptible cultivar. Optimal temperature for sporulation is usually regarded to be 15-20°C. Temperatures above or below this range will reduce the rate of pathogen growth and thus extend the time required for sporulation. Under optimal conditions for sporulation it is easily visible as a noticeable fuzzy white growth on lesion margins. Sporulation occurs from lesions whether they are on leaflets or on stems.

Where *P. infestans* exists as an asexual organism it is essentially an obligate parasite. It requires a living host (crop debris or solanaceous weeds) for long-term survival. Whereas sporangia may survive days or weeks in soil, they cannot overwinter or over season. Mycelium of the fungus cannot survive in the absence of a living host cell. However, in locations where sexual reproduction occurs, the resulting oospore can survive for months or years in the absence of living hosts.

Infections usually start from sporangia which germinate either directly via a germ tube or indirectly via zoospores. At higher temperatures (over 20 °C), the sporangia germinate by producing a single germination tube rather than zoospores. Zoospores can swim for some minutes, after which time they encyst and germinate. A germ tube penetrates a living host and establishes a near-biotrophic relationship for the first few days in a compatible interaction. Under optimal conditions (18-22°C), infections can be visible in less than 3 days. Germination and infection always require water on the leaf surface.

Within a day or two after the lesion first becomes visible, the fungus is capable of sporulation. Moderate temperatures (10-25°C) and very wet conditions (leaf wetness or 100% RH) are required for sporulation. Sporangia are borne on sporangiophores within 8-12 h during favourable conditions. Sporangia secede during changing relative humidity and can be captured in air currents; they can also be splash dispersed. They can survive for hours in unsaturated atmospheres when protected from solar radiation, so dispersal distances of hundreds of meters or kilometres are possible. Sporangia landing on a host can germinate and penetrate living cells within 2 h under favourable conditions. In most cases, however, germination and penetration require more than 2 h. Under favourable conditions, large numbers of sporangia can be produced from a single lesion (more than 100, 000 sporangia per lesion); the disease can thus progress rapidly under cool, wet conditions.

When individuals of opposite mating type (A1 and A2) come into physical contact, sexual structures (antheridia and oogonia) are produced by each thallus. Meiosis is gametangial. After fertilization, the oogonium develops into an oospore which can survive adverse conditions better than the hyphae or sporangia. After a period of dormancy (weeks or months), oospores become capable of germination. Germination in the laboratory can occur on water agar at 18°C in the presence of blue light. It is clear that oospores can survive winter in northern temperate zones, but the precise conditions stimulating germination are not yet known. Oospores germinate via a germ sporangium. This sporangium can then germinate via zoospores or via a germtube. If the fungus contacts a host plants, it can initiate the asexual phase.

Bremia lactucae in lettuce

Bremia lactucae causes the most serious disease of lettuce under protected cultivation. It persists as oospores in soil, and is air-dispersed as sporangia. Lettuce plants can be infected at the seedling stage and all the way through the growing period. Lesions on leaves are first discoloured, and finally rot after sporulation of the pathogen.

Basic strategy:

The treatments applied to seedling compost or soil against fungi are not very effective against *B. lactucae* oospores. If possible, soils in which significant downy mildew was seen on a previous lettuce crop should be avoided. Treatment of seedlings is essential, usually with sprays of dithiocarbamates (zineb or mancozeb, which will be withdrawn in EU) and continues after planting out. Because the dithiocarbamates are the fungicides most likely to present residue problems, it is most usual to use them alone on seedlings, or in the first 2 weeks after planting, then use a systemic fungicide on the crop. Lettuce cultivars with resistance to *B. lactucae* are available. This is often through the combination of several vertical resistance genes, but numerous corresponding pathotypes of *B. lactucae* exist. It is not advised to use a resistant cultivar, without chemical treatment, relying on the absence of the matching pathotype, as the pathotypes which occur on the crop may not correspond to the resistance of the plant. However, under such circumstances, the number of treatments could be reduced, if no downy mildew is seen.

Cucurbits - Downy mildew (*Pseudoperonospora cubensis*)

In Germany, Bulgaria, Czech Republic, Austria and the Ukraine downy mildew is frequently rated as one of the most important diseases of cucumber. Under favourable conditions the epidemic development is very fast, but it can be halted by a sudden change to unfavourable (i.e., hot and dry) weather.

P. cubensis is an obligate parasite. Sporangia serve as primary inoculum, originating from local or very distant sources, as well as secondary inoculum, spreading within a field by air currents or rain splash. In the presence of free moisture, the sporangia release zoospores, which must encyst on stomata for infection to occur. Encysted zoospores germinate via a germ tube, which penetrates the stomatal openings and produces intercellular hyphae and haustoria.

The incubation period, the time between penetration and the first appearance of symptoms, is 4 to 12 days depending on moisture, temperature, inoculum density, photoperiod and host. High inoculum density will shorten the incubation period and high light intensity will increase disease development. Zoospores remain motile in water for 10 min. to 18 h; high temperatures induce rapid encystment. The optimum temperature for cyst germination is 25°C.

Sporangiophores emerge from stomatal openings and form sporangia at their tips. A minimum of 6 h at 100% RH is required for sporangium production. This can occur at 5 to 30°C, but is optimal at 15 to 20°C. A relatively short period of dryness (1 h) is required for sporangia to release. Maximum release normally occurs between 08.00 and 10.00 h. The length of sporangial survival depends on temperature and relative humidity.

Fungal colonization progresses more rapidly at relatively low temperatures (15-25°C), while relatively high temperatures favour symptom development. Chlorosis generally appears 1 week after inoculation and sporulation is higher on chlorotic tissue than on green or necrotic tissue. Sporangium production lasts about 2 weeks.

Although oospores have been found on cucumber their role as overwintering structures is uncertain. Circumstantial evidence supports the widely held view that the fungus is introduced each year in field-grown crops from areas where it can survive winters on wild or cultivated cucurbits or from greenhouses.

The level of damage caused by the disease depends on the host and its stage of development when disease occurs as well as the intensity of disease. If the disease strikes early, conditions remain favourable and no fungicides are applied, complete crop loss can result. Downy Mildew causes the infection and fast death of plant leaves, abscission of ovaries, and yellowing and withering of fruits. As a result, the yield can be reduced by 30 to 100%.

Downy mildew (*Phytophthora porri*) - Leek

Phytophthora porri is a serious disease of winter leek in Europe which leads to lower yields and loss of quality. Epidemics may destroy more than 50% of the crop before January-April, when the winter leek is harvested.

On leek the first observable symptom is a yellowing of the leaf tips; later they become bleached and white and die rapidly, hence the term 'white tip'. This infection results from direct contact between infested soil and leaf tips. Leaves are often distorted and twisted. Infection progresses from the tip to about half-way down the leaf. Leaf spots are initially water-soaked but turn white and crisp. Spots are surrounded by a green, transparent, water-soaked region. Many infections also start in the water basin that is usually present near the leaf axils. Lesions will appear at some distance above this water basin because of leaf growth during the incubation period. Both young and old plants are affected, and severe infection results in rotting off of leaves at the soil level. The range of temperatures for growth is 3 - 27°C, with an optimum of 18–25°C. Oogonia are produced at 10°C.

In addition to leek, *P. porri* is able to attack onion, garlic, shallot, scallion, chive, white cabbage, carrot and some ornamental plants including carnation, sword lily, hyacinth and tulip.

Downy mildew (*Pseudoperonospora humuli*) - Hops

Downy mildew is economically the most important disease affecting the crop in most hop-growing countries. Within a few years the disease has spread pandemically throughout Europe. Crop losses were devastating. In Slovenia downy mildew regularly caused crop losses in excess of 30%. Later cone attack reduces the quality of the hops. Where disease is present, hops have to be protected every year throughout the growing season.

The fungus overwinters as mycelium within the rootstock. The rootstock can become infected in several ways at any time in the growing season by zoospores washing through the soil. The first evidence of hop downy mildew is the systemically infected shoots (primary basal spikes) that grow from diseased rootstocks. The primary basal spikes are the source from which secondary infection develops. It occurs by means of the sporangia produced on the underside of infected leaves. Profuse sporulation occurs at 24 h at high relative humidity (96-100% RH). Sporangia production also occurs below 90% RH, and some has occasionally been recorded at between 40 and 70% RH. The release of the sporangia increases with lowering humidity and is greatest at 50% RH. Sporangia are carried by the wind to healthy plants. They require wetness (1 h at 20-22°C to 10 h at 2°C) before they release the zoospores. After a free swimming phase the zoospore encysts and produce a germ tube which enters the host usually through the stoma. The proportion germinating within a population of fresh sporangia is high but germination declines with age. After germ tubes have penetrated the stomata, an intercellular hyphal system develops and spreads between the cells of the plants. The colonization is characterized by the incubation period, ending in symptoms, and the latent period ending in sporulation. The colonization is primarily governed by temperature; there is no evidence that wetness or humidity directly affects the process. The leaf symptoms develop within 3-10 days according to temperature over a wide range (7-28°C). Spikes require 7-22 days over a more limited range (9-20°C). Oospores are not important in the life cycle of hop downy mildew.

Alternaria alternata causes black spot in many fruits and vegetables around the world. It is a latent fungus that develops during the cold storage of fruits, becoming visible during the marketing period thereby causing large postharvest losses.

Early blight (*Alternaria solani*, *A.alternata*) - Solanaceae crops

Early blight is caused by *Alternaria solani*, a fungus that may attack Solanaceous crops including Tomato. The fungus may be on or in seed, but internal infection is rare in seed produced commercially. The fungus can survive on infected plant debris in soil or overwinter on Solanaceous plants. Infection is favoured by temperatures of 23 to 28°C, high moisture, and low soil fertility.

Small, irregular, blackish brown spots usually first appear on older leaves. Spots enlarge to 0.25 to 0.5 inch in diameter, and they commonly show ridged concentric rings in a target pattern. Leaf tissue around the spots turns yellow. If spots are numerous, the entire leaf will be yellowed. Some spotting may be on older leaves early in the season, but the greatest injury usually is as fruit begins to mature. Defoliation may be severe if environmental conditions are favourable, exposing the fruit to sun scald.

Older fruit develop dark, leathery, sunken spots that may be quite large with concentric markings similar to those on diseased leaves. The dark, dry decay may extend some depth into the fruit. Infected mature or immature fruit frequently fall from the plant.

Seedlings may have circular or elongated lesions with concentric markings on the stem, which will girdle the plant. This symptom is known as collar rot.

Owing to premature drying and dropping of leaves the yield of Tomato is sometimes reduced by 20-

50%.

Alternaria alternata, although it can affect the whole aerial part of the plant, tends to attack the fruits already altered by other causes: excess turgor, sunburn and apical rot, with the development of black mould with a velvety appearance consisting of the organs of agamic reproduction.

Powdery mildews (*Leveillula taurica*, *Oidium neolycopersici*) - Solanaceae crops

Crops suffer significant losses due to *Leveillula* powdery mildew when attack starts at younger growth stages and develops fully at stages before ripening of fruits. The epidemics develop well in dry and warm regions. The potential for losses is greater in crops that are irrigated. On tomatoes, crop losses of 40% have been reported.

L. taurica penetrates the interior leaf tissues and symptoms are usually apparent on the ventral side as powdery, whitish spots that gradually expand. On the dorsal side, yellow spots of varying intensity develop opposite the spotted ventral side. On the dorsal side, powdery spots may also develop. Spots may later become necrotic.

Airborne conidia of *L. taurica* infect hosts that grow under warm conditions. The susceptibility of hosts increases with increasing age. Generally young plants aged 1 month or less are not susceptible. Conidia originate from previous, neighbouring crops or from weeds. Conidia produced on host organs are the major source of inoculum for further infection and development of an epidemic. The epidemic is polycyclic. Providing conditions are suitable, germination and penetration occurs within a few hours. Under optimum conditions, germination and invasion takes 3 hours. Conidia are discharged to the air with any slight movement and are transmitted through air.

The disease results in a decrease of assimilating surface of leaves reduction of tomato yield by 40-50%.

Gummy stem blight (*Stagonosporopsis cucurbitacearum*)

Gummy stem blight, caused by the fungus *Stagonosporopsis cucurbitacearum* (also commonly known as *Didymella bryoniae*) as the sexual stage (perithecia giving rise to ascospores) and *Phoma cucurbitacearum* as the asexual stage (pycnidia producing conidia), is a common disease of all major cucurbits and is present wherever they are grown. Once infected, young seedbeds are quickly hit by die-off. On older plants, leaf symptoms take the form of circular, dark beige to black spots surrounded by a yellow halo. Over time, these injuries dry out, crack and fall off; this phenomenon is often referred to as "wormhole". The infection begins with a wilt on the leaf edges and progresses towards the centre, until the leaves dry out. Infested stems can develop cancers that produce a typical red or brown rubbery exudate. Severely infected stems can be wrapped, resulting in the death of the tendril. Small black fruiting bodies (pycnidia or pseudothecia) can develop inside the infected tissues of the leaves or the stem. On fruits, symptoms range from small oval or circular dropsy spots to large necrotic areas. Black fruiting bodies can develop within the lesions. The infection can lead to the softening of the floral apex, which is brown or green in colour. When the pedicel is contaminated, the fruit can be aborted.

Both temperature and moisture are critical for germination, sporulation, penetration of conidia, and subsequent symptom development, but moisture (relative humidity over 85%, rainfall and duration of leaf wetness from 1 to 10 hours) has the greatest influence. The optimal temperature for symptom development varies depending on the cucurbit; for watermelon 23 – 24 °C is optimal, for cucumber 24 - 25°C and for muskmelon 18 - 19°C. The optimal temperature for muskmelon reportedly is lower because its resistance increases at high temperatures. This can be significant to determine when early-season disease scouting should be initiated for future control. Penetration by conidia is probably direct and does not need to occur through stomates or wounds.

In open field the fungus hibernates on infected plant residues of cucurbits. This pathogen can also be carried by seeds. Wounds from pruning, insects, or farm work can be important entry points for this

fungal pathogen. The disease is most severe in open field production during periods of moderate temperatures and humid climates.

In protected culture, cool night temperatures and high humidity levels favour the development of the disease. Infection of the opening flowers can cause serious problems in the quality of the fruits, making them unmarketable.

Scab of cucurbits (*Cladosporium cucumerinum*)

Scab is caused by the fungus *Cladosporium cucumerinum*. The disease is widespread in North America and Europe and can occur every year if moisture or rainfall is plentiful and if temperatures are below normal. The spores, or conidia, of the fungus are formed in long, branched chains and are borne on fairly long conidiophores, thus enabling spores to be dislodged easily. Spores can be blown long distances even in moist air.

The scab fungus can attack any aboveground portion of the plant including leaves and petioles stems and fruit. On leaves and runners, pale-green water-soaked areas are the first sign of the disease. These spots gradually turn grey to white and become angular shaped. A chlorotic halo may appear around the lesion. If weather conditions are favourable, scab can deform young leaves, and the apical runners of young plants like melons can be killed. Sporulation on leaves tends to be sparse. On fruit, scab can produce the greatest damage, especially if they are infected when young. Spots first appear as small sunken areas similar to insect stings, about 3 mm in diameter. A sticky substance may ooze from the infected area. The spots become darker with age and may create a cavity in summer squash fruit, which are very susceptible. The cavities may be lined with a dark olive green, velvety layer of spores. Secondary soft rotting bacteria may also invade the cavities and lead to foul-smelling decay. On highly resistant cucurbit fruits, spores are more difficult to detect, and lesions may remain quite superficial. The time when fruits are infected may determine the relative severity of symptoms.

The fungus causing scab overwinters mainly in vines, but may also be seedborne. Spores are produced in the spring and are readily spread. They germinate and enter susceptible tissue within 9 hours. A spot may appear on leaves within 3 days, and a new production of spores is present by the 4th day. The most favourable weather conditions for disease development are wet weather (fogs, heavy dews and light rains) and temperatures near or below 21 °C). At 17 °C growing tips of young plants are killed.

Rust of onion, leek and garlic

The rust of onion, leek and garlic is caused by the fungus *Puccinia allii* (synonym: *P. porri*). The disease is present in all temperate and cool agricultural regions.

The disease initially presents with small circular lesions, white tending to beige, along the leaf veins. The lesions become round or oblong pustules (uredie), orange to red in colour, often surrounded by chlorosis. Chlorotic leaf spot can also occur without the development of other symptoms. As the disease progresses, these small spots expand, and the leaf tissue covering the lesions breaks and masses of orange, powdery spores (uredospores) become visible as pustules. Late in the season, dark brown teliospores may form on the pustules.

The fungus can survive in the form of uredospore or teliospores. Wild species of *Allium* serve as sources of inoculation, from which uredospore are disseminated at long distances by the wind. Infection is favoured by cool to mild temperatures and high relative humidity (97%). Plants under stress are more severely affected by this disease than healthy plants.

The disease does not attack the garlic bulb directly, but it damages the leaves which indirect effect size and quality of bulbs at harvest thereby reducing its marketability. Worldwide, garlic rust has caused significant losses to garlic, leek, and onion production.

Purple blotch of leek (*Alternaria porri*)

Purple blotch of leek (*Alternaria porri*) is a fungus that mainly affects leeks and onions, but also garlic and other Liliaceae.

Symptoms depend principally on ambient relative humidity (RH). Small, irregular, sunken and whitish specks first appear on older leaves and lower stalks. If RH remains low, no further development is observed. However, at high RH these lesions develop into elliptical brown or purple blotches, with concentric light and dark zones on their central area. Over time, these lesions can spread to several centimetres long and have a yellowish border. Lesions may coalesce and girdle the leaf or lower stalk, causing wilting and death. Bulbs can also be attacked, mainly at the neck, if wounded during harvest. Storage symptoms appear as a dark yellow to reddish, spongy rot of the outer or inner scales of the bulbs. Onion, garlic and leek may be affected by this disease.

The pathogen survives the winter on infected crop debris or near soil surface. It resumes its life cycle with the production of spores as warm, wet conditions occur in the spring. Wind, irrigation water or splashing rain disperse the spores to healthy plants and fields. The disease occurs under favourable conditions of temperature 21 - 30°C and 80-90% relative humidity. The incidence of the disease and the intensity of the symptom also depends on the season and the conditions of the site. When it occurs together with *Stemphylium* blight, the damage can be serious. Resistance to purple blotch is mainly due to the thickness of the cuticle. This resistance can be reduced by wounding during field work, for example.

Table 3.2-4: Major / minor status of intended uses (for all cMS and zRMS)

Crop group	Crop and/or situation	Crop status		Pests or group of pests controlled	Pest status	
		Major	Minor		Major	Minor
Solanaceae	tomato	HU, RO	CZ, PL, SK, SI	<i>Alternaria</i> sp.	-	HU, RO, CZ, PL, SK, SI
				<i>Leveillula taurica</i>	-	HU, RO, CZ, PL, SK, SI
				<i>Oidium neolycopersici</i>	-	HU, RO, CZ, PL, SK, SI
				<i>Phytophthora infestans</i>	HU, RO, CZ, PL, SK, SI	-
	bell pepper	HU, RO	PL, SI	<i>Phytophthora infestans/capsica</i>	PL, SI	-
				<i>Alternaria</i> sp.	-	PL
				<i>Oidium neolycopersici</i>	-	PL
	aubergine		HU, PL, RO, SK, SI	<i>Alternaria</i> sp.	-	HU, PL, RO, SK, SI
				<i>Oidium neolycopersici</i>	-	HU, PL, RO, SK, SI
				<i>Phytophthora infestans</i>	HU, PL, RO, SK, SI	-
Leafy veg.	lettuce	-	PL	<i>Botrytis cinerea</i>	-	PL
			AT, BE, CZ, DE, IE, NL, PL, SK, SI	<i>Bremia lactucae</i>	AT, BE, CZ, DE, IE, NL, PL, SK, SI	
	endive, garden purslane	-	PL	<i>botrytis cinerea</i>	-	PL
	endive, wild lettuce, garden purslane	-	PL	<i>Bremia lactucae</i>	PL	-
Cucurbitaceae	cucumber	HU, RO	CZ, PL, SK, SI	<i>Cladosporium</i> sp.	-	HU, RO, CZ, PL, SK, SI
				<i>Didymella bryoniae</i>	-	HU, RO, CZ, PL, SK, SI
				<i>Pseudoperonospora cubensis</i>	HU, RO, CZ, PL, SK, SI	-
	courgette/zucchini	-	CZ, HU, PL, RO, SK, SI	<i>Cladosporium</i> sp.	-	CZ, HU, PL, RO, SK, SI

Crop group	Crop and/or situation	Crop status		Pests or group of pests controlled	Pest status	
		Major	Minor		Major	Minor
				<i>Pseudoperonospora cubensis</i>	CZ, HU, PL, RO, SK, SI	-
				<i>Didymella bryoniae</i>	-	CZ, HU, PL, RO, SK, SI
				<i>Cladosporium</i> sp.	-	HU, PL, RO, SK, SI
	melon	-	HU, PL, RO, SK, SI	<i>Pseudoperonospora cubensis</i>	HU, PL, RO, SK, SI	-
				<i>Didymella bryoniae</i>	-	HU, PL, RO, SK, SI
				<i>Alternaria cucumerina</i>	-	PL
	watermelon	HU, RO	PL, SK, SI	<i>Cladosporium</i> sp.	-	HU, RO, PL, SK, SI
				<i>Pseudoperonospora cubensis</i>	HU, RO, PL, SK, SI	-
				<i>Didymella bryoniae</i>	-	HU, RO, PL, SK, SI
	squash/pumpkin	-	CZ, PL	<i>Cladosporium</i> sp.	-	CZ, PL
				<i>Pseudoperonospora cubensis</i>	CZ, PL	-
				<i>Didymella bryoniae</i>	-	CZ, PL
Bulb vegetables	leek	-	AT, BE, CZ, DE, IR, NL, PL, SK, SI	<i>Alternaria porri</i>	-	AT, BE, CZ, DE, IR, NL, PL, SK, SI
				<i>Phytophthora porri</i>	AT, BE, CZ, DE, IR, NL, PL, SK, SI	-
				<i>Puccinia allii</i>	-	AT, BE, CZ, DE, IR, NL, PL, SK, SI
				<i>Puccinia porri</i>	-	AT, BE, CZ, DE, IR, NL, PL, SK, SI
	onion, spring	-	BL, NL	<i>Phytophthora porri</i>	-	BL, NL
Hop	hop	DE, HU	AT, BE, CZ, IE, NL, PL, RO, SI	<i>Pseudoperonospora humuli</i>	DE, HU, AT, BE, CZ, IE, NL, PL, RO, SI	-
Pot plants	Pot plants	-	BL, DE, NL, PL	<i>Pseudoperonosporaceae</i>	-	BL, DE, NL, PL
Trees and shrubs	height > 150 cm	-	BL, DE, NL, PL	<i>Pseudoperonosporaceae</i>	BL, DE, NL, PL	-
	height 50cm - 150 cm	-	BL, DE, NL, PL	<i>Pseudoperonosporaceae</i>	BL, DE, NL, PL	-
	height < 50cm	-	BL, DE, NL, PL	<i>Pseudoperonosporaceae</i>	BL, DE, NL, PL	-

Compliance with the Uniform Principles

The experiments were carried out by contractor companies all of which follow the EPPO standards and are officially recognized by the competent authorities to carry out field registration trials in accordance with the principles of Good Experimental Practice (GEP).

All the trials were conducted according to GEP and EPPO-guidelines and the specifications of the trial plan. All assessments and applications were done according to instructions of the protocol unless otherwise specified.

Information on trials submitted (3.1 Efficacy data)

Table 3.2-5: 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)
					MAR	MED	NE	SE		
					zone	zone	zone	zone		
Tomato (horizontal grown) [LYPES]	<i>Phytophthora infestans</i> [PHYTIN]	PL	2019	MED + E	-	-	2(2)	-	GEP	field
			2020	P + MED +E	-	-	2(2)	-	GEP	field
		BG	2019	E	-	-	-	2(2)	GEP	field
			2020	P + MED +E	-	-	-	2(2)	GEP	field
		HR	2019	E	-	-	-	2(2)	GEP	field
			2019	MED + E	-	-	-	2(2)	GEP	field
			2020	P + MED +E	-	-	-	2(2)	GEP	field
		HU	2019	E	-	-	-	1(1)	GEP	field
			2019	MED + E	-	-	-	1(1)	GEP	field
	2020		P + MED +E	-	-	-	1(1)	GEP	field	
TOTAL		-	2019-2020	-	-	4(4)	13(13)	-	-	
Lettuce [LACSA]	<i>Bremia lactucae</i> [BREMLA]	BE	2018	P + E	1(1)	-	-	-	GEP	field
			2019-2020	P + MED + E	6(6)	-	-	-	GEP	field
		DE	2019	P + MED + E	1(1)	-	-	-	GEP	field
		FR	2019-2020	P + MED + E	3(3)	-	-	-	GEP	field
		PL	2019-2020	P + MED + E	-	-	6(6)	-	GEP	field
	TOTAL		-	2018-2020	-	11(11)	-	6(6)	-	-
Cucurbits, horizontal grown (including zucchini, cucumber, melon, watermelon)	<i>Pseudoperonospora cubensis</i> [PSPECU]	FR	2019-2020	P + MED + E	3(3)	-	-	-	GEP	field
		PL	2019-2020	P + MED + E	-	-	4(4)	-	GEP	field
		BG	2019-2020	P + MED + E	-	-	-	4(4)	GEP	field
		HU	2019-2020	P + MED + E	-	-	-	3(3)	GEP	field
	TOTAL		-	2019-2020	-	3(3)	-	4(4)	7(7)	-
Leek [ALLPO]	<i>Phytophthora porri</i> [PHYPO]	BE	2019	E	4(4)	-	-	-	GEP	field
			2020	P + MED + E	2(2)	-	-	-	GEP	field
		FR	2019	E	2(2)	-	-	-	GEP	field
			2020	P + MED + E	2(2)	-	-	-	GEP	field
		NL	2020	P + MED + E	2(2)	-	-	-	GEP	field
	TOTAL		-	2019-2020	-	12(12)	-	-	-	-
Hop [HUMLU]	<i>Pseudoperonospora humuli</i> [PSPEHU]	CZ	2019-2020	MED + E	4(4)	-	-	-	GEP	field
		DE	2019-2020	MED + E	1(1)	-	-	-	GEP	field
		SI	2019-2020	MED + E	-	-	-	2(2)	GEP	field
	TOTAL		-	2019-2020	-	5(5)	-	-	2(2)	-
Tomato [LYPES]	<i>Alternaria</i> spp. [ALTESP]	PL	2019-2020	E	-	-	4(4)	-	GEP	field
		HR	2019-2020	E	-	-	-	2(2)	GEP	field
		HU	2019-2020	E	-	-	-	3(3)	GEP	field
	TOTAL		-	2019-2020	-	-	-	4(4)	5(5)	-
Cucurbits (including melon, watermelon)	<i>Didymella</i> sp. [DIDYSP]	HU	2019-2020	E	-	-	-	2(2)	GEP	field
	TOTAL		-	2019-2020	-	-	-	-	2(2)	-
Cucurbits (including melon)	<i>Cladosporium cucumerinum</i> [CLADCU]	FR	2019-2020	E	1	-	-	-	GEP	field
		TOTAL		-	2019-2020	-	1(1)	-	-	-
Bulb vegetables (including leek and garlic)	<i>Puccinia</i> spp. (including <i>P.porri</i> and <i>P.allii</i>)	DE	2019	E	1(1)	-	-	-	GEP	field
		FR	2019-2020	E	4(4)	-	-	-	GEP	field
		NL	2020	E	1(1)	-	-	-	GEP	field
		PL	2020	E	-	-	2(2)	-	GEP	field
	TOTAL		-	2019-2020	-	6(6)	-	2(2)	-	-
TOTAL		-	2018-2020	-	38(38)	-	20(20)	29(29)	-	-
TOTAL		-	2018-2020	-	-	-	87(87)	-	-	-

* According to the GAP table. Timing of the application(s) can be added if relevant (e.g. Pre-mergence 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.

A range of appropriate standards was included in the different trials and were in general applied at the registered rate. These standards were chosen for their well know efficacy against the target. In order to assess the efficacy of the test product under similar conditions, a single standard was chosen from the reference products for this dossier depending on the frequency of the standard availability in the different trials and on the registration status in one or few of the most important country for this use. These reference products are indicated in the following table. It is to note that additional standards are available in the single trials reports and are not mentioned in this document. In the data tables provided in the dossier, the tested product is consistently referred to A22773A while the key chosen reference standards are referred as reported in single trial report.

Table 3.2-6: Presentation of reference standards used in trials (efficacy trials, preliminary trials...) – against *Phytophthora infestans* on TOMATO (horizontal grown – field)

Crop(s)	Reference standard	Country(ies) where the product is registered ⁽¹⁾	Authorization number	Active substance(s)	Formulation		Registered application rate(3)	Application rate in trials (per treatment)	Remark ⁽⁴⁾
					Type(2)	Concentration of a.s.			
Tomato, horizontal grown (F)	Revus	HR	UP/I-320-20/06-01/281	mandipropamid	SC	250 g/L	0.4 - 0.6 L PR/ha	0.6 L PR/ha	A12946B
	Revus	HU	02.5/2622/1/2009				0.4 - 0.6 L PR/ha	0.6 L PR/ha	
	Revus 250 SC	PL	R-12/2009				0.6 L PR/ha	0.6 L PR/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.).

Table 3.2-7: Presentation of reference standards used in trials (efficacy trials, preliminary trials...) – against *Bremia lactucae* on LETTUCE

Crop(s)	Reference standard	Country(ies) where the product is registered ⁽¹⁾	Authorization number	Active substance(s)	Formulation		Registered application rate(3)	Application rate in trials (per treatment)	Remark ⁽⁴⁾
					Type(2)	Concentration of a.s.			
Lettuce	Revus	BE	9604P/B; 1386P/P	mandipropamid	SC	250 g/L	0.6 L PR/ha	0.6 L PR/ha	A12946B
	Pergado V		11058P/B						
	Revus	DE	026221-00						
	Revus	FR	2080098						

- (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.).

Table 3.2-8: Presentation of reference standards used in trials (efficacy trials, preliminary trials...) – against *Pseudoperonospora cubensis* on CUCURBITS (horizontal grown – field)

Crop(s)	Reference standard	Country(ies) where the product is registered ⁽¹⁾	Authorization number	Active substance(s)	Formulation		Registered application rate(3)	Application rate in trials (per treatment)	Remark ⁽⁴⁾
					Type(2)	Concentration of a.s.			
Cucurbits, horizontal grown	INFINITO 687.5 SC	BG	n.a.	fluopicolide + propamocarb hydrochloride	SC	687.5 g/L	-	1.6 L PR/ha	
		FR	2090136				1.6 L PR/ha	1.6 L PR/ha	
		HU	02.5/421/1/2010				1.6 L PR/ha	1.6 L PR/ha	
		PL	25186				0.4 - 0.6 L PR/ha	0.6 L PR/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.).

Table 3.2-9: Presentation of reference standards used in trials (efficacy trials, preliminary trials...) – against *Phytophthora porri* on LEEK (field)

Crop(s)	Reference standard	Country(ies) where the product is registered ⁽¹⁾	Authorization number	Active substance(s)	Formulation		Registered application rate(3)	Application rate in trials (per treatment)	Remark ⁽⁴⁾
					Type(2)	Concentration of a.s.			
Leek (F)	INFINITO	BE	9650P/B	fluopicolide + propamocarb hydrochloride	SC	687.5 g/L	1.6 L PR/ha	1.6 L PR/ha	-
		FR	2090136						Registered on onion at 1.6 L PR/ha
		NL	12927 N						-
	ORTIVA	BE	9326P/B	azoxystrobin	SC	250 g/L	1 L PR/ha	1 L PR/ha	A12705B
	AMISTAR		8898P/B						
	ORTIVA	FR	9700332						

(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.).

Table 3.2-10: Presentation of reference standards used in trials (efficacy trials, preliminary trials...) – against *Pseudoperonospora humuli* on HOP (field)

Crop(s)	Reference standard	Country(ies) where the product is registered ⁽¹⁾	Authorization number	Active substance(s)	Formulation		Registered application	Application	Remark ⁽⁴⁾
					Type(2)	Concentration of a.s.	rate(3)	rate in trials (per treatment)	
Hop (F)	ORTIVA	CZ	from	azoxystrobin	SC	250 g/L	from 0.75 to 1.6 L PR/ha (starting from BBCH 55)	Max 1.6 L PR/ha (according to growth stage)	A12705B
		DE	024560-00				Max 1.6 L PR/ha (according to growth stage) - up to BBCH 37: 0.75 L PR/ha; - up to BBCH 55: 1 L PR/ha; - BBCH > 55: 1.6 L PR/ha		
		SI	U34330-65/14/12				Max 1.6 L PR/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.).

Table 3.2-11: Presentation of reference standards used in trials (efficacy trials, preliminary trials...) – against *Alternaria* spp. on TOMATO (horizontal grown – field)

Crop(s)	Reference standard	Country(ies) where the product is registered ⁽¹⁾	Authorization number	Active substance(s)	Formulation		Registered application	Application	Remark ⁽⁴⁾
					Type(2)	Concentration of a.s.	rate(3)	rate in trials (per treatment)	
Tomato (F)	DAGONIS	HR	-	difenoconazole + fluapyroxad	SC	125 g/L	-	1 L PR/ha	not registered in Croatia but registered in other EPO South East countries
		HU	04.2/1707-2/2018				0.6 - 1 L PR/ha	1 L PR/ha	
		PL	R-36/2019				1 L PR/ha	1 L PR/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.).

Table 3.2-12: Presentation of reference standards used in trials (efficacy trials, preliminary trials...) – against *Didymella bryoniae* on CUCURBITS (horizontal grown – field)

Crop(s)	Reference standard	Country(ies) where the product is registered ⁽¹⁾	Authorization number	Active substance(s)	Formulation		Registered application	Application	Remark ⁽⁴⁾
					Type(2)	Concentration of a.s.	rate(3)	rate in trials (per treatment)	
Cucurbits	AMISTAR	HU	35042/2001	azoxystrobin	SC	250 g/L	0.75 - 1 L PR/ha	1 L PR/ha	Field

- (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.).

Table 3.2-13: Presentation of reference standards used in trials (efficacy trials, preliminary trials...) – against *Cladosporium cucumerinum* on CUCURBITS (horizontal grown – field)

Crop(s)	Reference standard	Country(ies) where the product is registered ⁽¹⁾	Authorization number	Active substance(s)	Formulation		Registered application	Application	Remark ⁽⁴⁾
					Type(2)	Concentration of a.s.	rate(3)	rate in trials (per treatment)	
Cucurbits (F)	ORTIVA (A12705B)	FR	22000	azoxystrobin	SC	250 g/L	0.8 L PR/ha	1 L PR/ha	A12705B; registered on downy mildew and powdery mildew of cucurbits
	SWITCH		9500568	cyprodinil + fludioxonil	WG	62.5%	1 kg PR/ha	1 kg PR/ha	A9219B; registered on grey mould and <i>Sclerotinia</i> spp.

- (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.).

Table 3.2-14: Presentation of reference standards used in trials (efficacy trials, preliminary trials...) – against *Puccinia* spp. on bulb vegetables (field)

Crop(s)	Reference standard	Country(ies) where the product is registered ⁽¹⁾	Authorization number	Active substance(s)	Formulation		Registered application	Application	Remark ⁽⁴⁾
					Type(2)	Concentration of a.s.	rate(3)	rate in trials (per treatment)	
Bulb veg. including leek (F)	ORTIVA	FR	9700332	azoxystrobin	SC	250 g/L	1 L PR/ha	1 L PR/ha	A12705B
	AMISTAR	NL	11767				0.8 - 1 L PR/ha		
	AFRODYTA 250 SC	PL	R-77/2018				0.8 L PR/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.).

3.2.1 Preliminary tests (KCP 6.1)

Summary and conclusions on the preliminary trials

A total of **44 efficacy trials** are summarized for component justification of A22772A:

- On *Phytophthora infestans* on tomato (horizontal grown) are presented **7 efficacy trials** assessed for disease incidence and severity on leaf and fruits. These trials were carried out in 2019-2020: **2x in countries of the North East EPPO zone (Poland) and 5x in countries of the South East EPPO zone (Bulgaria, Croatia and Hungary);**

- On *Bremia lactucae* on lettuce (horizontal grown) are presented **17 efficacy trials** assessed for disease incidence and severity on leaf. These trials were carried out between 2018 and 2020 in open field: **11x in countries of the Maritime EPPO zone (Belgium, Germany, Denmark, France), 6x trials in countries of the North East EPPO zone (Poland);**

- On *Pseudoperonospora cubensis* on cucurbits (horizontal grown: including zucchini, cucumber, melon and watermelon, representing cucurbitaceae with both edible and inedible peel) are presented **14 efficacy trials** assessed for disease incidence and severity on leaf. These trials were carried out between 2019 and 2020 in open field: **3x in countries of the Maritime EPPO zone (France), 4x trials in countries of the North East EPPO zone (Poland) and 7x trials in countries of the South East EPPO zone (Bulgaria, Hungary);**

- On *Phytophthora porri* on leek (horizontal grown) are presented **6 efficacy trials** assessed for disease incidence and severity on leaf. These trials were carried out in 2020: **6x in countries of the Maritime EPPO zone (Belgium, France and Netherlands).**

In all the trials on crops with horizontal grown, A22773A was applied at the recommended maximum rate of 1 L PR/ha (delivering 250 g azoxystrobin /ha + 12 g oxathiapiprolin /ha) and compared to the solo active substances at comparable active ingredient content (A12705B applied at its registered rate of 1 L PR/ha delivering 250 gai/ha azoxystrobin; A20941B applied at its registered rate of 0.12-0.15 L PR/ha delivering 12-15 gai/ha oxathiapiprolin).

Mixture of azoxystrobin (250 g/L) and oxathiapiprolin (12 g/L) in A22773A provided in general superior (or equivalent) protection compared to solo active ingredients.

A22773A combines the new mode of action of oxathiapiprolin with that of azoxystrobin, providing an **excellent intrinsic resistance strategy** that is the principal benefit of the mixture, with no adverse effect on efficacy, furthermore often resulting in increased disease control.

Summary on efficacy of active substance components in A22773A is summarized in Table 3.2-15 .

Further information in the Mediterranean EPPO zone (trials in Southern part of France, Greece, Italy, Spain and Portugal) can be found in the relative Biological assessment dossier for A22773A_VV-881245.

Comments of zRMS:

The efficacy assessment of active substances included in A22773A was provided on tomato, lettuce, cucurbits and leek. The results of preliminary trials show that the mixture of azoxystrobin and oxathiapiprolin is the most effective to control of disease pathogens compared to the active substances used solo. There is the most visible in case of control of *Phytophthora porri* in leek in Maritime EPPO zone. The mixture A22773A applied at 1 l/ha gave an overall control of 83,6% while A12705B (azoxystrobin) achieved an effectiveness on the level of 60,3% and A20941B (oxathiapiprolin) had 69,5%. In the rest of cases the effectiveness of mixture and oxathiapiprolin

solo was similar. However, the mixture of active substances belonging to different MoA is necessary tool in the anti-resistance strategy.

Table 3.2-15: Summary on efficacy of active substance components in A22773A against downy mildew in several crops (field)

Use	EPPO zone	Rating data type	Plant part	Nr of trials	Spray interval (days)	Infestation		% Efficacy (Untreated Check = 0%)					
						CHECK UNTREATED		A12705B 1 LPR/HA azoxystrobin 250 gai/ha		A20941B 0.12 LPR/HA oxathiapiprolin 12 gai/ha		A22773A 1 LPR/HA azoxystrobin oxathiapiprolin 250 12 gai/ha	
						Mean	min-max	Mean	min-max	Mean	min-max	Mean	min-max
PHYTYN PHYTIN /tomato (F)	NE	PESINC, %	LEAF	2	7-10	97.5	94.9-100	86.0	72-100	96.5	92.9-100	97.1	94.1-100
	NE	PESSEV, % area	LEAF	1	7-10	92.7	-	63.7	-	92.8	-	96.0	-
	NE	PESINC, %	FRUIT	2	7-10	95.9	91.7-100	41.6	0-83.2	94.4	92.4-96.4	98.5	97.7-99.2
	SE	PESINC, %	LEAF	2	7-10	63.2	52.5-73.9	53.6	52.7-54.4	79.0	62.9-95.1	76.6	54.3-98.8
	SE	PESSEV, % area	LEAF	5	7-10	62.4	10-100	60.6	32.1-90	93.1	77-98.6	92.9	76.3-99.4
BREMLA /lettuce (F)	SE	PESINC, %	FRUIT	3	7-10	60.3	25.2-89.8	64.3	36.2-89	93.6	89.5-100	97.4	92.2-100
	MAR	PESINC, %	LEAF	10	7-10	71.0	16.7-98.3	-	-	91.4	57.8-100	92.3	63.2-100
	MAR	PESSEV, % area	LEAF	10	7-10	30.2	9.2-76.7	-	-	92.3	55.9-100	93.6	66.3-100
	NE	PESINC, %	LEAF	6	7-10	30.6	11.7-49.3	-	-	96.1	91.3-100	98.3	90-100
PSPECU /cucurbits (F)	NE	PESSEV, % area	LEAF	6	7-10	29.7	7.2-80.1	-	-	96.6	88.3-99.3	97.3	94.5-100
	MAR	PESINC, %	LEAF/PLAN T	3	7-10	55.7	22-100	39.5	0.1-72.8	54.6	31.5-82.2	62.0	37.5-98.6
	MAR	PESSEV, % area	LEAF/PLAN T	3	7-10	20.1	5.4-34.1	59.8	49.8-66.7	63.8	42.9-93.7	69.2	47-94.1
	NE	PESINC, %	LEAF/PLAN T	3	7-10	64.6	46.9-84.5	54.8	39-76	96.2	88.7-100	100.0	100-100
	NE	PESSEV, % area	LEAF/PLAN T	3	7-10	24.5	10.3-40.6	76.0	58.9-92.5	97.5	94.4-100	98.2	94.5-100
	SE	PESINC, %	LEAF/PLAN T	7	7-10	71.2	22.4-99.4	59.0	0-89	79.4	40.8-100	80.1	43.9-100
PHYTPO /leek (F)	SE	PESSEV, % area	LEAF/PLAN T	6	7-10	18.0	5.3-66.2	72.8	19.9-94.1	87.8	76.5-99.5	89.5	78.8-100
	MAR	PESINC, %	LEAF	5	12-21	52.8	21.5-79	51.2	39.2-81.4	62.3	0-100	71.9	43-100
	MAR	PESSEV, %	LEAF	6	12-21	19.7	6.7-62.6	60.3	37.2-79.6	69.5	37.7-99.2	83.6	72.1-100

3.2.2 Minimum effective dose tests (KCP 6.2)

Summary and conclusions on the minimum effective dose

A total of 55 efficacy trials are summarized for minimum effective dose of A22772A.

7 efficacy trials with 7-10 days spray interval assessed for disease incidence and severity on leaf and fruits. These trials were carried out in 2020: 2x in countries of the North East EPPO zone (Poland) and 5x in countries of the South East EPPO zone (Bulgaria, Croatia and Hungary). Furthermore, supportive data with treatments applied at 12-15 days spray interval are presented for minimum effective dose assessment on *Phytophthora infestans* on tomato from the above described set of trials (where the target spray interval of 7-10 days was tested in parallel with the longer spray interval of 12-15 days) and from further 5 efficacy trials performed in 2019: 2x in countries of the North East EPPO zone (Poland) and 3x in countries of the South East EPPO zone (Croatia and Hungary).

16 efficacy trials have been evaluated to determine the minimum effective dose for the control of *Bremia lactucae* on lettuce (horizontal grown in field). These trials were carried out in 2019-2020: 10x in countries of the Maritime EPPO zone (Belgium, Germany, France), 6x trials in countries of the North East EPPO zone (Poland).

14 efficacy trials have been evaluated to determine the minimum effective dose for the control of *Pseudoperonospora cubensis* on cucurbits (horizontal grown in field). These trials were carried out in 2019-2020: 3x in countries of the Maritime EPPO zone (France), 4x in countries of the North East EPPO zone (Poland) and 7x in countries of the South East EPPO zone (Bulgaria, Hungary).

6 efficacy trials have been evaluated to determine the minimum effective dose for the control of *Phytophthora porri* on leek (horizontal grown in field). These trials were carried out in 2020 in countries of the Maritime EPPO zone (Belgium, France and Netherlands).

7 efficacy trials have been evaluated to determine the minimum effective dose for the control of *Pseudoperonospora humuli* on hop (field). These trials were carried out in 2019 and 2020: 5 trials in countries of the Maritime EPPO zone (Czech Republic, Germany) and 2 trials in countries of the South East EPPO zone (Slovenia).

A22773A was tested at 50%, 75-80% and 100% rate (delivering max. 1 L PR/ha) in accordance with the EPPO standard PP 1/225 'Minimum effective dose'. A summary of the dose response results is provided in table below.

For field uses trials were presented the EPPO climatic zones of concerned member states.

In general some dose response was demonstrated both in terms of disease incidence and severity.

According to the presented results the dose of A22773A delivering max. 1 L PR/ha provided the optimum overall control (higher efficacy and the lower variability, especially in most challenging conditions (e.g. high disease pressure or longer spray interval) and should be considered as effective against these uses, for which activity of A22773A is claimed. Reduced dosage rate by 20% can still provide useful disease control however with low reliability in several cases. Furthermore, the ready mixture is thought to provide a good intrinsic resistance management against Peronosporaceae, and therefore the full optimum rate of 1 L PR/ha of A22773A (full rate for both actives) has to be considered the minimum effective dose.

As a result, the proposed rate delivering maximum 1 L PR/ha as specified in the GAP should be considered the minimum effective dose to deliver robust control of symptoms and providing significant disease control under a wide range of environmental conditions.

Summary on minimum effective dose for A22773A is summarized in Table 3.2-16 and Table 3.2-17 .

Further information in the Mediterranean EPPO zone (trials in Southern part of France, Greece, Italy, Spain and Portugal) can be found in the relative Biological assessment dossier for A22773A_VV-881245.

Comments of zRMS:

12 efficacy trials were conducted to determine minimum effective dose to control *Phytophthora infestans* on tomato in the North-East and South-East EPPO climatic zones.

In the North-East zone in case of result on leaves, A22773A applied at dose rate of 1 l pr/ha was effective on a level of 96% (7-10 days spray interval) and 93,4% (12-15 days spray intervals), based on the percent of area of disease on leaves (%PESSEV). The mean efficacy of the lower doses was 91,7%/92,3% for 0,75N and 86,8%/89,16% for 0,5N. In case of result on fruits, A22773A at 1 l pr/ha achieved the control of 98,5% (7-10 days spray interval) and 93,3% (12-15 days spray intervals), based on the percent of infected plant part (%PESINC). The mean efficacy of the lower doses was 96,7%/93,3% for 0,75N and 93,4%/90,1% for 0,5N. These results on leaves and fruits show that the full target rate of 1 l pr/ha of A22773A is the most effective to control PHYTIN on tomato in the NE zone.

In the South-East zone in case of result on leaves, A22773A applied at dose rate of 1 l pr/ha was effective on a level of 92,9% (7-10 days spray intervals) and 90,3% (12-15 days spray intervals), based on the percent of area of disease on leaves. The mean efficacy of the lower doses was 88,2%/87,2% for 0,75N and 85,3%/80,9% for 0,5N. In case of result on fruits, A22773A at 1 l pr/ha achieved the control of 97,4% (7-10 days spray intervals) and 94,6% (12-15 days spray intervals). The mean efficacy of the lower doses was 93,1%/89,5% for 0,75N and 91%/85,8% for 0,5N. It can be concluded that the full target rate of 1 l pr/ha of A22773A is needed for the highest control PHYTIN on tomato in the SE zone.

16 efficacy trials were conducted to determine minimum effective dose to control *Bremia lactucae* on lettuce in the Maritime and North-East EPPO climatic zones.

In the Maritime zone, the highest level of control was achieved after applied of the full target rate. A22773A at 1 l pr/ha gave an effectiveness of 92,9% (%PESSEV), while the lower doses was slightly worse with results of 89,9% for 0,75N and 86,3% for 0,5N. Based on the submitted trials, the dose rate of 1 l pr/ha can be determine as the minimum effective dose to control BREMLA in lettuce in MAR zone.

In the North-East zone, A22773A applied at dose rate of 1 l pr/ha was effective on a level of 97,3%, based on the percent of area of disease on leaves (%PESSEV). The mean efficacy of the lower doses was 95,0% for 0,75N and 90,9% for 0,5N. The differences between rates was not significant, however the applicant justified that the ready mixture is thought to provide a good intrinsic resistance management against Peronosporaceae, and therefore the full optimum rate of 1 L PR/ha of A22773A (full rate for both actives) has to be considered the minimum effective dose. Moreover, the highest dose achieved more stability of good results. Taking into account also results from the MAR zone, the dose rate of 1 l pr/ha can be determine as minimum effective dose to control BREMLA in lettuce in NE zone.

14 efficacy trials were conducted to determine minimum effective dose to control *Pseudoperonospora cubensis* in cucurbits in the Maritime, North-East and South-East zones.

In the Maritime zone, only 3 efficacy trials were carried out on muskmelon and cantaloup melon. The mean efficacy of the full rate of A22773A was 69,2%, based on PESSEV parameter. No significant differences between the dose rates of 1N and 0,75N were observed. The lower dose of 0,5 l pr/ha was insufficient to control of disease pathogen. The CMSs are kindly asked to consider this use on the national level.

In the North-East zone, only 3 efficacy trials were carried out on cucumber. A22773A applied at dose rate of 1 l pr/ha was the most effective to control of PSPECU. The mean efficacy was 98,2%, however no significant differences between 1N and lower doses can be observed. The dose rate of 0,75 l pr/ha achieved an effectiveness of 97% and the dose rate of 0,5 l pr/ha had 96,8%.

In the South-East zone, all 7 efficacy trials have been submitted for cantaloup melon. The most effective was the full rate of 1 l pr/ha with the efficacy of 89,5%, based on the percent of area of disease on leaves. The lower doses was slight worse however still control of disease pathogen on the good level. It can be concluded that the full target rate of 1 l pr/ha of A22773A is needed to the highest control PSPECU on cucurbits in the SE zone.

6 efficacy trials were conducted to determine minimum effective dose to control of *Phytophthora porri* in leek in **the Maritime EPPO climatic zone**. No trials have been submitted from other zones. A22773A applied at dose

rate of 1 l pr/ha was the most effective with the result of 83,6% (PESSEV). The lower rates were significant worse. The full rate can be consider the minimum effective dose to control PHYTPO in leek in MAR zone.

7 efficacy trials were conducted to determine minimum effective dose to control *Pseudoperonospora humuli* in hop in the Maritime and South-East EPPO climatic zone. The dose rate of 1 l pr/ha was not tested in the supportive trials from 2019. Instead of that, the higher rates (1,2 and 1,6 l pr/ha) were used.

In the Maritime zone, A22773A applied at dose rate of 1 l pr/ha was the most effective in 2 trials (2020) where lower, middle and upper leaves had been observed. The results based on the percent of infected plant part were on high level (>90%), either in trials from 2020 and in the supportive trials from 2019. Also percentage of cones affected taken from the lower, the middle or the upper part of the plant was assessed. The mean efficacy of full rate was 93,5%, based of PESSEV parameter. A22773A applied at dose rate of 0,8 l/ha achieved an effectiveness on a level of 77,9% in the supportive trials. Overall, the limited number of trials have been submitted for the control of PSPEHU on hop in the MAR zone and the cMSs are kindly asked to consider this use on the national level.

In the South-East zone, only 1 trial with the dose rate of 1 l pr/ha was carried out in hop. The high level of control (>95%) was noted either for the full and lower rate (0,8 l/ha). The mean efficacy of the test product applied at 0,8, 1,2 and 1,6 l pr/ha was <90% in the supportive trials. Overall, the limited number of trials have been submitted for the control of PSPEHU on hop in the SE zone and the cMSs are kindly asked to consider this use on the national level.

Table 3.2-16: Summary on Minimum effective dose. Efficacy of A22773A at proposed label rate, at 50% and 75-80% dose rates, against downy mildew in several crops including tomato, lettuce, cucurbits and leek

Use	EPPO zone	Rating data type	Plant part	Nr of trials	Spray interval (days)	Infestation		% Efficacy (Untreated Check = 0%)					
						CHECK UNTREATED		A22773A 0.5 LPR/HA azoxystrobin oxathiapiprolin 125 6 gai/ha 50% full rate		A22773A 0.75-0.8 LPR/HA azoxystrobin oxathiapiprolin 187.5-200 9-9.6 gai/ha 75-80% full rate		A22773A 1 LPR/HA azoxystrobin oxathiapiprolin 250 12 gai/ha 100% full rate	
						Mean	min-max	Mean	min-max	Mean	min-max	Mean	min-max
PHYTIN /tomato horizontal grown in field	NE	PESINC, %	LEAF	2	7-10	97.5	94.9-100	93.2	86.4-100	95.3	90.5-100	97.1	94.1-100
	NE	PESSEV, % area	LEAF	1	7-10	92.7	-	86.8	-	91.7	-	96.0	-
	NE	PESINC, %	FRUIT	2	7-10	95.9	91.7-100	93.4	90.5-96.3	96.7	95.9-97.4	98.5	97.7-99.2
	SE	PESINC, %	LEAF	2	7-10	63.2	52.5-73.9	66.7	44.2-89.1	72.2	49.3-95.1	76.6	54.3-98.8
	SE	PESSEV, % area	LEAF	5	7-10	62.4	10-100	85.3	58.6-94.6	88.2	62.3-97.5	92.9	76.3-99.4
	SE	PESINC, %	FRUIT	3	7-10	60.3	25.2-89.8	91.0	77.7-98.2	93.1	83-100	97.4	92.2-100
	Supportive data at longer spray interval												
	NE	PESINC, %	LEAF	3	12-15	98.3	94.9-100	82.2	69.8-88.6	83.9	79.7-90.8	90.8	86.6-92.9
	NE	PESSEV, % area	LEAF	3	12-15	82.1	56.2-97.4	89.2	69.3-99.1	92.3	78.2-99.4	93.4	81.3-99.5
	NE	PESINC, %	FRUIT	4	12-15	81.8	35.6-100	90.1	76.4-100	93.3	84-100	93.3	81.9-100
	SE	PESINC, %	LEAF	4	12-15	65.5	52.5-73.9	71.2	28.9-96.3	79.4	34-100	83.6	39.1-100
	SE	PESSEV, % area	LEAF	8	12-15	61.6	10-100	80.9	44.8-97.1	87.2	51.9-98.5	90.3	58.6-99.6
	SE	PESINC, %	FRUIT	5	12-15	51.6	20.9-89.8	85.8	70.8-99.9	89.5	76.4-100	94.6	83.3-99.9
BREMLA /lettuce horizontal grown in field	MAR	PESINC, %	LEAF	9	7-10	68.2	16.7-98.3	86.1	58.1-99.6	89.1	64.1-100	91.5	63.2-100
	MAR	PESSEV, % area	LEAF	9	7-10	31.6	9.2-76.7	86.3	46-99.5	89.9	56.2-99.8	92.9	66.3-99.7
	NE	PESINC, %	LEAF	6	7-10	30.6	11.7-49.3	89.6	70-100	95.7	80-100	98.3	90-100
	NE	PESSEV, % area	LEAF	6	7-10	29.7	7.2-80.1	90.9	69-100	95.0	82.3-100	97.3	94.5-100
PSPECU /cucurbits horizontal grown in field	MAR	PESINC, %	LEAF/PLANT	3	7-10	55.7	22-100	47.9	34.1-70.9	53.9	27.6-100	62.0	37.5-98.6
	MAR	PESSEV, % area	LEAF/PLANT	3	7-10	20.1	5.4-34.1	57.8	37.2-94.5	68.4	56.5-90.6	69.2	47-94.1
	NE	PESINC, %	LEAF/PLANT	3	7-10	64.6	46.9-84.5	100.0	100-100	100.0	100-100	100.0	100-100
	NE	PESSEV, % area	LEAF/PLANT	3	7-10	24.5	10.3-40.6	96.8	90.7-100	97.0	91-100	98.2	94.5-100
	SE	PESINC, %	LEAF/PLANT	7	7-10	71.2	22.4-99.4	75.2	42.7-100	76.4	50.1-100	80.1	43.9-100
	SE	PESSEV, % area	LEAF/PLANT	6	7-10	18.0	5.3-66.2	85.2	75.8-100	86.7	78.7-100	89.5	78.8-100
PHYTPO /leek horizontal grown in field	MAR	PESINC, %	LEAF	5	12-21	52.8	21.5-79	66.3	31.6-99.2	65.2	27.2-99.2	71.9	43-100
	MAR	PESSEV, % area	LEAF	6	12-21	19.7	6.7-62.6	74.8	50.1-99.2	75.3	57.9-98.4	83.6	72.1-100

Table 3.2-17: Summary on Minimum effective dose. Efficacy of A22773A at proposed label rate and 80%, 120% and 160% dose rates on PSPEHU in hop (vertical grown - field) - (Maritime and South East EPPO zone)

					Infestation		% Efficacy (Untreated Check = 0%)							
EPPO zone	Rating data type	Plant part	Nr of trials	Spray interval (days)	CHECK UNTREATED		A22773A 0.8 LPR/HA azoxystrobin oxathiapiprolin 200 9.6 gai/ha 80% full rate		A22773A 1 LPR/HA azoxystrobin oxathiapiprolin 250 12 gai/ha 100% full rate		A22773A 1.2 LPR/HA azoxystrobin oxathiapiprolin 300 14.4 gai/ha 120% full rate		A22773A 1.2 1.6 LPR/HA azoxystrobin oxathiapiprolin 400 19.2 gai/ha 160% full rate	
					Mean	min-max	Mean	min-max	Mean	min-max	Mean	min-max	Mean	min-max
2020 trials														
MAR	PESINC, %	LEAF - LOWER	2	12-16	66.1	64.3-67.8	88.6	87.2-90	93.0	92.2-93.8	-	-	-	-
MAR	PESINC, %	LEAF - MIDDLE	2	12-16	57.9	57.5-58.3	88.4	86.6-90.1	93.4	92.7-94.1	-	-	-	-
MAR	PESINC, %	LEAF - UPPER	2	12-16	55.7	54.8-56.5	88.7	86.4-90.9	92.9	91.8-94	-	-	-	-
MAR	PESINC, %	CONUPP	2	12-16	92.8	92.1-93.4	83.5	82.6-84.3	89.4	88.3-90.4	-	-	-	-
MAR	PESSEV, index	CONUPP	2	12-16	66.9	53.6-80.1	89.0	88.9-89.1	93.5	93.4-93.6	-	-	-	-
SE	PESINC, %	CONUPP	1	12-16	80.3	-	95.1	-	97.9	-	-	-	-	-
SE	PESSEV, index	CONUPP	1	12-16	42.1	-	98.7	-	99.3	-	-	-	-	-
Further supportive data (2019 trials)														
MAR	PESINC, %	LEAF - LOWER	2	12-16	52.8	51.5-54	82.4	78.8-85.9	-	-	92.0	91.3-92.7	94.0	92.8-95.2
MAR	PESINC, %	LEAF - MIDDLE	2	12-16	48.2	48.2-48.2	83.2	78.3-88.1	-	-	93.6	93.3-93.9	95.7	95.4-96.0
MAR	PESINC, %	LEAF - UPPER	2	12-16	35.4	27.2-43.5	83.6	78-89.2	-	-	92.2	91.4-92.9	96.1	95.5-96.6
MAR	PESINC, %	LEAF	1	12-16	57.5	-	99.6	-	-	-	100	-	100	-
MAR	PESINC, %	CONES & CONUPP	3	12-16	51.4	32.9-79	77.3	49.7-91.2	-	-	96.7	95.6-97.6	98.7	97.8-100
MAR	PESSEV, index	CONES & CONUPP	3	12-16	45.7	16.2-78.6	77.9	56.3-89.4	-	-	95.8	94.7-97.9	98.6	97.9-100
SE	PESINC, %	CONES & CONUPP	1	12-16	23.5	-	82.4	-	-	-	84.6	-	88.8	-
SE	PESSEV, index	CONES & CONUPP	1	12-16	13.7	-	88.8	-	-	-	89.1	-	93.2	-

3.2.3 Efficacy tests (KCP 6.2)

Trials in this dossier were carried out by Syngenta organisations, contractor companies and Official Research institutes, all of which follow the EPPO guidelines and are officially recognized by the competent authorities to carry out field registration trials in accordance with the principles of Good Experimental Practice (GEP). The hyperlinks to relevant GEP certificates from the above mentioned official country testing organisations are available under Point 3.7.

On the basis of the EPPO guideline 1/241(1) *Guidance on comparable climates*, the trials included in this dossier have been grouped and summarized by EPPO zones and trial condition. EPPO zones have been defined by taking into account differences between the agro-climatic sub-areas of the EPPO region. As shown in Figure 3.2-1, four agro-climatic zones are appropriate: the Mediterranean zone, the Maritime zone, the North-East zone and the South-East zone.

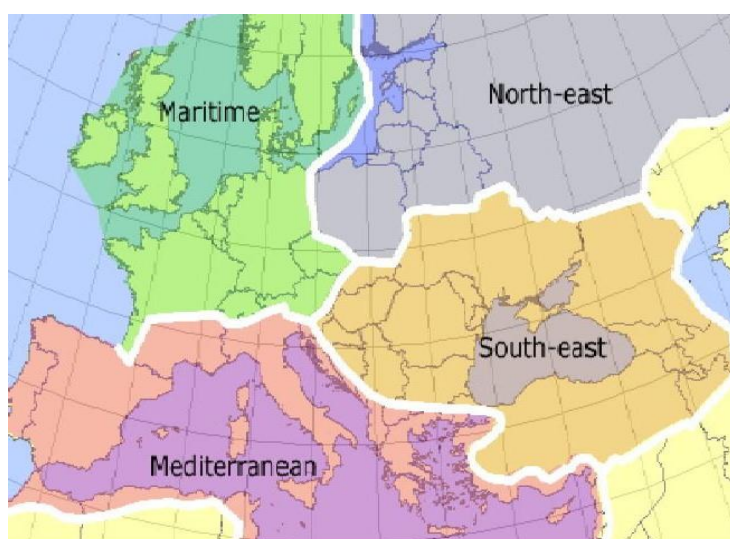


Figure 3.2-1: Zones of comparable climate in the EPPO region, for the purpose of evaluation of efficacy trials on plant protection products

Trials for efficacy evaluation in concerned member states of the **Central Regulatory** zone were carried out in the following EPPO zones and countries:

- **Maritime EPPO zone** (Belgium, Czech Republic, France, Germany and Netherlands);
- **North East EPPO zone** (Poland);
- **South East EPPO zone** (Bulgaria, Croatia, Hungary and Slovenia).

Further information in the Mediterranean EPPO zone (trials in Southern part of France, Greece, Italy, Spain and Portugal) can be found in the relative Biological assessment dossier for A22773A_VV-881245.

Justification for data outside country of submission

Field conditions

Justification for the use of biological efficacy data included in this dossier is made according to EPPO PP 1/241 (2) “Guidance on comparable climates.” so all trials carried out in the respective EPPO zones, can be extrapolated to each country belonging to this agroclimatic zone.

Trials methodology in relation to EPPO

Trials were conducted according to the EPPO guidelines stated in table below. Full details of the sites and applications are provided in Appendix 2 in the Biological assessment dossier for A22773A_VV-881245.

As a general rule, the trial layout was according to the randomized complete block design with four replicates per treatment. All normal crop husbandry measures were applied to the trials area by the grower, according to crop requirements and in accordance with good agricultural practice. Trials included a range of soil types and locations to determine crop tolerance and efficacy on a number of commercially grown varieties, under a range of conditions. All the trials were placed within regions where tomato is commonly grown and data have been presented on diseases which are also indigenous to the area covered. Crop growth stages and disease levels were recorded at the time of application using the appropriate BBCH codes.

Crop growth stages are described using the standard BBCH scale. In all trials, efficacy was assessed according to EPPO guidelines.

Crop phytotoxicity was assessed at various intervals after application. All assessments were on a 0-100 % scale, where 0 % = no damage and 100 % = total crop loss. Individual symptoms were recorded where appropriate. Where no phytotoxicity was observed, this was generally recorded within the individual trial data.

In the trials specifically targeted for this disease, the treatments were applied in a whole season long spray program, therefore exceeding the maximum of 2 applications per year according to the GAP.

Data are considered to be valid based on the fact that in normal commercial practice, A22773A is intended for use as part of multiple applications, season-long spray programs in sequences with other products. Therefore, it is considered appropriate to generate data on multiple applications of A22773A rather than a single timing in order to fully demonstrate efficacy.

Indeed the evaluation of the efficacy of the fungicide activity of test product based on trials carried out with whole season application of the test product is considered more reliable from a technical perspective for the following reasons:

- The efficacy of the product is not influenced by eventual maintenance treatments.
- The effective control of the disease observed in the trial is given only by the test product.
- A comparison of the efficacy over all trials is possible and homogeneous.
- Preventive application is ensured.
- The trials allow an evaluation of eventual resistances or sensitivity shift of the target to the product under field conditions.
- Success rate of the trials is sensibly higher under natural disease conditions.

Finally, it is to note that the maximum number of applications reported in the GAP is mainly driven by product safety limitations and anti-resistance restriction.

This procedure is well accepted in Europe by several authorities. An example is given in the two CEB guidelines (Commission des Essais Biologiques of France) currently regulating the methodology to adopt in the trials for registration of products in France.

Trials methodology in relation to EPPO – *Phytophthora infestans* on tomato

According to the specific EPPO guideline PP 1/065(3), for the efficacy evaluation of A22773A against *Phytophthora infestans* on tomato, during the trials disease incidence and severity on leaves and fruit was estimated just before each further application (respectively as % of infected plant part – PESINC %; or as % of area of disease on leaves/fruits – PESSEV % area). Only assessments from trials where a minimum of 5% disease severity or 10% disease incidence in the untreated plot was recorded were

selected for summarization. This selection is suitable to show the efficacy of A22773A applied preventatively under challenging conditions of disease pressure, showing statistically significant differences between treatments and untreated check.

The tables below, split by EPPO zones summarize the methodology in the specific sets of trials.

Table 3.2-18: Details on trial methodology - *Phytophthora infestans* on tomato (horizontal - field) – North East EPPO zone

4 trials:		
Guidelines	General guidelines	PP 1/152(4); PP 1/181(4); PP 1/135(4)
	Specific guidelines	PP 1/065(3)
Experimental design	Plot design	RANDOMIZED COMPLETE BLOCK (13)
	Plot size	1 - 16 m ²
	Number of replications	4 (4)
Crop	Trials per crop	Horizontal tomato, field (4)
	Varieties per crop	Hector F1 (1); Rumba (1); Rumba Ożarowska (1); Szejka (1)
Application	Crop stage (BBCH) at application	First application: BBCH 55-61 (1); BBCH 64 (2); BBCH 71-72 (1) Last application: BBCH 69-72 (1); BBCH 84 (1); BBCH 85-86 (1); BBCH 86 (1)
	Number of applications	5 (2); 6 (1); 8 (1)
	Intervals between applications	about 7 - 10 days + 12 -15 days (2); about 12 - 15 days (2)
	Spray volumes	300 - 700 L/ha
Assessment	Assessment types	pest incidence (%) on leaf, pest severity (%) on leaf
	Assessment dates	regularly at each application
Other relevant information	e.g. Soil type, pH (in case of soil active substance ...)	Not relevant, foliar application
	e.g. Natural / artificial inoculation...	Natural (4)
	e.g. Field / Greenhouse...	Field (4)
	EPPO zones	North East (4)

Table 3.2-19: Details on trial methodology - *Phytophthora infestans* on tomato (horizontal - field) – South East EPPO zone

13 trials:		
Guidelines	General guidelines	PP 1/152(4); PP 1/181(4); PP 1/135(4)
	Specific guidelines	PP 1/065(3)
Experimental design	Plot design	RANDOMIZED COMPLETE BLOCK (13)
	Plot size	4.799 - 36 m ²
	Number of replications	4 (13)
Crop	Trials per crop	Horizontal tomato, field (13)
	Varieties per crop	AG 23484, F1 (1); Galilea (1); Heinz 1015 (1); Heinz 1015F1 (1); Perfect Peel (4); Perfect Peel (2); Rio Fuego (1); USAR F1 (1); Zömök (1)
Application	Crop stage (BBCH) at application	First application: BBCH 17 (1); BBCH 22-23 (1); BBCH 22-29 (1); BBCH 26-51 (1); BBCH 51 (1); BBCH 51-61 (3); BBCH 53-54 (1); BBCH 53-61 (1); BBCH 62-71 (1); BBCH 63 (1); BBCH 65 (1) Last application: BBCH 66-71 (1); BBCH 72 (1); BBCH 73-81 (1); BBCH 73-83 (1); BBCH 73 (1); BBCH 74-76 (1); BBCH 75-81 (1); BBCH 75-83 (1); BBCH 78-85 (1); BBCH 81 (1); BBCH 81-85 (1); BBCH 83-84 (1); BBCH 85-87 (1)
	Number of applications	3 (1); 4 (1); 5 (3); 6 (3); 7 (1); 9 (1); 10 (3)
	Intervals between applications	about 7 - 10 days + 12 -15 days (5); about 12 - 15 days (8)
	Spray volumes	300 - 600 L/ha
Assessment	Assessment types	pest incidence (%) on leaf, pest severity (%) on leaf
	Assessment dates	regularly at each application
Other relevant information	e.g. Soil type, pH (in case of soil active substance ...)	Not relevant, foliar application
	e.g. Natural / artificial inoculation...	Natural (13)
	e.g. Field / Greenhouse...	Field (13)
	EPPO zones	South East (13)

Trials methodology in relation to EPPO – *Bremia lactucae* on lettuce

According to the specific EPPO guideline PP 1/065(3), for the efficacy evaluation of A22773A against *Bremia lactucae* on lettuce, during the trials disease incidence and severity on leaves was estimated just before each further application (respectively as % of infected plant part – PESINC %; or as % of area of disease on leaves – PESSEV % area). Only assessments from trials where a minimum of 5% disease severity or 10% disease incidence in the untreated plot was recorded were selected for summarization. This selection is suitable to show the efficacy of A22773A applied preventatively under challenging conditions of disease pressure, showing statistically significant differences between treatments and untreated check.

The tables below, split by EPPO zones, summarize the methodology in the specific sets of trials.

Table 3.2-20: Details on trial methodology – *Bremia lactucae* on lettuce (field) – Maritime EPPO zone

11 trial:		
Guidelines	General guidelines	PP 1/152(4); PP 1/181(4); PP 1/135(4)
	Specific guidelines	PP 1/065(3)
Experimental design	Plot design	RANDOMIZED COMPLETE BLOCK (11)
	Plot size	6.65 - 135 m ²
	Number of replications	4 (11)
Crop	Trials per crop	Lettuce, field (11)
	Varieties per crop	Actina (1); Centore (1); Excursus (1); Lollo bionda Aleppo (1); Maximus (3); Nadine(2); Robinson (1); Sansula (1)
Application	Crop stage (BBCH) at application	First application: BBCH 13-14 (1); BBCH 13-15 (1); BBCH 14 (2); BBCH 14-15 (1); BBCH 14-16 (1); BBCH 15 (4); BBCH 17 (1) Last application: BBCH 19-33 (1); BBCH 35-39 (1); BBCH 41(1); BBCH 43 (1); BBCH 45 (1); BBCH 46 (2); BBCH 47 (1); BBCH 48 (1); BBCH 48-49 (1); BBCH 49 (1)
	Number of applications	3 (1); 4 (1); 5 (6); 6 (1); 7 (2)
	Intervals between applications	about 7 - 10 days
	Spray volumes	300 - 500 L/ha
Assessment	Assessment types	pest incidence (%) on leaf, pest severity (%) on leaf, COUNT marketable plant, %
	Assessment dates	regularly at each application
Other relevant information	e.g. Soil type, pH (in case of soil active substance ...)	Not relevant, foliar application
	e.g. Natural / artificial inoculation...	Natural (11)
	e.g. Field / Greenhouse...	Field (11)
	EPPO zones	Maritime (11)

Table 3.2-21: Details on trial methodology - *Bremia lactucae* on lettuce (field) – North East EPPO zone

6 trials:		
Guidelines	General guidelines	PP 1/152(4); PP 1/181(4); PP 1/135(4)
	Specific guidelines	PP 1/065(3)
Experimental design	Plot design	RANDOMIZED COMPLETE BLOCK (6)
	Plot size	1 - 16 m ²
	Number of replications	4 (6)
Crop	Trials per crop	Lettuce, field (6)
	Varieties per crop	Maugli (1); Juleczka (1); Bakata (1); Królów Majowa (1); Królów Majowych (1); Torpedo(1)
Application	Crop stage (BBCH) at application	First application: BBCH 17-18 (1); BBCH 17-19 (1); BBCH 18-41 (1); BBCH 39-41 (1); BBCH 41 (1); BBCH 43 (1) Last application: BBCH 44-46 (1); BBCH 45-47 (2); BBCH 45-49 (1); BBCH 48 (1); BBCH 49 (1)
	Number of applications	4 (3); 5 (3);
	Intervals between applications	about 7 - 10 days
	Spray volumes	300 - 600 L/ha
Assessment	Assessment types	pest incidence (%) on leaf, pest severity (%) on leaf, COUNT marketable plant, %
	Assessment dates	regularly at each application
Other relevant information	e.g. Soil type, pH (in case of soil active substance ...)	Not relevant, foliar application
	e.g. Natural / artificial inoculation...	Natural (6)
	e.g. Field / Greenhouse...	Field (6)
	EPPO zones	North East (6)

Trials methodology in relation to EPPO – *Pseudoperonospora cubensis* on cucurbits

According to the specific EPPO guideline PP 1/065(3), for the efficacy evaluation of A22773A against *Pseudoperonospora cubensis* on cucurbits, during the trials disease incidence and severity on leaves was estimated just before each further application (respectively as % of infected plant part – PESINC %; or as % of area of disease on leaves – PESSEV % area). Only assessments from trials where a minimum of 5% disease severity or 10% disease incidence in the untreated plot was recorded were selected for summarization. This selection is suitable to show the efficacy of A22773A applied preventatively under challenging conditions of disease pressure, showing statistically significant differences between treatments and untreated check.

The tables below, split by EPPO zones, summarize the methodology in the specific sets of trials.

Table 3.2-22: Details on trial methodology – *Pseudoperonospora cubensis* on cucurbits (horizontal, field) – Maritime EPPO zone

3 trials:		
Guidelines	General guidelines	PP 1/152(4); PP 1/181(4); PP 1/135(4)
	Specific guidelines	PP 1/065(3)
Experimental design	Plot design	RANDOMIZED COMPLETE BLOCK (3)
	Plot size	6.65 - 12 m ²
	Number of replications	4 (3)
Crop	Trials per crop	Horizontal melon, field (3)
	Varieties per crop	Atomus (1); Battista (2)
Application	Crop stage (BBCH) at application	First application: BBCH 22-23 (1); BBCH 55 (1); BBCH 61-64 (1) Last application: BBCH 68-72 (1); BBCH 71-81 (1); BBCH 73-74 (1)
	Number of applications	5 (3)
	Intervals between applications	about 7 - 10 days
	Spray volumes	300 L/ha
Assessment	Assessment types	pest incidence (%) on leaf, pest severity (%) on leaf
	Assessment dates	regularly at each application
Other relevant information	e.g. Soil type, pH	Not relevant, foliar application
	e.g. Natural / artificial inoculation...	Natural (3)
	e.g. Field / Greenhouse...	Field (3)
	EPPO zones	Maritime (3)

Table 3.2-23: Details on trial methodology – *Pseudoperonospora cubensis* on cucurbits (horizontal, field) – North East EPPO zone

4 trials:		
Guidelines	General guidelines	PP 1/152(4); PP 1/181(4); PP 1/135(4)
	Specific guidelines	PP 1/065(3)
Experimental design	Plot design	RANDOMIZED COMPLETE BLOCK (4)
	Plot size	12 - 32 m ²
	Number of replications	4 (4)
Crop	Trials per crop	Horizontal cucumber, field (4)
	Varieties per crop	Boztom F1 (1); Sremski (3)
Application	Crop stage (BBCH) at application	First application: BBCH 21-22 (1); BBCH 59 (2); BBCH 71-73 (1) Last application: BBCH 76 (1); BBCH 77-79 (1); BBCH 81 (1); BBCH 82-83 (1)
	Number of applications	3 (1); 5 (3);
	Intervals between applications	about 7 - 10 days
	Spray volumes	200—1000 370-700 L/ha
Assessment	Assessment types	pest incidence (%) on leaf, pest severity (%) on leaf
	Assessment dates	regularly at each application
Other relevant information	e.g. Soil type, pH (in case of soil active substance ...)	Not relevant, foliar application
	e.g. Natural / artificial inoculation...	Natural (4)
	e.g. Field / Greenhouse...	Field (4)
	EPPO zones	North East (4)

Table 3.2-24: Details on trial methodology – *Pseudoperonospora cubensis* on cucurbits (horizontal, field) – South East EPPO zone

7 trials:		
Guidelines	General guidelines	PP 1/152(4); PP 1/181(4); PP 1/135(4)
	Specific guidelines	PP 1/065(3)
Experimental design	Plot design	RANDOMIZED COMPLETE BLOCK (4)
	Plot size	10.8 - 42 m ²
	Number of replications	4 (7)
Crop	Trials per crop	Horizontal melon, field (7)
	Varieties per crop	Medena Rosa (1); Muskotály (1); Pobeditel F1 (3); Proteo (+2) - na-(1)
Application	Crop stage (BBCH) at application	First application: BBCH 12 (2); BBCH 12-14 (1); BBCH 13-14 (2); BBCH 14-15 (1); BBCH 14-17 (1) Last application: BBCH 64-69 (1); BBCH 71-72 (2); BBCH 72 (1); BBCH 73 (1); BBCH 81 (1); BBCH 81-83 (1)
	Number of applications	5 (5); 6 (1); 7 (1)
	Intervals between applications	about 7 - 10 days
	Spray volumes	200 - 600 L/ha
Assessment	Assessment types	pest incidence (%) on leaf, pest severity (%) on leaf
	Assessment dates	regularly at each application
Other relevant information	e.g. Soil type, pH (in case of soil active substance ...)	Not relevant, foliar application
	e.g. Natural / artificial inoculation...	Natural (7)
	e.g. Field / Greenhouse...	Field (7)
	EPPO zones	South East (7)

Trials methodology in relation to EPPO – *Phytophthora porri* on leek

According to the specific EPPO guideline PP 1/120(2), for the efficacy evaluation of A22773A against *Phytophthora porri* on leek, during the trials disease incidence and severity on leaves was estimated just before each further application (respectively as % of infected plant part – PESINC %; or as % of area of disease on leaves – PESSEV % area). Only assessments from trials where a minimum of 5% disease severity or 10% disease incidence in the untreated plot was recorded were selected for summarization. This selection is suitable to show the efficacy of A22773A applied preventatively under challenging conditions of disease pressure, showing statistically significant differences between treatments and untreated check.

The tables below, split by EPPO zones, summarize the methodology in the specific sets of trials.

Table 3.2-25: Details on trial methodology – *Phytophthora porri* on leek (field) – Maritime EPPO zone

12 trials:		
Guidelines	General guidelines	PP 1/152(4); PP 1/181(4); PP 1/135(4)
	Specific guidelines	PP 1/120(2)
Experimental design	Plot design	RANDOMIZED COMPLETE BLOCK (12)
	Plot size	9.75 - 17.25 m ²
	Number of replications	4 (12)
Crop	Trials per crop	Leek, field (12)
	Varieties per crop	Harston(5);Oslo(1);Pluston(1);Puston(1);Selina(2);SV5240(1);Triton(1);
Application	Crop stage (BBCH) at application	First application: BBCH 14-18 (1); BBCH 41 (5); BBCH 41-43 (1); BBCH 43 (4); BBCH 43-47 (1) Last application: BBCH 19-45 (1); BBCH 45-49 (1); BBCH 47 (5); BBCH 47-48 (1); BBCH 47-49 (1); BBCH 48 (2); BBCH 49 (1)
	Number of applications	4 (2); 5 (5); 6 (1); 8 (3); 9 (1)
	Intervals between applications	about 12 - 21 days (12)
	Spray volumes	300 - 500 L/ha
Assessment	Assessment types	pest incidence (%) on leaf, pest severity (%) on leaf, yield (t/ha)
	Assessment dates	regularly at each application
Other relevant information	e.g. Soil type, pH (in case of soil active substance ...)	Not relevant, foliar application
	e.g. Natural / artificial inoculation...	Natural (12)
	e.g. Field / Greenhouse...	Field (12)
	EPPO zones	Maritime (12)

Trials methodology in relation to EPPO – *Pseudoperonospora humuli* on hop

According to the specific EPPO guideline PP 1/003(4), for the efficacy evaluation of A22773A against *Pseudoperonospora humuli* on hop, during the trials disease incidence on leaves, flowers and cones taken from the lower, the middle or the upper part of the plant, was estimated just before each further application (as % of infected plant part – PESINC %). Furthermore at harvest, disease severity on cones was assessed according to an index scale. Only assessments from trials where a minimum of 5% disease severity or 10% disease incidence in the untreated plot was recorded were selected for summarization. This selection is suitable to show the efficacy of A22773A applied preventatively under challenging conditions of disease pressure, showing statistically significant differences between treatments and untreated check.

The tables below, split by EPPO zones, summarize the methodology in the specific sets of trials.

Table 3.2-26: Details on trial methodology – *Pseudoperonospora humuli* on hop – Maritime EPPO zone

5 trials:		
Guidelines	General guidelines	PP 1/152(4); PP 1/181(4); PP 1/135(4)
	Specific guidelines	PP 1/003(4)
Experimental design	Plot design	RANDOMIZED COMPLETE BLOCK (5)
	Plot size	30 - 96 m ²
	Number of replications	4 (5)
Crop	Trials per crop	Hop, field (5)
	Varieties per crop	Hallertauer Magnum(1); Harmonie(1); SAAZ HOP(2); Sládek(1);
Application	Crop stage (BBCH) at application	First application: BBCH 27-32 (1); BBCH 33-37 (1); BBCH 34-37 (1); BBCH 35-39 (1); BBCH 36-38 (1) Last application: BBCH 69-85 (1); BBCH 75 (1); BBCH 75-84 (1); BBCH 79-83 (1); BBCH 85-89 (1)
	Number of applications	4 (1); 5 (2); 6 (2)
	Intervals between applications	about 12 - 16 days
	Spray volumes	1000 - 2500 L/ha
Assessment	Assessment types	pest incidence (%) on leaves, flowers and cones; pest severity (index) on cones
	Assessment dates	regularly at each application
Other relevant information	e.g. Soil type, pH	Not relevant, foliar application
	Natural/artificial inoculation...	Natural (5)
	e.g. Field / Greenhouse...	Field (5)
	EPPO zones	Maritime (5)

Table 3.2-27: Details on trial methodology – *Pseudoperonospora humuli* on hop – South East EPPO zone

2 trials:		
Guidelines	General guidelines	PP 1/152(4); PP 1/181(4); PP 1/135(4)
	Specific guidelines	PP 1/003(4)
Experimental design	Plot design	RANDOMIZED COMPLETE BLOCK (2)
	Plot size	30 - 432 m ²
	Number of replications	4 (2)
Crop	Trials per crop	Hop, field (2)
	Varieties per crop	Bobek (1); Celeia (1)
Application	Crop stage (BBCH) at application	First application: BBCH 36-39 (1); BBCH 61 (1) Last application: BBCH 74-76 (1); BBCH 83-85 (1)
	Number of applications	3 (1); 4 (1)
	Intervals between applications	12 - 23 days
	Spray volumes	800 - 1200 L/ha
Assessment	Assessment types	pest incidence (%) on leaves, flowers and cones; pest severity (index) on cones
	Assessment dates	regularly at each application
Other relevant information	e.g. Soil type, pH (in case of soil active substance ...)	Not relevant, foliar application
	e.g. Natural / artificial inoculation...	Natural (2)
	e.g. Field / Greenhouse...	Field (2)
	EPPO zones	South East (2)

Trials methodology in relation to EPPO – *Alternaria* spp. on tomato

According to the specific EPPO guideline PP 1/263(1), for the efficacy evaluation of A22773A against *Alternaria* sp. on tomato, during the trials disease severity on leaves and disease incidence on fruit was estimated just before each further application (respectively as % of infected plant part – PESINC %; or as % of area covered by symptoms – PESSEV % area). Only assessments from trials where a minimum of 5% disease severity or 10% disease incidence in the untreated plot was recorded were selected for summarization. This selection is suitable to show the efficacy of A22773A applied preventatively under challenging conditions of disease pressure, showing statistically significant differences between treatments and untreated check.

The tables below, split by EPPO zones, summarize the methodology in the specific sets of trials.

Table 3.2-28: Details on trial methodology – *Alternaria* spp. on tomato (horizontal, field) – North East EPPO zone

4 trials:		
Guidelines	General guidelines	PP 1/152(4); PP 1/181(4); PP 1/135(4)
	Specific guidelines	PP 1/263(1)
Experimental design	Plot design	RANDOMIZED COMPLETE BLOCK (4)
	Plot size	1 - 24 m ²
	Number of replications	4 (4)
Crop	Trials per crop	Tomato, field (4)
	Varieties per crop	Etna (1); Olga (2); Rediana (1)
Application	Crop stage (BBCH) at application	First application: BBCH 54 - 61 (1); BBCH 61 - 63 (1); BBCH 64 (1); BBCH 74 (1) Last application: BBCH 71 - 73 (1); BBCH 81 (1); BBCH 82 (1); BBCH 84 - 85 (1)
	Number of applications	4 (1); 5 (2); 6 (1)
	Intervals between applications	about 10 - 14 days
	Spray volumes	333 - 600 L/ha
Assessment	Assessment types	pest severity (%) on leaves; pest incidence (%) on fruit; yield (t/ha)
	Assessment dates	regularly at each application
Other relevant information	e.g. Soil type, pH (in case of soil active substance ...)	Not relevant, foliar application
	e.g. Natural / artificial inoculation...	Natural (4)
	e.g. Field / Greenhouse...	Field (4)
	EPPO zones	North East (4)

Table 3.2-29: Details on trial methodology – *Alternaria* spp. on tomato (horizontal, field) – South East EPPO zone

5 trials:		
Guidelines	General guidelines	PP 1/152(4); PP 1/181(4); PP 1/135(4)
	Specific guidelines	PP 1/263(1)
Experimental design	Plot design	RANDOMIZED COMPLETE BLOCK (5)
	Plot size	6 - 32 m ²
	Number of replications	4 (5)
Crop	Trials per crop	Tomato, field (5)
	Varieties per crop	Espace (1); Heinz (1); Heinz 1015 (1); Perfect Peal (1); Zömök (1)
Application	Crop stage (BBCH) at application	First application: BBCH 22 - 23 (1); BBCH 53 - 59 (1); BBCH 59 - 61 (1); BBCH 63 (1); BBCH 72 - 76 (1) Last application: BBCH 72 (1); BBCH 76 - 84 (1); BBCH 77 - 81 (1); BBCH 81 - 83 (1); BBCH 83 (1)
	Number of applications	3 (2); 5 (3)
	Intervals between applications	about 10 - 14 days
	Spray volumes	250 - 500 L/ha
Assessment	Assessment types	pest severity (%) on leaves; pest incidence (%) on fruit; yield (t/ha)
	Assessment dates	regularly at each application
Other relevant information	e.g. Soil type, pH (in case of soil active substance ...)	Not relevant, foliar application
	e.g. Natural / artificial inoculation...	Natural (5)
	e.g. Field / Greenhouse...	Field (5)
	EPPO zones	South East (5)

Trials methodology in relation to EPPO – *Didymella bryoniae* on cucurbits

According to the specific EPPO guidelines PP 1/057(3) and PP 1/121(2), for the efficacy evaluation of A22773A against *Stagonosporopsis cucurbitacearum* (also known as *Didymella bryoniae*) on cucurbits, during the trials disease incidence and severity on leaves were estimated just before each further application (respectively as % of infected plant part – PESINC %; or as % of area of disease on leaves – PESSEV % area). Only assessments from trials where a minimum of 5% disease severity or 10% disease incidence in the untreated plot was recorded were selected for summarization. This selection is suitable to show the efficacy of A22773A applied preventatively under challenging conditions of disease pressure, showing statistically significant differences between treatments and untreated check. Furthermore, data on the percentage of marketable yield were recorded in most of the trials.

The tables below, split by EPPO zones, summarize the methodology in the specific sets of trials.

Table 3.2-30: Details on trial methodology – *Didymella bryoniae* on cucurbits (horizontal, field) – South East EPPO zone

2 trials:		
Guidelines	General guidelines	PP 1/152(4); PP 1/181(4); PP 1/135(4)
	Specific guidelines	PP 1/065(3)
Experimental design	Plot design	RANDOMIZED COMPLETE BLOCK (2)
	Plot size	10 - 15.68 m ²
	Number of replications	4 (3)
Crop	Trials per crop	Watermelon (1), zucchini (1), field
	Varieties per crop	Melon: Proteo (1); Watermelon: Karistan F1 (1); Zucchini: Brillante F1 (1)
Application	Crop stage (BBCH) at application	First application: BBCH 18 (1); BBCH 23-25 (1) Last application: BBCH 61 (1); BBCH 84-85 (1)
	Number of applications	5 (2)
	Intervals between applications	about 7 - 10 days
	Spray volumes	300 - 500 L/ha
Assessment	Assessment types	pest incidence (%) on leaf, pest severity (%) on leaf
	Assessment dates	regularly at each application
Other relevant information	e.g. Soil type, pH (in case of soil active substance ...)	Not relevant, foliar application
	e.g. Natural / artificial inoculation...	Natural (2)
	e.g. Field / Greenhouse...	Field (2)
	EPPO zones	South East (2)

Trials methodology in relation to EPPO – *Cladosporium cucumerinum* on cucurbits

According to the specific EPPO guidelines PP 1/057(3) and PP 1/121(2), for the efficacy evaluation of A22773A against *Cladosporium cucumerinum* on cucurbits, during the trials disease incidence and severity on leaves were estimated just before each further application (respectively as % of infected plant part – PESINC %; or as % of area of disease on leaves – PESSEV % area). Only assessments from trials where a minimum of 5% disease severity or 10% disease incidence in the untreated plot was recorded were selected for summarization. This selection is suitable to show the efficacy of A22773A applied preventatively under challenging conditions of disease pressure, showing statistically significant differences between treatments and untreated check. Furthermore, data on the percentage of marketable yield were recorded in most of the trials.

The tables below, split by EPPO zones, summarize the methodology in the specific sets of trials.

Table 3.2-31: Details on trial methodology – *Cladosporium cucumerinum* on cucurbits (field) – Maritime EPPO zone

1 trial:		
Guidelines	General guidelines	PP 1/152(4); PP 1/181(4); PP 1/135(4)
	Specific guidelines	PP 1/057(3);PP 1/121(2)
Experimental design	Plot design	RANDOMIZED COMPLETE BLOCK (1)
	Plot size	14.63 m ²
	Number of replications	4 (1)
Crop	Trials per crop	Melon, field (1)
	Varieties per crop	Hugo (1)
Application	Crop stage (BBCH) at application	First application: BBCH 12 Last application: BBCH 68 - 72
	Number of applications	5 (1)
	Intervals between applications	about 7 - 10 days
	Spray volumes	200 - 400 L/ha
Assessment	Assessment types	pest incidence (%) on leaf, pest severity (%) on leaf
	Assessment dates	regularly at each application
Other relevant information	e.g. Soil type, pH (in case of soil active substance ...)	Not relevant, foliar application
	e.g. Natural / artificial inoculation...	Natural (1)
	e.g. Field / Greenhouse...	Field (1)
	EPPO zones	Maritime (1)

Trials methodology in relation to EPPO – *Puccinia* spp. on bulb vegetables (including leek and garlic)

According to the specific EPPO guideline PP 1/120(2) and PP 1/124(2), for the efficacy evaluation of A22773A against *Puccinia* spp. on bulb veg. (including leek and garlic), during the trials disease incidence and severity on leaves was estimated just before each further application (respectively as % of infected plant part – PESINC %; or as % of area covered by symptoms – PESSEV % area). Only assessments from trials where a minimum of 5% disease severity or 5% disease incidence in the untreated plot was recorded were selected for summarization. This selection is suitable to show the efficacy of A22773A applied preventatively under challenging conditions of disease pressure, showing statistically significant differences between treatments and untreated check. The tables below, split by EPPO zones, summarize the methodology in the specific sets of trials.

Table 3.2-32: Details on trial methodology – *Puccinia* spp. on bulb vegetables (including leek and garlic) – Maritime EPPO zone

6 trials:		
Guidelines	General guidelines	PP 1/152(4); PP 1/181(4); PP 1/135(4)
	Specific guidelines	PP 1/120(2); PP 1/124(2);
Experimental design	Plot design	RANDOMIZED COMPLETE BLOCK (5)
	Plot size	10.5 - 18 m ²
	Number of replications	4 (6)
Crop	Trials per crop	Leek, field (6)
	Varieties per crop	Cherokee (1); Harton (1); Longton (1); Selina (1); Triton (1); n.a. (1)
Application	Crop stage (BBCH) at application	First application: BBCH 13 - 14 (1); BBCH 14 (1); BBCH 19 (1); BBCH 19 - 43 (1); BBCH 41 (1); BBCH 41 - 47 (1) Last application: BBCH 41 (1); BBCH 43 - 47 (1); BBCH 45 (1); BBCH 45 - 48 (1); BBCH 45 - 49 (1); BBCH 47 - 48 (1)
	Number of applications	2 (1); 4 (2); 6 (1); 8 (2)
	Intervals between applications	about 12 - 21 days
	Spray volumes	300 - 600 L/ha
Assessment	Assessment types	pest incidence (%) on leaf, pest severity (%) on leaf, yield (t/ha)
	Assessment dates	regularly at each application
Other relevant information	e.g. Soil type, pH (in case of soil active substance ...)	Not relevant, foliar application
	Natural / artificial inoculation...	Natural (6)
	Field / Greenhouse...	Field (6)
	EPPO zones	Maritime (6)

Table 3.2-33: Details on trial methodology – *Puccinia* spp. on bulb vegetables (including leek and garlic) – North East EPPO zone

2 trials:		
Guidelines	General guidelines	PP 1/152(4); PP 1/181(4); PP 1/135(4)
	Specific guidelines	PP 1/120(2); PP 1/124(2);
Experimental design	Plot design	RANDOMIZED COMPLETE BLOCK (2)
	Plot size	12.5 - 15 m ²
	Number of replications	4 (2)
Crop	Trials per crop	Leek, field (2)
	Varieties per crop	Lincoln (1); Porbella (1)
Application	Crop stage (BBCH)* at application	First application: BBCH 19 - 41 (1); BBCH 41 (1) Last application: BBCH 47 (1); BBCH 47 - 48 (1)
	Number of applications	4 (1); 6 (1)
	Intervals between applications	about 12 - 21 days
	Spray volumes	340 - 600 L/ha
Assessment	Assessment types	pest incidence (%) on leaf, pest severity (%) on leaf, yield (t/ha)
	Assessment dates	regularly at each application
Other relevant information	e.g. Soil type, pH (in case of soil active substance ...)	Not relevant, foliar application
	e.g. Natural / artificial inoculation...	Natural (2)
	e.g. Field / Greenhouse...	Field (2)
	EPPO zones	North East (2)

Summary and conclusion of efficacy

A total of 87 efficacy trials are presented to support the authorization of A22773A on target uses.

***Phytophthora infestans* on tomato (horizontal grown – field):** 17 efficacy trials are presented for this use. Out of these, efficacy data for assessment on *Phytophthora infestans* on tomato (horizontal grown – field) are presented from 7 efficacy trials with 7-10 days spray interval assessed for disease incidence and severity on leaf and fruits. These trials were carried out in 2020: 2x in countries of the North East EPPO zone (Poland) and 5x in countries of the South East EPPO zone (Croatia and Hungary). Furthermore, supportive data with treatments applied at 12-15 days spray interval are presented from the above described set of trials (where the target spray interval of 7-10 days was tested in parallel with the longer spray interval of 12-15 days) and from further 10 efficacy trials performed in 2019: 2x in countries of the North East EPPO zone (Poland) and 8x in countries of the South East EPPO zone (Croatia and Hungary).

Data demonstrated that the efficacy of the A22773A, applied at 7-10 days spray interval, at the proposed rate of 1 L PR was equivalent, often superior, to the efficacy of the commercial reference standard A12946B (mandipropamid 250 g/L) at 0.6 L PR/ha, providing very good control of *Phytophthora infestans* on tomato (horizontal grown – field).

Similar trend of results was obtained at the longer spray interval of 12-15 days (most challenging condition).

The data also demonstrated that there was no difference in the performance of A22773A when trial data were grouped per EPPO zones as presented in Table 3.2-34 .

Therefore, this rate of A22773A applied at 7-10 days interval, should thus be considered to be effective against *Phytophthora infestans* on tomato (horizontal grown – field).

Comments of zRMS:

4 efficacy trials were carried out to control of *Phytophthora infestans* in tomato in **the North-East EPPO climatic zone**. A22773A applied at dose rate of 1 l pr/ha at 7-10 days spray interval was effective on a level of >90%, either in case of assessment on leaves or fruits. The high level was noted also for the longer spray interval of 12-15 days. No significant differences were observed between the test and reference products. The limited number of trials has been submitted for the NE zone. Due to that this use can not be accepted in Poland.

13 efficacy trials were carried out to control of *Phytophthora infestans* in tomato in **the South-East EPPO climatic zone**. Based on PESSEV index, A22773A at dose rate of 1 l pr/ha achieved control of >90% in case of assessment on leaves. Also high effectiveness was noted in case of fruit protection. No significant differences between the test and reference products were observed. In the opinion of zRMS, A22773A at dose rate of 1 l pr/ha is effective to control of PHYTIN in tomato in the SE zone.

No efficacy trials have been submitted in **the Maritime EPPO climatic zone**. The cMS Czech Republic is kindly asked to use extrapolation of trials from the other zones and consider this use on the national level.

***Bremia lactucae* on lettuce (field):** 17 efficacy trials with 7-10 days spray interval are summarized for this use. These trials were carried out in 2018-2020: 11x in countries of the Maritime EPPO zone (Belgium, France and Germany) and 6x in countries of the North East EPPO zone (Poland).

Data demonstrated that the efficacy of the A22773A, applied at 7-10 days spray interval, at the proposed rate of 1 L PR was equivalent, often superior, to the efficacy of the commercial reference standard A12946B (mandipropamid 250 g/L) at 0.6 L PR/ha, providing very good control of *Bremia lactucae* on lettuce (horizontal grown – field).

The data also demonstrated that there was no difference in the performance of A22773A when trial data were grouped per EPPO zones as presented in Table 3.2-35 and Table 3.2-36 .

Therefore, this rate of A22773A applied at 7-10 days interval, should thus be considered to be effective against *Bremia lactucae* on lettuce (horizontal grown – field).

Comments of zRMS:

11 efficacy trials were carried out to control of *Bremia lactucae* on lettuce in **the Maritime EPPO climatic zone**. A22773A applied at dose rate of 1 l pr/ha was effective on a high level (>90%), according to either PESSEV or PESINC index. The reference product was slight worse in control of disease pathogen. In the opinion of zRMS, A22773A at dose rate of 1 l pr/ha can be consider as effective against BREMLA on lettuce in the MAR zone.

The results from 6 efficacy trials have been submitted to assessment of efficacy of the test product to control of BREMLA in lettuce in **the North-East EPPO climatic zone**. A22773A applied at dose rate of 1 l pr/ha achieved a high level of control (>90) and it was slight better compared to the reference product. The test product can be recommended to control of *Bremia lactucae* on lettuce in the NE zone.

No efficacy trials have been submitted in **the South-East climatic zone**. The cMS Slovenia is kindly asked to use extrapolation of trials from the other zones and consider this use on the national level.

***Pseudoperonospora cubensis* on cucurbits (horizontal grown – field):** 14 efficacy trials with 7-10 days spray interval are summarized for this use. These trials were carried out in 2019 and 2020: 3x in countries of the Maritime EPPO zone (France) and 4x in countries of the North East EPPO zone (Poland) and 7x in countries of the South East EPPO zone (Bulgaria, Hungary).

Data demonstrated that the efficacy of the A22773A, applied at 7-10 days spray interval, at the proposed rate of 1 L PR was equivalent, often superior, to the efficacy of the commercial reference standard INFINITO 687.5 SC (fluopicolide + propamocarb hydrochloride) at 1.6 L PR/ha, providing very good control of *Pseudoperonospora cubensis* on cucurbits (horizontal grown – field).

The data also demonstrated that there was no difference in the performance of A22773A when trial data were grouped per EPPO zones as presented in Table 3.2-37 .

Therefore, this rate of A22773A applied at 7-10 days interval, should thus be considered to be effective against *Pseudoperonospora cubensis* on cucurbits (horizontal grown – field).

Comments of zRMS:

Only 3 efficacy trials were carried out in cantaloup melon and muskmelon to control of *Pseudoperonospora cubensis* in **the Maritime EPPO climatic zone**. A22773A applied at dose rate of 1 l pr/ha achieved low effectiveness of 69,2% (PESSEV index). Because of the limited number of trials and insufficient control, the cMSs are kindly asked to consider this use on the national level. Moreover, no efficacy trials have been submitted for cucumber in the MAR zone.

4 efficacy trials have been submitted in **the North-East EPPO climatic zone**. All trials were conducted in cucumber. The trial results show that A22773A at dose rate of 1 l pr/ha is effective to control of PSPECU in cucumber (98,2% for PESSEV index). The test product achieved significant better effectiveness compared to the reference product.

7 efficacy trials were carried out on cantaloup melon in **the South-East climatic zone**. A22773A applied at dose rate of 1 l pr/ha achieved control of 89,5% (PESSEVE index) and it was similar level compared to the reference product. No trials have been submitted for watermelon and cucumber. The cMSs are kindly asked to use extrapolation and consider these uses on the national level.

***Phytophthora porri* on leek (field):** 12 efficacy trials with 12-21 days spray interval assessed for disease incidence and severity on leaf. These trials were carried out in 2019 and 2020 in the Maritime EPPO zone (Belgium 6x, France 4x, Netherlands 2x).

Data demonstrated that the efficacy of the A22773A, applied at 12-21 days spray interval, at the proposed rate of 1 L PR was equivalent, often superior, to the efficacy of the commercial reference standards INFINITO 687.5 SC (fluopicolide + propamocarb hydrochloride) at 1.6 L PR/ha or A12705B (azoxystrobin) at 1 L PR/ha, providing very good control of *Phytophthora porri* on leek (field).

Similar trend of results was obtained at the shorter spray interval of 7-10 days.

The data also demonstrated that there was no difference in the performance of A22773A when trial data were grouped per EPPO zones as reported in Table 3.2-38 and Table 3.2-39 .

Therefore, this rate of A22773A applied at 12-21 days interval, should thus be considered to be

effective against *Phytophthora porri* on leek (field).

Comments of zRMS:

12 efficacy trials were carried out in leek to control of *Phytophthora porri* in **the Maritime EPPO climatic zone**. A22773A applied at dose rate of 1 l pr/ha was effective on a level of 89,6% (PESSEV index) and it was significant better result compared to the reference product of INFINITO 687,5 SC. In the opinion of zRMS, the test product at 1 l pr/ha can be recommended to leek protection against PHYTPO in the MAR zone.

***Pseudoperonospora humuli* on hop (field):** 7 efficacy trials with 12-16 days spray interval are summarized for this use. These trials were carried out in 2019 and 2020: 5 trials in countries of the Maritime EPPO zone (Czech Republic 4x, Germany 1x) and 2 trials in countries of the South East EPPO zone (Slovenia 2x).

Data demonstrated that the efficacy of the A22773A, applied at 12-16 days spray interval, at the proposed rate of 1 L PR was equivalent, often superior, to the efficacy of the commercial reference standard A12705B (azoxystrobin) at max. 1.6 L PR/ha (applied according to crop growth stage), providing very good control of *Pseudoperonospora humuli* on hop (field). Supportive trials where A22773A was applied at 0.8 L PR/ha or 1.2 L PR/ha also support the intermediate rate of 1 L PR/ha.

The data also demonstrated that there was no difference in the performance of A22773A when trial data were grouped per EPPO zones as presented in Table 3.2-40 .

Therefore, A22773A at 1 L PR/ha applied at 12-16 days interval, should thus be considered to be effective against *Pseudoperonospora humuli* on hop (field).

Comments of zRMS:

5 efficacy trials were carried out in hop to control of *Pseudoperonospora humuli* in **the Maritime EPPO climatic zone**. However, A22773A at dose rate of 1 l pr/ha was tested in only 2 trials and it was effective on a level of >90% (PESINC index for leaves and PESSEV for cones). The test product was applied also at dose rate of 0,8 l pr/ha or 1,2 l pr/ha in the 3 supportive trials in 2019. The results show, that higher dose rate is effective to control of disease pathogen on a similar level compared to the dose rate of 1 l pr/ha. The cMSs are kindly asked to consider this use on the national level.

No efficacy trials have been submitted in **the North-East climatic zone**. The extrapolation is not possible. This target use can not be accepted in Poland.

***Alternaria* spp. (including *Alternaria solani*, *Alternaria alternata*) on tomato (horizontal grown – field):** 9 efficacy trials with 10-14 days spray interval assessed for disease severity on leaf and disease incidence on fruits. These trials were carried out in 2019-2020: 4 trials in countries of the North East EPPO zone (Poland 4x) and 5 trials in countries of the South East EPPO zone (Croatia 1x and Hungary 3x).

Data demonstrated that the efficacy of the A22773A, applied at 10-14 days spray interval, at the proposed rate of 1 L PR was equivalent, often superior, to the efficacy of the commercial reference standard DAGONIS 125 SC (difenoconazole + fluxapyroxad) at 1 L PR/ha, providing very good control of *Alternaria* sp. on tomato (horizontal grown – field). Data showed that A22773A was in general equivalent, sometime superior, to the efficacy of A12705B.

The data also demonstrated that there was no difference in the performance of A22773A when trial data were grouped per EPPO zones as presented in Table 3.2-41 and Table 3.2-42 .

Therefore, this rate of A22773A applied at 7-10 days interval, should thus be considered to be effective against *Alternaria* sp. (including *Alternaria solani*, *Alternaria alternata*) (horizontal grown – field).

Comments of zRMS:

4 efficacy trials were carried out in tomato to control of *Alternaria* spp. in **the North-East EPPO climatic zone**. A22773A applied at dose rate of 1 l pr/ha achieved the mean efficacy of 84,9% in case of PESSEV index on

leaves and 92,3% in case of PESINC index on fruits. These results were slight better compared to the effectiveness of the reference product of DAGONIS 125 SC.

5 efficacy trials were carried out in tomato to control of *Alternaria* spp. in **the South-East EPPO climatic zone**. The mean efficacy of A22773A at dose rate of 1 l pr/ha was 81,8% (PESSEV index) in assessment of leaves and 77,7% for fruits (PESINC index). Because the number of trials is limited and the effectiveness is on a medium level, the cMSs are kindly asked to consider this use on the national level.

No trials have been submitted from **the Maritime EPPO climatic zone**. The cMS Czech Republic is kindly asked to use extrapolation of trial results from other zones and consider this use on the national level.

***Didymella bryoniae* on cucurbits (field):** 2 efficacy trials with 7-10 days spray interval are summarized for this use. These trials were carried out in 2019 and 2020 in Hungary, country of the South East EPPO zone.

Data demonstrated that the efficacy of the A22773A, applied at 7-10 days spray interval, at the proposed rate of 1 L PR was equivalent, often superior, to the efficacy of the commercial reference standard A12705B (azoxystrobin) at 1 L PR/ha, providing very good control of *Didymella bryoniae* on cucurbits (field).

The data also demonstrated that there was no difference in the performance of A22773A when trial data were grouped per EPPO zones as presented in Table 3.2-43 .

Therefore, this rate of A22773A applied at 7-10 days interval, should thus be considered to be effective against *Didymella bryoniae* on cucurbits (field).

Comments of zRMS:

Only 2 efficacy trials were carried out in watermelon (1 trial) and zucchini (1 trial) to control of *Didymella bryoniae* in **the South-East EPPO climatic zone**. A22773A applied at dose rate of 1 pr/ha achieved an effectiveness on a level of 76,9% (PESSEV index in 1 trial) and 72,8% (PESINC index in 2 trials). Due to the limited number of trials and middle effectiveness, the cMSs are kindly asked to consider this use on the national level.

No trials have been submitted from **the Maritime EPPO climatic zone**. The cMS Czech Republic is kindly asked to consider this use on the national level.

***Cladosporium cucumerinum* on cucurbits (field):** 1 efficacy trial with 7-10 days spray interval is summarized for this use. This trial was carried out in 2020 in the Northern part of France. One more trial is presented in the Biological assessment dossier since it was carried out in the Southern part of France (however similar efficacy results were obtained).

Data demonstrated that the efficacy of the A22773A, applied at 7-10 days spray interval, at the proposed rate of 1 L PR was equivalent, often superior, to the efficacy of the commercial reference standards A12705B (azoxystrobin) at 1 L PR/ha and A9219B (cyprodinil + fludioxonil) at 1 kg/ha, providing very good control of *Cladosporium cucumerinum* on cucurbits (field).

The data also demonstrated that there was no difference in the performance of A22773A when trial data were grouped per EPPO zones as presented in Table 3.2-44 .

Therefore, this rate of A22773A applied at 7-10 days interval, should thus be considered to be effective against *Cladosporium cucumerinum* on cucurbits (field).

Comments of zRMS:

Only 1 efficacy trial was carried out on cantaloup melon to control of *Cladosporium cucumerinum* in **the Maritime EPPO climatic zone**. A22773A at dose rate of 1 l pr/ha was effective on a level of 99,7% (PESINC) or 98,7% (PESSEV index) and it was significant better results compared to the reference product. In opinion of zRMS only 1 result is insufficient evidence to accept this target use, however the cMS Czech Republic is kindly asked to consider this use on the national level. No trials were carried out in other cucurbit crops.

No efficacy trials have been submitted in **the South-East EPPO climatic zone**. The cMSs are kindly asked to consider this target use on the national level.

***Puccinia* spp. on bulb veg. (including leek and garlic) (field):** 8 efficacy trials with 12-21 days spray interval assessed for disease incidence and severity on leaf. These trials were carried out in 2020: 6 trials in countries of the Maritime EPPO zone (France 4x, Germany 1x, Netherlands 1x) and 2 trials in North East EPPO zone (Poland 2x).

Data demonstrated that the efficacy of the A22773A, applied at 12-21 days spray interval, at the proposed rate of 1 L PR was equivalent, or superior, to the efficacy of the commercial reference standard A12705B (azoxystrobin) at 1 L PR/ha, providing very good control of *Puccinia* spp. on bulb veg. (including leek and garlic) (field).

The data also demonstrated that there was no difference in the performance of A22773A when trial data were grouped per EPPO zones as presented in Table 3.2-45 and Table 3.2-46 .

Therefore, this rate of A22773A applied at 12-21 days interval, should thus be considered to be effective against *Puccinia* spp. on bulb veg. (including leek and garlic) (field).

Data demonstrated that the efficacy of the A22773A at the proposed application rates delivering maximum 1 L PR/ha was equivalent to the efficacy of several reference standards providing good control of all the target uses.

Therefore, this rate (delivering up to 1 L PR/ha) should thus be considered to be effective against all the target diseases.

The data also demonstrated that there was no difference in the performance of A22773A when trial data was grouped per EPPO zones in case of field use of A22773A.

Comments of zRMS:

6 efficacy trials were conducted in leek to control of *Puccinia porri* in **the Maritime EPPO climatic zone**. The mean efficacy of A22773A at dose rate of 1 l pr/ha was 86,4% (PESINC index) and 69,5% (PESSEV index in 4 trials). No significant differences between the test and reference product were detected. Because no trials on spring onion or other species of *Puccinia* spp. were carried out, the cMSs are kindly asked to use extrapolation and consider these target uses on the national level. In the opinion of zRMS, A22773A at dose rate of 1 l pr/ha can be recommended to use in leek against *Puccinia porri*.

Only 3 efficacy trials were carried out in leek to control of *Puccinia porri* in **the North-East EPPO climatic zone** (2 trials in Poland and 1 supportive trial in Germany). The trial results show that A22773A at dose rate of 1 l pr/ha is effective to control of disease pathogen – 92,8% (PESSINC index) and 97,8% (PESSEV index in 1 trial). Due to the limited number of trials this target use can not be accepted in Poland.

Furthermore the use of A22773A (delivering up to 1 L PR/ha) is also claimed for the several minor uses for which no data are required (according to Art. 51 Reg. EU 1107/09) or extrapolation of efficacy results are allowed according to EPPO extrapolation tables and biological similarities between diseases and/or growing systems of crops.

In some cases, extrapolation can be considered also outside the concerned EPPO climatic zone.

Further data, produced also in the Mediterranean EPPO zone or under protected conditions (EU zone - interzonal use) are available on the majority of the above uses. Further details and summary can be found in the Biological assessment dossier for A22773A_VV-881245.

Summary on efficacy results for A22773A is summarized in the following tables.

Table 3.2-34: Summary on efficacy of A22773A against PHYTIN on tomato (horizontal grown – field) – (North East and South East EPPO zones) – 7-10 days spray interval or 12-15 days

EPPO zone	Rating data type	Plant part	Nr of trials	Spray interval (days)*	Infestation		% Efficacy (Untreated Check = 0%)			
					CHECK UNTREATED		A22773A 1 LPR/HA azoxystrobin oxathiapiprolin 250 12 gai/ha		A12946B* 0.6 LPR/ha mandipropamid 150 gai/ha	
					Mean	min-max	Mean	min-max	Mean	min-max
NE	PESINC, %	LEAF	2	7-10	97.5	94.9-100	97.1	94.1-100	92.0	83.9-100
NE	PESSEV, % area	LEAF	1	7-10	92.7	-	96.0	-	79.8	-
NE	PESINC, %	FRUIT	2	7-10	95.9	91.7-100	98.5	97.7-99.2	92.2	90.3-94
SE	PESINC, %	LEAF	2	7-10	63.2	52.5-73.9	76.6	54.3-98.8	64.9	57.7-72.1
SE	PESSEV, % area	LEAF	5	7-10	62.4	10-100	92.9	76.3-99.4	75.4	63.6-92.1
SE	PESINC, %	FRUIT	3	7-10	60.3	25.2-89.8	97.4	92.2-100	74.1	39.6-93.1
Further supportive data at longer spray interval of appl.s (more challenging condition)										
NE	PESINC, %	LEAF	3	12-15	98.3	94.9-100	90.8	86.6-92.9	88.5	81.5-100
NE	PESSEV, % area	LEAF	3	12-15	82.1	56.2-97.4	93.4	81.3-99.5	72.9	40.5-98.4
NE	PESINC, %	FRUIT	4	12-15	81.8	35.6-100	93.3	81.9-100	91.1	80.4-99.8
SE	PESINC, %	LEAF	7	12-15	77.0	52.5-100	83.9	39.1-100	71.3	51.7-97
SE	PESSEV, % area	LEAF	13	12-15	55.1	10-100	90.5	58.6-99.9	77.4	29.9-96.1
SE	PESINC, %	FRUIT	7	12-15	51.8	20.9-89.8	91.6	79.4-99.9	71.9	39.6-93.4

*

In trials carried out in 2019, A22773A and the reference standard A12946B were applied at 12-15 days spray interval.

In trials carried out in 2020, A22773A was applied at both spray intervals: 7-10 days or 12-15 days; the reference standard A12946B was applied at 7-10 days spray interval and.

Table 3.2-35: Summary on efficacy of A22773A against BREMLA on lettuce (horizontal grown – field) – (Maritime, North East EPPO zones) – 7-10 days spray interval

EPPO zone	Rating data type	Plant part	Nr of trials	Spray interval (days)	Infestation		% Efficacy (Untreated Check = 0%)			
					CHECK UNTREATED		A22773A 1 LPR/HA azoxystrobin oxathiapiprolin 250 12 gai/ha		A12946B 0.6 LPR/ha mandipropamid 150 gai/ha	
					Mean	min-max	Mean	min-max	Mean	min-max
MAR	PESINC, %	LEAF	10	7-10	71.0	16.7-98.3	92.3	63.2-100	84.8	51.8-100
MAR	PESSEV, % area	LEAF	10	7-10	30.2	9.2-76.7	93.6	66.3-100	89.9	68.8-100
NE	PESINC, %	LEAF	6	7-10	30.6	11.7-49.3	98.3	90-100	84.8	50-100
NE	PESSEV, % area	LEAF	6	7-10	29.7	7.2-80.1	97.3	94.5-100	88.7	75.2-100

Table 3.2-36: Summary on Yield from efficacy trials of A22773A against BREMLA on lettuce (horizontal grown – field) – (Maritime, North East EPPO zones) – 7-10 days spray interval

EPPO zone	Rating data type	Plant part	Nr of trials	Spray interval (days)	CHECK UNTREATED		A22773A 1 LPR/HA azoxystrobin oxathiapiprolin 250 12 gai/ha		A12946B 0.6 LPR/ha mandipropamid 150 gai/ha	
					Mean Value	% of check	Mean Value	% of check	Mean Value	% of check
MAR zone	COUNT marketable, %	PLANT	7	7-10	23.3	(100)	63.1	271.1	68.4	293.7
NE zone	COUNT marketable, %	PLANT	5	7-10	50.5	(100)	98.3	194.7	89.9	178.1

Table 3.2-37: Summary on efficacy of A22773A against PSPECU on cucurbits (horizontal grown – field) – (Maritime, North East, South East EPPO zones) – 7-10 days spray interval

EPPO zone	Rating data type	Plant part	Nr of trials	Spray interval (days)	Infestation		% Efficacy (Untreated Check = 0%)			
					CHECK UNTREATED		A22773A 1 LPR/HA azoxystrobin oxathiapiprolin 250 12 gai/ha		INFINITO 687.5 SC 1.6 LPR/ha fluopicolide propamocarb hydrochloride 100 1000 gai/ha	
					Mean	min-max	Mean	min-max	Mean	min-max
MAR	PESINC, %	LEAF/PLANT	3	7-10	55.7	22-100	62.0	37.5-98.6	50.7	24.9-95.4
MAR	PESSEV, % area	LEAF/PLANT	3	7-10	20.1	5.4-34.1	69.2	47-94.1	69.5	54.4-91
NE	PESINC, %	LEAF/PLANT	3	7-10	64.6	46.9-84.5	100	100-100	73.0	36.2-100
NE	PESSEV, % area	LEAF/PLANT	3	7-10	24.5	10.3-40.6	98.2	94.5-100	87.6	67.6-99.6
SE	PESINC, %	LEAF/PLANT	7	7-10	71.2	22.4-99.4	80.1	43.9-100	76.5	30-100
SE	PESSEV, % area	LEAF/PLANT	6	7-10	18.0	5.3-66.2	89.5	78.8-100	85.1	68.9-100

Table 3.2-38: Summary on efficacy of A22773A against PHYTPO on leek (horizontal grown – field) – (Maritime EPPO zone) – 12-21 days spray interval

EPPO zone	Rating data type	Plant part	Nr of trials	Spray interval (days)	Infestation		% Efficacy (Untreated Check = 0%)				
					CHECK UNTREATED		A22773A 1 LPR/HA azoxystrobin oxathiapiprolin 250 12 gai/ha		Ref. Std.		Specific Ref. Std.
					Mean	min-max	Mean	min-max	Mean	min-max	
MAR zone	PEST INCIDENCE, %	LEAF	9	12-21	52.2	15.6-88	80.9	43-100	74.9	11.2-100	vs INFINITO 687.5 SC at 1.6 L PR/ha
MAR zone	PEST SEVERITY, %	LEAF	10	12-21	15.8	6.7-62.6	89.6	72.1-100	74.2	34.5-100	vs INFINITO 687.5 SC at 1.6 L PR/ha
MAR zone	PEST SEVERITY, %	LEAF	2	12-21	19.5	11.4-27.5	84.4	68.7-100	28.1	24.2-31.9	vs A12705B at 1 L PR/ha

Table 3.2-39: Summary on Yield from efficacy trials of A22773A against PHYTPO on leek (field) – (Maritime EPPO zone) – 12-21 days spray interval

EPPO zone	Rating data type	Plant part	Nr of trials	Spray interval (days)	CHECK UNTREATED		A22773A 1 LPR/HA azoxystrobin oxathiapiprolin 250 12 gai/ha		Ref. Std.	
					Mean Value	% of check	% of check		% of check	
MAR zone	YIELD, t/ha	PLANT	11	12-21	37.3	(100)	139.1		131.2	

Table 3.2-40: Summary on efficacy of A22773A against PSPEHU on hop (vertical grown – field) – (Maritime, South East EPPO zones) – 12-16 days spray interval (2020 trials + 2019 supportive data)

Interval (2020 trials + 2019 supportive data)					Infestation		% Efficacy (Untreated Check = 0%)							
EPPO zone	Rating data type	Plant part	Nr of trials	Spray interval (days)	CHECK UNTREATED		A22773A 0.8 LPR/HA azoxystrobin oxathiapiprolin 200 9.6 gai/ha		A22773A 1 LPR/HA azoxystrobin oxathiapiprolin 250 12 gai/ha		A22773A 1.2 LPR/HA azoxystrobin oxathiapiprolin 300 14.4 gai/ha		A12705B 1.6 LPR/HA azoxystrobin 400 gai/ha	
					Mean	min-max	Mean	min-max	Mean	min-max	Mean	min-max	Mean	min-max
2020 trials														
MAR	PESINC, %	LEAF - LOWER	2	12-16	66.1	64.3-67.8	88.6	87.2-90	93.0	92.2-93.8	-	-	89.6	89.1-90.1
MAR	PESINC, %	LEAF - MIDDLE	2	12-16	57.9	57.5-58.3	88.4	86.6-90.1	93.4	92.7-94.1	-	-	89.9	89.7-90.1
MAR	PESINC, %	LEAF - UPPER	2	12-16	55.7	54.8-56.5	88.7	86.4-90.9	92.9	91.8-94	-	-	90.5	90.4-90.5
MAR	PESINC, %	CONUPP	2	12-16	92.8	92.1-93.4	83.5	82.6-84.3	89.4	88.3-90.4	-	-	81.7	77.3-86
MAR	PESSEV, index	CONUPP	2	12-16	66.9	53.6-80.1	89.0	88.9-89.1	93.5	93.4-93.6	-	-	89.9	89.4-90.3
SE	PESINC, %	CONUPP	1	12-16	80.3	-	95.1	-	97.9	-	-	-	92.5	-
SE	PESSEV, index	CONUPP	1	12-16	42.1	-	98.7	-	99.3	-	-	-	96.0	-
Further supportive data (2019 trials)														
MAR	PESINC, %	LEAF - LOWER	2	12-16	52.8	51.5-54	82.4	78.8-85.9	-	-	92.0	91.3-92.7	91.1	89.9-92.2
MAR	PESINC, %	LEAF - MIDDLE	2	12-16	48.2	48.2-48.2	83.2	78.3-88.1	-	-	93.6	93.3-93.9	92.9	92.8-92.9
MAR	PESINC, %	LEAF - UPPER	2	12-16	35.4	27.2-43.5	83.6	78-89.2	-	-	92.2	91.4-92.9	92.5	92-92.9
MAR	PESINC, %	LEAF	1	12-16	57.5	-	99.6	-	-	-	100.0	-	97.8	-
MAR	PESINC, %	CONES & CONUPP	3	12-16	51.4	32.9-79	77.3	49.7-91.2	-	-	96.7	95.6-97.6	73.5	27.6-97.2
MAR	PESSEV, index	CONES & CONUPP	3	12-16	45.7	16.2-78.6	77.9	56.3-89.4	-	-	95.8	94.7-97.9	74.7	34.4-94.9
SE	PESINC, %	CONES & CONUPP	1	12-16	23.5	-	82.4	-	-	-	84.6	-	77.9	-
SE	PESSEV, index	CONES & CONUPP	1	12-16	13.7	-	88.8	-	-	-	89.1	-	85.1	-

Table 3.2-41: Summary on efficacy of A22773A against *Alternaria* sp. (including *Alternaria solani* and *Alternaria alternata*) on tomato (horizontal grown) – (North East and South East EPPO zones) – 10-14 days spray interval

EPPO zone	Rating data type	Plant part	Nr of trials	Spray interval (days)	Infestation		% Efficacy (Untreated Check = 0%)					
					CHECK UNTREATED		A22773A 1 LPR/HA azoxystrobin oxathiapiprolin 250 12 gai/ha		A12705B 1 LPR/HA azoxystrobin 250 gai/ha		DAGONIS 125 SC 1 LPR/HA difenoconazole fluxapyroxad 50 75 gai/ha	
					Mean	min-max	Mean	min-max	Mean	min-max	Mean	min-max
NE zone	PEST SEVERITY, % area	LEAF	4	10-14	18.7	5-51.6	84.9	69.7-91.1	82.4	72.5-95.1	76.7	33.2-100
NE zone	PESINC, %	FRUIT	3	10-14	44.9	9.5-75.7	92.3	87.1-97.5	92.6	81.9-99.3	88.5	65.9-100
SE zone	PEST SEVERITY, % area	LEAF	4	10-14	20.9	4.9-67.6	81.8	60.4-100	81.5	50-99.4	86.7	81.5-100
SE zone	PESINC, %	FRUIT	2	10-14	30.6	26.7-34.5	77.7	62.8-92.6	73.8	49.0-98.6	54.4	43.4-65.4

Table 3.2-42: Summary on Yield from efficacy trials of A22773A against *Alternaria* sp. (including *Alternaria solani* and *Alternaria alternata*) on tomato (horizontal grown) – yield in terms of t/ha (North East and South East EPPO zones) – 10-14 days spray interval

EPPO zone	Rating data type	Plant part	Nr of trials	Spray interval (days)	CHECK UNTREATED		A22773A 1 LPR/HA azoxystrobin oxathiapiprolin 250 12 gai/ha		A12705B 1 LPR/HA azoxystrobin 250 gai/ha		DAGONIS 125 SC 1 LPR/HA difenoconazole fluxapyroxad 50 75 gai/ha	
					Mean Value	% of check	% of check	min-max	% of check	min-max	% of check	min-max
NE	YIELD, t/ha	FRUIT	2	10-14	28.6	(100)	119.8	118.4-121.1	119.3	118.4-120.1	122.5	121-124
SE	YIELD, t/ha	FRUIT	2	10-14	2.3	(100)	423.6	-	388.2	-	201.8	-

Table 3.2-43: Summary on efficacy of A22773A against DIDYBR on cucurbits (field) – (South East EPPO zone) – 7-10 days spray interval

EPPO zone	Rating data type	Plant part	Nr of trials	Spray interval (days)	Infestation		% Efficacy (Untreated Check = 0%)			
					CHECK UNTREATED		A22773A 1 LPR/HA azoxystrobin oxathiapiprolin 250 12 gai/ha		A12705B 1 LPR/HA azoxystrobin 250 gai/ha	
					Mean	min-max	Mean	min-max	Mean	min-max
SE	PESINC, %	LEAF	2	7-10	26.2	24.8-27.5	72.8	72.7-72.8	51.7	39.7-63.6
SE	PESSEV, % area	LEAF	1	7-10	10.8	-	76.9	-	69.2	-

Table 3.2-44: Summary on efficacy of A22773A against CLADCU on cucurbits (field) – (Maritime EPPO zone) – 7-10 days spray interval

					Infestation		% Efficacy (Untreated Check = 0%)				
EPPO zone	Rating data type	Plant part	Nr of trials	Spray interval (days)	CHECK UNTREATED		A22773A 1 LPR/HA azoxystrobin oxathiapiprolin 250 12 gai/ha		Ref. Std.		Specific Ref. Std.
					Mean	min-max	Mean	min-max	Mean	min-max	
MAR	PESINC, %	LEAF	1	7-10	47.6	-	99.7	-	71.7	-	vs A12705 at 1 L/ha
MAR	PESSEV, % area	LEAF	1	7-10	45.0	-	98.7	-	74.6	-	vs A12705B at 1 L/ha

Table 3.2-45: Summary on efficacy of A22773A against *Puccinia* spp. on bulb veg. (including leek and garlic) (field) – (Maritime, North East EPPO zones) – 12-21 days spray interval

EPPO zone	Rating data type	Plant part	Nr of trials	Spray interval (days)	Infestation		% Efficacy (Untreated Check = 0%)			
					CHECK UNTREATED		A22773A 1 LPR/HA azoxystrobin oxathiapiprolin 250 12 gai/ha		A12705B 1 LPR/HA azoxystrobin 250 gai/ha	
					Mean	min-max	Mean	min-max	Mean	min-max
MAR	PESINC, %	LEAF	6	12-21	47.3	15-77	86.4	26-100	85.1	26-100
MAR	PESSEV, % area	LEAF	4	12-21	16.9	11.7-25	69.5	47.6-100	74.2	56.1-100
NE zone + German trials	PESINC, %	LEAF	3	12-21	53.1	24-99.7	92.8	78.3-100	91.4	74.1-100
NE	PESINC, %	LEAF	2	12-21	67.7	35.6-99.7	89.2	78.3-100	87.1	74.1-100
NE	PESSEV, % area	LEAF	1	12-21	6.8	-	97.8	-	97.8	-

Table 3.2-46: Summary on Yield from efficacy trials of A22773A against *Puccinia* spp. on bulb veg. (including leek and garlic) (field) – yield in terms of t/ha (Maritime, North East EPPO zones) – 12-21 days spray interval

EPPO zone	Rating data type	Specific use	Nr of trials	Spray interval (days)	CHECK UNTREATED		A22773A 1 LPR/HA azoxystrobin oxathiapiprolin 250 12 gai/ha		A12705B 1 LPR/HA azoxystrobin 250 gai/ha	
					Mean Value	% of check	% of check	min-max	% of check	min-max
MAR	YIELD, t/ha	<i>Puccinia porri</i> on leek	4	12-21	34.4	22.9-40.8	136.6	120.5-170.1	143.9	114.9-170.3
NE	YIELD, t/ha	<i>Puccinia porri</i> on leek	2	12-21	52.4	48.8-56	109.6	105.9-113.2	105.3	105.1-105.4

Minor use

Minor uses are those uses of plant protection products (defined in relation to crops and pests) in which either the crop is considered to be of low economic importance at national level (minor crop), or the pest is of limited importance on a major crop (minor pest). It should be noted that a minor use in one country may be a major use in another country (each country is responsible for defining its minor uses).

Therefore, efficacy and selectivity data were generated on crops that are considered major in at least one concerned country and that are considered as indicator crops according to EPPO extrapolation tables.

Efficacy against *Phytophthora* sp., *Alternaria* spp. and powdery mildew pathogens on Solanaceae (tomato, aubergine and pepper)

As stated in EPPO extrapolation Table 14/19575 “EXTRAPOLATION TABLE for EFFECTIVENESS of FUNGICIDES ► DISEASES ON FRUITING VEGETABLES OF SOLANACEAE”, the presented data from the indicator crops “Tomato LYPES” can be extrapolated to “Aubergine / Eggplant SOLME” and “Sweet pepper CPSAN, Chilli pepper CPSFR) against *Phytophthora infestans* PHYTIN (*Phytophthora* sp.) *Alternaria* spp. and powdery mildew pathogens. Considering also biological similarities, the efficacy results against *Phytophthora infestans*, *Alternaria* spp. and powdery mildew pathogens on tomato can therefore be extrapolated to aubergine / eggplant and pepper under field as well as under greenhouse conditions, as well as for the use against *Phytophthora capsici* in pepper. Furthermore, efficacy results on *Alternaria* spp. in tomato, support, with reduced data, the use against *Alternaria* spp. on melon according to EPPO extrapolation Table 14-19722 “EXTRAPOLATION TABLE for EFFECTIVENESS of FUNGICIDES ► DISEASES ON CUCURBITACEAE”.

In addition, considering disease similarities, data presented can also support the use against *Alternaria* spp. on endive, wild lettuce and garden purslane (minor uses).

Efficacy data for assessment on Powdery mildew (including *Oidium neolycopersici*, *Leveillula taurica*) on tomato (vertical grown – greenhouse) are presented from **6 efficacy trials with 7-10 days spray interval** assessed for disease incidence and severity on leaf. These trials were carried out in 2020 in countries of the **EU zone (Italy 3x and Spain 3x)**. Further details can be found in the Biological assessment dossier for A22773A_VV-881245.

Extract from EPPO extrapolation table 14/19575

Pathogen species	Disease group name	Indicator crops	Extrapolation to other crops	Data from these crops can support the indicator crops (reduced data or no data *)
<i>Leveillula taurica</i> LEVETA	Powdery mildew	Tomato LYPES	Aubergine SOLME, Sweet pepper CPSAN, Chilli pepper CPSFR	
<i>Oidium neolycopersici</i> OIDINL	Powdery mildew	Tomato LYPES	Aubergine SOLME	
<i>Alternaria</i> spp. ALTESP (<i>A. alternata</i> , <i>A. solani</i> etc.)	Early blight (leaf and stem blight and fruit rot)	Tomato LYPES	Aubergine SOLME, Sweet pepper CPSAN	Potato SOLTU, Strawberry FRASS, Beta beet BEAVX, Cucumber CUMSC, Garden Carrot DAUCS, Garden bean PHSVX, Fennel FOESS Head cabbage BRSOX, Leek ALLPO, Oilseed rape BRNN, Onions ALLSS, Beans PHSSS
<i>Phytophthora infestans</i> PHYTIN	Late blight	Tomato LYPES	Aubergine SOLME	Potato SOLTU
<i>Phytophthora nicotianae</i> PHYTNN, <i>P. capsici</i> PHYTCP, <i>P. cactorum</i> PHYTCC etc.	Blight of sweet pepper	Sweet pepper CPSAN	Aubergine SOLME, tomato LYPES, Chilli pepper CPSFR	All cucurbit crops 1CU

Source:

https://www.eppo.int/media/uploaded_images/ACTIVITIES/plant_protect_products/minor_uses/fungicides/PP1-19575FEET_2014_Fruiting_solanaceae-effectiveness.pdf

Efficacy against *Bremia* sp. on leafy vegetables (lettuce, endive, wild lettuce, garden purslane)

As stated in EPPO extrapolation Table 14/19578 “EXTRAPOLATION TABLE for EFFECTIVENESS of FUNGICIDES ► DISEASES ON LEAFY VEGETABLES”, the presented data from the indicator crops “Lettuce LACSS” can be extrapolated to “Leafy vegetables of the Asteraceae 1COMF, Prickly lettuce LACSE, Dandelion TAROF, Endive CICEN, chicory CICIN” against *Bremia* sp. BREMSP. Considering also biological similarities, the efficacy results against *Bremia* sp. BREMSP on lettuce can therefore be extrapolated to endive, wild lettuce, and garden purslane under field as well as under greenhouse conditions.

Extract from EPPO extrapolation table 14/19578

Pathogen species	Disease group name	Indicator crops	Extrapolation to other crops	Data from these crops can support the indicator crops (reduced data or no data *)
<i>Bremia</i> sp. BREMSP	Downy Mildew	Lettuce LACSS	Leafy vegetables of the Asteraceae 1COMF, Prickly lettuce LACSE, Dandelion TAROF, Endive CICEN, chicory CICIN	

Source:

https://www.eppo.int/media/uploaded_images/ACTIVITIES/plant_protect_products/minor_uses/fungicides/PP1-19578FEET_2014_Leafy_vegetables-effectiveness.pdf

Efficacy against *Pseudoperonospora cubensis* on cucurbits (cucumber, melon, watermelon, zucchini, gherkin, squash, pumpkin)

As stated in EPPO extrapolation Table 14-19722 “EXTRAPOLATION TABLE for EFFECTIVENESS of FUNGICIDES ► DISEASES ON CUCURBITACEAE”, the presented data from the indicator crops “Cucumber CUMSC or Melon CUMME” can be extrapolated to “All crops within the group” against *Pseudoperonospora cubensis* PSPECU, *Cladosporium* spp. CLADSP and *Didymella bryoniae* DIDYBR. Considering also biological similarities, the efficacy results against *Pseudoperonospora cubensis* PSPECU, *Cladosporium* spp. CLADSP and *Didymella bryoniae* DIDYBR on cucumber and melon can therefore be extrapolated to all crops within the group under field as well as under greenhouse conditions. Furthermore, specific data on zucchini and watermelon are presented.

Extract from EPPO extrapolation table 14-19722

Pathogen species	Disease group name	Indicator crops	Extrapolation to other crops	Data from these crops can support the indicator crops (reduced data or no data *)
<i>Pseudoperonospora cubensis</i> PSPECU	Downy mildew	Cucumber CUMSC or Melon CUMME	All crops within the group	
<i>Cladosporium</i> spp. CLADSP	Scab	Cucumber CUMSC or Melon CUMME,	All crops within the group	Tomato LYPES
<i>Didymella bryoniae</i> DIDYBR	Gummy stem blight Black stem rot	Melon CUMME or Cucumber CUMSC	All crops within the group	Cabbage BRSOL, Raspberry RUBID
<i>Alternaria</i> spp. ALTESP <i>A. cucumerina</i> ALTECU	Leaf blight	Cucumber CUMSC or Melon CUMME	All crops within the group	Strawberry FRASS, Tomato LYPES

Source:

https://www.eppo.int/media/uploaded_images/ACTIVITIES/plant_protect_products/minor_uses/fungicides/PP1-19722FEET_2014_Cucurbitaceae-effectiveness.pdf

Efficacy against *Phytophthora porri*, *Alternaria porri*, *Puccinia porri* and *Puccinia allii* on leek and other bulb vegetables (onion)

As stated in EPPO extrapolation Table 14/ 20180 “EXTRAPOLATION TABLE for EFFECTIVENESS of FUNGICIDES ► DISEASES ON BULB VEGETABLES (ALLIUM VEGETABLES)”, the presented data from the indicator crop “Leek ALLPO” can be extrapolated to “Onion ALLCE Welsh Onion ALLFI, Chives ALLSC” against *Phytophthora porri* PHYTPO. Furthermore, data from “Any allium ALLSS” can be extrapolated to “All allium ALLSS” against *Puccinia allii* PUCCAL, *P. porri* PUCCPO. Considering also biological similarities, the efficacy results against *Phytophthora porri* on leek can therefore be extrapolated to and efficacy results against *Puccinia porri* on leek and *Puccinia allii* on garlic can therefore be extrapolated to all crops within the group under field as well as under greenhouse conditions.

Efficacy data for assessment on *Alternaria porri* on leek (field) are presented from **4 efficacy trials with 12-21 days spray interval** assessed for disease incidence and severity on leaf. These trials were carried out in 2020 in **countries of the Mediterranean EPPO zone (Italy 2x and Spain 2x)**. Further details can be found in the Biological assessment dossier for A22773A_VV-881245.

Extract from EPPO extrapolation table 14/ 20180

Pathogen species	Disease group name	Indicator crops	Extrapolation to other crops	Data from these crops can support the indicator crops (reduced data or no data *)
<i>Phytophthora porri</i> PHYTPO		Leek ALLPO	Onion ALLCE Welsh Onion ALLFI, Chives ALLSC,	
<i>Puccinia allii</i> PUCCAL, <i>P. porri</i> PUCCPO	Rust	Any allium ALLSS	All allium ALLSS	

Source:

https://www.eppo.int/media/uploaded_images/ACTIVITIES/plant_protect_products/minor_uses/fungicides/PP1-20180FEET_2014_Bulb_vegetables_effectiveness.pdf

Efficacy against *Phytophthora* sp., *Bremia* sp, and Peronosporaceae in crops for seed production

As stated in EPPO extrapolation Table PP 1/257 FEET 70 (1) “GENERIC EXTRAPOLATION TABLES for EFFECTIVENESS of FUNGICIDES”, the presented data on major crops (tomato, lettuce, cucurbits, and leek) can be extrapolated to “Any crops where seeds can be infected” against pathogens causing downy mildew in relevant crops.

Extract from EPPO extrapolation table PP 1/257 FEET 70 (1)

Pathogen species	Disease group name	Indicator crops	Extrapolation to other crops	Data from these crops can support the indicator crops (reduced data or no data *)
<i>Peronospora</i> sp. PEROSP (e.g. <i>Peronospora viciae</i> f. sp. pisi (= <i>P. pisi</i>) PEROVP, <i>P. valerianellae</i> PEROVA, <i>P. belbahrii</i> PEROBE) <i>Bremia lactucae</i> BREMLA, <i>Plasmopara halstedii</i> PLASHA <i>Phytophthora</i> sp. PHYTSP (e.g. <i>P. capsici</i> PHYTCP, <i>P. infestans</i> PHYTIN, <i>P. nicotianae</i> PHYTNN)	Downy Mildew	Any relevant crop	Any crops where seeds can be infected	

Source:

https://www.eppo.int/media/uploaded_images/ACTIVITIES/plant_protect_products/minor_uses/fungicides/PP1-20180FEET_2014_Bulb_vegetables_effectiveness.pdf

Efficacy against Peronosporaceae on pot plants and shrubs

Considering the large data set presented to demonstrate the efficacy against Peronosporaceae on relevant crops, such as *Phytophthora infestans* on tomato, *Bremia lactucae* on lettuce, *Pseudoperonospora cubensis* on cucurbits, *Phytophthora porri* on leek, *Pseudoperonospora humuli* on hop, efficacy data presented can be extrapolated for the use against Peronosporaceae on pot plants and shrubs.

Efficacy against other disease: *Sphaerotheca fuliginea* on endive and *Botrytis cinerea* on lettuce, endive, wild lettuce, garden purslane (in field and greenhouse)

Considering the large data set presented to demonstrate the efficacy against Peronosporaceae and other relevant diseases, efficacy data presented can be extrapolated for the use against *Sphaerotheca fuliginea* on endive and *Botrytis cinerea* on lettuce, endive, wild lettuce, garden purslane (in field and greenhouse).

Furthermore, it is noted that azoxystrobin based products (e.g. ORTIVA; AMISTAR) are already successfully registered against these use in several European countries at the same active ingredient dose rate as requested for A22773A.

Selectivity on minor uses

In all efficacy trials conducted in field as well as in protected conditions in presence of target disease on tomato, lettuce, cucurbits (both edible and inedible peel), bulb vegetables including leek and garlic and hop, A22773A appeared selective when used as recommended and did not lead to any spray visible deposits. Thanks to the extensive dataset, selectivity of A22773A is expected on all supported crops, as ORTIVA, whatever their minor or major status.

Comments of zRMS:

No efficacy trials have been submitted for some target uses intended in the GAP table (i.a. bell pepper, squash/pumpkin or eggplant). The cMSs are kindly asked to use extrapolation of trial results from other crops and consider these uses on the national level.

3.3 Information on the occurrence or possible occurrence of the development of resistance (KCP 6.3)

Table 3.3-1: EPPO guidelines followed

EPPO guideline number	Title
EPPO guideline PP 1/213 (2)	Resistance Risk Analysis

The capacity of target pathogens to become resistant to fungicide treatments varies greatly with respect to the different fungicide classes when single site are compared to multi-site fungicides, and it varies also between different genera or species of target fungi comparing different single site fungicides.

In the following sections it is referred to the mode of action and mechanism of resistance for Azoxystrobin and oxathiapiprolin (A22773A), baseline sensitivity and cross resistance patterns for grapes and vegetable targets. At the end of this part, general measures and specifics guidelines are proposed to prevent resistance development against mandipropamid and oxathiapiprolin.

Mode of action, mechanisms of resistance and cross resistance

Azoxystrobin (QoI fungicide class)

Mode of action of QoI

Azoxystrobin is a well-established strobilurin fungicide with broad spectrum activity when used on cereals, bulb onions, asparagus, oilseed rape, peas, beans, carrots, brassicae and many other agriculturally and horticulturally important crops. Azoxystrobin is a Quinone outside inhibitor (QoI) fungicide which acts at the Quinone ‘outside’ (Qo) binding site of the cytochrome bc1 complex. Strobilurins and related compounds inhibit mitochondrial respiration by binding to the ubiquinol oxidation (Qo) site formed by domains of cytochrome b and the iron-sulphur protein within the cytochrome bc1 complex. Because ATP production is compromised, energy-demanding stages of fungal development, such as spore germination, are particularly affected.

The Qo inhibitors (QoIs) have become a key component of disease control strategies on Legume, Vegetable and Fruit crop types in Europe due to their persistent broad-spectrum disease control and potential extra yield benefits through increased green canopy duration. The QoI fungicides (FRAC

group 11) are considered at high risk to fungicide resistance development.

Mechanism of resistance to QoI's

Resistant isolates to QoI fungicides have been detected in a range of countries and in several pathogens including *Erysiphe graminis* fsp. *tritici*, *Septoria tritici*, *Sphaerotheca fuliginea*, *Plasmopara viticola*, *Pseudoperonospora cubensis*, *Mycosphaerella fijiensis*, *Venturia inaequalis* and to a lesser degree also in *Erysiphe graminis* fsp. *hordei*, *Mycovellosiella natrassii*, *Corynespora cassiicola*, *Pyricularia grisea*, *Didymella bryoniae*, *Colletotrichum graminicola*, *Colletotrichum gloeosporioides*, *Mycosphaerella graminicola*, *Alternaria arborescens*, *A. tenuissima* and *A. alternata*.

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.

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, also the G137R mutation has been found, however, at very low frequency and with small resistance factors.

In contrast, rust pathogens (*Puccinia* spp, *Phakopsora* spp, *Hemileia* spp) 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 the splicing site and therefore a mutation in the triplet coding for G143 resulting in cytochrome b deficiency, which 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), not having developed G143A.

As described by FRAC and others, there are some pathogens in which resistance to QoI fungicides has so far not been reported. There could be several reasons for this including effective anti-resistance strategies, lack of exposure of the pathogen to QoI fungicides or strong fitness penalties of mutant strains to survive or be competitive.

The strobilurin-producing Basidiomycetes *Strobilurus tenacellus* and *Mycena galopoda* exhibit 'natural resistance' to QoIs and the molecular mechanisms of this 'natural resistance' are known to be point mutations in the cyt b gene. This phenomenon was therefore investigated in *Puccinia* species (Grasso et al., 2006).

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 cyt 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 fructicola* (Miessner

and Stammler, 2010, Luo *et al.*, 2010) and *Guignardia bidwellii* (Miessner *et al.*, submitted) 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 that responsible resistance management practices are implemented.

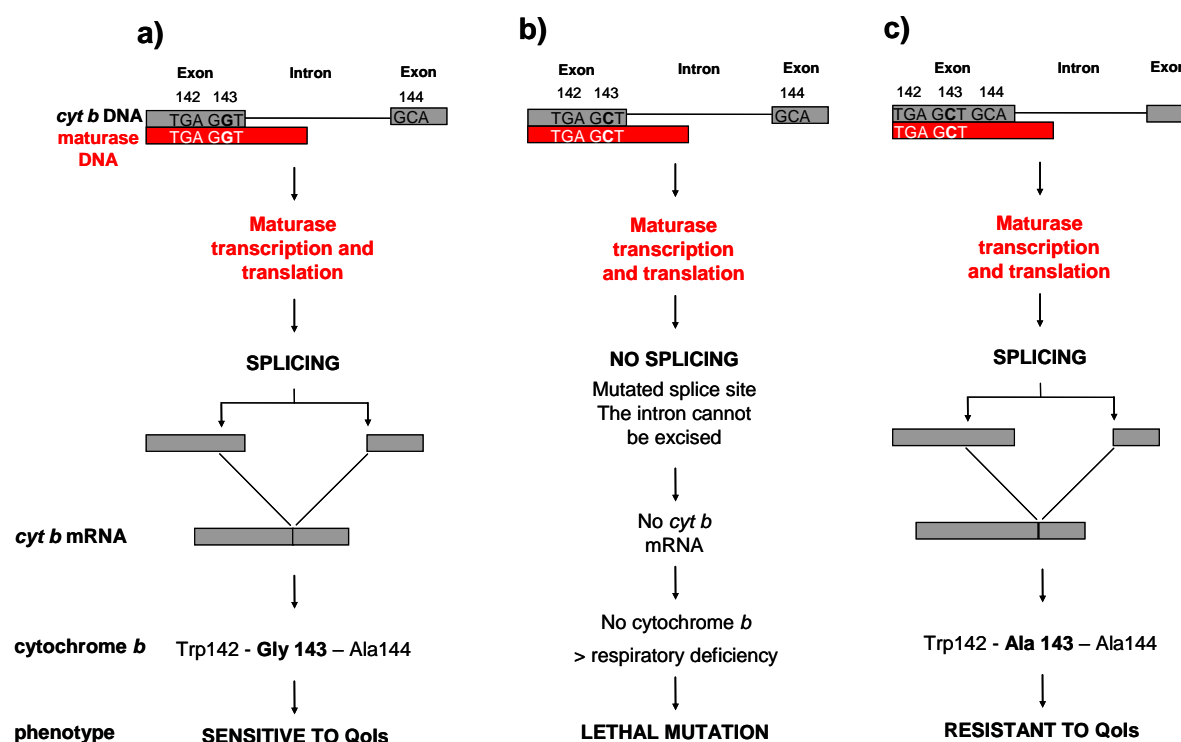


Figure 3.3-1: Effect of the mutation G143A on the processing of the *cyt b* gene pre-mRNA. a) presence of intron in wild type *cyt b*, b) mutation in codon 143 (G to C mutation) and c) intron not directly after the 143 codon.

Citations

Sierotzki H and Frey R, Cytochrome *b* gene sequence and structure of *Pyrenophora teres* and *P.tritici-repentis* and implications for QoI resistance. Pest Manag. Sci. 63:225-233 (2007).

Grasso V, Palermo S, Sierotzki H, Garibaldi A, and Gisi U, Cytochrome *b* gene structure and consequences for resistance to Qo inhibitor fungicides in plant pathogens. Pest Manag. Sci. 62:465-472 (2006).

Banno S, Yamashita K, Fukumori F, Okada K, U 1 ekusa H, Takagaki M, Kimura M, and Fujimura M, Characterization of QoI resistance in *Botrytis cinerea* and identification of two types of mitochondrial cytochrome *b* gene. Plant Pathol. 58:120-129 (2009).

Luo CX, Hu MJ, Jin X, Bryson PK and Schnabel G, Evidence for the unlikely development of the QoI fungicide resistance-related G143A mutation in the Cyt *b* gene of *Monilinia fructicola*. Pest Manag. Sci. 66: <http://onlinelibrary.wiley.com/doi/10.1002/ps.v66:12/issuetoc> 1308–1315 (2010).

Miessner S and Stammler G, *Monilinia laxa*, *M. fructigena* and *M. fruticola*: Risk estimation of resistance to QoI fungicides and identification of species with cytochrome *b* gene sequences. J. Plant Dis. Prot. 117:162-167 (2010).

Miessner S, Mann W and Stammler G, *Guignardia bidwellii*, the causal agent of black rot on grapevine has a low risk for QoI resistance. J. Plant Dis. Prot., submitted

Semar M, Strobel D, Koch A, Klappach K and Stammler G, Field efficacy of pyraclostrobin against populations of *Pyrenophora teres* containing the F129L mutation in the cytochrome *b* gene. J. Plant Dis. Prot. 114:117-119 (2007).

Source: FRAC

Evidence of resistance to QoI's in Legume, Vegetable and Fruit crops and their management

Members of the Fungicide Resistance Action Committee (FRAC) have monitored the occurrence of resistance to QoI fungicides primarily in Legume, Vegetable and Fruit crop diseases across Europe and give guidelines for the use of QoI fungicides. The most recent guidelines on the use of QoI fungicides in Legume, Vegetable and Fruit crops are shown below.

FRAC Guidelines for using QoI fungicides on Legume, Vegetable and Fruit crops:

Risk assessment

The following table indicates the risk classification in relation to known resistance occurrence

Table 3.3-2: Pathogen resistance risk classes

1) risk low, no R	2) risk low, R; medium risk, No R	3) risk medium R; high risk no R; high risk, R	4) medium risk, R in EU; high risk, R in EU	5) high risk with tested or putative significant frequency of resistance
Phytophthora infestans	Albugo candida	Alternaria brassicae	Alternaria solani	Erysiphe cichoracearum
Puccinia	Ascochyta pisi	Alternaria brassicicola	Didymella bryoniae	Pseudoperonospora cubensis
Puccinia allii	Bremia lactucae	Alternaria cichorii		Sphaerotheca fuliginea
Puccinia apii	Cercospora	Alternaria dauci		Stemphylium botryosum
Puccinia asparagi	Cladosporium allii-cepae	Alternaria porri		
Uromyces pisi	Cladosporium allii-porri	Botrytis squamosa		
	Cladosporium cucumerinum	Erysiphe cruciferarum		
	Colletotrichum orbiculare	Erysiphe heraclei		
	Mycosphaerella brassicicola	Erysiphe pisi		
	Mycosphaerella pinodes	Leveillula cucurbitacearum		
	Peronospora destructor	Leveillula taurica		
	Peronospora parasitica	Oidium lycopersicum		
	Peronospora viciae sp. pisi	Pseudoperonospora humuli		
	Rhizoctonia solani	Sphaerotheca macularis		
	Sclerotium cepivorum			

Monitoring data are available for some pathogens on the list. The available data are presented in the paragraphs below (for reference of reported cases of resistance consult <http://www.frac.info/>). All other pathogens are not monitored, but reliable statements can be made by comparison to related pathogens, from which either internal or external data are available.

The first group of pathogens contains pathogens with low risk of development of resistance in which no resistance has been detected.

The rust fungi are considered as low risk pathogen for evolving resistance to QoI fungicides, due to the above mentioned intron in the cytochrome *b* gene. Long term monitoring data for *Puccinia recondita* on wheat confirm this hypothesis and the population remained fully sensitive. Therefore, we assume that the populations of *Puccinia allii*, *P. apii*, *P. asparagi* and *Uromyces pisi* are fully sensitive.

Phytophthora infestans is a medium risk pathogen, except for the PA fungicides, no resistance has been detected so far. Especially for the QoI fungicides the populations seem to be still sensitive.

In 2020 bioassay tests showed no resistance in all isolates collected in 2020 from potato crops in Czech Republic, France, Netherlands, Poland, Portugal, Spain and Turkey (BASF)¹.

The second group contains pathogens with low risk, but resistance has been observed and pathogens with medium risk, for which no resistance has been detected.

Rhizoctonia solani is a heterogenous group of different anastomosis groups. Most of the groups contain soil borne pathogens that do not or rarely produce asexual or sexual spores. A survey in 2011 testing 68 isolates for QoI sensitivity revealed that isolates from AG groups (AG 11, AG 1-IB, AG 2-1, AG 3-PT, AG 3-TB, AG 4-HGII, AG 5, AG 6-Gv1, AG 6-Gv2, AG 6-HGI, AG 8, AG 9, AG-E, Rc / AG-D, AG-Bo, AG-I, AG-K, AG-C) from CZ, D, E, F, GB, H, I and PL all were fully sensitive. However, isolates of *Rhizoctonia solani* AG 1 from rice in the US did contain a mutation in the cyt b gene (F129L) that confers a relative weak resistance to QoI fungicides. The AG 1 group is also called the aerial group of *Rhizoctonia* since it does infect the foliage of host plants readily. Despite this finding the grouping into the low-risk class is still correct since it took more than 10 years of regular usage of solo QoI to select the resistance. Evidence from the region indicates that the spread is very limited.

For the other pathogen where medium risk is assumed no resistance has been described so far. However, for some closely related pathogen species has been reported to contain resistance to QoI fungicides such as *Ascochyta rabiei*, *Cercopsora beticola*, *Colletotrichum gloeosporioides*, *Mycosphaerella graminicola* and *M. fijiensis*.

Lettuce Downy Mildew (*Bremia lactucae*). No monitoring performed in recent years. No resistance: In 2016 genetic analysis showed that all samples from Spain and Germany did not contain any known mutations potentially causing QoI resistance and were therefore classified as sensitive to QoI (BASF)¹. Onion Downy Mildew (*Peronospora destructor*). No monitoring performed in recent years. In 2016 genetic analysis showed that samples from Germany did not contain any known mutations potentially causing QoI resistance and were therefore classified as sensitive to QoI (BASF)¹.

The third group contains pathogen belonging to the high risk class, but with no reported resistance to QoI. *Alternaria* spp either develop the G143A or the F129L mutation depending on the cyt b gene exon/intron structure. The powdery mildew pathogens are in general high risk pathogens because of their big propagation potential. *Pseudoperonospora humuli* is very closely related to *P. cubensis*, for which QoI resistance is reported.

A. solani and *A. tomatophila* show very similar spore morphology and are difficult to be distinguished without molecular characterization. Specific primers targeting calmodulin and major allergen Alt a1 were used to discriminate between the two species. In 2019, *A. tomatophila* strains showing resistance to QoI were observed in Spain, Croatia and Italy. Molecular analysis identified in these strains the mutation G143A. G143A mutation was already monitored in *A. tomatophila* from USA. *A. solani* evolved mutation F129L associated to much lower resistance factors than G143A.

¹ FRAC; [https://www.frac.info/docs/default-source/working-groups/qoi-fungicides/qoi-meeting-minutes/minutes-of-the-2021-qoi-wg-meeting-and-recommendations-for-2021-\(-january-march-2021\).pdf?sfvrsn=28f0499a_2](https://www.frac.info/docs/default-source/working-groups/qoi-fungicides/qoi-meeting-minutes/minutes-of-the-2021-qoi-wg-meeting-and-recommendations-for-2021-(-january-march-2021).pdf?sfvrsn=28f0499a_2), accessed July.2021.

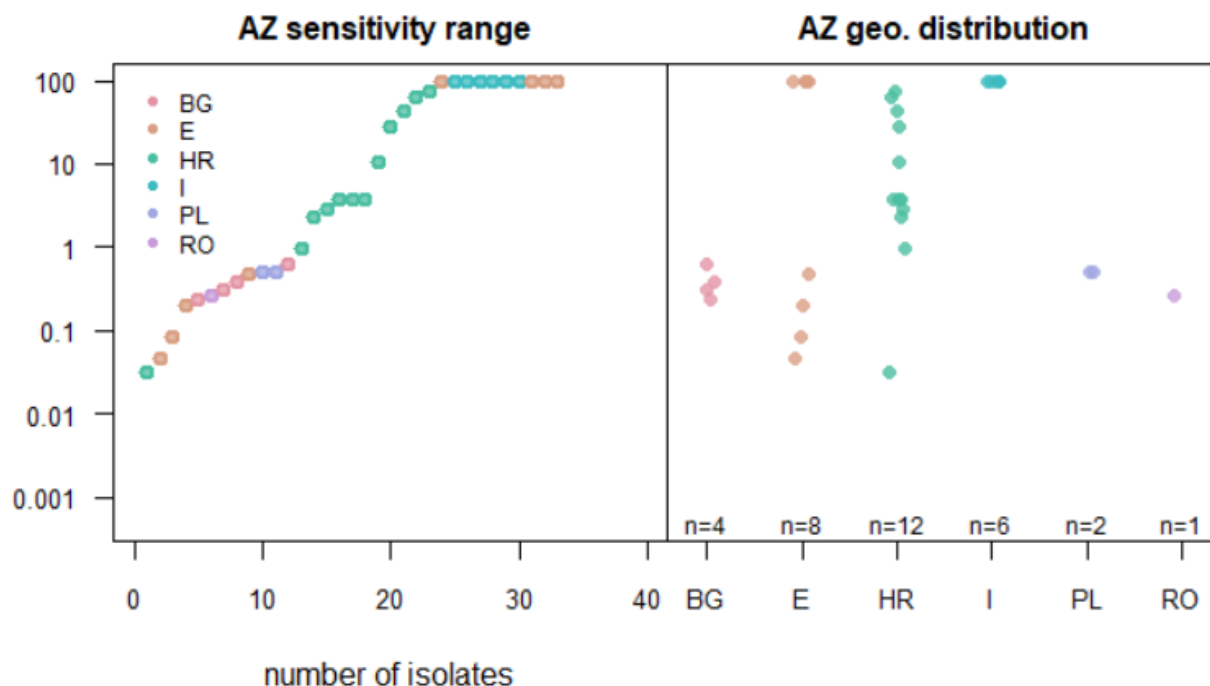


Figure 3.3-2: QoI sensitivity in *Alternaria tomatophila* in 2019 in Europe. Isolates from tomato originated from Bulgaria, Spain, Croatia, Italy, Poland and Romania.

The fourth group contains pathogens species for which QoI resistance has been reported. *Didymella bryoniae* is repeatedly reported to develop resistance to QoI and other fungicides, especially in the US. In 2019 full sensitivity was monitored in Belgium. Single isolates/samples showing resistance with presence G143A were monitored in Spain (Syngenta)².

The fifth group contains pathogen species from which QoI resistance is known to be widespread. *Sphaerotheca fuliginea* samples (N=4) from 2012 from Belgium and Italy were tested to be QoI resistant. It must be assumed the *E. cichoracearum* has also developed resistance to QoI, since it appears many times together with *S. fuliginea*. *Stemphyllium botryosum* isolates tested from Germany sampled in 2012 were all resistant to QoI (N=15). Resistance in *P. cubensis* has been reported in earlier years in Europe, but not follow-up in recently anymore.

Cucumber downy mildew (*Pseudoperonospora cubensis*). Single samples from zucchini and cucumber tested by bioassay from France, Germany, Greece, Italy, Poland, and Spain were monitored as resistant in 2020. Previous monitorings showed the following: 2014 - Resistance was found in samples from cucumber in Greece, Italy (Sicilia) and Spain. Samples from melons collected in Italy (Piemonte) were sensitive. (Bayer, Syngenta)².

Cucumber powdery mildew (*Sphaerotheca fuliginea*= *Podosphaera xanthii* and *Golovinomyces cichoracearum*). Testing of a few samples in 2017 confirmed presence of resistance in Italy and Spain from cucumber and zucchini ranging from no to high frequency (Bayer, Syngenta)².

Oxathiapiprolin (OSBPI fungicide class)

Oxathiapiprolin belongs to the chemical class of the piperidinyl thiazole – isooxazoline.

Oxathiapiprolin and fluoxapiprolin are the two members of the FRAC group 49 named Oxysterol binding protein homologue inhibitors (OSBPI). The OSBPI fungicides are not cross resistant to the

² FRAC; [https://www.frac.info/docs/default-source/working-groups/qoi-fungicides/qoi-meeting-minutes/minutes-of-the-2021-qoi-wg-meeting-and-recommendations-for-2021-\(-january-march-2021\).pdf?sfvrsn=28f0499a_2](https://www.frac.info/docs/default-source/working-groups/qoi-fungicides/qoi-meeting-minutes/minutes-of-the-2021-qoi-wg-meeting-and-recommendations-for-2021-(-january-march-2021).pdf?sfvrsn=28f0499a_2), accessed July.2021.

other FRAC fungicide classes as for example CAA, PA or QoI. Oxathiapiprolin blocks the sterol-binding domain of an OSBP homologue, preventing it from picking up sterols and making the inter-membrane transfer. Inhibiting OSBP disrupts many further processes in the cell, such as signalling, maintaining cell membranes, and the formation of more complex lipids that are essential for the cell to survive.

Some lab studies were conducted to elucidate the mechanisms of resistance related to the OSBPI fungicide class. In the list below the amino acid changes are unified to the annotation of the oxathiapiprolin target protein of *P. infestans*.

P. capsici was recently used to generate lab mutants resistant to OSBPI either by spontaneous, UV or CRISPR/Cas9 approaches. Some point mutations in the oxysterol binding protein-related protein 1 (ORP1) were observed. In *P. capsici* ultraviolet mutagenesis mutants, L733W, S768I/F/K/Y, G770A/I/P/V/L, N837I/F/Y, G839W, P861H, L863W/F, and I877F/Y were detected.

P. sojae transformants were recovered using the CRISPR–Cas9 system. The following mutations were associated to high OSBPI resistance L733W, S768F, S768Y, N837Y, N837F, P861H, L863W, and I877Y

Some grape downy mildew isolates collected from field trials where oxathiapiprolin had been continuously used for 4 years showed resistance to OSBPI and harboured the following amino acid changes G770V, N837I and L863W.

The resistant alleles G770V and DG818/F819 were observed in *P. nicotianae* resistant mutants produced by UV radiation.

So far little is known about the possible fitness cost associated to resistance in field, however mutants harbouring G770V showed significantly reduced fitness in the lab.

The resistance risk for OSBPI is considered medium to high by FRAC.

Sensitivity data to oxathiapiprolin (OSBPI fungicide class)

***P. infestans* monitoring data**

Bioassay sensitivity monitoring conducted by Syngenta since 2015 showed the European population of *P. infestans* is largely sensitive to OSBPI. In total 302 *P. infestans* strains were analysed from 21 European countries since 2015. No strains showing decreased sensitivity to oxathiapiprolin were monitored (Figure 3.3-3 and Figure 3.3-4).

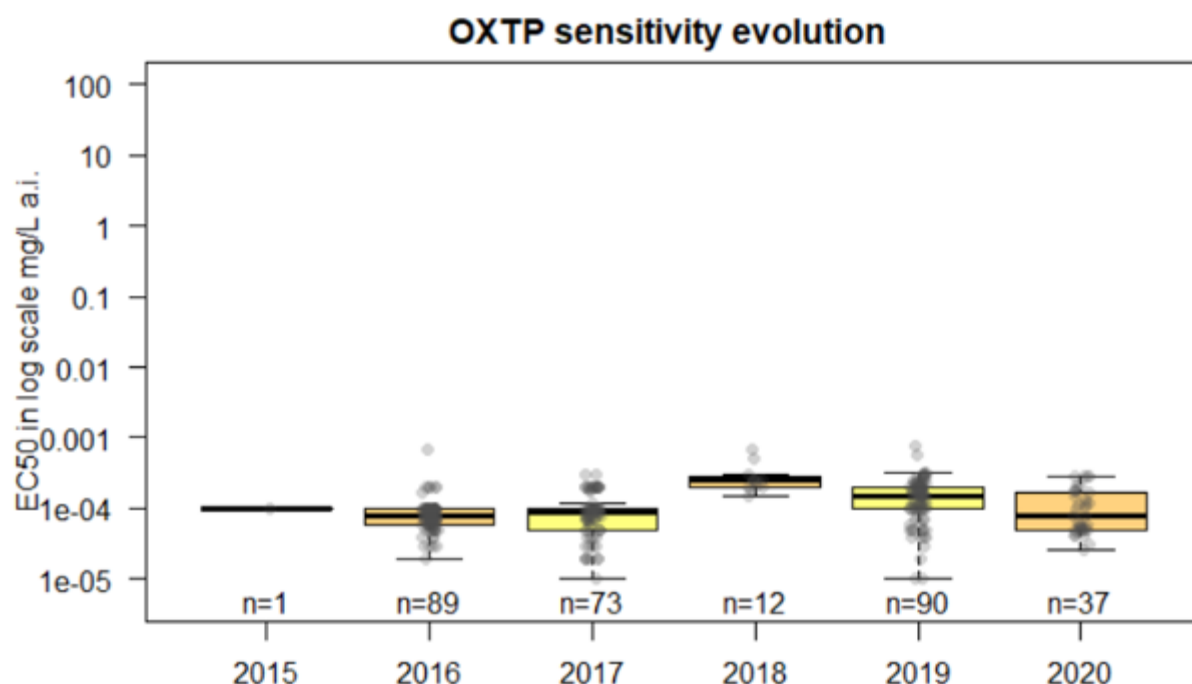


Figure 3.3-3: Sensitivity evolution from field strains of *P. infestans* from 2015 to 2020 (n=302) collected across Europe from 21 countries. OXTP shows a high intrinsic activity to control *P. infestans* and all monitored strains were fully sensitive.

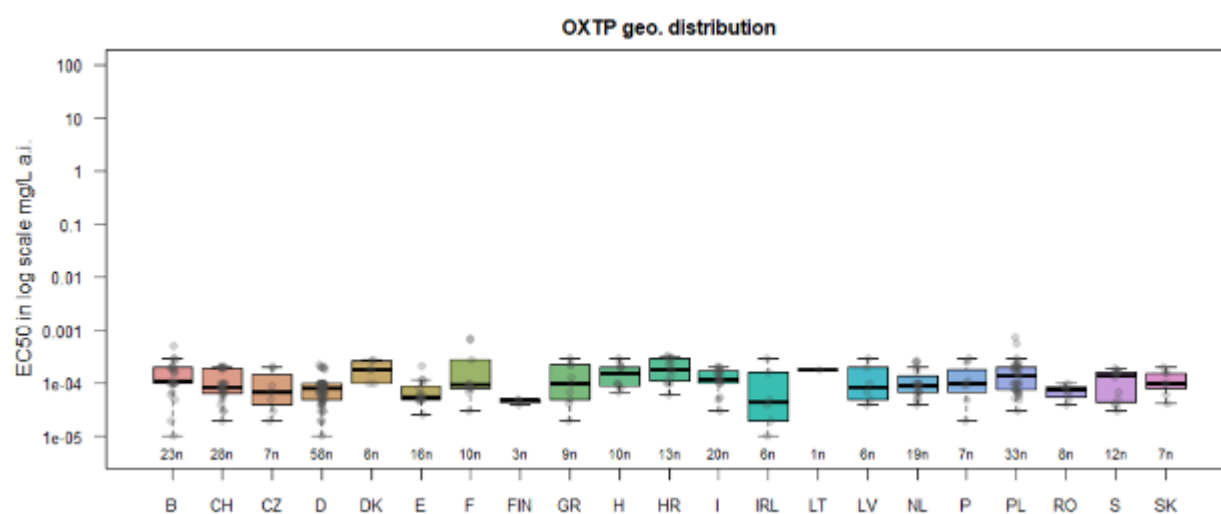


Figure 3.3-4: Sensitivity distribution from field strains of *P. infestans* from 2015 to 2020 (n=302) collected across Europe from 21 countries. OXTP shows a high intrinsic activity to control *P. infestans* and all monitored strains were fully sensitive.

***B. lactucae* monitoring data**

A total of 7 samples collected in 2019 from six European countries (Belgium, Spain, Greece, Italy, Portugal and Poland) were monitored. All samples were fully sensitive to oxathiapiprolin showing low EC₅₀ values (Figure 3.3-5). No reports of *B. lactucae* decreased sensitivity to oxathiapiprolin have been reported so far.

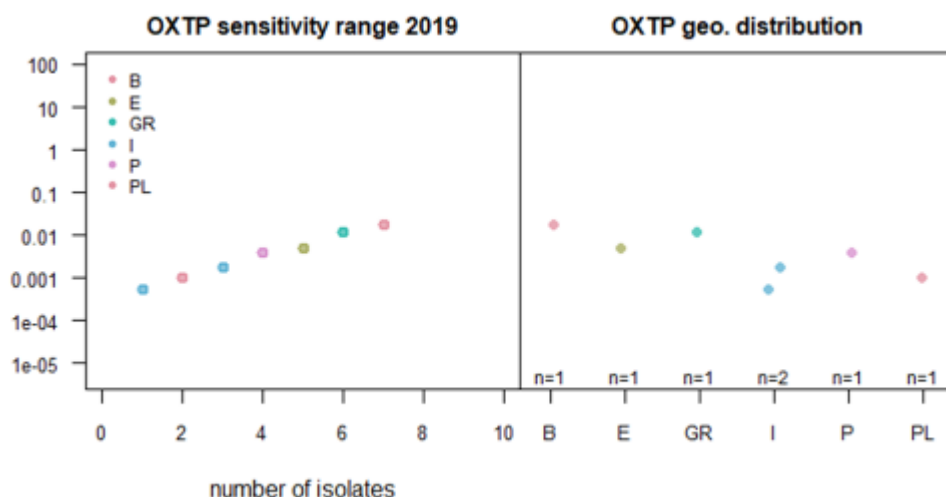


Figure 3.3-5: *B. lactucae* sensitivity range to oxathiapiprolin in samples collected from Belgium, Spain, Greece, Italy, Portugal and Poland during 2019.

Resistance risk associated with unrestricted use pattern

The actual risk for the evolution of resistance towards azoxystrobin and oxathiapiprolin depends on three different parameters: mechanism of resistance against the compound (intrinsic fungicide risk), biology of the pathogen (pathogen risk) and on agronomical factors (agronomic risk). Additionally, to the risk to the individual fungicides also the combined risk towards mixtures needs to be evaluated.

Azoxystrobin and oxathiapiprolin are single site inhibitors. Resistance is mainly due to target site mutations linked to the resistance gene G143A, F129L and G137R. Resistance in field populations has been selected by QoI fungicides. OSBPI resistance has been generated in the lab to a range of pathogens, but in field is found sporadically in single pathogens. Only little is known about the dynamics of OSBPI resistance evolution, such as stability, spread and fitness cost.

The resistance risk of QoI fungicides is in general estimated as high (FRAC). Based on our knowledge today, the intrinsic fungicide risk for oxathiapiprolin is moderate to high (single site inhibitor).

Except for *P. cubensis*, which is considered high risk pathogen to evolve resistance, the other pathogen discussed in this dossier are considered by FRAC moderate risk.

The overall resistance risk for QoI and OSBPI including azoxystrobin and oxathiapiprolin should be considered between medium depending on the agronomic risk associated to each pathogen/crop system (Figure 3.3-6).

SDHI OXTP	High risk Benzimidazoles QoIs Phenylamides	3	3	6	9	1	High risk
			1,5	3	4,5	0,5	Medium risk
			0,75	1,5	2,25	0,25	Low Risk
	Medium risk CAA DMIs / APs Morpholines MBI-D Phenylpyrrol	2	2	4	6	1	High risk
			1	2	3	0,5	Medium risk
			0,5	1	1,5	0,25	Low Risk
	Low risk Multi sites MBI-R Resistance Ind.	0,5	0,5	1	1,5	1	High risk
			0,25	0,5	0,75	0,5	Medium risk
			0,125	0,25	0,375	0,25	Low Risk
	Fungicide Risk Pathogen Risk		1	2	3	Agronomic Risk Pathogen Risk	
Low risk <i>S. vesicarium</i> <i>Rhizoctonia</i> spp. Rust spp. <i>Fusarium</i> spp. Soil borne fungi Seed borne fungi Smuts & Bunts			Medium risk <i>B. lactucae</i> <i>A. brassicicola</i> <i>A. brassicae</i> <i>C. beticola</i> <i>A. solani</i> <i>P. infestans</i> <i>R. secalis</i>	High risk <i>P. viticola</i> <i>P. cubensis</i> <i>S. fuliginea</i> <i>Erysiphe</i> spp <i>R. collo-cygni</i> <i>Corynespora</i> <i>Magnaporthe</i>			

Adapted from Grimmer et al. 2014. Pest Management Science 70:1008-1016

Figure 3.3-6: Resistance risk assessment matrix considering i) Fungicide, ii) Pathogen and iii) Agronomic risk for the discussed pathogen and fungicide classes.

Management strategy

The actual performance of products depends on the strength of the evolved reduced sensitivity and its frequency in a particular population. Monitoring of azoxystrobin and oxathiapiprolin sensitivity will continue as appropriate for the pathogens discussed above and any change in sensitivity will be reported through FRAC and the relevant country resistance management bodies. Through this process Syngenta is able to adapt to any changes in sensitivity and readily adopt alternative resistance management strategies as appropriate.

The summaries and recommendations included in this report are based upon data generated by members of the FRAC-QoI and FRAC-OSBPI Working Group and upon the work of non-industry collaborators. 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 the following general recommendations can be made:

The use of two fungicides in a mixture is considered as valuable anti-resistance strategy compared to the use of solo compounds.

General use recommendation:

- Apply A22773A preferentially in a preventive manner.
- Alternate A22773A with fungicides having other modes of action is recommended in spray programs
- Make no more than two³ applications or 33% of the total period of protection needed per crop, whichever is more restrictive.
- Where the total number of fungicide applications targeting oomycetes is less than three, no more than one application of A22773A is recommended
- Applications of A22773A products can be made in alternation with products containing different cross-resistance group with satisfactory efficacy against the targeted pathogen(s).
- Apply A22773A at effective rates and intervals according to manufacturers' recommendations
- The use of good agricultural plant protection practice.

The resistance management strategy for A22773A is therefore based on limitation of exposure of the pathogen to the fungicide by limiting the number of applications permitted in a program and promoting the use of alternation with products from different cross resistance groups.

Comments of zRMS:

A22773A contains two active substances: azoxystrobin (belonging to the chemical group of methoxy-acrylates, MoA group of QoI-fungicides) and oxathiapiprolin (belonging to the chemical group of piperidinyl-thiazole-isoxazolines, MoA group of OSBPI fungicides). According to FRAC classification, the resistance risk for azoxystrobin is considered high risk and for oxathiapiprolin - medium to high. Furthermore, the target pathogens indicated in the GAP table are medium or high risk developed of resistance. *Pseudoperonospora humuli*, *Pseudoperonospora cubensis* and *Didymella bryoniae* are reported to develop resistance to QoI and other fungicides. Due to that the resistance management is required.

Specific QoI guidelines are described for tomato (*Alternaria solani*, *Alternaria alternata*, *Phytophthora infestans*) on the FRAC website:

- Where QoI fungicide products are applied solo do not exceed 33% of the total number of sprays or a maximum of 4. Where mixtures (co-formulations or tank mixes) are used do not exceed 50% of the total number of sprays or a maximum of 6 QoI fungicide applications, whichever is the lower.
- Apply QoI fungicides according to manufacturer's recommendations for the target disease (or complex) at the specific crop growth stage indicated. Effective disease management is a critical parameter in delaying the build-up of resistant pathogen populations

Also specific recommendations are presented for cucurbits:

- Apply QoI fungicides according to manufacturer's recommendations for the target disease (or complex) at the specific crop growth stage indicated. Effective disease management is a critical parameter in delaying the build-up of resistant pathogen populations.
- Apply a maximum of 3 QoI fungicide sprays per crop
- Use a maximum of 1 QoI fungicide spray out of every three fungicide applications.
- Do not use consecutive applications of QoI fungicides.
- Apply QoI fungicides in alternation with fungicides from a different cross-resistance group with satisfactory efficacy against the targeted pathogen(s).
- Continue QoI fungicide alternation between successive crops.

Furthermore, specific guidelines are recommended for OSBPI products in case of foliar treatments:

- Make no more than four (4) applications or maximum 33% of the total period of protection needed per crop, whichever is more restrictive.
- Applications of OSBPI-containing products are to be made no more than three (3) times in sequence before applying a fungicide with a different mode of action. In areas where the agronomic risk is very high (e.g. continuous potato or cucurbit cropping) and resistance has already been reported, further restrictions to the number of consecutive applications are recommended.
- Where the total number of fungicide applications targeting oomycetes is less than three (3), apply no

³ Note from the applicant: Although the FRAC recommendations may allow for more than two applications (already considering the most restrictive number between QoI and OSBPI) in the proposed crops, due to product safety limitations, A22773A is limited to two applications per crop.

more than one (1) application of an OSBPI product.

- Applications of OSBPI products can be made in alternation with a fungicide with a different mode of action.

Taking into account that A22773A is compound of two active substances with different mode of actions, the limitation number of application (the most restrictive number between QoI and OSBPI) and use of alternation with products from different cross resistance group are justify. According to the note from the applicant, due to product safety limitation, A22773A is limited to two application per crop. In the opinion of zRMS, the general use recommendations submitted by the applicant are sufficient.

3.4 Adverse effects on treated crops (KCP 6.4)

Data on adverse effects on target crops are available from:

- **all the 87 efficacy trials** presented in Table 3.2-5 in presence of challenging disease pressure;
- **4 trials on lettuce grown in greenhouse (2x) or in field (2x in Mediterranean EPPO zone)** in absence of disease to study selectivity of A22773A applied at 1 L/ha (N rate) and at 2 L/ha (2N rate);
- **2 trials on tomato grown in field** (in absence of disease in Mediterranean EPPO zone) to study unintentional effect of A22773A at max. 1 L PR/ha on fresh tomato, tomato puree and tomato after freezing.

The above trials carried out in absence of disease, even if not produced in open field, or in countries outside the representative EPPO zones for the Central regulatory zone, are deemed useful for selectivity assessment of concerned crops.

Trials methodology in relation to EPPO

For information on material and methods of efficacy trials presented in this section refer to Point 3.2.

Taint test trials were conducted according to the EPPO guidelines stated in Table 3.4-2 (taint test: trial in the absence of disease).

Full details of the sites and applications are provided in Appendix 2 of the Biological assessment dossier for A22773A_VV-881245. The hyperlinks to the GEP certificates of the official testing organization are provided in Point 3.7.

Table 3.4-1: Presentation of trials (selectivity trials, transformation trials...)

Crop*	Country	Type of trial**	Number of trials		Years	GEP, non-GEP, official***	Comments (any other relevant information)
			Maritime zone	Mediterranean zone			
Lettuce [LACSA]	Belgium	S; Y	2	-	2019	GEP	grown in GH
	Spain	S; Y	-	2	2019	GEP	grown in FIELD
Tomato [LYPES]	Italy	TT; TF; TP	-	2	2019-2020	GEP	taint test on fresh tomato, puree and frozen tomato
TOTAL	-	-	2	4	-	-	

* According to the GAP table.

** S = selectivity trial, Y = trial with yield assessment, Q = trial with quality assessment, T = trial on the basis of the study of impact on transformation process (TP: Physical transformation, TF: transformation involving microbial fermentation), P = trial with assessment of impact on propagation).

*** Official: carried out by a national official organisation.

Table 3.4-2: Details on trial methodology of Taint Test trials on tomato

Total number of trial: 2		
Guidelines	General guidelines	EPPO:PP 1/135(4) Phytotoxicity assessment - (2) EPPO:PP 1/152(4) Design and analysis of efficacy evaluation trials - (2) EPPO:PP 1/181(4) Conduct and reporting of efficacy evaluation trials including good experimental practice - (2)
	Specific guidelines	EPPO:PP 1/242(2) – Taint tests (2) CEB: 143, normalized testing method AFNOR V 09-013 (1)
Experimental design	Plot design	RACOB L - (2)
	Plot size	19.2-21 m ²
	Number of replications	4 - (2)
Crop	Trials per crop	Tomato - (2)
	Varieties per crop	H1301 - (1); H7204 - (1)
Application	Crop stage (BBCH)* at application	Appl. A: BBCH 83 (2) Appl. B: BBCH 85 (2) Appl. C: BBCH 87 (1)
	Timing	preventive (2)
	Pest stage at application	absence of disease (2)
	Number of appl.s	3 - (1); 2 - (1)
	Intervals between appl.s	7 days (2)
	Spray volumes	1000 L/ha - (2)
Assessment	Assessment types	PHYTO general <u>taint test on fresh tomato</u> <u>taint test on tomato puree</u> <u>taint test on tomato after freezing</u>
	Assessment dates	PHYTO general: from 7 days before harvest up to harvest; <u>taint test on fresh tomato</u> : 8 days after harvest (1); 1 day after harvest (1); <u>taint test on tomato puree</u> : 15 days after harvest (1); 4 month after harvest (1); <u>taint test on defrost tomato</u> (17 days after harvest)
Other relevant information	Soil type	clay (1); clay sandy loam (1)
	Natural / artificial inoculation...	absence of disease (2)
	Field / Greenhouse...	field (2)

Summary and conclusion on adverse effects on treated crops

Phytotoxicity

On tomato: 2 selectivity trials with no infestation were carried out in field and 26 efficacy trials in open field in several countries belonging to the North East EPPO zone (8x) and South East EPPO zone (18x).

Table 3.4-3: Phytotoxicity of product on tomato

Number of trials with...		Efficacy trials in presence of disease (26 trials)		Selectivity trials or trials in absence of disease (2 trials)	
		Test product	Standard*	Test product	Standard
		N	N	N	N
Maximum of phytotoxicity recorded during the trials	0% to 5%	26	26	2	2
	>5% to 10%	0	0	0	0
	>10% to 15%	0	0	0	0
	>15 %	0	0	0	0
Level of symptoms at the last assessments	0% to 5%	26	26	2	2
	>5% to 10%	0	0	0	0
	>10% to 15%	0	0	0	0
	>15 %	0	0	0	0

On lettuce: 4 selectivity trials with no infestation were carried out in greenhouse (2x) and in open field (2x) and 17 efficacy trials were carried out in open field in several countries belonging to the Maritime EPPO zone (11x) and North East EPPO zone (6x).

Table 3.4-4: Phytotoxicity of product on lettuce

Number of trials with...		Efficacy trials in presence of disease (17 trials)		Selectivity trials in absence of disease (4 trials: one with double variety*)			
		Test	Standard	Test		Standard	
		N	N	N	2N	N	2N
Maximum of phytotoxicity recorded during the trials	0% to 5%	17	17	4	4	5	5
	>5% to 10%	0	0	1	1	0	0
	>10% to 15%	0	0	0	0	0	0
	>15 %	0	0	0	0	0	0
Level of symptoms at the last assessments	0% to 5%	17	17	5	5	5	5
	>5% to 10%	0	0	0	0	0	0
	>10% to 15%	0	0	0	0	0	0
	>15 %	0	0	0	0	0	0

* 5 varieties tested (in trial ESSEZF4042019 var. Tsarina and var. LS15537 were both assessed)

On cucurbits: 17 efficacy trials in open field in several countries belonging to the Maritime EPPO zone (4x), the North East EPPO zone (4x) and the South East EPPO zone (9x).

Table 3.4-5: Phytotoxicity of product on cucurbits

Number of trials with...		Efficacy trials in presence of disease (17 trials)	
		Test product	Standard*
		N	N
Maximum of phytotoxicity recorded during the trials	0% to 5%	17	11
	>5% to 10%	0	3
	>10% to 15%	0	3
	>15 %	0	0
Level of symptoms at the last assessments	0% to 5%	17	14
	>5% to 10%	0	3
	>10% to 15%	0	0
	>15 %	0	0

* In 6 trials, the Ref. Std. showed some symptoms (DAGONIS 125 SC at 0.6 LPR/ha (4x); A12705B at 0.5 L PR/10000m2LWA (2x)).

On bulb. Vegetables: 20 efficacy trials on leek in presence of disease were carried out in open field in several countries belonging to the Maritime EPPO zone (18x) and North East EPPO zone (2x).

Table 3.4-6: Phytotoxicity of product on bulb vegetables (including leek and garlic)

Number of trials with...		Efficacy trials in presence of disease (20 trials)	
		Test product	Standard
		N	N
Maximum of phytotoxicity recorded during the trials	0% to 5%	20	20
	>5% to 10%	0	0
	>10% to 15%	0	0
	>15 %	0	0
Level of symptoms at the last assessments	0% to 5%	20	20
	>5% to 10%	0	0
	>10% to 15%	0	0
	>15 %	0	0

On hop: 7 efficacy trials in presence of disease were carried out in open field in several countries belonging to the Maritime EPPO zone (5x) and South East EPPO zone (2x).

Table 3.4-7: Phytotoxicity of product on hop

Number of trials with...		Efficacy trials in presence of disease (7 trials)	
		Test product	Standard
		N	N
Maximum of phytotoxicity recorded during the trials	0% to 5%	7	7
	>5% to 10%	0	0
	>10% to 15%	0	0

Number of trials with...		Efficacy trials in presence of disease (7 trials)	
		Test product	Standard
		N	N
	>15 %	0	0
Level of symptoms at the last assessments	0% to 5%	7	7
	>5% to 10%	0	0
	>10% to 15%	0	0
	>15 %	0	0

In conclusion, no relevant phytotoxicity symptom ($\geq 5\%$ or statistically different compared to the untreated or not completely recovered at the following assessment timings or with negative impact on yield) caused by A22773A at the proposed maximum dose rate of 1 L PR/ha was recorded in all the efficacy trials and even at the double rate of 2 L PR/ha (tested in selectivity trials available on lettuce).

Yield

No unacceptable symptoms caused by the product application were observed during the trials summarized in this dossier. Azoxystrobin or oxathiapiprolin based products have been and are currently registered and extensively used on target crops (including tomato, lettuce, cucurbits both edible and inedible peel, leek, other bulb vegetables such as onion and garlic, hop and other minor crops) in some formulations types without report of negative effects since several years. Therefore, no evaluations of effects on yield were demanded necessary and no negative effects on crops quantity are expected after application of A22773A following the label recommendations.

However, **yield data were available from efficacy trials and are presented in the relative chapter:**

- on tomato (in presence of *Alternaria* spp.) in North East EPPO zone (2x) and South East EPPO zone (2x);
- on lettuce (in presence of *Bremia lactucae*) in Maritime EPPO zone (7x), North East EPPO zone (5x);
- on leek (in presence of *Phytophthora porri*, or *Alternaria porri* or *Puccinia porri*) in Maritime EPPO zone (9 15x), North East EPPO zone (2x);
- ~~- on garlic (in presence of *Puccinia allii*) in North East EPPO zone (2x).~~

These data on crop yield confirmed that A22773A at the proposed rate of 1 L PR/ha had a positive impact on the yield as a consequence of disease control.

Furthermore, **yield data were available from selectivity trials:**

- on lettuce (in absence of disease) in Mediterranean EPPO zone (2x) and in EU zone for greenhouse use (2x);

These data on crop yield confirmed that A22773A at the proposed rate of 1 L PR/ha, or even at the double rate of 2 L PR/ha, had no negative impact on the yield compared to the untreated.

Quality

No unacceptable symptoms caused by the product application were observed during the trials summarized in this dossier. Azoxystrobin or oxathiapiprolin based products have been and are currently registered and extensively used on target crops (including tomato, lettuce, cucurbits both edible and inedible peel, leek, other bulb vegetables such as onion and garlic, hop and other minor crops) in some formulations types without report of negative effects since several years. Therefore, no

evaluations of effects on quality were demanded necessary and no negative effects on crops quality are expected after application of A22773A following the label recommendations.

Transformation processes – (fresh tomato, tomato puree and frozen tomato)

Two taint test trials (one on var. H1301 and one on var. H7204) were performed on fresh tomato, tomato puree and tomato after freezing. In general no statistically significant difference was observed between samples treated with A22773A and the untreated check. Only in one out of 2 trials statistical difference between A22773A (2 appl.s) and the untreated check was recorded for tomato puree (no comment on possible taint perceived was reported). However, at more challenging conditions, following 3 appl.s of A22773A, in the other trial, no statistical difference was recorded on tomato puree. Therefore, in conclusion data show that there is no negative effect (unpleasant taste or smell) on fresh tomato, tomato puree and tomato after freezing arising from the use of A22773A at the proposed rate of 1 L/ha (250 g/ha of azoxystrobin and 12 g/ha of oxathiapiprolin) following up to 3 foliar applications at 7 days spray interval in open field in the absence of disease.

Propagation materials

During several years of commercial use of azoxystrobin or oxathiapiprolin, no negative effects on plant parts used for propagation have been observed.

Furthermore in general a separate supply chain for propagating material is dedicated and therefore there is no concern in possible adverse effect on propagation for plants treated with A22773A for fruit production in target crops.

Because A22773A has no herbicidal activity and no phytotoxicity was reported from the trials with no negative impact on quality and yield, no data on plant parts for propagation are required nor have been carried out. Furthermore, several plant protection products are successfully registered since several years around Europe delivering the same amount of active ingredients according to their registered labels.

No specific studies on plant propagation have been carried out nor are they considered necessary.

Comments of zRMS:

The results from efficacy and selectivity trials have been presented to determine adverse effect of A22773A on treated vegetables and hop. No phytotoxicity symptoms or symptoms on acceptable level were noted in all trials. The product was safe even at the double rate (2 l pr/ha) tested in 4 selectivity trials on lettuce. Moreover, A22773A at dose rate of 1 l pr/ha had no negative impact on the yield of tomato, lettuce and leek. The results from taint tests show that A22773A at the proposed rate of 1 l pr/ha has no negative effect (unpleasant taste or smell) on fresh tomato, tomato puree and tomato after freezing. No data on plants parts for propagation was submitted. Because the product has not herbicidal activity and no phytotoxicity symptoms were recorded, no data of impact on plant parts for propagation are required.

3.5 Observations on other undesirable or unintended side-effects (KCP 6.5)

Summary and conclusion on Observations on other undesirable or unintended side-effects

A22773A applied on tomato, lettuce, cucurbits (edible or inedible peel), leek, garlic, hop grown, in open field ~~or greenhouse~~, according to recommendations, does not lead to unacceptable risk to succeeding crops, adjacent crops, beneficial insects and non-target organisms. Further details are given in Part B Section 8 and Section 9 of the dRR.

A22773A has fungicide activity and no herbicidal activity, therefore the risk from tank residues is of no relevance and no testing of cleaning method are required. Furthermore, A22773A causes no phytotoxic symptoms on the plant species tested and registration is currently sought without

restrictions.

For all these reasons, when applied according to the recommendations, traces of residues of A22773A remained in the application equipment after cleaning should pose no risk to subsequently treated crops.

Finally, A22773A is a suitable candidate for inclusion in IPM thanks to its profile and characteristics.

No impacts on the fauna in general and/or beneficials in particular be observed, nor could any negative impacts on the environment be noticed in the efficacy and selectivity trials summarized in this dossier.

Also no adverse effects on natural predators or other organisms are reported, applying azoxystrobin or oxathiapiprolin formulations since several years on a range of crops.

However 4 specific trials were carried to observe possible effects on beneficials following the application of A22773A at 1 L PR/ha in greenhouse in Spain in 2019.

Data following several application of A22773A were compared to the untreated check (water sprayed) and to the positive control, an active insecticide against the target beneficials.

Table 3.5-1: Details on trial methodology – trials on beneficials

4 trials:		
Guidelines	General guidelines	PP 1/151(2)
	Specific guidelines	PP 1/170 (2) (bumble bees)
Experimental design	Plot design	Big plot were designed. A net was installed for separation of treatments. Each big plot is divided in 4 subsamples in order to get statistical analysis, as indicated by protocol (4)
	Plot size	30 m ² (2) 160 m ² (1) 320 m ² (1)
	Number of replications	4 (4)
Crop	Trials per crop	tomato (2) pepper (2)
	Varieties per crop	tomato: Guanche (1); Karelya (1) pepper: Herminio (1); Loreto (1)
Beneficial observed	Specie per crop	tomato: (<i>Nesidiocoris tenuis</i> ; <i>Bombus</i> sp.) pepper: (<i>Orius laevigatus</i> ; <i>Amblyseius swirskii</i>)
Application	Crop stage (BBCH) at application per crop	First application: tomato BBCH 81 (1); BBCH 63 (1) pepper BBCH 63 (1); BBCH 77 (1) First application: tomato BBCH 83 (1); BBCH 71 (1) pepper BBCH 72 (1); BBCH 83 (1)
	Number of applications	3 (3); 2 (1)
	Intervals between applications	about 7 days
	Spray volumes per crop	tomato: 820-900 L/ha (1) 456-800 L/ha (1) pepper: 660-810 L/ha (1) 290-300 L/ha (1)
Assessment	Assessment types per beneficial:	<i>Nesidiocoris tenuis</i> : count insect (adult/nymph), number <i>Orius laevigatus</i> : count insect (adult/nymph), number <i>Amblyseius swirskii</i> : count insect (adult), number <i>Bombus</i> sp.: count insect (adult/larva large/larva small/pupa), number per one beehive; pollination (flower brown/flower marked/flower unmarked), % per one plant; Quality - Beehiv (g per 1 beehive); Weight - Nest (g per 1 beehive)
	Assessment dates	regularly at each application, and regularly following the last application

4 trials:		
Other relevant information	e.g. Soil type, pH (in case of soil active substance ...)	Not relevant, foliar application
	e.g. Natural / artificial inoculation...	artificial introduction of beneficial with homogeneous widespread (3); artificial introduction of hives (1)
	e.g. Field / Greenhouse...	greenhouse (4)

Therefore it can be concluded that A22773A does not have relevant adverse effects on beneficial organisms when used according to recommendation.

Detailed studies on the possible adverse effects to beneficial organisms are submitted and summarized in **Part B, Section 9** (Ecotoxicology).

Comments of zRMS:

The Applicant did not provide data in the dRR to justify the impact on succeeding and adjacent crops. However, some trial results are included in BAD. The table below shows endpoints and effect values relevant for the risk assessment for non-target terrestrial plants.

Species	Substance	Exposure System	Results	Reference
<i>Allium cepa</i> ^{m 1)} <i>Triticum aestivum</i> ^{m 1)} <i>Beta vulgaris</i> ^{d 2)} <i>Brassica napus</i> ^{d 2)} <i>Cucumis sativus</i> ^{d 2)} <i>Glycine max</i> ^{d 3)}	A22773A ^a	28 d Tier 1 screening data Seedling emergence	No phytotoxic effects up to and including 1000 mL A22773A/ha ER ₅₀ > 1000 mL A22773A/ha	Jones, K., 2020, VV-880671
		21 d Phytotoxicity (Vegetative vigour)	¹⁾ No phytotoxic effects up to and including 1000 mL test item/ha + 4000 mL adjuvant/ha ²⁾ No phytotoxic effects up to and including 125 mL test item/ha + 500 mL adjuvant/ha ³⁾ No phytotoxic effects up to and including 250 mL test item/ha + 1000 mL adjuvant/ha	
<i>Allium cepa</i> ^m <i>Brassica napus</i> ^d <i>Brassica oleracea</i> ^d <i>Glycine max</i> ^d <i>Beta vulgaris</i> ^d <i>Lactuca sativa</i> ^d <i>Cucumis sativus</i> ^d <i>Zea mays</i> ^m <i>Lolium perenne</i> ^m <i>Avena sativa</i> ^m	A22773A	21 d Vegetative vigour (Tier 2)	ER₅₀ > 4103 mL A22773A/ha	

m: monocotyledonous; d: dicotyledonous

Endpoints used for risk assessment are shown in **bold**.

^a The product A22773A was applied in combination with the adjuvant A12127R.

The vegetative vigour screening test showed effects at and below the highest field application rate. Therefore, a Tier 2 risk assessment was conducted. The Tier 2 test revealed that vegetative vigour of the test crops is not affected by applications of A22773A up to and including 4103 ml/ha. Based on this evidence, it is concluded that the risk to replacement or succeeding crops is acceptable.

However, in case any such impact is discussed within the Section 8 and 9, incorporation of the relevant warning into the product label will be necessary.

4 trials have been submitted to determine of impact on beneficial and other non-target organisms. According to

trial results, it can be concluded that A22773A after three applications at 1 l pr/ha (7 days interval) is selective for *Nesidiocoris tenuis*, *Orius laevigatus*, *Amblyseius swirskii* and *Bombus* sp.

3.6 Other/special studies (KCP 6.6)

No other study submitted.

3.7 List of test facilities including the corresponding certificates

The following table gives information about the testing facilities where trials were done. All facilities are certified and the trials conducted according to GEP.

The corresponding certificates are available in the GEP Certificate Database System (Certibase) (<http://www.gepcertibase.eu>) via the hyperlinks provided in the table below.

Table 3.7-1: List of test facilities - Central Zone

Hyperlink to certificate	Test facility	Country	Number of trials		
			2018	2019	2020
1d690228b96	PC Groententeelt Kruishoutem, Kruishoutem, Belgium	BE	1	10	4
1d690228a7f	PSG SKW, Sint-Katelijne-Waver, Belgium				
1d690228b4a					
1d690228bea					
1d690228a58	Agroblu Bul, Plovdi, Bulgaria, Bogomil 22	BG	-	4	4
1d690228b94	Anadiag Bulgaria L.t.d				
1d690228901	Eurofins Agroscience Services EOOD,Pazardzhik, Bulgaria				
1d690228a38	SAGEA OOD Varna				
1d690228a3f	Hop Research Institute Co., Zatec, Czech Republic	CZ	-	2	2
1d69022897d	Agrartest GmbH	DE	-	3	-
1d690b37eec	BioChem agrar GmbH NL Agroplan				
1d690228971	SYNGENTA AGRO GmbH - D-63477 Maintal				
1d6902289e9	SYNGENTA ESPAÑA S.A.	ES	-	2	4
1d690228b0c	ESSAIS +	FR	-	7	8
1d6902288ff	Eurofins Agroscience Services				
1d690228a4c	PROMO-VERT				
1d690228bd6	QUALIPHYT - France				
1d690228b65	Syngenta France SAS				
1d690228a01	SynTech Research France SAS, La Chapelle de Guinchay, France				
1d690228b6f					
1d690228b17	Agrobiotest d.o.o.	HR	-	5	3
1d690228a2f	Agrofil SZMI Kft, Püski, Hungary	HU	-	6	5
1d690228a6c	Anadiag Hungary Kft, Komárom, Hungary				
1d690228bcc	CPR Europe Kft.				
1d6902288ea	Eurofins Agroscience Services Kft, Székesfehérvár, Hungary				
1d690228a66	Syngenta HU				
1d69091ee58	Anadiag Italia S.R.L.	IT	-	1	1
1d690228b21	SAGEA Centro di Saggio Srl, Castagnito d'Alba , Italy				
1d690228c22	Eurofins - De Bredelaar	NL	-	-	3
1d690228a2a	Exploras Agro Development, PM Dongen, Netherlands				
1d690228b64	Agro Research Consulting	PL	-	7	13
1d69022878f	AgroResearch Sp. z o.o.				
1d69022898d	BioChem agrar Polska Spolka z o.o.				
1d6902289a6	Eurofins Agroscience Services Sp. Z o.o				
1d690228b76	Institut of Horticulture in Skierniewice				

1d690228c14	Syngenta Polska Sp. z o.o.				
1d69022890e	SynTech Research Poland Sp. z o.o.				
1d690271e66	Institute of Hop Research and Brewing, Zalec, Slovenia	SI	-	1	1
		TOTAL:	97		

Appendix 1 Lists of data considered in support of the evaluation

List of data submitted by the applicant and relied on

Data point	Author(s)	Year	Title Source Company Report No. GLP or GEP status Published or Unpublished Syngenta File No.	Vertebrate study Y/N	Owner SYN = Syngenta
KCP Section 6	Syngenta	31/08/2021	A22773A PI0009512 BAD Report No. N/A Document No. VV-881245 Test Facility N/A Not GLP Unpublished	N	SYN

List of data submitted by the applicant and relied on – Maritime EPPO Zone

Data point	Author(s)	Year	Title Source Company Report No. GLP or GEP status Published or Unpublished Syngenta File No.	Vertebrate study Y/N	Owner SYN = Syngenta
KCP 6.1	Barret, S.	23/10/2019	EAME Profiling A22773A for Melon or water melon against Pseudoperonospora cubensis - Field - 2019 Report No. FREUZF9102019 Document No. VV-906703 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.1	Bertin, B..	12/03/2021	EAME Registration of A23109A and A22773A for Leek against Phytophthora porri 2020 Report No. FRBEZF0272020 Document No. VV-906696 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.1	Cap, N.	09/03/2021	EAME Registration of A23109A and A22773A for lettuce against bremia in FIELD in EU 2020 Report No. BEKHZF0012020 Document No. VV-906617 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.1	Carstens, H.	09/01/2020	EAME Profiling & registration OXTP+AZT - Orondis Evo (A22773A) and OXTP+MFX for Lettuce against Bremia in the field 2019 Report No. DEDSZF1452019 Document No. VV-906648 Test Facility Syngenta Limited GEP Unpublished	N	SYN

KCP 6.1	Chatelier, B.	08/11/2020	EAME Registration of A22773A for horizontal cucurbits against Pseudoperonospora cubensis - Field - 2020 Report No. FRQUZF0302020 Document No. VV-906708 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.1	Chatelier, B.	26/09/2019	EAME Profiling A22773A for Melon or water melon against Pseudoperonospora cubensis - Field - 2019 Report No. FRQUZF9172019 Document No. VV-906709 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.1	Jansen, E.	26/01/2021	EAME Registration A23109A (OXT+MFX) and A22773A (OXT+AZT) for Leek against Phytophthora porri 2020 Report No. NLDBZF9022020 Document No. VV-906793 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.1	Krosschell, A.	18/02/2021	EAME Registration A23109A (OXT+MFX) and A22773A (OXT+AZT) for Leek against Phytophthora porri 2020 Report No. NLEXZF9112020 Document No. VV-906795 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.1	Mesange, C.	18/11/2020	EAME Registration of A23109A and A22773A for lettuce against brexia in FIELD in EU 2020 Report No. FRCMZF0322020 Document No. VV-906699 Test Facility Syngenta Limited GEP Unpublished	N	SYN

KCP 6.1	Neukermans, J.	08/11/2019	EAME Profiling & registration of A22773A and EXF16956C for Lettuce against Bremia in the field 2019 Report No. BEKHZF9122019 Document No. VV-906620 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.1	Neukermans, J.	29/11/2019	EAME Profiling & registration of A22773A and EXF16956C for Lettuce against Bremia in the field 2019 Report No. BEKHZF9132019 Document No. VV-906621 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.1	Rivet, J..	19/02/2021	EAME Registration of A23109A and A22773A for Leek against Phytophthora porri 2020 Report No. FREPZF0272020 Document No. VV-906700 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.1	Speyer, M..	09/01/2020	EAME Profiling & registration of A22773A and EXF16956C for Lettuce against Bremia in the field 2019 Report No. FRSMZF9142019 Document No. VV-906712 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.1	Venneman, S..	11/02/2021	EAME Registration of A23109A and A22773A for Leek against Phytophthora porri 2020 Report No. BESKZF0112020 Document No. VV-906627 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.1	Venneman, S..	08/04/2021	EAME Registration of A23109A and A22773A for Leek against Phytophthora porri 2020 Report No. BESKZF0122020 Document No. VV-906628 Test Facility Syngenta Limited GEP Unpublished	N	SYN

KCP 6.1	Venneman, S..	10/12/2020	EAME Registration of A23109A and A22773A for lettuce against brexia in FIELD in EU 2020 Report No. BESKZF0042020 Document No. VV-906624 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.1	Venneman, S..	04/12/2018	EAME Profiling OXTP + MDP (A21591C) for lettuce against brexia in the field in EU - 2018 Report No. BESK0F9122018 Document No. VV-906622 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.1	Venneman, S..	09/12/2019	EAME Profiling & registration of A22773A and EXF16956C for Lettuce against Bremia in the field 2019 Report No. BESKZF9092019 Document No. VV-906631 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.1	Venneman, S..	09/12/2019	EAME Profiling & registration of A22773A and EXF16956C for Lettuce against Bremia in the field 2019 Report No. BESKZF9102019 Document No. VV-906632 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Barret, S.	23/10/2019	EAME Profiling A22773A for Melon or water melon against Pseudoperonospora cubensis - Field - 2019 Report No. FREUZF9102019 Document No. VV-906703 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Bertin, B..	12/03/2021	EAME Registration of A23109A and A22773A for Leek against Phytophthora porri 2020 Report No. FRBEZF0272020 Document No. VV-906696 Test Facility Syngenta Limited GEP Unpublished	N	SYN

KCP 6.2	Bertin, B..	29/04/2020	EAME Profiling & registration A22773A for Leek against Phytophthora porri 2019 Report No. FRBEZF9112019 Document No. VV-906697 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Bertin, B..	10/03/2021	EAME Registration of A22773A for Leek against Alternaria and rust 2020DLK21CC Report No. FRBEZF0262020 Document No. VV-906695 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Bertin, B..	11/05/2020	EAME Profiling and registration A22773A for Leek against Rust/Alternaria 2019 Report No. FRBEZF9132019 Document No. VV-906698 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Cap, N.	25/03/2020	EAME Profiling&Registration of A22773A for Leek against Phytophthora porri 2019 Report No. BEKHZF9052019 Document No. VV-906618 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Cap, N.	07/01/2020	Profiling & registration of EXF16939C/EXF16956C against P porri in leek in EAME 2019 Report No. BEKHZF9112019 Document No. VV-906619 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Cap, N.	09/03/2021	EAME Registration of A23109A and A22773A for lettuce against bremia in FIELD in EU 2020 Report No. BEKHZF0012020 Document No. VV-906617 Test Facility Syngenta Limited GEP Unpublished	N	SYN

KCP 6.2	Carstens, H.	09/01/2020	EAME Profiling & registration OXTP+AZT - Orondis Evo (A22773A) and OXTP+MFX for Lettuce against Bremia in the field 2019 Report No. DEDSZF1452019 Document No. VV-906648 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Chatelier, B.	08/11/2020	EAME Registration of A22773A for horizontal cucurbits against Pseudoperonospora cubensis - Field - 2020 Report No. FRQUZF0302020 Document No. VV-906708 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Chatelier, B.	26/09/2019	EAME Profiling A22773A for Melon or water melon against Pseudoperonospora cubensis - Field - 2019 Report No. FRQUZF9172019 Document No. VV-906709 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Chatelier, B.	04/11/2020	EAME Registration of A23109A and A22773A for lettuce against bremia in FIELD in EU 2020 Report No. FRQUZF0232020 Document No. VV-906706 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Embrechts, A.	17/12/2020	EAME Registration OXTP+AZT - Orondis Evo (A22773A) for Leek against Alternaria and rust 2020 Report No. NLEXZF9102020 Document No. VV-906794 Test Facility Syngenta Limited GEP Unpublished	N	SYN

KCP 6.2	Gaëlle, B.	14/12/2020	EAME Registration of A22773A for horizontal cucurbits against dydimella, cladosporium - 2020 Report No. FRPVZF0192020 Document No. VV-906705 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Jansen, E.	26/01/2021	EAME Registration A23109A (OXTP+MFX) and A22773A (OXTP+AZT) for Leek against Phytophthora porri 2020 Report No. NLDBZF9022020 Document No. VV-906793 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Klapal, I.	20/11/2020	EAME Registration A22773A (OXTP+AZT) for Hop against Pseudoperonospora humuli 2020 Report No. CZZAZF1022020 Document No. VV-906644 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Krosschell, A.	18/02/2021	EAME Registration A23109A (OXTP+MFX) and A22773A (OXTP+AZT) for Leek against Phytophthora porri 2020 Report No. NLEXZF9112020 Document No. VV-906795 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Lefranc, M.	07/01/2020	EAME Profiling and registration A22773A for Leek against Rust/Alternaria 2019 Report No. FRSYZF9122019 Document No. VV-906715 Test Facility Syngenta Limited GEP Unpublished	N	SYN

KCP 6.2	Lorenz, B.	25/11/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) for Leek against Rust/Alternaria 2019 Report No. DEBCZF1222019 Document No. VV-913751 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Mesange, C.	18/11/2020	EAME Registration of A23109A and A22773A for lettuce against brexia in FIELD in EU 2020 Report No. FRCMZF0322020 Document No. VV-906699 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Neukermans, J.	08/11/2019	EAME Profiling & registration of A22773A and EXF16956C for Lettuce against Bremia in the field 2019 Report No. BEKHZF9122019 Document No. VV-906620 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Neukermans, J.	29/11/2019	EAME Profiling & registration of A22773A and EXF16956C for Lettuce against Bremia in the field 2019 Report No. BEKHZF9132019 Document No. VV-906621 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Rivet, J.	19/02/2021	EAME Registration of A23109A and A22773A for Leek against Phytophthora porri 2020 Report No. FREPZF0272020 Document No. VV-906700 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Rivet, J.	06/03/2020	Profiling & registration of EXF16939C/EXF16956C against P porri in leek in EAME 2019 Report No. FREPZF9292019 Document No. VV-906702 Test Facility Syngenta Limited GEP Unpublished	N	SYN

KCP 6.2	Rivet, J..	19/11/2020	EAME Registration of A22773A for Leek against Alternaria and rust 2020 Report No. FREPZF0302020 Document No. VV-906701 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Speyer, M..	09/01/2020	EAME Profiling & registration of A22773A and EXF16956C for Lettuce against Bremia in the field 2019 Report No. FRSMZF9142019 Document No. VV-906712 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Trefilova, M.	20/11/2020	EAME Registration A22773A (OXT+AZT) for Hop against Pseudoperonospora humuli 2020 Report No. CZZAZF1012020 Document No. VV-906643 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Venneman, S.	11/02/2021	EAME Registration of A23109A and A22773A for Leek against Phytophthora porri 2020 Report No. BESKZF0112020 Document No. VV-906627 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Venneman, S.	08/04/2021	EAME Registration of A23109A and A22773A for Leek against Phytophthora porri 2020 Report No. BESKZF0122020 Document No. VV-906628 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Venneman, S.	08/05/2020	Profiling & registration of EXF16939C/EXF16956C against P porri in leek in EAME 2019 Report No. BESKZF9072019 Document No. VV-906629 Test Facility Syngenta Limited GEP Unpublished	N	SYN

KCP 6.2	Venneman, S.	08/05/2020	Profiling & registration of EXF16939C/EXF16956C against P porri in leek in EAME 2019 Report No. BESKZF9082019 Document No. VV-906630 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Venneman, S.	10/12/2020	EAME Registration of A23109A and A22773A for lettuce against brexia in FIELD in EU 2020 Report No. BESKZF0042020 Document No. VV-906624 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Venneman, S.	04/12/2018	EAME Profiling OXTP + MDP (A21591C) for lettuce against brexia in the field in EU - 2018 Report No. BESK0F9122018 Document No. VV-906622 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Venneman, S.	09/12/2019	EAME Profiling & registration of A22773A and EXF16956C for Lettuce against Bremia in the field 2019 Report No. BESKZF9092019 Document No. VV-906631 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Venneman, S.	09/12/2019	EAME Profiling & registration of A22773A and EXF16956C for Lettuce against Bremia in the field 2019 Report No. BESKZF9102019 Document No. VV-906632 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Vostrel, J.	11/12/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) for Hop against Pseudoperonospora humuli 2019 Report No. CZZAZF1032019 Document No. VV-906645 Test Facility Syngenta Limited GEP Unpublished	N	SYN

KCP 6.2	Vostrel, J.	11/12/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) for Hop against Pseudoperonospora humuli 2019 Report No. CZZAZF1042019 Document No. VV-906646 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Ziegler, K.	02/12/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) for Hop against Pseudoperonospora humuli 2019 Report No. DEATZF1032019 Document No. VV-906647 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Barret, S.	23/10/2019	EAME Profiling A22773A for Melon or water melon against Pseudoperonospora cubensis - Field - 2019 Report No. FREUZF9102019 Document No. VV-906703 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Bertin, B.	12/03/2021	EAME Registration of A23109A and A22773A for Leek against Phytophthora porri 2020 Report No. FRBEZF0272020 Document No. VV-906696 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Bertin, B.	29/04/2020	EAME Profiling & registration A22773A for Leek against Phytophthora porri 2019 Report No. FRBEZF9112019 Document No. VV-906697 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Bertin, B.	10/03/2021	EAME Registration of A22773A for Leek against Alternaria and rust 2020DLK21CC Report No. FRBEZF0262020 Document No. VV-906695 Test Facility Syngenta Limited GEP Unpublished	N	SYN

KCP 6.4.1	Bertin, B.	11/05/2020	EAME Profiling and registration A22773A for Leek against Rust/Alternaria 2019 Report No. FRBEZF9132019 Document No. VV-906698 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Cap, N.	25/03/2020	EAME Profiling&Registration of A22773A for Leek against Phytophthora porri 2019 Report No. BEKHZF9052019 Document No. VV-906618 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Cap, N.	07/01/2020	Profiling & registration of EXF16939C/EXF16956C against P porri in leek in EAME 2019 Report No. BEKHZF9112019 Document No. VV-906619 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Cap, N.	09/03/2021	EAME Registration of A23109A and A22773A for lettuce against brexia in FIELD in EU 2020 Report No. BEKHZF0012020 Document No. VV-906617 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Carstens, H.	09/01/2020	EAME Profiling & registration OXTP+AZT - Orondis Evo (A22773A) and OXTP+MFX for Lettuce against Bremia in the field 2019 Report No. DEDSZF1452019 Document No. VV-906648 Test Facility Syngenta Limited GEP Unpublished	N	SYN

KCP 6.4.1	Chatelier, B.	08/11/2020	EAME Registration of A22773A for horizontal cucurbits against Pseudoperonospora cubensis - Field - 2020 Report No. FRQUZF0302020 Document No. VV-906708 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Chatelier, B.	26/09/2019	EAME Profiling A22773A for Melon or water melon against Pseudoperonospora cubensis - Field - 2019 Report No. FRQUZF9172019 Document No. VV-906709 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Chatelier, B.	04/11/2020	EAME Registration of A23109A and A22773A for lettuce against Bremia in FIELD in EU 2020 Report No. FRQUZF0232020 Document No. VV-906706 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Embrechts, A.	17/12/2020	EAME Registration OXTP+AZT - Orondis Evo (A22773A) for Leek against Alternaria and rust 2020 Report No. NLEXZF9102020 Document No. VV-906794 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Gaëlle, B.	14/12/2020	EAME Registration of A22773A for horizontal cucurbits against Didymella, Cladosporium - 2020 Report No. FRPVZF0192020 Document No. VV-906705 Test Facility Syngenta Limited GEP Unpublished	N	SYN

KCP 6.4.1	Jansen, E.	26/01/2021	EAME Registration A23109A (OXT+MFX) and A22773A (OXT+AZT) for Leek against Phytophthora porri 2020 Report No. NLDBZF9022020 Document No. VV-906793 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Klapal, I.	20/11/2020	EAME Registration A22773A (OXT+AZT) for Hop against Pseudoperonospora humuli 2020 Report No. CZZAZF1022020 Document No. VV-906644 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Krosschell, A.	18/02/2021	EAME Registration A23109A (OXT+MFX) and A22773A (OXT+AZT) for Leek against Phytophthora porri 2020 Report No. NLEXZF9112020 Document No. VV-906795 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Lefranc, M.	07/01/2020	EAME Profiling and registration A22773A for Leek against Rust/Alternaria 2019 Report No. FRSYZF9122019 Document No. VV-906715 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Lorenz, B.	25/11/2019	EAME Profiling OXT+AZT - Orondis Evo (A22773A) for Leek against Rust/Alternaria 2019 Report No. DEBCZF1222019 Document No. VV-913751 Test Facility Syngenta Limited GEP Unpublished	N	SYN

KCP 6.4.1	Mesange, C.	18/11/2020	EAME Registration of A23109A and A22773A for lettuce against brexia in FIELD in EU 2020 Report No. FRCMZF0322020 Document No. VV-906699 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Neukermans, J.	08/11/2019	EAME Profiling & registration of A22773A and EXF16956C for Lettuce against Bremia in the field 2019 Report No. BEKHZF9122019 Document No. VV-906620 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Neukermans, J.	29/11/2019	EAME Profiling & registration of A22773A and EXF16956C for Lettuce against Bremia in the field 2019 Report No. BEKHZF9132019 Document No. VV-906621 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Rivet, J.	19/02/2021	EAME Registration of A23109A and A22773A for Leek against Phytophthora porri 2020 Report No. FREPZF0272020 Document No. VV-906700 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Rivet, J.	06/03/2020	Profiling & registration of EXF16939C/EXF16956C against P porri in leek in EAME 2019 Report No. FREPZF9292019 Document No. VV-906702 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Rivet, J.	19/11/2020	EAME Registration of A22773A for Leek against Alternaria and rust 2020 Report No. FREPZF0302020 Document No. VV-906701 Test Facility Syngenta Limited GEP Unpublished	N	SYN



KCP 6.4.1	Speyer, M.	09/01/2020	EAME Profiling & registration of A22773A and EXF16956C for Lettuce against Bremia in the field 2019 Report No. FRSMZF9142019 Document No. VV-906712 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Trefilova, M.	20/11/2020	EAME Registration A22773A (OXT+AZT) for Hop against Pseudoperonospora humuli 2020 Report No. CZZAZF1012020 Document No. VV-906643 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Venneman, S.	11/02/2021	EAME Registration of A23109A and A22773A for Leek against Phytophthora porri 2020 Report No. BESKZF0112020 Document No. VV-906627 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Venneman, S.	08/04/2021	EAME Registration of A23109A and A22773A for Leek against Phytophthora porri 2020 Report No. BESKZF0122020 Document No. VV-906628 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Venneman, S.	08/05/2020	Profiling & registration of EXF16939C/EXF16956C against P porri in leek in EAME 2019 Report No. BESKZF9072019 Document No. VV-906629 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Venneman, S.	08/05/2020	Profiling & registration of EXF16939C/EXF16956C against P porri in leek in EAME 2019 Report No. BESKZF9082019 Document No. VV-906630 Test Facility Syngenta Limited GEP Unpublished	N	SYN

KCP 6.4.1	Venneman, S.	10/12/2020	EAME Registration of A23109A and A22773A for lettuce against brexia in FIELD in EU 2020 Report No. BESKZF0042020 Document No. VV-906624 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Venneman, S.	04/12/2018	EAME Profiling OXTP + MDP (A21591C) for lettuce against brexia in the field in EU - 2018 Report No. BESK0F9122018 Document No. VV-906622 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Venneman, S.	09/12/2019	EAME Profiling & registration of A22773A and EXF16956C for Lettuce against Bremia in the field 2019 Report No. BESKZF9092019 Document No. VV-906631 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Venneman, S.	09/12/2019	EAME Profiling & registration of A22773A and EXF16956C for Lettuce against Bremia in the field 2019 Report No. BESKZF9102019 Document No. VV-906632 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Vostrel, J.	11/12/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) for Hop against Pseudoperonospora humuli 2019 Report No. CZZAZF1032019 Document No. VV-906645 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Vostrel, J.	11/12/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) for Hop against Pseudoperonospora humuli 2019 Report No. CZZAZF1042019 Document No. VV-906646 Test Facility Syngenta Limited GEP Unpublished	N	SYN

KCP 6.4.1	Ziegler, K.	02/12/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) for Hop against Pseudoperonospora humuli 2019 Report No. DEATZF1032019 Document No. VV-906647 Test Facility Syngenta Limited GEP Unpublished	N	SYN
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List of data submitted by the applicant and relied on – North East EPPO Zone

Data point	Author(s)	Year	Title Source Company Report No. GLP or GEP status Published or Unpublished Syngenta File No.	Vertebrate study Y/N	Owner
KCP 6.1	Jarecka-Boncera, A.	14/09/2020	EAME Registration OXTP+AZT - Orondis Evo (A22773A) for horizontal cucurbits against Pseudoperonospora cubensis - Field - 2020 Report No. PLIWZF1152020 Document No. VV-906815 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.1	Jarecka-Boncera, A.	12/12/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) for Cucumber/Zucchini against Pseudoperonospora (FIELD) 2019 Report No. PLIWZF1092019 Document No. VV-906812 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.1	Jarecka-Boncera, A.	02/07/2020	EAME Registration OXTP + MFX (A23109A) and OXTP+AZT (A22773A) for lettuce against brexia in FIELD in EU 2020 Report No. PLIWZF1022020 Document No. VV-906807 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.1	Jarecka-Boncera, A.	02/12/2019	EAME Profiling & registration OXTP+AZT - Orondis Evo (A22773A) and OXTP+MFX for Lettuce against Bremia in the field 2019 Report No. PLIWZF1102019 Document No. VV-906813 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.1	Jarecka-Boncera, A.	20/08/2020	EAME Registration of OXTP + AZT (A22773A) for horizontal tomato against Late Blight in open field in EU -	N	SYN

Data point	Author(s)	Year	Title Source Company Report No. GLP or GEP status Published or Unpublished Syngenta File No.	Vertebrate study Y/N	Owner
			Normal and long spray interval - 2020 Report No. PLIWZF1112020 Document No. VV-906814 Test Facility Syngenta Limited GEP Unpublished		
KCP 6.1	Kasperek, M.	16/12/2020	EAME Registration OXTP + MFX (A23109A) and OXTP+AZT (A22773A) for lettuce against brexia in FIELD in EU  2020 Report No. PLSYZF1012020 Document No. VV-906817 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.1	Matusiak, J.	20/11/2020	EAME Registration OXTP+AZT - Orondis Evo (A22773A) for horizontal cucurbits against Pseudoperonospora cubensis - Field - 2020 Report No. PLDSZF5152020 Document No. VV-906802 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.1	Matusiak, J.	03/12/2020	EAME Registration OXTP + MFX (A23109A) and OXTP+AZT (A22773A) for lettuce against brexia in FIELD in EU  2020 Report No. PLDSZF5172020 Document No. VV-906803 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.1	Matusiak, J.	24/10/2020	EAME Registration of OXTP + AZT (A22773A) for horizontal tomato against Late Blight in open field in EU - Normal and long spray interval - 2020 Report No. PLDSZF5222020 Document No. VV-906804 Test Facility Syngenta Limited	N	SYN

Data point	Author(s)	Year	Title Source Company Report No. GLP or GEP status Published or Unpublished Syngenta File No.	Vertebrate study Y/N	Owner
			GEP Unpublished		
KCP 6.1	Slowiak, K.	13/12/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) for Cucumber/Zucchini against Pseudoperonospora (FIELD) 2019 Report No. PLBCZF1062019 Document No. VV-906798 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.1	Slowiak, K.	13/12/2019	EAME Profiling & registration OXTP+AZT - Orondis Evo (A22773A) and OXTP+MFX for Lettuce against Bremia in the field 2019 Report No. PLBCZF1082019 Document No. VV-906799 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.1	Wachowiak, P.	27/11/2020	EAME Registration OXTP + MFX (A23109A) and OXTP+AZT (A22773A) for lettuce against brexia in FIELD in EU ♦ 2020 Report No. PLEUZF1072020 Document No. VV-906805 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Gajek, D.	01/08/2020	EAME Registration OXTP+AZT - Orondis Evo (A22773A) on horizontal tomato against Alternaria sp 2020 Field Report No. PLAGZF1012020 Document No. VV-906796 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Jarecka-Bonceta, A.	14/09/2020	EAME Registration OXTP+AZT - Orondis Evo (A22773A) for horizontal cucurbits against Pseudoperonospora cubensis - Field - 2020	N	SYN

Data point	Author(s)	Year	Title Source Company Report No. GLP or GEP status Published or Unpublished Syngenta File No.	Vertebrate study Y/N	Owner
			Report No. PLIWZF1152020 Document No. VV-906815 Test Facility Syngenta Limited GEP Unpublished		
KCP 6.2	Jarecka-Boncera, A.	12/12/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) for Cucumber/Zucchini against Pseudoperonospora (FIELD) 2019 Report No. PLIWZF1092019 Document No. VV-906812 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Jarecka-Boncera, A.	30/10/2020	EAME Registration OXTP+AZT - Orondis Evo (A22773A) for Leek against Alternaria and rust 2020 Report No. PLIWZF1172020 Document No. VV-906816 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Jarecka-Boncera, A.	02/07/2020	EAME Registration OXTP + MFX (A23109A) and OXTP+AZT (A22773A) for lettuce against brexia in FIELD in EU ♦ 2020 Report No. PLIWZF1022020 Document No. VV-906807 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Jarecka-Boncera, A.	02/12/2019	EAME Profiling & registration OXTP+AZT - Orondis Evo (A22773A) and OXTP+MFX for Lettuce against Bremia in the field 2019 Report No. PLIWZF1102019 Document No. VV-906813 Test Facility Syngenta Limited GEP Unpublished	N	SYN

Data point	Author(s)	Year	Title Source Company Report No. GLP or GEP status Published or Unpublished Syngenta File No.	Vertebrate study Y/N	Owner
KCP 6.2	Jarecka-Boncera, A.	01/09/2020	EAME Registration OXTP+AZT - Orondis Evo (A22773A) on horizontal tomato against Alternaria sp 2020 Field Report No. PLIWZF1012020 Document No. VV-906806 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Jarecka-Boncera, A.	12/12/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) on tomato against Alternaria sp 2019 Field Report No. PLIWZF1082019 Document No. VV-906810 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Jarecka-Boncera, A.	20/08/2020	EAME Registration of OXTP + AZT (A22773A) for horizontal tomato against Late Blight in open field in EU - Normal and long spray interval - 2020 Report No. PLIWZF1112020 Document No. VV-906814 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Jarecka-Boncera, A.	12/12/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) for Solanacea against P infestans- Open field- 2019 Report No. PLIWZF1072019 Document No. VV-906809 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Kasperek, M.	16/12/2020	EAME Registration OXTP + MFX (A23109A) and OXTP+AZT (A22773A) for lettuce against brexia in FIELD in EU 2020 Report No. PLSYZF1012020 Document No. VV-906817 Test Facility Syngenta Limited GEP	N	SYN


Data point	Author(s)	Year	Title Source Company Report No. GLP or GEP status Published or Unpublished Syngenta File No.	Vertebrate study Y/N	Owner
			Unpublished		
KCP 6.2	Matusiak, J.	20/11/2020	EAME Registration OXTP+AZT - Orondis Evo (A22773A) for horizontal cucurbits against Pseudoperonospora cubensis - Field - 2020 Report No. PLDSZF5152020 Document No. VV-906802 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Matusiak, J.	03/12/2020	EAME Registration OXTP + MFX (A23109A) and OXTP+AZT (A22773A) for lettuce against brexia in FIELD in EU 2020 Report No. PLDSZF5172020 Document No. VV-906803 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Matusiak, J.	24/10/2020	EAME Registration of OXTP + AZT (A22773A) for horizontal tomato against Late Blight in open field in EU - Normal and long spray interval - 2020 Report No. PLDSZF5222020 Document No. VV-906804 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Rezmerska-Pietka, J.	05/11/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) for Solanacea against P infestans- Open field- 2019 Report No. PLARZF1032019 Document No. VV-906797 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Slowiak, K.	13/12/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) for Cucumber/Zucchini against Pseudoperonospora (FIELD) 2019 Report No. PLBCZF1062019 Document No. VV-906798	N	SYN

Data point	Author(s)	Year	Title Source Company Report No. GLP or GEP status Published or Unpublished Syngenta File No.	Vertebrate study Y/N	Owner
			Test Facility Syngenta Limited GEP Unpublished		
KCP 6.2	Slowiak, K.	10/12/2020	EAME Registration OXTP+AZT - Orondis Evo (A22773A) for Leek against Alternaria and rust 2020 Report No. PLBCZF1132020 Document No. VV-906800 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Slowiak, K.	13/12/2019	EAME Profiling & registration OXTP+AZT - Orondis Evo (A22773A) and OXTP+MFX for Lettuce against Bremia in the field 2019 Report No. PLBCZF1082019 Document No. VV-906799 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Slowiak, K.	19/11/2020	EAME Registration OXTP+AZT - Orondis Evo (A22773A) on horizontal tomato against Alternaria sp 2020 Field Report No. PLBCZF1142020 Document No. VV-906801 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Wachowiak, P.	27/11/2020	EAME Registration OXTP + MFX (A23109A) and OXTP+AZT (A22773A) for lettuce against brexia in FIELD in EU 2020 Report No. PLEUZF1072020 Document No. VV-906805 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Gajek, D.	01/08/2020	EAME Registration OXTP+AZT - Orondis Evo (A22773A) on horizontal tomato against Alternaria sp 2020 Field	N	SYN

Data point	Author(s)	Year	Title Source Company Report No. GLP or GEP status Published or Unpublished Syngenta File No.	Vertebrate study Y/N	Owner
			Report No. PLAGZF1012020 Document No. VV-906796 Test Facility Syngenta Limited GEP Unpublished		
KCP 6.4.1	Jarecka-Boncera, A.	14/09/2020	EAME Registration OXTP+AZT - Orondis Evo (A22773A) for horizontal cucurbits against Pseudoperonospora cubensis - Field - 2020 Report No. PLIWZF1152020 Document No. VV-906815 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Jarecka-Boncera, A.	12/12/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) for Cucumber/Zucchini against Pseudoperonospora (FIELD) 2019 Report No. PLIWZF1092019 Document No. VV-906812 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Jarecka-Boncera, A.	30/10/2020	EAME Registration OXTP+AZT - Orondis Evo (A22773A) for Leek against Alternaria and rust 2020 Report No. PLIWZF1172020 Document No. VV-906816 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Jarecka-Boncera, A.	02/07/2020	EAME Registration OXTP + MFX (A23109A) and OXTP+AZT (A22773A) for lettuce against brexia in FIELD in EU 2020 Report No. PLIWZF1022020 Document No. VV-906807 Test Facility Syngenta Limited GEP Unpublished	N	SYN

Data point	Author(s)	Year	Title Source Company Report No. GLP or GEP status Published or Unpublished Syngenta File No.	Vertebrate study Y/N	Owner
KCP 6.4.1	Jarecka-Boncera, A.	02/12/2019	EAME Profiling & registration OXTP+AZT - Orondis Evo (A22773A) and OXTP+MFX for Lettuce against Bremia in the field 2019 Report No. PLIWZF1102019 Document No. VV-906813 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Jarecka-Boncera, A.	01/09/2020	EAME Registration OXTP+AZT - Orondis Evo (A22773A) on horizontal tomato against Alternaria sp 2020 Field Report No. PLIWZF1012020 Document No. VV-906806 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Jarecka-Boncera, A.	12/12/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) on tomato against Alternaria sp 2019 Field Report No. PLIWZF1082019 Document No. VV-906810 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Jarecka-Boncera, A.	20/08/2020	EAME Registration of OXTP + AZT (A22773A) for horizontal tomato against Late Blight in open field in EU - Normal and long spray interval - 2020 Report No. PLIWZF1112020 Document No. VV-906814 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Jarecka-Boncera, A.	12/12/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) for Solanacea against P infestans- Open field- 2019 Report No. PLIWZF1072019 Document No. VV-906809 Test Facility Syngenta Limited GEP	N	SYN

Data point	Author(s)	Year	Title Source Company Report No. GLP or GEP status Published or Unpublished Syngenta File No.	Vertebrate study Y/N	Owner
			Unpublished		
KCP 6.4.1	Kasperek, M.	16/12/2020	EAME Registration OXTP + MFX (A23109A) and OXTP+AZT (A22773A) for lettuce against brexia in FIELD in EU 2020 Report No. PLSYZF1012020 Document No. VV-906817 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Matusiak, J.	20/11/2020	EAME Registration OXTP+AZT - Orondis Evo (A22773A) for horizontal cucurbits against Pseudoperonospora cubensis - Field - 2020 Report No. PLDSZF5152020 Document No. VV-906802 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Matusiak, J.	03/12/2020	EAME Registration OXTP + MFX (A23109A) and OXTP+AZT (A22773A) for lettuce against brexia in FIELD in EU 2020 Report No. PLDSZF5172020 Document No. VV-906803 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Matusiak, J.	24/10/2020	EAME Registration of OXTP + AZT (A22773A) for horizontal tomato against Late Blight in open field in EU - Normal and long spray interval - 2020 Report No. PLDSZF5222020 Document No. VV-906804 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Rezmerska-Pietka, J.	05/11/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) for Solanacea against P infestans- Open field- 2019 Report No. PLARZF1032019 Document No. VV-906797	N	SYN

Data point	Author(s)	Year	Title Source Company Report No. GLP or GEP status Published or Unpublished Syngenta File No.	Vertebrate study Y/N	Owner
			Test Facility Syngenta Limited GEP Unpublished		
KCP 6.4.1	Slowiak, K.	13/12/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) for Cucumber/Zucchini against Pseudoperonospora (FIELD) 2019 Report No. PLBCZF1062019 Document No. VV-906798 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Slowiak, K.	10/12/2020	EAME Registration OXTP+AZT - Orondis Evo (A22773A) for Leek against Alternaria and rust 2020 Report No. PLBCZF1132020 Document No. VV-906800 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Slowiak, K.	13/12/2019	EAME Profiling & registration OXTP+AZT - Orondis Evo (A22773A) and OXTP+MFX for Lettuce against Bremia in the field 2019 Report No. PLBCZF1082019 Document No. VV-906799 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Slowiak, K.	19/11/2020	EAME Registration OXTP+AZT - Orondis Evo (A22773A) on horizontal tomato against Alternaria sp 2020 Field Report No. PLBCZF1142020 Document No. VV-906801 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Wachowiak, P.	27/11/2020	EAME Registration OXTP + MFX (A23109A) and OXTP+AZT (A22773A) for lettuce against bremia in FIELD in EU  2020	N	SYN

Data point	Author(s)	Year	Title Source Company Report No. GLP or GEP status Published or Unpublished Syngenta File No.	Vertebrate study Y/N	Owner
			Report No. PLEUZF1072020 Document No. VV-906805 Test Facility Syngenta Limited GEP Unpublished		

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Data point	Author(s)	Year	Title Source Company Report No. GLP or GEP status Published or Unpublished Syngenta File No.	Vertebrate study Y/N	Owner
KCP 6.1	Beczner, F.	30/09/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) for Melon or water melon against Pseudoperonospora cubensis - Field - 2019 Report No. HUANZF5812019 Document No. VV-906743 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.1	Botyanszki, G..	16/11/2020	EAME Registration OXTP+AZT - Orondis Evo (A22773A) for horizontal cucurbits against Pseudoperonospora cubensis - Field - 2020 Report No. HUHUF4252020 Document No. VV-906748 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.1	Botyanszki, G..	22/10/2020	EAME Registration of OXTP + AZT (A22773A) for horizontal tomato against Late Blight in open field in EU - Normal and long spray interval - 2020 Report No. HUHUF4232020 Document No. VV-906747 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.1	Georgiev, K.	17/08/2020	EAME Registration OXTP+AZT - Orondis Evo (A22773A) for horizontal cucurbits against Pseudoperonospora cubensis - Field - 2020 Report No. BGSAZF4432020 Document No. VV-906642 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.1	Ivacic, D.	28/10/2020	EAME Registration of OXTP + AZT (A22773A) for horizontal tomato against Late Blight in open field in EU - Normal and long spray interval - 2020	N	SYN

Data point	Author(s)	Year	Title Source Company Report No. GLP or GEP status Published or Unpublished Syngenta File No.	Vertebrate study Y/N	Owner
			Report No. HRATZF0202020 Document No. VV-906738 Test Facility Syngenta Limited GEP Unpublished		
KCP 6.1	Radikovic, S.	28/10/2020	EAME Registration of OXTP + AZT (A22773A) for horizontal tomato against Late Blight in open field in EU - Normal and long spray interval - 2020 Report No. HRATZF0192020 Document No. VV-906737 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.1	Takacs, A.	10/10/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) for Melon or water melon against Pseudoperonospora cubensis - Field - 2019 Report No. HUHUF1172019 Document No. VV-906746 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.1	Todorova, T.	15/10/2020	EAME Registration of OXTP + AZT (A22773A) for horizontal tomato against Late Blight in open field in EU - Normal and long spray interval - 2020 Report No. BGEUF4602020 Document No. VV-906641 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.1	Vourkos, F.	28/10/2020	EAME Registration OXTP+AZT - Orondis Evo (A22773A) for horizontal cucurbits against Pseudoperonospora cubensis - Field - 2020 Report No. BGANZF4412020 Document No. VV-906636 Test Facility Syngenta Limited GEP	N	SYN

Data point	Author(s)	Year	Title Source Company Report No. GLP or GEP status Published or Unpublished Syngenta File No.	Vertebrate study Y/N	Owner
			Unpublished		
KCP 6.1	Vourkos, F.	17/09/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) for Melon or water melon against Pseudoperonospora cubensis - Field - 2019 Report No. BGANZF5822019 Document No. VV-906638 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.1	Vourkos, F.	17/09/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) for Melon or water melon against Pseudoperonospora cubensis - Field - 2019 Report No. BGANZF5832019 Document No. VV-906639 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.1	Vourkos, F.	09/10/2020	EAME Registration of OXTP + AZT (A22773A) for horizontal tomato against Late Blight in open field in EU - Normal and long spray interval - 2020 Report No. BGANZF4632020 Document No. VV-906637 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Apahidean, A.	01/10/2019	EAME Profiling OXTP + MDP (A21591C) for tomato against Late Blight in open field in EU - 2019 Report No. BGAUZF2552019 Document No. VV-906640 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Beczner, F.	30/09/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) for Melon or water melon against Pseudoperonospora cubensis - Field - 2019 Report No. HUANZF5812019 Document No. VV-906743	N	SYN

Data point	Author(s)	Year	Title Source Company Report No. GLP or GEP status Published or Unpublished Syngenta File No.	Vertebrate study Y/N	Owner
			Test Facility Syngenta Limited GEP Unpublished		
KCP 6.2	Beczner, F.	31/10/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) on tomato against Alternaria sp 2019 Field Report No. HUANZF2672019 Document No. VV-906742 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Beczner, F.	31/10/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) for Solanacea against P infestans- Open field- 2019 Report No. HUANZF2662019 Document No. VV-906741 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Botyanszki, G.	16/11/2020	EAME Registration OXTP+AZT - Orondis Evo (A22773A) for horizontal cucurbits against Pseudoperonospora cubensis - Field - 2020 Report No. HUHUF4252020 Document No. VV-906748 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Botyanszki, G.	22/10/2020	EAME Registration OXTP+AZT - Orondis Evo (A22773A) on horizontal tomato against Alternaria sp 2020 Field Report No. HUHUF4342020 Document No. VV-906749 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Botyanszki, G.	22/10/2020	EAME Registration of OXTP + AZT (A22773A) for horizontal tomato against Late Blight in open field in EU - Normal and long spray interval - 2020 Report No. HUHUF4232020	N	SYN

Data point	Author(s)	Year	Title Source Company Report No. GLP or GEP status Published or Unpublished Syngenta File No.	Vertebrate study Y/N	Owner
			Document No. VV-906747 Test Facility Syngenta Limited GEP Unpublished		
KCP 6.2	Burghardt, N.	14/10/2020	EAME Registration OXTP+AZT - Orondis Evo (A22773A) on horizontal tomato against Alternaria sp 2020 Field Report No. HUHUF4352020 Document No. VV-906750 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Cizej, M.	22/10/2020	EAME Registration A22773A (OXTP+AZT) for Hop against Pseudoperonospora humuli 2020 Report No. SIIHZF0242020 Document No. VV-906831 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Cizej, M.	12/12/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) for Hop against Pseudoperonospora humuli (secondary infections) 2019 Report No. SIIHZF0012019 Document No. VV-906830 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Georgiev, K.	17/08/2020	EAME Registration OXTP+AZT - Orondis Evo (A22773A) for horizontal cucurbits against Pseudoperonospora cubensis - Field - 2020 Report No. BGSZF4432020 Document No. VV-906642 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Ivacic, D.	30/08/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) on tomato against Alternaria sp. 2019 Field	N	SYN

Data point	Author(s)	Year	Title Source Company Report No. GLP or GEP status Published or Unpublished Syngenta File No.	Vertebrate study Y/N	Owner
			Report No. HRATZF0192019 Document No. VV-913748 Test Facility Syngenta Limited GEP Unpublished		
KCP 6.2	Ivacic, D.	28/10/2020	EAME Registration of OXTP + AZT (A22773A) for horizontal tomato against Late Blight in open field in EU - Normal and long spray interval - 2020 Report No. HRATZF0202020 Document No. VV-906738 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Ivacic, D.	06/09/2019	EAME Profiling OXTP + MDP (A21591C) for tomato against Late Blight in open field in EU - 2019 Report No. HRATZF0162019 Document No. VV-906734 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Ivacic, D.	12/08/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) for Solanacea against P infestans- Open field- 2019 Report No. HRATZF0182019 Document No. VV-906736 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Kasztner, G.	18/10/2019	EAME Profiling OXTP + MDP (A21591C) for tomato against Late Blight in open field in EU - 2019 Report No. HUAFZF2582019 Document No. VV-906740 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Mako, I.	29/09/2020	EAME Registration OXTP+AZT - Orondis Evo (A22773A) for horizontal cucurbits against dydimella, cladosporium - 2020	N	SYN

Data point	Author(s)	Year	Title Source Company Report No. GLP or GEP status Published or Unpublished Syngenta File No.	Vertebrate study Y/N	Owner
			Report No. HUCPZF4472020 Document No. VV-906744 Test Facility Syngenta Limited GEP Unpublished		
KCP 6.2	Radikovic, S.	02/11/2020	EAME Registration OXTP+AZT - Orondis Evo (A22773A) on horizontal tomato against Alternaria sp 2020 Field Report No. HRATZF0212020 Document No. VV-906739 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Radikovic, S.	28/10/2020	EAME Registration of OXTP + AZT (A22773A) for horizontal tomato against Late Blight in open field in EU - Normal and long spray interval - 2020 Report No. HRATZF0192020 Document No. VV-906737 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Radikovic, S.	22/08/2019	EAME Profiling OXTP + MDP (A21591C) for tomato against Late Blight in open field in EU - 2019 Report No. HRATZF0152019 Document No. VV-906733 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Radikovic, S.	20/08/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) for Solanacea against P infestans- Open field- 2019 Report No. HRATZF0172019 Document No. VV-906735 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Sipos, P.	30/10/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) for Cucurbits against PM, Alternaria, Dydimella,	N	SYN

Data point	Author(s)	Year	Title Source Company Report No. GLP or GEP status Published or Unpublished Syngenta File No.	Vertebrate study Y/N	Owner
			Cladosporium 2019 Report No. HUEUZF2682019 Document No. VV-906745 Test Facility Syngenta Limited GEP Unpublished		
KCP 6.2	Takacs, A.	10/10/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) for Melon or water melon against Pseudoperonospora cubensis - Field - 2019 Report No. HUHUF1172019 Document No. VV-906746 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Todorova, T.	15/10/2020	EAME Registration of OXTP + AZT (A22773A) for horizontal tomato against Late Blight in open field in EU - Normal and long spray interval - 2020 Report No. BGEUZF4602020 Document No. VV-906641 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Vourkos, F.	28/10/2020	EAME Registration OXTP+AZT - Orondis Evo (A22773A) for horizontal cucurbits against Pseudoperonospora cubensis - Field - 2020 Report No. BGANZF4412020 Document No. VV-906636 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Vourkos, F.	17/09/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) for Melon or water melon against Pseudoperonospora cubensis - Field - 2019 Report No. BGANZF5822019 Document No. VV-906638 Test Facility Syngenta Limited	N	SYN

Data point	Author(s)	Year	Title Source Company Report No. GLP or GEP status Published or Unpublished Syngenta File No.	Vertebrate study Y/N	Owner
			GEP Unpublished		
KCP 6.2	Vourkos, F.	17/09/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) for Melon or water melon against Pseudoperonospora cubensis - Field - 2019 Report No. BGANZF5832019 Document No. VV-906639 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Vourkos, F.	09/10/2020	EAME Registration of OXTP + AZT (A22773A) for horizontal tomato against Late Blight in open field in EU - Normal and long spray interval - 2020 Report No. BGANZF4632020 Document No. VV-906637 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.2	Vourkos, F.	30/10/2019	EAME Profiling OXTP + MDP (A21591C) for tomato against Late Blight in open field in EU - 2019 Report No. BGANZF2562019 Document No. VV-906635 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Apahidean, A.	01/10/2019	EAME Profiling OXTP + MDP (A21591C) for tomato against Late Blight in open field in EU - 2019 Report No. BGAUZF2552019 Document No. VV-906640 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Beczner, F.	30/09/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) for Melon or water melon against Pseudoperonospora cubensis - Field - 2019 Report No. HUANZF5812019 Document No. VV-906743	N	SYN

Data point	Author(s)	Year	Title Source Company Report No. GLP or GEP status Published or Unpublished Syngenta File No.	Vertebrate study Y/N	Owner
			Test Facility Syngenta Limited GEP Unpublished		
KCP 6.4.1	Beczner, F.	31/10/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) on tomato against Alternaria sp 2019 Field Report No. HUANZF2672019 Document No. VV-906742 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Beczner, F.	31/10/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) for Solanacea against P infestans- Open field- 2019 Report No. HUANZF2662019 Document No. VV-906741 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Botyanszki, G.	16/11/2020	EAME Registration OXTP+AZT - Orondis Evo (A22773A) for horizontal cucurbits against Pseudoperonospora cubensis - Field - 2020 Report No. HUHUF4252020 Document No. VV-906748 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Botyanszki, G.	22/10/2020	EAME Registration OXTP+AZT - Orondis Evo (A22773A) on horizontal tomato against Alternaria sp 2020 Field Report No. HUHUF4342020 Document No. VV-906749 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Botyanszki, G.	22/10/2020	EAME Registration of OXTP + AZT (A22773A) for horizontal tomato against Late Blight in open field in EU - Normal and long spray interval - 2020 Report No. HUHUF4232020	N	SYN

Data point	Author(s)	Year	Title Source Company Report No. GLP or GEP status Published or Unpublished Syngenta File No.	Vertebrate study Y/N	Owner
			Document No. VV-906747 Test Facility Syngenta Limited GEP Unpublished		
KCP 6.4.1	Burghardt, N.	14/10/2020	EAME Registration OXTP+AZT - Orondis Evo (A22773A) on horizontal tomato against Alternaria sp 2020 Field Report No. HUHUF4352020 Document No. VV-906750 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Cizej, M.	22/10/2020	EAME Registration A22773A (OXTP+AZT) for Hop against Pseudoperonospora humuli 2020 Report No. SIIHZF0242020 Document No. VV-906831 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Cizej, M.	12/12/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) for Hop against Pseudoperonospora humuli (secondary infections) 2019 Report No. SIIHZF0012019 Document No. VV-906830 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Georgiev, K.	17/08/2020	EAME Registration OXTP+AZT - Orondis Evo (A22773A) for horizontal cucurbits against Pseudoperonospora cubensis - Field - 2020 Report No. BGSZF4432020 Document No. VV-906642 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Ivacic, D.	30/08/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) on tomato against Alternaria sp. 2019 Field	N	SYN

Data point	Author(s)	Year	Title Source Company Report No. GLP or GEP status Published or Unpublished Syngenta File No.	Vertebrate study Y/N	Owner
			Report No. HRATZF0192019 Document No. VV-913748 Test Facility Syngenta Limited GEP Unpublished		
KCP 6.4.1	Ivacic, D.	28/10/2020	EAME Registration of OXTP + AZT (A22773A) for horizontal tomato against Late Blight in open field in EU - Normal and long spray interval - 2020 Report No. HRATZF0202020 Document No. VV-906738 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Ivacic, D.	06/09/2019	EAME Profiling OXTP + MDP (A21591C) for tomato against Late Blight in open field in EU - 2019 Report No. HRATZF0162019 Document No. VV-906734 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Ivacic, D.	12/08/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) for Solanacea against P infestans- Open field- 2019 Report No. HRATZF0182019 Document No. VV-906736 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Kasztner, G.	18/10/2019	EAME Profiling OXTP + MDP (A21591C) for tomato against Late Blight in open field in EU - 2019 Report No. HUAFZF2582019 Document No. VV-906740 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Mako, I.	29/09/2020	EAME Registration OXTP+AZT - Orondis Evo (A22773A) for horizontal cucurbits against dydimella, cladosporium - 2020	N	SYN

Data point	Author(s)	Year	Title Source Company Report No. GLP or GEP status Published or Unpublished Syngenta File No.	Vertebrate study Y/N	Owner
			Report No. HUCPZF4472020 Document No. VV-906744 Test Facility Syngenta Limited GEP Unpublished		
KCP 6.4.1	Radikovic, S.	02/11/2020	EAME Registration OXTP+AZT - Orondis Evo (A22773A) on horizontal tomato against Alternaria sp 2020 Field Report No. HRATZF0212020 Document No. VV-906739 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Radikovic, S.	28/10/2020	EAME Registration of OXTP + AZT (A22773A) for horizontal tomato against Late Blight in open field in EU - Normal and long spray interval - 2020 Report No. HRATZF0192020 Document No. VV-906737 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Radikovic, S.	22/08/2019	EAME Profiling OXTP + MDP (A21591C) for tomato against Late Blight in open field in EU - 2019 Report No. HRATZF0152019 Document No. VV-906733 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Radikovic, S.	20/08/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) for Solanacea against P infestans- Open field- 2019 Report No. HRATZF0172019 Document No. VV-906735 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Sipos, P.	30/10/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) for Cucurbits against PM, Alternaria, Dydimella,	N	SYN

Data point	Author(s)	Year	Title Source Company Report No. GLP or GEP status Published or Unpublished Syngenta File No.	Vertebrate study Y/N	Owner
			Cladosporium 2019 Report No. HUEUZF2682019 Document No. VV-906745 Test Facility Syngenta Limited GEP Unpublished		
KCP 6.4.1	Takacs, A.	10/10/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) for Melon or water melon against Pseudoperonospora cubensis - Field - 2019 Report No. HUHUF1172019 Document No. VV-906746 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Todorova, T.	15/10/2020	EAME Registration of OXTP + AZT (A22773A) for horizontal tomato against Late Blight in open field in EU - Normal and long spray interval - 2020 Report No. BGEUZF4602020 Document No. VV-906641 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Vourkos, F.	28/10/2020	EAME Registration OXTP+AZT - Orondis Evo (A22773A) for horizontal cucurbits against Pseudoperonospora cubensis - Field - 2020 Report No. BGANZF4412020 Document No. VV-906636 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Vourkos, F.	17/09/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) for Melon or water melon against Pseudoperonospora cubensis - Field - 2019 Report No. BGANZF5822019 Document No. VV-906638 Test Facility Syngenta Limited	N	SYN

Data point	Author(s)	Year	Title Source Company Report No. GLP or GEP status Published or Unpublished Syngenta File No.	Vertebrate study Y/N	Owner
			GEP Unpublished		
KCP 6.4.1	Vourkos, F.	17/09/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) for Melon or water melon against Pseudoperonospora cubensis - Field - 2019 Report No. BGANZF5832019 Document No. VV-906639 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Vourkos, F.	09/10/2020	EAME Registration of OXTP + AZT (A22773A) for horizontal tomato against Late Blight in open field in EU - Normal and long spray interval - 2020 Report No. BGANZF4632020 Document No. VV-906637 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Vourkos, F.	30/10/2019	EAME Profiling OXTP + MDP (A21591C) for tomato against Late Blight in open field in EU - 2019 Report No. BGANZF2562019 Document No. VV-906635 Test Facility Syngenta Limited GEP Unpublished	N	SYN

List of data submitted by the applicant and relied on – selectivity, beneficial and taint test trials

Data point	Author(s)	Year	Title Source Company Report No. GLP or GEP status Published or Unpublished Syngenta File No.	Vertebrate study Y/N	Owner
KCP 6.4.1	Barbieri, E. Diebold, J.	30/01/2020	EAME Registration of OXTP + MPD (A21591C) and A22773A taint test on tomato (F) in EU ? 2019 Report No. IT37ZF5162019 Document No. VV-906757 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Canovas, M.	14/05/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) and Orondis Ultra (A21591C) for Lettuce - Selectivity trials 2019 Report No. ESSEZF4032019 Document No. VV-874593 Test Facility Syngenta GEP Unpublished	N	SYN
KCP 6.4.1	Canovas, M.	08/08/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773A) and Orondis Ultra (A21591C) for Lettuce - Selectivity trials 2019 Report No. ESSEZF4042019 Document No. VV-874594 Test Facility Syngenta GEP Unpublished	N	SYN
KCP 6.4.1	Castella, G. Calari, A.	09/04/2021	EAME Registration of OXTP + AZT (A22773A) taint test on tomato (F) in EU ♦ 2020 Report No. IT34ZF5772020 Document No. VV-906755 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.1	Venneman, S.	09/12/2019	EAME registration A22773A and A21591C for Lettuce - Selectivity trials 2019 Report No. BESKZF9012019 Document No. VV-913749 Test Facility Syngenta Limited	N	SYN

Data point	Author(s)	Year	Title Source Company Report No. GLP or GEP status Published or Unpublished Syngenta File No.	Vertebrate study Y/N	Owner
			GEP Unpublished		
KCP 6.4.1	Venneman, S.	31/03/2020	EAME registration A22773A and A21591C for Lettuce - Selectivity trials 2019 Report No. BESKZF9022019 Document No. VV-913750 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.4	Barbieri, E. Diebold, J.	30/01/2020	EAME Registration of OXTP + MPD (A21591C) and A22773A taint test on tomato (F) in EU ? 2019 Report No. IT37ZF5162019 Document No. VV-906757 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.4.4	Castella, G. Calari, A.	09/04/2021	EAME Registration of OXTP + AZT (A22773A) taint test on tomato (F) in EU ♦ 2020 Report No. IT34ZF5772020 Document No. VV-906755 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.5.3	Canovas, M.	19/09/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773) in beneficials (including Bumble bees) on tomato/pepper/cucurbits- GH 2019 Report No. ESSEZF4082019 Document No. VV-913753 Test Facility Syngenta Limited GEP Unpublished	N	SYN
KCP 6.5.3	Canovas, M.	14/08/2020	EAME Registration OXTP+AZT - Orondis Evo (A22773) in Bumble bees on tomato- GH 2020 Report No. ESSEZF4092020 Document No. VV-913754 Test Facility Syngenta Limited	N	SYN

Data point	Author(s)	Year	Title Source Company Report No. GLP or GEP status Published or Unpublished Syngenta File No.	Vertebrate study Y/N	Owner
			GEP Unpublished		
KCP 6.5.3	Piedra, M.	08/07/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773) in beneficials (including Bumble bees) on tomato/pepper/cucurbits- GH 2019 Report No. ESSEZF2062019 Document No. VV-874588 Test Facility Syngenta GEP Unpublished	N	SYN
KCP 6.5.3	Vega, P.	05/09/2019	EAME Profiling OXTP+AZT - Orondis Evo (A22773) in beneficials (including Bumble bees) on tomato/pepper/cucurbits- GH 2019 Report No. ESSEZF3172019 Document No. VV-874592 Test Facility Syngenta GEP Unpublished	N	SYN

List of data submitted by the applicant and not relied on

Data point	Author(s)	Year	Title Source Company Report No. GLP or GEP status Published or Unpublished Syngenta File No.	Vertebrate study Y/N	Owner
-	-	-	-	-	-

List of data relied on not submitted by the applicant but necessary for evaluation

Data point	Author(s)	Year	Title Source Company Report No. GLP or GEP status Published or Unpublished Syngenta File No.	Vertebrate study Y/N	Owner
-	-	-	-	-	-