FINAL REGISTRATION REPORT

Part B

Section 3

Efficacy Data and Information

Concise summary

Product code: CHR/H/CFF 250 EC

Product name(s): Hapi 250 EC/ Turango 250 EC

Chemical active substance(s):

Clopyralid; 120 g/kg

Fluroxypyr-acid, 120 g/L (as fluroxypyr-meptyl, 172.9 g/L)

Florasulam; 10 g/kg

Central Zone

Zonal Rapporteur Member State: Poland

Core dossier

(authorization)

Applicant: Innvigo Sp. z o.o.

Submission date: May 2023

MS Finalisation date: July 2024; November 2024

Version history

When	What
07.2024	ZRMs evaluated dRR submitted by Applicant.
11.2024	The final Registration Report

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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:	Comments of zRMS are presented in commenting boxes at the end of each chapter. The text of dRR was generally not changed or rewritten (small changes in the document are marked by grey colour).

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

Abstract

Comments of zRMS: Overall summaries are not necessary here. It was provided at the end of each chapter of the dRR. However, in the briefly summary – Turango 250 EC / Hapi 250 EC (product code: CHR/H/CFF 250 EC) can be granted in PL to control weeds in winter wheat and winter triticale according to accepted GAP table and label project.

Detailed assessment is presented after each chapter in commenting box.

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

GAP rev. , date: 2023-02-10

PPP (product name/code):	CHR/H/CFF 250 EC/ Hapi 250 EC/ Turango 250 EC	Formulation type:	EC [a, b]
Active substance 1:	Clopyralid	Conc. of as 1:	120 g/L [c]
Active substance 2:	Florasulam	Conc. of as 2:	10 g/L [c]
Active substance 3:	Fluroxypyr	Conc. of as 3:	120 g/L (c)
Safener:	-	Conc. of safener:	- [c]
Synergist:	-	Conc. of synergist:	- [c]
Applicant:	Innvigo Sp. z o.o.	Professional use:	☒
Zone(s):	Central [d]	Non professional use:	☐
Verified by MS:	No		

Field of use: Herbicide

1	2	3	4	5	6	7	8	9	15	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
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	kg or L product / ha a) max. rate per appl. b) max. total rate per crop/season	g or kg as/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)														
1	PL	Winter wheat (TRZAW), Winter triticale (TTLWI)	F	Dicotyledonous weeds	Spray, medium sprayer	spring BBCH 21-32 ~~33~~	a)1 b)1	n/a	a) 0.4-0.5 L/ha b) 0.4-0.5 L/ha	a) 100-125 g a.s./ha (48 g CLO + 4 g FLO + 48 g FLUROX) - (60 g CLO + 5 g FLO + 60 g FLUROX) b) 100-125 g a.s./ha (48 g CLO + 4 g FLO + 48 g FLUROX) - (60 g CLO + 5 g FLO + 60 g FLUROX)	200-300 ~~400~~	n/a	-	**Acceptable** for BBCH 21-32 and water volume 200-300 L/ha.
2														
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)														
3														
4														
Minor uses according to Article 51 (zonal uses)														
5	PL	Spelt *Triticum spelta* (3SPWC) Emmer wheat *Triticum dicoccum* (TRZDI) Einkorn wheat *Triticum monococcum (TRZMO)* Durum wheat *Triticum durum* (TRZDW) Spring Rye *Secale cereale* (SECCS)	F	~~Mono- and dicotyledonous~~ Dicotyledonous weeds	Spray, medium sprayer	spring BBCH 21-32 ~~33~~	a)1 b)1	n/a	a) 0.4-0.5 L/ha b) 0.4-0.5 L/ha	a) 100-125 g a.s./ha (48 g CLO + 4 g FLO + 48 g FLUROX) - (60 g CLO + 5 g FLO + 60 g FLUROX) b) 100-125 g a.s./ha (48 g CLO + 4 g FLO + 48 g FLUROX) - (60 g CLO + 5 g FLO + 60 g FLUROX)	200-300 ~~400~~	n/a	-	**Acceptable** at BBCH 21-32 and water volume 200-300 L/ha. Only dicotyledonous weeds should be accepted.
6														
Minor uses according to Article 51 (interzonal uses)														
7														
8														

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
2 Use official codes/nomenclatures of EU Member States
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)
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
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.
6 Method, e.g. high volume spraying, low volume spraying, spreading, dusting, drench Kind, e.g. overall, broadcast, aerial spraying, row, individual plant, between the plants - type of equipment used must be indicated.
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
8 The maximum number of application possible under practical conditions of use must be provided.
9 Minimum interval (in days) between applications of the same product
10 For specific uses other specifications might be possible, e.g.: g/m³ in case of fumigation of empty rooms. See also EPPO-Guideline PP 1/239 Dose expression for plant protection products.
11 The dimension (g, kg) must be clearly specified. (Maximum) dose of a.s. per treatment (usually g, kg or L product / ha).
12 If water volume range depends on application equipments (e.g. ULVA or LVA) it should be mentioned under “application: method/kind”.
13 PHI - minimum pre-harvest interval
14 Remarks may include: Extent of use/economic importance/restrictions

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

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

Column 15: zRMS conclusion.

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

3.2 Efficacy data (KCP 6)

Introduction

This document summarizes the information related to the efficacy of the product CHR/H/CFF 250 EC containing active substances: clopyralid, florasulam and fluroxypyr.
CHR/H/CFF 250 EC applies in the Central Registration Zone for the registration of in winter wheat and winter triticale at BBCH 21- 32 applied once per season at the maximum rate of 48-60 g a.s./ha clopyralid, 4-5 g a.s./ha florasulam and 48-60 g a.s./ha fluroxypyr per application for the control of dicotyledonous weeds.

General information:

Description of the plant protection product

Marketing name:
product submitted to registration under two different marketing names: Hapi 250 EC/ Turango 250 EC

Formulants content:
The information concerning ingredients of product CHR/H/CFF 250 EC are included in the confidential part of the registration dossier: Registration Report – Part C.

Formulation of use:
EC – Emulsifiable Concentrate

General information on the plant protection product:

CHR/H/CFF 250 EC is to be applied in spring:
BBCH 21- 32 in winter wheat and winter triticale.

The suggested dose of the product:
Used solo:
0.4-0.5 L/ha once a season in winter wheat and winter triticale which are corresponding to 48-60 g a.s./ha clopyralid, 4-5 g a.s./ha florasulam and 48-60 g a.s./ha fluroxypyr.

CHR/H/CFF 250 EC containing clopyralid, florasulam and fluroxypyr as the active substance is prepared for the use in agricultural practice as a herbicide in the form EC – Emulsifiable Concentrate.

Information on the composition of product CHR/H/CFF 250 EC are included in the confidential part of the registration dossier: Registration Report – Part C.

Description of active substances

The descriptions of active substances will be provided in Section 1,2 4 to 8 and Part C.

Mode of action

Active substances:

Clopyralid 120 g/L
Chemical name (IUPAC): 3,6-dichloropyridine-2-carboxylic acid
CIPAC No.: 455
CAS No.: 1702-17-6

According to Clopyralid_RAR_01_Volume_1_2017_05_31.pdf and *EFSA Journal*
Clopyralid is the ISO common name for 3,6-dichloropyridine-2-carboxylic acid or 3,6- dichloropicolinic acid (IUPAC). Clopyralid is used as a post emergence herbicide to control some broadleaf weeds in a range of dicotyledon and monocotyledon crops. The representative uses evaluated were broadcast foliar spray against broad leaf weed species such as *Circium arvensis, Scenecio vulgaris, Matricaria chamomilla* and *Matricaria inodorum* in winter cereals and grass.

Florasulam 10 g/L
CAS No.: 145701-23-1
CIPAC No.: 616
IUPAC name: N-(2,6-difluorophenyl)-8-fluoro-5-methoxy-[1,2,4]triazolo[1,5-c]pyrimidine-2-sulfonamide

According to Florasulam_RAR_01_Volume_1_2013-11-25_san.pdf
Florasulam is a post emergent herbicide and is taken up by the leaves. The active ingredient is rapidly degraded in soil and poorly taken up by the roots, thus providing very little soil activity. After foliar absorption, florasulam is translocated to the meristematic tissue, where it inhibits the plant enzyme acetolactate synthase (ALS) which is essential for amino acid synthesis. Inhibition of amino acid production inhibits cell division and results in plant death.
Florasulam is a herbicide which is active against broadleaf weeds in winter and spring cereals by inhibiting the plant enzyme, acetolactate synthase (ALS). This result in complete desiccation of susceptible plants in 7-10 days under ideal growing conditions, however, this may take up to 6-8 weeks under less ideal conditions. Florasulam provides activity on a range of weeds of the *Caryophyllaceae, Convonvulaceae, Amaranthaceae, Malvaceae, Compositeae, Polygonaceae* and is highly activeon *Galium aparine, Stellaria media, Matricaria* spp. and various cruciferae at very low rates. The herbicide is taken up by the roots or foliage of plants; the rate of Florasulam metabolism in *G. aparine* is slow and affords ample time for parent herbicide to translocate through – out the plant, compared with the rapid metabolism in wheat. It is considered extremely unlikely that resistance to Florasulam will develop; *G. aparine* may be controlled by products with alternative modes of action in both the cereal crop and rotational crops. Procedures for handling, storage, transport and fire for destruction and decontamination, and for emergency measures in case of accident have been recommended. Florasulam, as EF-1343, is applied up to maximum rate of 6.25 g a.s./ha, between growth stage BBCH 12-49 of the cereal, usually once per season, in 100-400 L water/ha.

Fluroxypyr 120 g/L
CAS No.: 69377-81-7
CIPAC No.: 431
IUPAC name: 2-(4-amino-3,5-dichloro-6-fluoropyridin-2-yl)oxyacetic acid

Fluroxypyr-1-methylheptyl (Fluroxypyr-meptyl) is a systemic herbicide used for the selective control of annual and perennial broadleaf weeds present in the field at the time of application. Fluroxypyr 1-methylheptyl ester is a member of the pyridine class resulting in disruption of plant cell growth. In susceptible plant species the product induces an epinastic response (ie. stimulation of cell elongation and premature senescence, particularly in meristematic tissue) leading to cessation of normal growth and death. Fluroxypyr 1-methylheptyl ester is easily absorbed into the plant cuticle, hydrolysed to the free acid and either conjugated or translocated, symplastically in the phloem, to sites of its herbicidal effect. Fluroxypyr is recommended for the control of a range of economically important broad-leaved weeds. Its intended uses are for amenity/pasture, cereals - winter & spring and maize.

Table 3.2-1: Details of the active substances

Active substance	Clopyralid	Florasulam	Fluroxypyr
Concentration (Unit: g/kg or g/L...)	120 g/L	10 g/L	120 g/L
Chemical group	Pyridine-carboxylates	Triazolopyrimidine – type 1	Pyridyloxy-carboxylates
Mode of action	auxin mimics	inhibits the plant enzyme acetolactate synthase (ALS)	auxin mimics
Biological action	Clopyralid will mainly be absorbed through green leaves, uptake through roots is of much less importance. The MoA is not yet completely understood. But it has been shown that clopyralid is being accumulated in merestemic tissue and influencing cell division, cell elongation and cell extension as well as RNA syn-thesis. Consequently, merestemic tissue dies off. Typical symptoms of suscep-tible plants are deformation and curling of young leaves and stem followed by growth stop and necrosis.	Florasulam is a herbicide which is active against broadleaf weeds in winter and spring cereals by inhibiting the plant enzyme, acetolactate synthase (ALS). This result in complete desiccation of susceptible plants in 7-10 days under ideal growing conditions, however, this may take up to 6-8 weeks under less ideal conditions.	Fluroxypyr is absorbed after foliar application and is translocated to other parts of the plant, therefore making it systemic in its action. The compound causes typical auxin-type responses in its target plants, such as leaf rolling. Fluroxypyr is on cereals, fallow land and on-farm non-cropland. The formulated product is absorbed through the leaves of susceptible plants.

Description of the plant protection product

Formulation of use:
EC – Emulsifiable Concentrate
CHR/H/CFF 250 EC containing 120 g/L clopyralid, 10 g/L florasulam and 120 g/L fluroxypyr as the active substance is prepared for the use in agricultural practice as a herbicide in the form EC – Emulsifiable Concentrate.
CHR/H/CFF 250 EC is to be applied postemergence in spring:
BBCH 21- 32 in winter wheat and winter triticale.

Table 3.2-2: Simplified table of currently registered uses and requested uses for the prod-uct code.

Uses		Member State	Currently registered rate(s)		Requested rate(s)		Comments / Other rele-vant details on GAPs
Crop(s)	Target(s)		max. rate per appl	max. total rate per crop/season	max. rate per appl	max. total rate per crop/season	
winter wheat, winter triticale	dicotyledones weeds	PL	-	-	0.4-0.5 L/ha	0.4-0.5 L/ha	

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.

winter wheat, winter triticale

EPPO code	Scientific name	Common name*
ANTAR	*Anthemis arvensis*	Mayweed
BRSNW	*Brassica napus* (self-sown plant)	Winter oilseed rape
CENCY	*Centaurea cyanus*	Cornflower
GALAP	*Galium aparine*	Catchweed bedstraw
PAPRH	*Papver rhoeas*	Common popy
STEME	*Stellaria media*	Common chickweed
MATIN	*Tripleurospermum mar. inodorum*	False chamomille

* optional

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

Winter wheat

Crop and/or situation	Crop status		Pests or group of pests controlled	Pest status	
	Major	minor		Major	minor
winter wheat	PL	-	*Anthemis arvensis*	~~PL~~	PL-
			Brassica napus (self-sown plant)	PL	-
			Centaurea cyanus	PL	-
			Galium aparine	PL	-
			Papver rhoeas	PL	-
			Stellaria media	~~PL~~	PL
			Tripleurospermum mar. *inodorum*	PL	-

Winter triticale

Crop and/or situation	Crop status		Pests or group of pests controlled	Pest status	
	Major	minor		Major	minor
winter triticale	PL	-	*Anthemis arvensis*	~~PL~~	PL
			Brassica napus (self-sown plant)	PL	-
			Centaurea cyanus	PL	-
			Galium aparine	PL	-
			Papver rhoeas	PL	-
			Stellaria media	~~PL~~	PL-
			Tripleurospermum mar. *inodorum*	PL	-

Compliance with the Uniform Principles

The overall assessment was performed according to the uniform principles. There were no deviations from the EPPO guidelines with the trials conducted in North-East EPPO zone.

Information on trials submitted (3.1 Efficacy data)

The 18 trials (winter wheat 11 trials, winter triticale 7 trials) have been carried out in 2020 and 2021 in the North-East EPPO zone within the Central registration zone to evaluate the efficacy of applied at the proposed label rate of 48-60 g a.s./ha clopyralid, 4-5 g a.s./ha florasulam and 48-60 g a.s./ha fluroxypyr for the weed control in winter wheat and winter triticale (Table 3.2 6). Trials were conducted in the main winter wheat and winter triticale growing areas in the North-East EPPO zone in Poland.

Table 3.2-5: Presentation of trials efficacy trials

Winter wheat

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)
					North-East zone	-		
winter wheat post-emergence BBCH 21- 32	*Anthemis arvensis*	Poland	2020	E	6(6)	-	GEP	-
		Poland	2021	E	2(2)		GEP	-
	TOTAL	-	2020-2021	-	8(8)	-	-	-
	Brassica napus (self-sown plant)	Poland	2020	E	4(4)	-	GEP	-
		Poland	2021	E	5(5)		GEP	-
	TOTAL	-	2020-2021	-	9(9)	-	-	-
	Centaurea cyanus	Poland	2020	E	3(3)	-	GEP	-
		Poland	2021	E	5(5)		GEP	-
	TOTAL	-	2020-2021	-	8(8)	-	-	-
	Galium aparine	Poland	2020	E	3(3)	-	GEP	-
		Poland	2021	E	5(5)		GEP	-
	TOTAL	-	2020-2021	-	8(8)	-	-	-
	Papver rhoeas	Poland	2020	E	5(5)	-	GEP	-
		Poland	2021	E	4(4)		GEP	-
	TOTAL	-	2020-2021	-	9(9)	-	-	-
	Stellaria media	Poland	2020	E	3(3)	-	GEP	-
		Poland	2021	E	4(4)		GEP	-
	TOTAL	-	2020-2021	-	7(7)	-	-	-
	Tripleurospermum mar. inodorum	Poland	2020	E	4(4)	-	GEP	-
		Poland	2021	E	5(5)		GEP	-
	TOTAL	-	2020-2021	-	9(9)	-	-	-
TOTAL	11	-	2020-2021	-	11 (58)	-	-	-

* 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.

Winter triticale

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)
					North-East zone	-		
winter triticale post-emergence BBCH 21- 32	*Anthemis arvensis*	Poland	2020	E	3(3)	-	GEP	-
		Poland	2021	E	3(3)		GEP	-
	TOTAL	-	2020-2021	-	6(6)	-	-	-
	Brassica napus (self-sown plant)	Poland	2020	E	3(3)	-	GEP	-
		Poland	2021	E	3(3)		GEP	-
	TOTAL	-	2020-2021	-	6(6)	-	-	-
	Centaurea cyanus	Poland	2020	E	2(2)	-	GEP	-
		Poland	2021	E	4(4)		GEP	-
	TOTAL	-	2020-2021	-	6(6)	-	-	-
	Galium aparine	Poland	2020	E	3(3)	-	GEP	-
		Poland	2021	E	4(4)		GEP	-
	TOTAL	-	2020-2021	-	7(7)	-	-	-
	Papver rhoeas	Poland	2020	E	3(3)	-	GEP	-
		Poland	2021	E	3(3)		GEP	-
	TOTAL	-	2020-2021	-	6(6)	-	-	-
	Stellaria media	Poland	2020	E	2(2)	-	GEP	-
		Poland	2021	E	4(4)		GEP	-
	TOTAL	-	2020-2021	-	6(6)	-	-	-
	Tripleurospermum mar. inodorum	Poland	2020	E	3(3)	-	GEP	-
		Poland	2021	E	3(3)		GEP	-
	TOTAL	-	2020-2021	-	6(6)	-	-	-
TOTAL	7	-	2020-2021	-	7 (43)	-	-	-

* 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.

Table 3.2-6: Presentation of reference standards used in trials efficacy trials

Crop(s)	Reference standard	Coun-try(ies) where the product is registered (1)	Authori-zation number	Active sub-stance(s)	Formulation		Registe-red applica-tion	Applica-tion	Re-mark(4)
					Type(2)	Concen-tration of a.s.	rate(3)	rate in trials (per treat-ment)	
winter wheat	Major 300 SL	Poland	R-237/2017	clopyralid	SL – Soluble concentrate	300 g/L	0.3-0.4 L/ha	0.4 L/ha	-
	Starane 333 EC	Poland	R-23/2016 wu	fluroxypyr	EC – Emulsi-fiable concen-trate	333 g/L	0.54 L/ha	0.54 L/ha	-
	Rassel 100 SC	Poland	R-70/2019	florasulam	SC – Suspen-sion concentra-te	100 g/L	0.05 L/ha	0.05 L/ha	-
winter triticale	Starane 333 EC	Poland	R-23/2016 wu	fluroxypyr	EC – Emulsi-fiable concen-trate	333 g/L	0.54 L/ha	0.54 L/ha	-
	Rassel 100 SC	Poland	R-70/2019	florasulam	SC – Suspen-sion concentra-te	100 g/L	0.05 L/ha	0.05 L/ha	-

(1) only on use(s) applied for (with the test product).
(2) e.g. WP (wettable 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.).

Comments of zRMS:	This document summarizes the information related to the efficacy of the plant protection product – Turango 250 EC / Hapi 250 EC (product code: CHR/H/CFF 250 EC). Turango 250 EC / Hapi 250 EC is an emulsifiable concentrate (EC) formulation containing clopyralid (120 g/L), fluroxypyr (120 g/L) and florasulam (10 g/L) in Poland under Regulation (EC) 1107/2009. For now, this mentioned active substances are on the list of approved active substances. All needed information's are included in this dRR in the opinion of ZRMs. **Clopyralid** is a popular active ingredient used in herbicides that eliminate selective weeds like clover, thistles, dandelion, and other hard to kill broadleaf weeds. Clopyralid belongs to the pyridine family of chemicals. Clopyralid is persistent when it comes to control and stays in compost or on dead plants for up to 14 months. Clopyralid (chemical name 3,6-dichloro-2-pyridinecarboxylic acid) is an auxin-mimic type herbicide. It is selective (meaning that it kills a more limited range of plants) than some other auxin-mimic herbicides like Picloram, Triclopyr, or 2,4-D. Clopyralid was first registered as a herbicide in the US in 1987 and has been manufactured by Dow AgroSciences under various brand names like Curtail and Stinger. The mode of action of Clopyralid is that it operates as a plant growth regulator by imitating natural plant hormones called auxins. Auxins, which are found in all members of the plant kingdom, are responsible for regulating the amount, type and direction of plant growth, and are mostly found at the tips of plant roots and shoots. Clopyralid enters plants that have been treated through the leaves and roots, and replaces natural auxins at binding sites, resulting in unusual growth patterns and disrupting the growth processes of the plant. Clopyralid builds up in the growing points of the plant, causing it to rapidly overgrow which leads to the eventual death of the weed. Death can usually arrive from as little as a few days to a couple of weeks. In Poland 39 PPPs with clopyralid are already registered and commonly used (on the basis on the Ministry Register dated 28.06.24).

	10 of PPPs with clopyralid are registered for control weeds in winter wheat and 2 PPPs to protect winter triticale. **Fluroxypyr** is an important Group 4 herbicide active ingredient that was introduced in the early 1980s. Fluroxypyr is a selective post-emergent herbicide that is best applied when weeds are actively growing but before the bud stage of weed growth. Fluroxypyr is commonly used in agricultural settings for the control of broad-leaved weeds. Fluroxypyr is a systemic and selective herbicide made from pyridinoxy acid and is used to control annual and perennial broadleaf weeds and woody brush. Fluroxypyr is a member of the pyridine class of herbicides and induces an auxin-type response in susceptible annual and perennial broadleaf weeds. The mode of action of Fluroxypyr is that it operates as a plant growth regulator by imitating natural plant hormones called auxins. Auxins, which are found in all plant types, are responsible for regulating the amount, type and direction of plant growth, and are mostly found at the tips of plant roots and shoots. Fluroxypyr enters plants that have been treated through the leaves and roots, and replaces natural auxins at binding sites, causing abnormal growth patterns and disrupting the growth processes of the plant. The chemical builds up in the growing points of the plant, leading to rapid overgrowth, and eventual plant death. Death can usually arrive from as little as a few days to a couple of weeks. In Poland 56 PPP with fluroxypyr are registered and commonly used (on the basis on the Ministry Register dated 28.16.2024). 50 of those PPPs are register for protect against weeds – winter wheat and 29 PPPs for protect – winter triticale. **Florasulam** was introduced in 2000 and is now one of the leading products in this class of herbicides. Florasulam, a herbicide belonging to the sulfonylurea family, plays a crucial role in managing broadleaf weeds across various crops. It stands as one of the most extensively utilized active ingredients in herbicides. This powerful compound effectively inhibits weed growth by impeding the development of diverse broadleaf weeds. Florasulam finds valuable application in scientific research, particularly in exploring the impact of herbicides on plant growth and development. The mechanism of Florasulam centers around the inhibition of acetolactate synthase (ALS), an enzyme crucial in the biosynthesis of branched-chain amino acids. By impeding ALS, Florasulam effectively blocks the synthesis of these amino acids, which are essential for the growth and development of plants. Ultimately, this disruption leads to the demise of the targeted plant species. In Poland 85 PPP with florasulam are already registered and commonly used (on the basis on the Ministry Register dated 28.06.24). All those PPPs are registered for protect winter wheat against weeds and 84 PPPs for protect – winter triticale. **Importantly, this formulation of florasulam, clopyralid and fluroxypyr is not yet registered in Poland. Turango 250 EC / Hapi 250 EC (product code: CHR/H/CFF 250 EC) will therefore be the first PPP on the Polish market.** Herbicides with those three a.s. are known and registered in the EU, for example Universe (containing 100 g/L fluroxypyr, 80 g/L clopyralid and 2.5 g/L florasulam) in Ireland. CHR/H/CFF 250 EC will be sold in Poland under two trade names: Turango 250 EC and Hapi 250 EC. These are the same PPPs as was identified in the physico-chemical assessment. The product Turango 250 EC / Hapi 250 EC (product code: CHR/H/CFF 250 EC) containing clopyralid (120g/L), fluroxypyr (120g/L) and florasulam (10g/L) by Innvigo Sp. z o.o. has not yet been evaluated according to the Uniform Principles in any country. Poland is a ZRM. Turango 250 EC / Hapi 250 EC is recommended for use as herbicide in winter

	wheat and winter triticale. The reports and data were submitted to support of the evaluation of the CHR/H/CFF 250 EC product authorization in PL.

3.2.1 Preliminary tests (KCP 6.1)

Preliminary studies on product CHR/H/CFF 250 EC were not carried out because this herbicide contains 120 g/L clopyralid, 10 g/L florasulam and 120 g/L fluroxypyr, which are a well-known active substance that has been used for many years in agricultural practice.
According to EPPO 1/306 (1) General principles for the development of co-formulated mixtures of plant protection products, a co-formulated mixture is defined as a plant protection product which contains more than one active substance. Mixtures may be developed for a variety of reasons, including improved effectiveness against one pest or a range of pests, better plant growth regulation, resistance management, a broader spectrum of pest control and other desirable properties such as flexibility of application or improved crop quality.

Effectivnes
CHR/H/CFF 250 EC is a plant protection product contains three well known active substances: 120 g/L clopyralid, 10 g/L florasulam and 120 g/L fluroxypyr. After analising product contain clopyralid, florasulam and fluroxypyr registered in Poland and comparing time of use and pests there are strong issues supporting the authorization of a mixture.
Each of CHR/H/CFF 250 EC active substances has different mode of action on specific important weeds:
clopyralid – monocotyledonous weeds,
florasulam – monocotyledonous weeds,
fluroxypyr – dicotyledonous weeds.
Product CHR/H/CFF 250 EC control the most important weeds in cereals. Combination of these three substances control impoprtant dicotyledonous weeds, combines different modes of action to prevence resistance.

Potential advantages:
Advantages in combining active substances with different properties
CHR/H/CFF 250 EC contain 3 different active substances that acts in different ways and in different time, with systemic and foliar activity (Table 1).
Clopyralid is included in HRAC group 4 (legacy O) – the auxin mimics. Clopyralid will mainly be absorbed through green leaves, uptake through roots is of much less importance. Acropetal translocation of clopyralid in xylem into young meristem and youngest leaves as well as basipetal transport in phloem into roots is possible.
Florasulam is included in HRAC group 2 (legacy B) the inhibitions of ALS. The inhibition of ALS results in a number of distinctive whole plant symptoms. Growth of sensitive species is retarded within a matter of hours of application although visible effects may not be observed for several days. Symptoms appear first in the upper meristematic region of the plants as chlorosis and necrosis. Complete desiccation of the plant may occur in 7-10 days in ideal growing conditions, but may take up to 6-8 weeks under less ideal conditions.
Fluroxypyr is included in HRAC group 4 (legacy O) – the auxin mimics. Fluroxypyr is absorbed after foliar application and is translocated to other parts of the plant, therefore making it systemic in its action. The compound causes typical auxin-type responses in its target plants, such as leaf rolling. Fluroxypyr is on cereals, fallow land and on-farm non-cropland. The formulated product is absorbed through the leaves of susceptible plants.

Table 1.

Active substance	Clopyralid	Florasulam	Fluroxypyr
Chemical group	Pyridine-carboxylates	Triazolopyrimidine – type 1	Pyridyloxy-carboxylates

Active substance	Clopyralid	Florasulam	Fluroxypyr
HRAC group	4 (legacy O)	2 (legacy B)	4 (legacy O)
Time of action	Few weeks	7-10 days till 6-8 weeks	Few weeks
Mode of action,	auxin mimics	inhibits the plant enzyme acetolactate synthase (ALS)	auxin mimics
Biological action	Clopyralid will mainly be absorbed through green leaves, uptake through roots is of much less importance. The MoA is not yet completely understood. But it has been shown that clopyralid is being accumulated in merestemic tissue and influencing cell division, cell elongation and cell extension as well as RNA synthesis. Consequently, merestemic tissue dies off. Typical symptoms of susceptible plants are deformation and curling of young leaves and stem followed by growth stop and necrosis.	Florasulam is a herbicide which is active against broadleaf weeds in winter and spring cereals by inhibiting the plant enzyme, acetolactate synthase (ALS). This result in complete desiccation of susceptible plants in 7-10 days under ideal growing conditions, however, this may take up to 6-8 weeks under less ideal conditions.	Fluroxypyr is absorbed after foliar application and is translocated to other parts of the plant, therefore making it systemic in its action. The compound causes typical auxin-type responses in its target plants, such as leaf rolling. Fluroxypyr is on cereals, fallow land and on-farm non-cropland. The formulated product is absorbed through the leaves of susceptible plants.

Using three active substances in a mixture provide more effective control than if they are applied singly in sequence.

CHR/H/CFF 250 EC contain three active substances with a different time and mode of action. In Poland there are five plant protection products containing clopyralid solo, fiveteen plant protection products containing florasulam solo and no product containing fluoxypyr solo.

Table below (Table 2) shows that CHR/H/CFF 250 EC has much more wider weeds control than solo products registered by applicant, also dose of active substances is lower.

Table 2. Comparison of average efficacy of CHR/H/CFF at dose 0.5 L/ha to st. ref. products used during eff. trials (results were presented only for weeds claimed in label project by Applicant)

Product dose		*CHR/H/CFF 250 EC 0.5 L/ha						**Major 300 SL dose ~~0.3~~ 0.4 L/ha		***Rassel 100 SC dose 0.05 L/ha						****Starane 333 EC at dose 0.54 L/ha					
No.	weeds	Winter wheat - mean efficacy %	Efficacy	Winter triticale - mean efficacy %	Efficacy	Winter wheat, winter triticale – mean efficacy %	Efficacy	Winter wheat - mean efficacy %	Efficacy	Winter wheat	Efficacy	Winter triticale	Efficacy	Winter wheat, winter triticale – mean efficacy %	Efficacy	Winter wheat	Efficacy	Winter triticale	Efficacy	Both, wheat and triticale	Efficacy
1	*Anthemis arvensis*	89.73	S	85.65	S	87.69	S	~~97.76~~ 87.93	S	82.03	MS	82.30	MS	- 82.17	-MS	68.64	MT	69.53	MT	69.09	MT
2	*Brassica napus* (self-sown plant)	90.48	S	87.23	S	88.86	S	0,00	T	88.79	S	83.73	MS	~~99.50~~ 86.26	S	69.64	MT	62.53	MT	66.09	MT
3	*Centauera cyanus*	85.56	S	85.02	S	85.29	S	89.01	S	72.66	MS	78.78	MS	~~86.25~~ 75.72	~~S~~ MS	72.80	MS	78.37	MS	75.59	MS
4	*Galium aparine*	84.86	MS	78.13	MS	81.49	MS	13.76-	T-	80.54	MS	76.57	MS	~~93.95~~ 81.63	~~S~~ MS	81.11	MS	83.17	MS	82.14	MS
5	*Papver rhoeas*	85.02	S	88.77	S	86.89	S	21.77	T	82.03	MS	82.72	MS	~~97.08~~ 82.39	~~S~~ MS	39.68	T	34.77	T	37.23	T
6	*Stellaria media*	87.80	S	83.13	MS	85.47	S	22.17	T	83.94	MS	75.87	MS	~~98.23~~ 79.91	~~S~~ MS	82.54	MS	80.95	MS	81.75	MS
7	*Tripleurospermum mar. inodorum*	91.43	S	~~87.92~~ 85.65	S	~~89.68~~ 88.54	S	~~96.68~~	S	85.21	S	78.97	MS	~~97.61~~ 82.09	~~S~~ MS	72.18	MS	69.62	MT	70.90	MS
~~8~~	~~*Viola arvensis*~~			-	-			-	-					~~53.52~~	~~T~~						
~~9~~	~~*Veronica hederifolia*~~	-	-	-	-			-	-					~~92.20~~	~~S~~						
~~10~~	~~*Capsella bursa-pastoris*~~	-	-	-	-			-	-					~~98.25~~	~~S~~						
~~11~~	~~*Myosotis arvensis*~~	-	-	-	-			-	-					~~99.00~~	~~S~~						
~~12~~	~~*Veronica persica*~~	-	-	-	-			-	-					~~66.28~~	~~MT~~						
~~13~~	~~*Cirsium arvense*~~	-	-	-	-			~~94.08~~	~~S~~					-	-						
~~14~~	~~*Galinsoga prviflora*~~	-	-	-	-			~~97.10~~	~~S~~					-	-						
~~15~~	~~*Fumaria officinalis*~~	-	-	-	-			~~52.50~~	~~T~~					-	-						
~~16~~	~~*Thlaspi arvense*~~	-	-	-	-			-	-					~~94.90~~	~~S~~						
~~17~~	~~*Veronica arvesis*~~	-	-	-	-			-	-					~~56.90~~	~~T~~						
~~18~~	~~*Lamium amplexicaule*~~	-	-	-	-			-	-					~~76.30~~	~~MS~~						
~~19~~	~~*Matricaria recutita*~~	-	-	-	-			~~95.65~~	~~S~~					~~99.00~~	~~S~~						
~~20~~	~~*Veronica hederaefolia triloba*~~	-	-	-	-			-	-					~~42.50~~	~~T~~						

*CHR/H/CFF (120 g/L clopyralid + 10 g/L florasulam + 120 g/L fluroxypyr), dose 0.5 L/ha (60 g/L clopyralid + 5 g/L florasulam + 60 g/L fluroxypyr), appliaction BBCH 21-32
**Major 300 SL/ Cloe 300 SL/ProSto 300 SL (clopyralid 300 g/L), max dose: 0.4 L/ha (~~150~~120 g a.s/ha), application time BBCH 20-29
***Rassel 100 SC/ Matrican 100 SC/Plonarius 100 SC (florasulam 100 g/L), postemergence dose 0.05 L/ha (5 g a.s./ha), application time BBCH 13-31
****Starane 333 EC at dose 0.54 L/ha (fluroxypyr 333 g/L0, postemergence dose 0.54 L/ha (180 g s.a./ha), application time BBCH 21-32

After analising data for product with solo clopyralid, florasulam and fluroxypyr (tables 3, 4) registered in Poland it may be consider that:

- products contain only clopyralid control only 5-7 weed species,
- products contain only florasulam control only 2-9 weed species,
- CHR/H/CFF 250 EC control eight the most important weed species in winter cereals. Spectrum of weeds controled by CHR/H/CFF 250 EC is much bigger wide than solo products,
- growth stage of solo products contain clopyralid is BBCH 20-29, florasulam 13-39 and CHR/H/CFF 250 EC has BBCH 21-32,
- Products dose contain clopyralid is 120 g a.s./ha while in CHR/H/CFF 250 EC clopyralid dose is 60 g a.s./ha. Products dose, contain florasulam, is 5.0-7.5 g a.s./ha while in CHR/H/CFF 250 EC, florasulam dose is 5.0 g a.s./ha.
- Other general advantages for the mixture when compared with the solo product could include less packaging and reducing the number of operations for operators.

Table 3. Registered products containing clopyralid

PPP name	CHR/H/CFF 250 EC 0.5 L/ha	Cloe 300 SL/ Major 300 SL/ ProSto 300 SL	Faworyt 300 SL/ Helion 300 SL
a.s. g/ha	60 g a.s./ha clopyralid + 5 g a.s./ha florasulam + 60 g a.s./ha fluroxypyr	120 g a.s./ha clopyralid	120 g a.s./ha clopyralid
growth stage when use	BBCH 21-32	BBCH 20-29	BBCH 20-29
sensitive weeds			
weeds species	*Galium aparine*		
	Brassica napus (self-sown plant)		
	Tripleurospermum mar. inodorum	*Tripleurospermum mar. inodorum*	*Tripleurospermum mar. inodorum*
	Stellaria media		
	Papver rhoeas		
	Anthemis arvensis	*Anthemis arvensis*	*Anthemis arvensis*
	Centauera cyanus		*Centauera cyanus*
		Solanum nigrum	
		Galinsoga parviflora	
		Matricaria chamomilla	
			Fumaria officinalis
			Cirsium arvense
			Persicaria maculosa
			Senecio vulgaris

Table 4. Registered products containing florasulam

PPP name	CHR/H/CFF 250 EC 0.5 L/ha	Duster/ Globus SC	FlorasuGuard/ Scriven 050 SC/ Sunlight 50 SC/ Ultegra 050 SC/ Upton 050 SC	Flyer	Kantor 050 SC	Laserto 050 SC/ Linnea/ Saracen 050 SC	Plonarius 100 SC/ Rassel 100 SC
as g/ha	60 g a.s./ha clopyralid + 5 g a.s./ha florasulam + 60 g a.s./ha fluroxypyr	florasulam 5 g a.s/ha	florasulam 5 g a.s/ha	florasulam 7.5 g a.s/ha	florasulam 5 g a.s/ha	florasulam 5 g a.s/ha	florasulam 5 g a.s/ha
growth stage when use	BBCH 21-32	BBCH 29 - 41	BBCH 13-39	BBCH 13-39	BBCH 13-32	BBCH 13-32	BBCH 13-31
sensitive weeds							
weeds species	*Galium aparine*		*Galium aparine*	*Galium aparine*	*Galium aparine*	*Galium aparine*	*Galium aparine*
	Brassica napus (self-sown plant)				*Brassica napus* (self-sown plant)	*Brassica napus* (self-sown plant)	*Brassica napus* (self-sown plant)
	Tripleurospermum mar. inodorum		*Tripleurospermum mar. inodorum*	*Tripleurospermum mar. inodorum*	*Tripleurospermum mar. inodorum*	*Tripleurospermum mar. inodorum*	*Tripleurospermum mar. inodorum*
	Stellaria media	*Stellaria media*	*Stellaria media*	*Stellaria media*	*Stellaria media*	*Stellaria media*	*Stellaria media*
	Papver rhoeas	*Papver rhoeas*	*Papver rhoeas*	*Papver rhoeas*	*Papver rhoeas*	*Papver rhoeas*	*Papver rhoeas*
	Anthemis arvensis						
	Centauera cyanus						
					Capsella bursa-pastoris	*Capsella bursa-pastoris*	*Capsella bursa-pastoris*
				Matricaria chamomilla			
				Fallopia convolvulus			
					Thlaspi arvense	*Thlaspi arvense*	*Thlaspi arvense*
					Descurainia sophia		
					Veronica hederifolia	*Veronica hederifolia*	
						Myosotis arvensis	

Justification for the ratio of active substances

- There is no overlap in activity against the target pests a case based on the rates of the solo products
- Applied dose of each individual active substance in a mixture is not greater than the corresponding dose of the same active substance in a solo product.
- the primary tests were not conduct because there is no product with clopyralid, florasulam and fluroxypyr, but each active substance is well know in all over the Europe. There is a lot of product registered in Poland with solo clopyralid and florasulam. There are 6 products registered in Poland with mixture clopyralid and fluroxypyr (+ MCPA), what means that mixing this active substances is well known and is not new use for market.

Table 5.

Product	Registration no.	Active substances	Dose L/ha	Active substances dose g/ha	Crop
Arrva	R-58/2020	fluroxypyr methylheptyl ester — 72 g, clopyralid — 28 g, MCPA — 233 g	2.0-3.0	fluroxypyr methylheptyl ester 144-216 g; clopyralid 56-84 g; MCPA 466-699 g	winter wheat, winter triticale, winter rye, winter oat
Chwastox CF	R-14/2018	MCPA — 200 g, clopyralid — 20 g, fluroxypyr — 40 g	2.0-3.0	MCPA 400-600 g; clopyralid 40-60 g; fluroxypyr 80-120 g	winter wheat
Chwastox Complex 260 EW	R-35/2017	MCPA — 200 g, clopyralid — 20 g, fluroxypyr — 40 g	2.0-3.0	MCPA 400-600 g; clopyralid 40-60 g; fluroxypyr 80-120 g	winter wheat
Haksar Complex 260 EW	R-13/2018	MCPA — 200 g, clopyralid — 20 g, fluroxypyr — 40 g	2.0-3.0	MCPA 400-600 g; clopyralid 40-60 g; fluroxypyr 80-120 g	winter wheat
Haksar Ultra 260 EW	R-7/2020	MCPA — 200 g, clopyralid — 20 g fluroxypyr — 40 g	2.0-3.0	MCPA 400-600 g; clopyralid 40-60 g; fluroxypyr 80-120 g	winter wheat
Kinvara	R-231/2019	fluroxypyr methylheptyl ester — 72 g, clopyralid — 28 g, MCPA — 233 g	2.0-3.0	fluroxypyr methylheptyl ester 144-216 g; clopyralid 56-84 g; MCPA 466-699 g	winter wheat, winter triticale, winter rye, winter oat

Acceptability of the resistance risk

CHR/H/CFF 250 EC is a herbicide containing active substances: 120 g/L clopyralid, 10 g/L florasulam and 120 g/L fluroxypyr, which belong to different HRAC groups (different mode of action). According to the Herbicide Resistance Action Committee (HRAC) clopyralid is included in HRAC Group 4 (O) – auxin mimics. According to Ian Heap's website (http://www.weedscience.org) there are only three species which have been reported as resistant to clopyralid: *Soliva sessilis*, *Chenopodium album* and *Centaurea stoebe* ssp. *Micranthos.* Florasulam as an acetolactate synthase (ALS) inhibitor herbicide (HRAC group: 2 Inhibition of ALS, Legacy: B), which the mode of action is the inhibition of the plant enzyme acetolactate synthase, it has been classified as a high resistance risk. According to the Herbicide Resistance Action Committee (HRAC) fluroxypyr is included in HRAC Group 4 (O) – auxin mimics. According to Ian Heap's website (http://www.weedscience.org) there are only four species which have been reported as resistant to fluroxypyr: *Galeopsis tetrahit, Kochia scoparia, Stellaria media* and *Galium aparine.*
According to submitted efficacy data none of the tested weeds showed high tolerance to the product CHR/H/CFF 250 EC. CHR/H/CFF 250 EC is a herbicide containing active substances: 120 g/L clopyralid, 10 g/L florasulam and 120 g/L fluroxypyr, which belong to different HRAC groups (different mode of action). The mode of action involving a 'multi-site' action may indicate a lower risk to developing weeds resistance. Accroding to EPPO PP 1/213 (4) Resistance risk analysis weeds usually only produce one generation per year and development of resistance is usually a relatively slow process.
In conclusion, in the applicant's opinion, this level of weeds resistance risk should be considered to be acceptable.

Table 3.2-7: Efficacy of active substance components in test product – not applicable

Not applicable

Table 3.2-8: Percentage of control of the different ratios at timing of assessment (e.g. 10 to 14 days after application).- not applicable

Not applicable

Summary and conclusions on the preliminary trials

Not applicable

Comments of zRMS:

The active substances of Turango 250 EC / Hapi 250 EC (product code: CHR/H/CFF 250 EC) – fluroxypyr, florasulam and clopyralid are registered and have been commonly used in agricultural practice for many years. So, many efficacy trials are available to evaluate the effectiveness of products containing those active compounds. However, no PPP with those three active substances are registered in Poland yet. So, justification for this mixture is required in the opinion of ZRMs.

In Poland this formulation is not registered yet. Applicant submitted justification to combine all three active ingredients in CHR/H/CFF 250 EC. Applicant did not submit trials for pre-liminary studies. But in the presented efficacy trials, all of these three compounds (florasulam, fluroxypyr and clopyralid) demonstrated the activity against studied weeds in winter cereals. Such comparison and trials should been acceptable in the opinion of ZRMs.

CHR/H/CFF 250 EC demonstrated at least comparable control or even higher to the standard reference products used during trials: Major 300 SL (with 300 g/L of clopyralid, used at dose 0.4 L/ha), Rassel 100 SC (with 100 g of florasulam used at dose 0.05 L/ha) and Starane 333 EC (with 333 g/L of fluroxypyr used at dose 0.54 L/ha). Two standard reference products (Rassel 100 SC and Starane 333 EC) were used in trials carried out on winter wheat and winter triticale. Major 300 SL with 300 g/L of clopyralid was used at dose 0.4 L/ha in trials performed only on winter wheat.

Taking into account the amount of active substance and the applied dose, both in the CHR/H/CFF 250 EC and the reference PPPs, the mixture of the three substances proved to be more effective than the substances used individually. For example, Major 300 SL at 0.4 L/ha – provides 120 g of clopyralid (the same as the CHR/H/CFF evaluated at 0.5 L/ha), Starane 333 EC provides approximately 180 g of fluroxypyr (more than CHR/H/CFF 250 EC at dose 0.5 L/ha) and Rassel 100 SC at 0.05 L/ha – provides 5 g of florasulam/ha (the same content as CHR/H/CFF 250 EC.

Therefore, in the opinion of ZRMs the inclusion of proposed amount of florasulam (10 g/L), fluroxypyr (120 g/L) and clopyralid (120 g/L) in the formulation of CHR/H/CFF 250 EC can be stated as fully justified.

Comparison for the average of efficacy against CHR/H/CFF 250 EC and st. ref. products in winter wheat

Winter wheat				
Weeds	**CHR/H/CFF 250 EC at dose 0.5 L/ha**	**Major 300 SL at dose 0,4 L/ha**	**Rassel 100 SC at dose 0,05 L/ha**	**Starane 333 EC at dose 0,54 L/ha**

ANTAR	89.73%	87.93%	82.03%	68.64%
BRSNW	90.48%	0.00%	88.79%	69.64%
CENCY	85.56%	89.01%	72.66%	72.80%
GALAP	84.86%	13.76%	80.54%	81.11%
PAPRH	85.02%	21.77%	82.03%	39.68%
STEME	87.80%	22.17%	83.94%	82.54%
MATIN	91.43%	90.06%	85.21%	72.18%

S	> 85% eff.	**MS**	70-85% eff	**MT**	60-70% eff.	**T**	<60% eff.

Classification marked by colour and eff. of weeds sensitivity according to Polish rules

Comparison for the average of efficacy against CHR/H/CFF 250 EC and st. ref. products in winter triticale

Winter triticale				
Weeds	**CHR/H/CFF 250 EC at dose 0.5 L/ha**	**Major 300 SL at dose 0,4 L/ha**	**Rassel 100 S.C. at dose 0,05 L/ha**	**Starane 333 EC at dose 0,54 L/ha**
ANTAR	85.65%	Not studied	82.30%	69.53%
BRSNW	87.23%	Not studied	83.73%	62.53%
CENCY	85.02%	Not studied	78.78%	78.37%
GALAP	78.13%	Not studied	76.57%	83.17%
PAPRH	88.77%	Not studied	82.72%	34.77%
STEME	83.13%	Not studied	75.87%	80.95%
MATIN	85.65%	Not studied	78.97%	69.62%

S	> 85% eff.	**MS**	70-85% eff	**MT**	60-70% eff.	**T**	<60% eff.

Classification marked by colour and eff. of weeds sensitivity according to Polish rules

Turango 250 EC / Hapi 250 EC (product code: CHR/H/CFF 250 EC) – composition of clopyralid (120 g/L), florasulam (10 g/L) and fluroxypyr (120 g/L) have a very good effectiveness against weeds in winter wheat and winter triticale, as shown in the following section. Product will be used at dose 0.4-0.5 L/ha which corresponds to 48-60 g/L clopyralid, 4-5 g/L florasulam and 48-60 g/L fluroxypyr.

3.2.2 Minimum effective dose tests (KCP 6.2)

No specific studies were conducted to fill this data point.
On the basis of information included in the assessment of efficacy and phytotoxicity trials in KCP point 3.2.3 of herbicide CHR/H/CFF 250 EC in winter wheat and winter triticale the minimum effective dose of product CHR/H/CFF 250 EC used is:
Used solo:
0.4-0.5 L/ha once a season in winter wheat and winter triticale, which are corresponding to 48-60 g a.s./ha clopyralid, 4-5 g a.s./ha florasulam and 48-60 g a.s./ha fluroxypyr.

The minimum effective trials were not conducted.

Crop(s) 1 AND/OR Target(s) 1

Not applicable

Table 3.2-9: Minimum effective dose. Efficacy of product at proposed label rate, at X% and Y% dose rates on target 1 at assessment timing against "Crop(s) 1 AND/OR Target(s) 1".

No specific studies were conducted to fill this data point.

Crop(s) 2 AND/OR Target(s) 2

Not applicable

Summary and conclusions on the minimum effective dose

Not applicable

Comments of zRMS:

To provide information to establish the minimum effective dose, some of the trials conducted to demonstrate efficacy should include at least two lower dose(s) than recommended dose. However, in the appropriate research of efficacy were tested differ doses and to register was chosen the lowest effective, which is in accordance with EPPO 1/225 (2).

Turango 250 EC / Hapi 250 EC (product code: CHR/H/CFF 250 EC) containing florasulam (10 g/L), clopyralid (120 g/L) and fluroxypyr (120 g/L) was tested at a range of dose rates, but to demonstrate minimum effective dose rate, the control obtained with CHR/H/CFF 250 EC applied at different dose rates was evaluated in 18 eff. trials carried out on winter cereals (11 trials-winter wheat, 7 trials – winter triticale). Those trials were conducted in one EPPO zone: N-E EPPO zone in Poland during different growing seasons (2020 and 2021). Following doses were studied during trials: 0,2 L/ha (0.4N full dose), 0,3 L/ha (0.6N full dose), 0,4 L/ha (N dose); 0,5 L/ha (full N dose) and 0.6 L/ha (1.2N full dose).

Below, ZRMs presented results for MED dose against Turango 250 EC / Hapi 250 EC:

- *for winter wheat*

Weed	Number of trials	Mean eff. at 0,2 L/ha	Mean eff. at 0.3 Lha	Mean eff. at 0.4 L/ha	Mean eff at 0.5 L/ha l/ha	Mean eff at 0.6 L/ha l/ha
ANTAR	8	70.08%	83.83%	83.15%	89.73%	90.18%
BRSNW	9	66.52%	89.70%	86.67%	90.48%	94.14%
CENCY	8	70.78%	75.53%	81.39%	85.56%	89.35%
GALAP	8	66.78%	81.48%	81.62%	84.86%	87.32%
PAPRH	9	73.68%	77.33%	80.00%	85.02%	88.69%
STEME	7	67.53%	91.20%	84.81%	87.80%	90.73%
MATIN	9	73.05%	90.77%	86.82%	91.43%	93.44%

S	> 85% eff.	**MS**	70-85% eff	**MT**	60-70% eff.	**T**	<60% eff.

Classification marked by colour and eff. of weeds sensitivity according to Polish rules

On the basis on obtained results it has been noted that:

– *for dose 0.2 L/ha* – 3 weeds were claassified as a moderately tolerant (BRSNW, GALAP, STEME), and 4 weeds as moderately susceptible (ANTAR, CENCY, PAPRH, STEME). Lack of weeds classified as a sensitive.

– *for dose 0.3 L/ha* – 4 weeds were classified as a moderately susceptible (ANTAR, CENCY, GALAP, PAPRH) and 3 weeds as a susceptible (BRSNW, STEME, MATIN).

– *for dose 0.4 L/ha* – 5 weeds were classified as a moderately sensitive weeds (ANTAR, CENCY, GALAP, PAPRH, STEME) and 2 as a senstive weeds (BRSNW, MATIN).

– *for dose 0.5 L/ha* – 1 weed was classified as a moderately sensitive weed (GALAP) and 6 as a senstive weeds (ANTAR, BRSNW, CENCY, PAPRH, STEME, MATIN).

– *for dose 0.6 L/ha* – all weeds were classified as a sensitive weeds (ANTAR, BRSNW, CENCY, GALAP, PAPRH, STEME, MATIN).

- ***for winter triticale:***

Weed	Number of trials	Mean eff. at 0,2 L/ha	Mean eff. at 0.3 Lha	Mean eff. at 0.4 L/ha	Mean eff at 0.5 L/ha l/ha	Mean eff at 0.6 L/ha l/ha
ANTAR	6	60.43%	82.60%	77.52%	85.65%	89.93%
BRSNW	6	51.25%	81.70%	77.52%	87.23%	92.72%
CENCY	6	66.28%	85.65%	89.87%	85.02%	90.38%
GALAP	7	59.40%	84.43%	74.94%	78.13%	84.63%
PAPRH	6	72.10%	82.53%	88.30%	88.77%	93.77%
STEME	6	67.53%	88.80%	78.10%	83.13%	87.32%
MATIN	6	69.87%	88.60%	80.43%	85.65%	89.60%
S	> 85% eff.	**MS**	70-85% eff	**MT** 60-70% eff.	**T**	<60% eff.

Classification marked by colour and eff. of weeds sensitivity according to Polish rules

<u>On the basis on obtained results it has been noted that:</u>

– *for dose 0.2 L/ha* – 2 weeds were claassified as a tolerant (BRSNW, GALAP), 4 weeds as moderately tolerant (ANTAR, CENCY, STEME, MATIN) and 1 weed as a moderately sensitive (PAPRH). Lack of weeds classified as a sensitive.

– *for dose 0.3 L/ha* – 4 weeds were classified as a moderately susceptible (ANTAR, BRSNW, GALAP, PAPRH) and 3 weeds as a susceptible (CENCY, STEME, MATIN).

– *for dose 0.4 L/ha* – 6 weeds were classified as a moderately sensitive weeds (ANTAR, BRSNW, CENCY, GALAP, STEME, MATIN) and 1 as a senstive weed (PAPRH).

– *for dose 0.5 L/ha* – 2 weeds were classified as a moderately sensitive weed (GALAP, STEME) and 5 as a senstive weeds (ANTAR, BRSNW, CENCY, PAPRH, MATIN).

– *for dose 0.6 L/ha* – 1 weed was classifies as a moderately sensitive weed (GALAP) and 6 weeds as a moderately sensitive (ANTAR, BRSNW, CENCY, STEME, MATIN, PAPRH).

- ***for winter cereals (both wheat and triticale)***

Weed	Number of trials		Mean eff. at 0,2 L/ha	Mean eff. at 0.3 Lha	Mean eff. at 0.4 L/ha	Mean eff at 0.5 L/ha l/ha	Mean eff at 0.6 L/ha l/ha
ANTAR	14		65.23%	83.22%	80.33%	87.69%	90.06%
BRSNW	15		58.89%	85.70%	82.09%	88.86%	93.43%
CENCY	14		68.53%	80.59%	81.13%	85.29%	89.87%
GALAP	15		63.09%	82.96%	78.28%	81.49%	90.98%
PAPRH	15		72.89%	79.93%	81.15%	86.89%	91.23%
STEME	13		67.53%	90.00%	81.46%	85.47%	89.03%
MATIN	15		71.46%	89.69%	83.63%	89.68%	91.52%
S	> 85% eff.		**MS**	70-85% eff	**MT** 60-	**T**	<60% eff.

				70%	
	On the basis on obtained results it has been noted that: – *for dose 0.2 L/ha* – 1 weed was claassified as a tolerant (BRSNW), 4 weeds as moderately tolerant (ANTAR, CENCY, GALAP, STEME) and 2 weeds as a moderately sensitive (PAPRH and STEME). Lack of weeds classified as a sensitive. – *for dose 0.3 L/ha* – 4 weeds were classified as a moderately susceptible (ANTAR, CENCY, GALAP, PAPRH) and 3 weeds as a susceptible (BRSNW, STEME, MATIN). – *for dose 0.4 L/ha* – all weeds were classified as a moderately sensitive weeds (ANTAR, BRSNW, CENCY, GALAP, PARH, STEME, MATIN). Lack of weeds classified as a sensitive. – *for dose 0.5 L/ha* – 1 weed was classified as a moderately sensitive weed (GALAP) and 6 as a senstive weeds (ANTAR, BRSNW, CENCY, PAPRH, STEME, MATIN). – *for dose 0.6 L/ha* – all weeds were classified as a sensitive weeds (ANTAR, BRSNW, CENCY, GALAP, PAPRH, MATIN, STEME). Trials submitted by Applicant are sufficient for Poland for MED dose. The clear dose responses was observed for the most of studied weed species. The most effective was dose 0.6 L/ha. However, dose 0.5 L/ha was characterized also by a very good effectiveness at should be recommended as a full rate. On the basis on submitted results also dose 0.4 L/ha was characterized by good efficiency and should be recommended for use. Both doses – 0.4 and 0.5 L/ha showed very good efficacy. Therefore, the highest dose tested (0.6 L/ha) should not be recommended (e.g. for environmental reasons). **Evaluator conclusion:** The claimed dose rate is 0.4-0.5 L of product/ha. The minimum effective dose were tested in winter wheat and winter triticale through the NE climatic EPPO zone. The range of 0.4-0.5 L product/ha gives control of many of the main weeds in cereals. The rate should be adjusted according to the development stage of the weeds and the weed species present in the field. The lower rate should be applied to weeds that are less developed, in the early stages of development and when weed infestation is less severe, while the higher of the recommended rates should be applied when weeds are more advanced in development.				

3.2.3 Efficacy tests (KCP 6.2)

Materials and methods
The applicant submitted 18 reports (in total) showing the results in research into product efficacy carried out in 2020 and 2021 in winter wheat (11 trials) and winter triticale (7 trials). List of these reports is contained in Appendix 1.

Site
Trials were conducted in different regions in Poland where winter wheat and winter triticale are grown commercially. The experiment was established on a set of complete randomized blocks in 4 replications. Details on trial sites, applications and data on effectiveness are included in Appendix 4 and 5.

Testing units
Efficacy studies on herbicide CHR/H/CFF 250 EC were performed in 2020 and 2021 by:
- SynTech Research Poland Sp. z o.o., ul. Jagiellońska 69/1, 85-027 Bydgoszcz, Poland
- A.T Sp. z o.o., ul. Przemysłowa 3, 88-300 Mogilno, Poland
- Poznań University of Life Sciences, Research and Education Center Gorzyń, ul. Wojska Polskiego 28, 60-637 Poznań, Poland

Experimental details
The efficacy trials were designed, conducted and reported according to the following EPPO guidelines:
- PP 1/135 (3) Phytotoxicity assessment
- PP 1/152 (3) Design and analysis of efficacy evaluation trials
- PP 1/181 (3) Conduct and reporting of efficacy evaluation trials including good experimental practice
They were carried out on the field in the conditions of natural agrofag infestation. The efficacy trials were concluded according to the EPPO standards:
- PP 1/93 (3) Weeds in cereals

Assessment methods

Statistical Analysis
The test results were statistically evaluated using the ARM 2020.1 statistical program. All assessment data was analyzed by analysis of variance (two-way analysis of variance). Significance of differences between the combinations was assessed using the Student-Newman-Keuls test at a significance level of p = 0.05 using "ARM 9" (version 9.1.5). All data were tested for homogeneity using the Bartlett test for homogeneity. for any data columns that did not pass this test, automatic data transformations were performed in the ARM (see ARM action codes below each scoreboard) Care should betaken when interpreting these data columns Efficacy was analyzed by Abbott's test (% of control).
Software for analysis of the results was ARM Revision 2017.4 from Gylling Data Management. Data were analysed using analysis of variance (ANOVA) on untransformed data and on transformed ones when the Bartlett's test indicated so. If transformation did not improve the distribution, original values were used and therefore significant differences reported should be interpreted with caution. The probability of no significant differences occurring between treatment means was calculated as the F probability value (Treatment Prob(F)). Student-Newman-Keuls (S-N-K) tests were applied when treatment differences were identified on the basis of the ANOVA test. Mean comparison performed only when AOV Treatment P(F) is significant at level selected. Results obtained where indicated by a letter-treatment means with no letters in common are significantly different in accordance with a S-N-K conducted at a 95% confidence level. Where data have been transformed, letters are included in the transformed data.

The treatment means of the assessment dates were calculated and compared using Student-Newman-Keuls test (P=0.05). The statistical procedures were applied using ARM 2020.1 software.

Assessment of efficacy
The effectiveness of the control of monocotyledonous and dicotyledonous weeds was assessed visually by comparing the condition of individual weeds on the herbicide-treated plots and on the untreated objects. In addition, 262 DAAs were counted for panicle for monocotyledonous weeds. Results were presented as percent damage using a 0-100 scale, where 0 - no efficacy, 100 - total weed control. Both before the application of the preparation and on each evaluation day, the number of individual weeds was determined on the control plots on the area of 1 m^2.

An efficacy was evaluated through assessments of damage weeds on plots treated compared to untreated (check) plots. The results was presented in percentage of efficacy (%). On untreated plots estimated number of weeds on 1 square meter.

Efficacy as % of weed control. The occurrence and intensity of symptoms of weed damages were determined using % scale. (0% = no symptoms occur, 100% = full control of weeds).

Assessment of phytotoxicity
Phytotoxicity (chlorosis and necrosis), stunting and thinning were assessed by visual estimation of the intensity on an overall plot basis on a percentage scale 0-100 % (0=no damage). The assessment date was determined by the speed of action and period of efficacy of the test substances.

The phytotoxicity assessment of the tested preparations was carried out by visually assessing the intensity of chlorosis, necrosis, leaf twisting, reduction of plant turgor, etc. on the surface of the entire plots and comparing each plot with the control plot. The assessment was made directly on the plantation. The results are presented on a 0-100 scale, where 0 - no phytotoxicity, 100 - complete destruction of plants.

Applications methods and rates
The applications were carried out by a T-BOOM – BACCAI, plot sprayer – BACSPR, plot sprayer BICSPR.

Tested herbicide was applied at the growth stage in winter wheat and winter triticale:
BBCH 21-32 in winter wheat and winter triticale.

The product CHR/H/CFF 250 EC has been used:
in winter wheat and winter triticale at the following rates of 0.2, 0.3; 0.4, 0.5, 0.6 L/ha.

Major 300 SL, Starane 333 EC and Rassel 100 SC were used as a reference products in winter wheat. Starane 333 EC and Rassel 100 SC were used as a reference products in winter triticale.

The experiment was established on a set of complete randomized blocks in 4 replications.

Experiment pattern:

Winter wheat

No.	Name	Rate (L/ha)	other rate (g a.s./ha)	Appl code	Growth Stage BBCH
1	Untreated Check				
2a	CHR/H/CFF 250 EC	0.2 L/ha	50 g a.s./ha	A	BBCH 21-32
2b	CHR/H/CFF 250 EC	0.3 L/ha	75 g a.s./ha	A	BBCH 21-32
3	CHR/H/CFF 250 EC	0.4 L/ha	100 g a.s./ha	A	BBCH 21-32
4	CHR/H/CFF 250 EC	0.5 L/ha	125 g a.s./ha	A	BBCH 21-32
5	CHR/H/CFF 250 EC	0.6 L/ha	150 g a.s./ha	A	BBCH 21-32
6	Major 300 SL	0.4 L/ha	120 g a.s./ha	A	BBCH 21-32
7	Starane 333 EC	0.54 L/ha	179.82 g a.s./ha	A	BBCH 21-32
8	Rassel 100 SC	0.05 L/ha	5 g a.s./ha	A	BBCH 21-32

Winter triticale

No.	Name	Rate (L/ha)	other rate (g a.s./ha)	Appl code	Growth Stage BBCH
1	Untreated Check				
2a	CHR/H/CFF 250 EC	0.2 L/ha	50 g a.s./ha	A	BBCH 21-32
2b	CHR/H/CFF 250 EC	0.3 L/ha	75 g a.s. / ha	A	BBCH 21-32
3	CHR/H/CFF 250 EC	0.4 L/ha	100 g a.s./ha	A	BBCH 21-32
4	CHR/H/CFF 250 EC	0.5 L/ha	125 g a.s./ha	A	BBCH 21-32
5	CHR/H/CFF 250 EC	0.6 L/ha	150 g a.s./ha	A	BBCH 21-32
6	Starane 333 EC	0.54 L/ha	179.82 g a.s./ha	A	BBCH 21-32
7	Rassel 100 SC	0.05 L/ha	5 g a.s./ha	A	BBCH 21-32

Details of experiments

Winter wheat

Report code	A.T/2020/037/PO	A.T/2020/038/PO	A.T/2020/039/PO	A.T/2020/040/PO	A.T/2021/029/PO	A.T/2021/033/PO	AH/20/PO/2/Pr/CFF	AH/21/PO/5/Pr/1	AH/21/PO/5/Ra/2	SRPL21-414-336HE	SRPL21-415-336HE
Loca-tion	Kopaszyn /Poland	Angowice /Poland	Kocanowo /Poland	Wilcze /Poland	Pacholewo /Poland	Kiełbowo /Poland	Wymysłowo /Poland	Przybroda /Poland	Rataje /Poland	Owczary /Poland	Leonów /Poland
Plant /cultivar	winter wheat/	winter wheat/ Etana	winter wheat/ Apostel	winter wheat/ Arkadia	winter wheat/ Plejada	winter wheat/ Tonnage	winter wheat/ Arkadia	winter wheat/ Princeps	winter wheat/ Hondia	winter wheat/ Hondia	winter wheat/ Hondia
See-ding date	16.10.2019	25.09.2019	30.09.2019	16.09.2019	25.09.2020	15.10.2020	24.09.2019	06.11.2020	04.11.2020	07.10.2020	26.09.2020
See-ding rate	150 kg/ha	190 kg/ha	168 kg/ha	200 kg/ha	160 kg/ha	150 kg/ha	220 kg/ha	200 kg/ha	260 kg/ha	180 kg/ha	180 kg/ha
Fore-crop	maize	winter tritica-le	winter wheat	winter wheat	winter oilse-ed rape	sugar beet	winter wheat	sugar beet	maize	winter oilse-ed rape	winter oilse-ed rape
Type of spray-er	BACCAI	BACCAI	BACCAI	BACCAI	BACCAI	BACCAI	SPRBIC	BICSPR	BICSPR	BACCAI	SPRBIC
Date of treat-ment	06.04.2020	06.04.2020	07.04.2020	06.04.2020	30.03.2021	11.04.2021	07.04.2020	13.04.2021	11.04.2021	22.04.2021	09.04.2021
Plant deve-lopment phase	BBCH 28-32	BBCH 30-31	BBCH 30-32	BBCH 30-31	BBCH 25-28	BBCH 21-30	BBCH 25-28	BBCH 21	BBCH 21	BBCH 21-23	BBCH 21-23
Soil type	sandy loam	sandy loam	loamy sand	loamy sand	sand	loamy sand	sandy loam	loamy sand	loamy sand	sandy loam	sandy loam
pH	7.2	5.2	5.5	5.7	5.8	6.5	5.8	6.0	6.7	6.6	6.6
Water (L/ha)	200 L/ha	200 L/ha	300 L/ha	200 L/ha	300 L/ha	200 L/ha	200 L/ha	200 L/ha	200 L/ha	300 L/ha	300 L/ha

Winter triticale

Report code	A.T/2020/041/PŻO	A.T/2020/042/PŻO	A.T/2020/043/PŻO	A.T/2021/030/PŻO	AH/21/PszO/5/Bu/2	AH/21/PszO/5/Ra/1	SRPL21-413-336HE
Location	Wierzchucin Królewski /Poland	Kopaszyn /Poland	Zamarte /Poland	Białe Błoto /Poland	Budzyń /Poland	Rataje /Poland	Leonów /Poland
Plant /cultivar	winter triticale/ Borwo	winter triticale/ Trapero	winter triticale/ Meloman	winter triticale/ Borowik	winter triticale/ Meloman	winter triticale/ Porto	winter triticale/ Kasyno
Seeding date	14.09.2019	17.09.2019	24.09.2019	24.09.2020	26.09.2020	28.09.2020	03.10.2020
Seeding rate	160 kg/ha	180 kg/ha	180 kg/ha	200 kg/ha	220 kg/ha	200 kg/ha	210 kg/ha
Forecrop	winter wheat	winter wheat	oat	spring barley	winter rye	spring barley	winter oilseed rape
Type of sprayer	BACCAI	BACCAI	BACCAI	BACCAI	SPRAY	BICSPR	SPRBIC
Date of treatment	06.04.2020	06.04.2020	08.04.2020	09.04.2021	11.04.2021	11.04.2021	09.04.2021
Plant development phase	BBCH 25-28	BBCH 30-32	BBCH 30-31	BBCH 21-24	BBCH 22	BBCH 22	BBCH 21-23
Soil type	sandy loam	loamy sand	loamy sand	sand	loamy sand	loamy sand	sandy loam
pH	5.6	7.2	5.0	6.0	6.5	6.7	6.3
Water (L/ha)	200 L/ha	200 L/ha	300 L/ha	200 L/ha	200 L/ha	200 L/ha	300 L/ha

Details of agricultural measures, fertilization, and other plant protection products applied during the experiments are included in detailed field study reports listed above.
Summary of the data from effectiveness trials can be found at Appendix 5.

Efficacy tests
The 18 trials (winter wheat 11 trials and winter triticale 7 trials) have been carried out in 2020 and in 2021 in Poland. The herbicide CHR/H/CFF 250 EC was applied once per season in spring:
in winter wheat and winter triticale at the following rates of 0.2, 0.3; 0.4, 0.5, 0.6 L/ha.

The product CHR/H/CFF 250 EC has been used:
in winter wheat and winter triticale at the following rates of 0.2, 0.3; 0.4, 0.5, 0.6 L/ha.
Tested herbicide was applied at the growth stage:
BBCH 21- 32 in winter wheat and winter triticale.

Table 3.2-10: Details on trial methodology

Guidelines	General guidelines	PP 1/152 (3) Design and analysis of efficacy evaluation trials
		PP 1/181 (3) Conduct and reporting of efficacy evaluation trials including good experimental practice
		PP 1/135 (3) Phytotoxicity assessment
	Specific guidelines	PP 1/93 (3) Weeds in cereals
Experimental design	Plot design	Randomized Complete Block (RCB) – (18)
	Plot size	Winter wheat: 12.5-24.0 m^2 Winter triticale: 10.0-18.0 m^2
	Number of replications	4 (18)
Crop	Trials per crop	Winter wheat (11) Winter triticale (7)
	Varieties per crop	Winter wheat: Linus, Etana, Apostel, Arkadia, Plejada, Tonnage, Princeps, Hondia Winter triticale: Borwo, Trapero, Meloman, Borowik, Porto, Kasyno
	Sowing period	Winter wheat: 16.09.2019-16.10.2019, 25.09.2020-06.11.2020 Winter triticale: 14.09.2019-24.09.2019, 24.09.2020-03.10.2020
Application	Crop stage (BBCH)* at application	Winter wheat: BBCH 21-32 Winter triticale: BBCH 21-32
	Timing Pest stage at application (1)	The data available in Appendix 4
	Number of applications Intervals between applications	1 (18 trials), interval – n/a
	Spray volumes	Winter wheat: 200-300 L/ha Winter triticale: 200-300 L/ha
Assessment	Assessment types	Assessment of efficacy Assessment of phytotoxicity
	Assessment dates	Assessment dates deatalis is available in Appendix 4
Other relevant information	e.g. Soil type, pH (in case of soil active substance …)	Winter wheat pH: 5.5-7.2 Winter triticale pH: 5.0-7.2
	e.g. Natural / artificial innoculation…	n/a
	e.g. Field / Greenhouse...	n/a
	...	n/a

* BBCH for weeds, pre-emergence, preventive / curative application, insect stage…

Crop(s) 1 AND/OR Target(s) 1

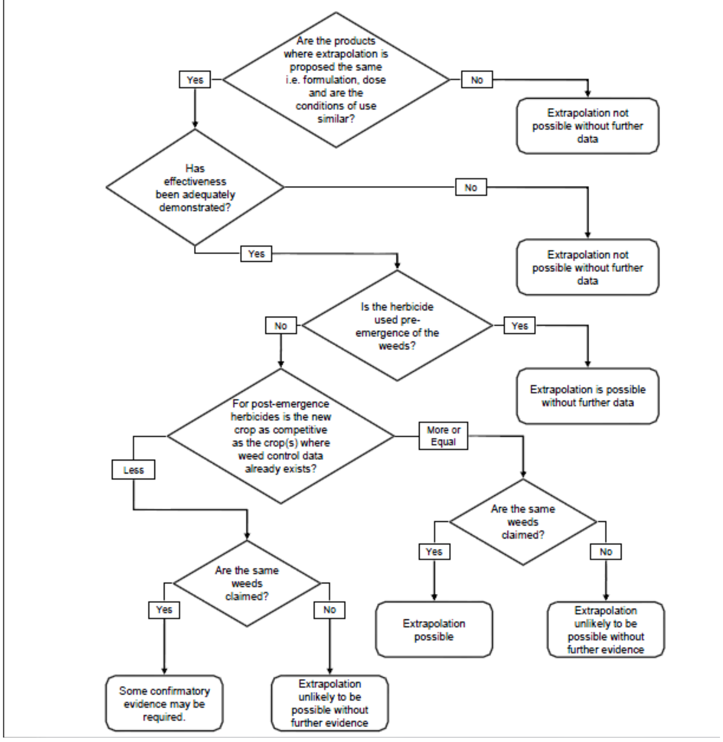
A total of 18 trials were carried out to evaluate the efficacy of product: CHR/H/CFF 250 EC for the control of dicotyledonous weeds in winter wheat and winter triticale.
Efficacy data for dicotyledonous weeds are presented from 18 efficacy trials assessed. 18 trials have been conducted in season 2020 and 2021 in Poland.

3.2.3-1 Efficacy tests of : CHR/H/CFF 250 EC

Extrapolation of studies performed in 2019 and 2020 from winter wheat to winter triticale
In reference to EPPO norm PP 1/226(4) "Efficacy evaluation of plant protection products Number of efficacy trials", according to point: Number of trials for direct efficacy (effectiveness) - "The number of trials is primarily determined by the importance of the crop and the pest (major or minor), and the possibility of extrapolation between crops and pests".
Under point: Reduced number of trials – the following information is available:
"In some situations, there may be the opportunity to reduce the number of trials done, and a case may be made for this as follows:
• Where there is a large amount of supporting evidence from use of the product, or of similar products with the same active substance, on closely related pests or against the same pests on different crops, the number of trials necessary will be determined by the amount of supporting evidence and the similarity of the pests and crops sought". In making extrapolations between crops or pests, it is important to explain and justify the reasoning for the extrapolation.
According to COMMISSION REGULATION (EU) No. 545/2011 of 10 June 2011 implementing Regulation (EC) No. 1107/2009 of the European Parliament and of the Council as regards the data requirements for plant protection products [14, 17], point 6. Efficacy data:
"If to the opinion of the applicant the trials from the first season adequately confirm the validity of claims made on the basis of extrapolation of results from other crops, commodities or situations or from tests with closely similar preparations, a justification, which is acceptable to the competent authority for not carrying out a second season's work must be provided."
CRD - PROPOSALS FOR EXTENDING AND HARMONIZING EFFICACY AND CROP SAFETY EXTRAPOLATIONS TO REDUCE THE NEED FOR EFFICACY TRIALS ON MINOR CROPS
The following document was prepared by the Chemicals Regulation Directorate (CRD, formerly PSD), the UK pesticide regulatory authority, under the European Commission (DG SANCO) contract [15]. It presents lists of specific extrapolations for efficacy and crop safety trials. The proposals in the lists are intended as a framework for evaluators, to be used alongside expert judgment and regulatory experience.
One of main strategies proposed in order to address efficacy data requirements is to extrapolate from extant registered uses, and this was elaborated in a EPPO standard (PP1/257) [16] published in the Bulletin OEPP/EPPO Bulletin Vol. 37(3), December 2007. The EPPO standard is based on the extrapolation document developed by Chemicals Regulation Directorate (CRD, formerly PSD).
Although, this document refers to minor uses, it shall be noted that pt. 1.1. paragraph 3. contains the following information:
„3. Extrapolations will normally only be used to support the authorization of products for use on minor crops. Authorizations for the use of PPPs on major crops must always be supported by data. However, the amount of data required to support a use on a major crop may be reduced from that normally required, by extrapolating data from similar crops or targets."

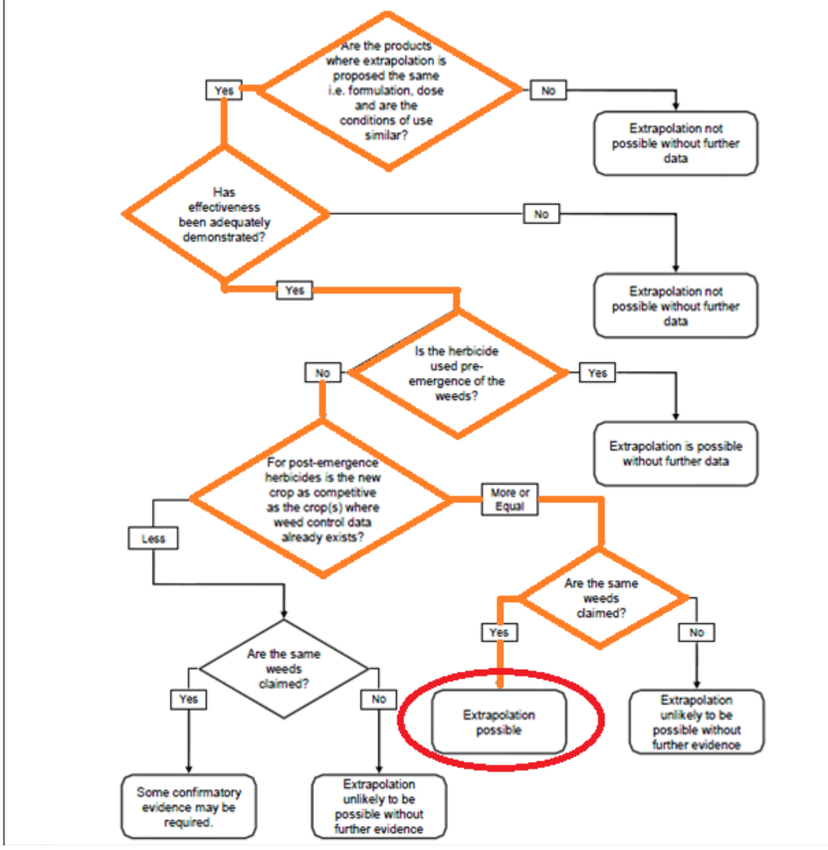
According to paragraph 5.:
"5. Extrapolations may only be accepted for the extension of use of a given PPP used at the same rate and dose applied at similar timings and with similar equipment."
Under pt. 2.2. of this document the following graph is found: a decision-making scheme designed to act as a prompt when considering extrapolations of weed control claims between crops. The list of factors is not exhaustive and the mode of action, conditions of use, and extent of existing product knowledge will affect whether extrapolation is appropriate in each case.

Figure 2; Effectiveness extrapolations between crops for the same target weed



Following the flowchart and considering the product CHR/H/CFF 250 EC, with a view to possible extrapolation from winter wheat to winter triticale the following pathway applies:

Figure 2; Effectiveness extrapolations between crops for the same target weed



The following table is derived from the document prepared by CRD. It presents a list of specific extrapolations for efficacy and crop safety. The proposals in the lists are intended as a framework for evaluators, to be used alongside expert judgment and regulatory experience (pt. 2.3.2.1.)

HERBICIDES

Table 9 Extrapolations between crops for the same target weed Test crop:	**Can extrapolate to:**
Pre-emergence, pre-sowing or pre-planting application of one crop	Pre-emergence, pre-sowing or pre-planting application of another crop (only if growing conditions are the same).
Any drilled flower, tree nursery or perennial crop.	Planted crop of the same species
Any planted flower, tree nursery or perennial crop.	Drilled crop of the same species
Any non-competitive crop e.g. Orchards, HONS, amenity vegetation, land not intended to bear vegetation.	Any other non-competitive crop, poorly competitive crop e.g. Sugar beet, peas, onions, linseed, horticultural brassicas, or competitive crop e.g. Cereals, grassland, oilseed rape (contact herbicides only)
Any poorly competitive crop e.g. Sugar beet, peas, onions, linseed, horticultural brassicas	Any other poorly competitive crop or competitive crop e.g. Cereals, grassland, oilseed rape (contact herbicides only)
Any competitive crop e.g. cereals, grassland, oilseed rape	**Any other competitive crop (contact herbicides only)**
Outside open field culture of tulip, narcissus or hyacinth (spring flowering crops)	Outside and protected cultures in open field of other spring flowering flower bulb- and bulb flower crops
Outside open field culture of lily or gladiolus (summer flowering crops)	Outside and protected cultures in open field of other summer flowering flower bulb- and bulb flower crops
Protected culture of bulb flowers in trays or containers (contact herbicide only)	Protected open field culture of bulb flowers (contact herbicide only)
Protected open field culture of bulb flowers (contact herbicide only)	Protected culture of bulb flowers in trays or containers (contact herbicide only)
Outside open field culture of flower bulb culture	Outside open field culture of bulb flower culture
Outside open field culture of bulb flower culture	Outside open field culture of flower bulb culture
Newly sown grass	Established grass (except where target weed is a perennial weed that is beyond the seedling stage)

(http://www.pesticides.gov.uk/uploadedfiles/Web_Assets/PSD/SANCO_D3_S12-395857.pdf)

SUMMARY:
In reference to the above listed documents and information, applicant have extrapolated 11 efficacy trials performed on winter wheat in 2020 and 2021 to winter triticale. Furthermore, this extrapolation is supported by 7 additional efficacy trials carried out on winter triticale, which proved product's efficacy against weeds to be comparable in winter wheat and winter triticale.

The extrapolation was performed in view of using the results of studies against harmful organism (weeds) on one crop (winter wheat) for the purpose of analyzing efficacy against the same harmful organism on another crops (winter triticale), provided that:

the rates of product applied in the studies are the same - YES	
Winter wheat	Winter triticale
0.2 L/ha, 0.3 L/ha 0.4 L/ha, 0.5 L/ha 0.6 L/ha	0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha 0.6 L/ha
the amount of spray solution used is the same - YES	
Winter wheat	Winter triticale
200-300 L/ha	200-300 L/ha
the timing of application is the same - YES	
Winter wheat	Winter triticale
30.03.2020-07.04.2020 07.04.2021-22.04.2021	06.04.2020-08.04.2020 09.04.2021-11.04.2021
crop development phases during application are comparable - YES	
Winter wheat	Winter triticale
BBCH 21-32	BBCH 21-32

In view of the above, authors of his report find it fully justified to extrapolate the results of efficacy trials performed on product CHR/H/CFF 250 EC from winter wheat to winter triticale.

Winter wheat

The 11 trials were carried out in winter wheat in 2020 and 2021 (5 trials in 2020 and 6 trails in 2021). The herbicide CHR/H/CFF 250 EC was applied once per season at the following rates of 0.2, 0.3; 0.4, 0.5, 0.6 L/ha.

3.2.3-1.1 The efficacy of CHR/H/CFF 250 EC in control of ANTAR *Anthemis arvensis*

14 DA-A

The efficiency of CHR/H/CFF 250 EC in control of ANTAR *Anthemis arvensis* were investigated in 6 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the medium of efficacy 14 DA-A. The effectiveness fluctuated from 69.27–84.80%.

The effectiveness fluctuated at rate 0.2-0.3 L/ha from 32.50% (11 DA-A) to 83.50% (14 DA-A), at rate 0.4 L/ha from 51.30% (11 DA-A) to 88.50% (14 DA-A), at rate 0.5 L/ha from 70.00% (11 DA-A) to 91.30% (14 DA-A), at rate 0.6 L/ha from 75.00% (14 DA-A) to 94.00% (14 DA-A).

The efficacy of the tested herbicide was comparable to and higher than the standard products. In the trials efficacy amounted above 80.90% for Major 300 SL, 64.68% for Starane 333 EC and 75.80% for Rassel 100 SC during the assessment (Appendix 5 tab. 1).

21-28 DA-A

The efficiency of CHR/H/CFF 250 EC in control of ANTAR *Anthemis arvensis* were investigated in 8 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the medium to high level of efficacy 21-28 DA-A. The effectiveness fluctuated from 76.95–90.18%.

The effectiveness fluctuated at rate 0.2-0.3 L/ha from 42.50% (24 DA-A) to 94.00% (28 DA-A), at rate 0.4 L/ha from 61.30% (24 DA-A) to 98.00% (28 DA-A), at rate 0.5 L/ha from 77.50% (28 DA-A) to 98.50% (28 DA-A), at rate 0.6 L/ha from 77.50% (28 DA-A) to 100% (28 DA-A).

The efficacy of the tested herbicide was higher than and comparable to the standard products. In the trials efficacy amounted above 87.93% for Major 300 SL, 68.64% for Starane 333 EC and 82.03% for Rassel 100 SC during the assessment (Appendix 5 tab. 2).

LAST ASSESSMENT

The efficiency of CHR/H/CFF 250 EC in control of ANTAR *Anthemis arvensis* were investigated in 8 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the high level of efficacy in last assessment. The effectiveness fluctuated from 91.36–99.88%.

The effectiveness fluctuated at rate 0.2-0.3 L/ha from 78.80% (43 DA-A) to 100% (80 DA-A), at rate 0.4 L/ha from 85.00% (42-43 DA-A) to 100% (80 DA-A), at rate 0.5 L/ha from 98.50% (66 DA-A) to 100% (42-66 DA-A), at rate 0.6 L/ha from 99.00% (53 DA-A) to 100% (42-80 DA-A).

The efficacy of the tested herbicide was higher than and comparable to the standard products. In the trials efficacy amounted above 98.79% for Major 300 SL, 74.75% for Starane 333 EC and 90.55% for Rassel 100 SC during the assessment (Appendix 5 tab. 3).

3.2.3-1.2 The efficacy CHR/H/CFF 250 EC in control of BRSNW *Brassica napus* (self-sown plant)

14 DA-A

The efficiency of CHR/H/CFF 250 EC in control of BRSNW *Brassica napus* (self-sown plant)were investigated in 7 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the low and medium level of efficacy 11-14 DA-A. The effectiveness fluctuated from 63.57–75.89%.

The effectiveness fluctuated at rate 0.2-0.3 L/ha from 30.00% (14 DA-A) to 90.50% (14 DA-A), at rate 0.4 L/ha from 40.00% (14 DA-A) to 93.30% (14 DA-A), at rate 0.5 L/ha from 37.50% (14 DA-A) to 95.30% (14 DA-A), at rate 0.6 L/ha from 50.00% (14 DA-A) to 97.80% (14 DA-A).

The efficacy of the tested herbicide was higher than and comparable to the standard products. In the trials efficacy amounted above 0% for Major 300 SL, 59.73% for Starane 333 EC and 73.31% for Rassel 100 SC during the assessment (Appendix 5 tab. 4).

21-28 DA-A

The efficiency of CHR/H/CFF 250 EC in control of BRSNW *Brassica napus* (self-sown plant) were investigated in 9 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the medium to high level of efficacy 21-28 DA-A. The effectiveness fluctuated from 76.82–94.14%.

The effectiveness fluctuated at rate 0.2-0.3 L/ha from 40.00% (28 DA-A) to 97.30% (28 DA-A), at rate 0.4 L/ha from 62.50% (23 DA-A) to 98.50% (28 DA-A), at rate 0.5 L/ha from 78.80% (23 DA-A) to 100% (28 DA-A), at rate 0.6 L/ha from 85.00% (23 DA-A) to 100% (28 DA-A).

The efficacy of the tested herbicide was higher than and comparable to the standard products. In the trials efficacy amounted above 0% for Major 300 SL, 69.64% for Starane 333 EC and 88.79% for Rassel 100 SC during the assessment (Appendix 5 tab. 5).

LAST ASSESSMENT

The efficiency of CHR/H/CFF 250 EC in control of BRSNW *Brassica napus* (self-sown plant) were investigated in 9 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the high level of efficacy in last assessment. The effectiveness fluctuated from 85.16– 99.62%.

The effectiveness fluctuated at rate 0.2-0.3 L/ha from 75.00% (42-43 DA-A) to 100% (57 DA-A), at rate 0.4 L/ha from 85.00% (42-43 DA-A) to 100% (57 DA-A), at rate 0.5 L/ha from 95.00% (42.43 DA-A) to 100% (53-80 DA-A), at rate 0.6 L/ha from 98.80% (43-53 DA-A) to 100% (42-80 DA-A).

The efficacy of the tested herbicide was higher than and comparable to the standard products. In the trials efficacy amounted above 0% for Major 300 SL, 75.68% for Starane 333 EC and 96.42% for Rassel 100 SC during the assessment (Appendix 5 tab. 6).

3.2.3-1.3 The efficacy of CHR/H/CFF 250 EC in control of CENCY *Centareua cyanus*

14 DA-A

The efficiency of CHR/H/CFF 250 EC in control of CENCY *Centareua cyanus* were investigated in 6 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the low to medium level of efficacy 11-14 DA-A. The effectiveness fluctuated from 54.43–78.53%.

The effectiveness fluctuated at rate 0.2-0.3 L/ha from 35.00% (11 DA-A) to 78.30% (14 DA-A), at rate 0.4 L/ha from 50.00% (14 DA-A) to 83.50% (14 DA-A), at rate 0.5 L/ha from 50.00% (14 DA-A) to 90.00% (14 DA-A), at rate 0.6 L/ha from 49.80% (14 DA-A) to 93.80% (14 DA-A).

The efficacy of the tested herbicide was comparable to the standard products. In the trials efficacy amounted above 76.40% for Major 300 SL, 57.23% for Starane 333 EC and 49.13% for Rassel 100 SC during the assessment (Appendix 5 tab. 7).

21-28 DA-A

The efficiency of CHR/H/CFF 250 EC in control of CENCY *Centareua cyanus* were investigated in 8 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the medium to high level of efficacy 21-28 DA-A. The effectiveness fluctuated from 72.56–89.35%.

The effectiveness fluctuated at rate 0.2-0.3 L/ha from 65.00% (24 DA-A) to 83.80% (28 DA-A), at rate 0.4 L/ha from 71.30% (28 DA-A) to 96.30% (28 DA-A), at rate 0.5 L/ha from 76.30% (23 DA-A) to 100% (28 DA-A), at rate 0.6 L/ha from 80.00% (23 DA-A) to 100% (28 DA-A).

The efficacy of the tested herbicide was comparable to the standard products. In the trials efficacy amounted above 89.01% for Major 300 SL, 72.80% for Starane 333 EC and 72.66% for Rassel 100 SC during the assessment (Appendix 5 tab. 8).

LAST ASSESSMENT

The efficiency of CHR/H/CFF 250 EC in control of CENCY *Centareua cyanus* were investigated in 8 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the high level of efficacy in last assessment. The effectiveness fluctuated from 83.55–98.20%.

The effectiveness fluctuated at rate 0.2-0.3 L/ha from 67.50% (66 DA-A) to 95.00% (53 DA-A), at rate 0.4 L/ha from 80.00% (42-43 DA-A) to 100% (56-80 DA-A), at rate 0.5 L/ha from 90.00% (42-43 DA-A) to 100% (28 DA-A), at rate 0.6 L/ha from 93.80% (43 DA-A) to 100% (56-80 DA-A).

The efficacy of the tested herbicide was higher than and comparable to the standard products. In the trials efficacy amounted above 98.50% for Major 300 SL, 78.48% for Starane 333 EC and 77.75% for Rassel 100 SC during the assessment (Appendix 5 tab. 9).

3.2.3-1.4 The efficacy of CHR/H/CFF 250 EC in control of GALAP *Galium aparine*

14 DA-A

The efficiency of CHR/H/CFF 250 EC in control of GALAP *Galium aparine* were investigated in 7 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the low to medium level of efficacy 11-14 DA-A. The effectiveness fluctuated from 51.90–70.44%.

The effectiveness fluctuated at rate 0.2-0.3 L/ha from 12.50% (14 DA-A) to 84.50% (14 DA-A), at rate 0.4 L/ha from 28.80% (14 DA-A) to 86.50% (14 DA-A), at rate 0.5 L/ha from 41.30% (14 DA-A) to 88.80% (14 DA-A), at rate 0.6 L/ha from 50.00% (14 DA-A) to 93.80% (14 DA-A).

The efficacy of the tested herbicide was higher than and comparable to the standard products. In the trials efficacy amounted above 8.21% for Major 300 SL, 66.23% for Starane 333 EC and 58.37% for Rassel 100 SC during the assessment (Appendix 5 tab. 10).

21-28 DA-A

The efficiency of CHR/H/CFF 250 EC in control of GALAP *Galium aparine* were investigated in 9 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the medium to high level of efficacy 21-28 DA-A. The effectiveness fluctuated from 73.31–87.32%.

The effectiveness fluctuated at rate 0.2-0.3 L/ha from 40.00% (28 DA-A) to 89.30% (28 DA-A), at rate 0.4 L/ha from 51.30% (28 DA-A) to 94.00% (28 DA-A), at rate 0.5 L/ha from 60.00% (28 DA-A) to 100% (28 DA-A), at rate 0.6 L/ha from 71.30% (28 DA-A) to 100% (28 DA-A).
The efficacy of the tested herbicide was higher than and comparable to the standard products. In the trials efficacy amounted above 13.76% for Major 300 SL, 81.11% for Starane 333 EC and 80.54% for Rassel 100 SC during the assessment (Appendix 5 tab. 11).

LAST ASSESSMENT
The efficiency of CHR/H/CFF 250 EC in control of GALAP *Galium aparine* were investigated in 9 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the high level of efficacy in last assessment. The effectiveness fluctuated from 87.10–98.72%.
The effectiveness fluctuated at rate 0.2-0.3 L/ha from 78.80% (43 DA-A) to 100% (56 DA-A), at rate 0.4 L/ha from 80.00% (43 DA-A) to 100% (56-57 DA-A), at rate 0.5 L/ha from 85.00% (43 DA-A) to 100% (53-66 DA-A), at rate 0.6 L/ha from 95.00% (43 DA-A) to 100% (56-66 DA-A).
The efficacy of the tested herbicide was higher than and comparable to the standard products. In the trials efficacy amounted above 9.17% for Major 300 SL, 97.14% for Starane 333 EC and 93.53% for Rassel 100 SC during the assessment (Appendix 5 tab. 12).

3.2.3-1.5 The efficacy of CHR/H/CFF 250 EC in control of PAPRH *Papver rhoeas*

14 DA-A
The efficiency of CHR/H/CFF 250 EC in control of PAPRH *Papver rhoeas* were investigated in 6 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the low to medium level of efficacy 14 DA-A. The effectiveness fluctuated from 57.25–72.43%.
The effectiveness fluctuated at rate 0.2-0.3 L/ha from 42.50% (14 DA-A) to 74.50% (14 DA-A), at rate 0.4 L/ha from 50.00% (14 DA-A) to 81.00% (14 DA-A), at rate 0.5 L/ha from 50.00% (14 DA-A) to 83.80% (14 DA-A), at rate 0.6 L/ha from 51.300% (14 DA-A) to 90.00% (14 DA-A).
The efficacy of the tested herbicide was higher than and comparable to the standard products. In the trials efficacy amounted above 9.80% for Major 300 SL, 28.37% for Starane 333 EC and 64.10% for Rassel 100 SC during the assessment (Appendix 5 tab. 13).

21-28 DA-A
The efficiency of CHR/H/CFF 250 EC in control of PAPRH *Papver rhoeas* were investigated in 9 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the medium to high level of efficacy 21-28 DA-A. The effectiveness fluctuated from 75.30–88.69%.
The effectiveness fluctuated at rate 0.2-0.3 L/ha from 61.30% (28 DA-A) to 87.30% (22 DA-A), at rate 0.4 L/ha from 71.30% (21-23 DA-A) to 90.50% (22 DA-A), at rate 0.5 L/ha from 78.80% (23 DA-A) to 91.50% (28 DA-A), at rate 0.6 L/ha from 78.80% (28 DA-A) to 100% (28 DA-A).
The efficacy of the tested herbicide was higher than and comparable to the standard products. In the trials efficacy amounted above 21.77% for Major 300 SL, 39.68% for Starane 333 EC and 82.03% for Rassel 100 SC during the assessment (Appendix 5 tab. 14).

LAST ASSESSMENT
The efficiency of CHR/H/CFF 250 EC in control of PAPRH *Papver rhoeas* were investigated in 9 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the medium to high level of efficacy in last assessment. The effectiveness fluctuated from 80.58–97.04%.

The effectiveness fluctuated at rate 0.2-0.3 L/ha from 71.30% (56 DA-A) to 90.50% (48 DA-A), at rate 0.4 L/ha from 80.00% (42-43 DA-A) to 93.00% (48 DA-A), at rate 0.5 L/ha from 86.50% (66 DA-A) to 99.00% (53 DA-A), at rate 0.6 L/ha from 89.80% (66 DA-A) to 100% (42-56 DA-A).
The efficacy of the tested herbicide was higher than and comparable to the standard products. In the trials efficacy amounted above 18.33% for Major 300 SL, 38.28% for Starane 333 EC and 88.58% for Rassel 100 SC during the assessment (Appendix 5 tab. 15).

3.2.3-1.6 The efficacy of CHR/H/CFF 250 EC in control of STEME *Stellaria media*

14 DA-A
The efficiency of CHR/H/CFF 250 EC in control of STEME *Stellaria media* were investigated in 5 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the low to high level of efficacy 14 DA-A. The effectiveness fluctuated from 67.72–87.78%.
The effectiveness fluctuated at rate 0.2-0.3 L/ha from 31.30% (14 DA-A) to 89.00% (14 DA-A), at rate 0.4 L/ha from 53.80% (14 DA-A) to 91.50% (14 DA-A), at rate 0.5 L/ha from 62.50% (14 DA-A) to 93.00% (14 DA-A), at rate 0.6 L/ha from 72.50% (14 DA-A) to 95.50% (14 DA-A).
The efficacy of the tested herbicide was higher than and comparable to the standard products. In the trials efficacy amounted above 23.78% for Major 300 SL, 77.38% for Starane 333 EC and 81.42% for Rassel 100 SC during the assessment (Appendix 5 tab. 16).

21-28 DA-A
The efficiency of CHR/H/CFF 250 EC in control of STEME *Stellaria media* were investigated in 7 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the medium to high level of efficacy 21-28 DA-A. The effectiveness fluctuated from 77.67–90.73%.
The effectiveness fluctuated at rate 0.2-0.3 L/ha from 55.00% (28 DA-A) to 97.30% (28 DA-A), at rate 0.4 L/ha from 70.00% (28 DA-A) to 98.50% (28 DA-A), at rate 0.5 L/ha from 72.50% (28 DA-A) to 100% (28 DA-A), at rate 0.6 L/ha from 83.80% (28 DA-A) to 100% (28 DA-A).
The efficacy of the tested herbicide was higher than and comparable to the standard products. In the trials efficacy amounted above 22.17% for Major 300 SL, 82.54% for Starane 333 EC and 83.94% for Rassel 100 SC during the assessment (Appendix 5 tab. 17).

LAST ASSESSMENT
The efficiency of CHR/H/CFF 250 EC in control of STEME *Stellaria media* were investigated in 7 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the high level of efficacy in last assessment. The effectiveness fluctuated from 85.27–100%.
The effectiveness fluctuated at rate 0.2-0.3 L/ha from 71.30% (56 DA-A) to 98.00% (57 DA-A), at rate 0.4 L/ha from 90.00% (42-43 DA-A) to 100% (53-57 DA-A), at rate 0.5 L/ha from 100% (42 DA-A) to 100% (66 DA-A), at rate 0.6 L/ha from 100% (42 DA-A) to 100% (66 DA-A).
The efficacy of the tested herbicide was higher than and comparable to the standard products. In the trials efficacy amounted above 17.86% for Major 300 SL, 88.51% for Starane 333 EC and 92.40% for Rassel 100 SC during the assessment (Appendix 5 tab. 18).

3.2.3-1.7 The efficacy of CHR/H/CFF 250 EC in control of MATIN *Tripleurospermum mar. inodorum*

14 DA-A
The efficiency of CHR/H/CFF 250 EC in control of MATIN *Tripleurospermum mar. inodorum* were investigated in 6 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the medium to high level of efficacy 11-14 DA-A. The effectiveness fluctuated from 72.43–89.27%.
The effectiveness fluctuated at rate 0.2-0.3 L/ha from 32.50% (11 DA-A) to 84.50% (14 DA-A), at rate 0.4 L/ha from 51.30% (11 DA-A) to 90.00% (14 DA-A), at rate 0.5 L/ha from 70.00% (11 DA-A) to 92.50% (14 DA-A), at rate 0.6 L/ha from 76.30% (11 DA-A) to 96.30% (14 DA-A).
The efficacy of the tested herbicide was comparable to the standard products. In the trials efficacy amounted above 84.95% for Major 300 SL, 72.38% for Starane 333 EC and 79.27% for Rassel 100 SC during the assessment (Appendix 5 tab. 19).
21-28 DA-A
The efficiency of CHR/H/CFF 250 EC in control of MATIN *Tripleurospermum mar. inodorum* were investigated in 9 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the medium to high level of efficacy 21-28 DA-A. The effectiveness fluctuated from 78.96–93.44%.
The effectiveness fluctuated at rate 0.2-0.3 L/ha from 37.50% (24 DA-A) to 94.00% (28 DA-A), at rate 0.4 L/ha from 61.30% (24 DA-A) to 98.00% (28 DA-A), at rate 0.5 L/ha from 77.50% (24 DA-A) to 100% (28 DA-A), at rate 0.6 L/ha from 83.80% (23 DA-A) to 100% (28 DA-A).
The efficacy of the tested herbicide was comparable to the standard products. In the trials efficacy amounted above 90.06% for Major 300 SL, 72.18% for Starane 333 EC and 85.21% for Rassel 100 SC during the assessment (Appendix 5 tab. 20).

LAST ASSESSMENT
The efficiency of CHR/H/CFF 250 EC in control of MATIN *Tripleurospermum mar. inodorum* were investigated in 9 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the high level of efficacy in last assessment. The effectiveness fluctuated from 88.46–99.23%.
The effectiveness fluctuated at rate 0.2-0.3 L/ha from 73.80% (43 DA-A) to 100% (80 DA-A), at rate 0.4 L/ha from 85.00% (42-43 DA-A) to 100% (56-80 DA-A), at rate 0.5 L/ha from 93.30% (48 DA-A) to 100% (42-80 DA-A), at rate 0.6 L/ha from 94.50% (48 DA-A) to 100% (42-80 DA-A).
The efficacy of the tested herbicide was comparable to the standard products. In the trials efficacy amounted above 98.23% for Major 300 SL, 79.60% for Starane 333 EC and 91.23% for Rassel 100 SC during the assessment (Appendix 5 tab. 21).

Winter triticale

The 7 trials were carried out in winter triticale in 2020 and 2021 (3 trials in 2020 and 4 trails in 2021). The herbicide CHR/H/CFF 250 EC was applied once per season at the following rates of 0.2, 0.3 L/ha, 0.4, 0.5, 0.6 L/ha.

3.2.3-1.8 The efficacy of CHR/H/CFF 250 EC in control of ANTAR *Anthemis arvensis*

14 DA-A
The efficiency of CHR/H/CFF 250 EC in control of ANTAR *Anthemis arvensis* were investigated in 4 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the low to high level of efficacy 13-14 DA-A. The effectiveness fluctuated from 65.00–86.50%.

The effectiveness fluctuated at rate 0.2-0.3 L/ha from 32.50% (13 DA-A) to 80.00% (14 DA-A), at rate 0.4 L/ha from 52.50% (13 DA-A) to 87.50% (14 DA-A), at rate 0.5 L/ha from 72.50% (13 DA-A) to 92.50% (14 DA-A), at rate 0.6 L/ha from 77.50% (13 DA-A) to 95.00% (14 DA-A).
The efficacy of the tested herbicide was comparable to the standard products. In the trials efficacy amounted above 61.15% for Starane 333 EC and 77.60% for Rassel 100 SC during the assessment (Appendix 5 tab. 22).

21-28 DA-A
The efficiency of CHR/H/CFF 250 EC in control of ANTAR *Anthemis arvensis* were investigated in 6 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the medium to high level of efficacy 23-28 DA-A. The effectiveness fluctuated from 71.52–89.93%.
The effectiveness fluctuated at rate 0.2-0.3 L/ha from 52.50% (26 DA-A) to 87.50% (28 DA-A), at rate 0.4 L/ha from 65.00% (26 DA-A) to 87.50% (28 DA-A), at rate 0.5 L/ha from 78.80% (23 DA-A) to 95.00% (28 DA-A), at rate 0.6 L/ha from 80.00% (23 DA-A) to 98.30% (28 DA-A).
The efficacy of the tested herbicide was comparable to the standard products. In the trials efficacy amounted above 69.53% for Starane 333 EC and 82.30% for Rassel 100 SC during the assessment (Appendix 5 tab. 23).

LAST ASSESSMENT
The efficiency of CHR/H/CFF 250 EC in control of ANTAR *Anthemis arvensis* were investigated in 5 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the high level of efficacy in last assessment. The effectiveness fluctuated from 86.86–100%.
The effectiveness fluctuated at rate 0.2-0.3 L/ha from 80.00% (43 DA-A) to 92.50% (74 DA-A), at rate 0.4 L/ha from 85.00% (43 DA-A) to 99.50% (74 DA-A), at rate 0.5 L/ha from 96.80% (57 DA-A) to 100% (43-74 DA-A), at rate 0.6 L/ha from 100% (43 DA-A) to 100% (74 DA-A).
The efficacy of the tested herbicide was higher than and comparable to the standard products. In the trials efficacy amounted above 74.66% for Starane 333 EC and 88.50% for Rassel 100 SC during the assessment (Appendix 5 tab. 24).

3.2.3-1.9 The efficacy CHR/H/CFF 250 EC in control of BRSNW *Brassica napus* (self-sown plant)

14 DA-A
The efficiency of CHR/H/CFF 250 EC in control of BRSNW *Brassica napus* (self-sown plant) were investigated in 4 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the low to medium level of efficacy 14 DA-A. The effectiveness fluctuated from 64.48–80.70%.
The effectiveness fluctuated at rate 0.2-0.3 L/ha from 28.80% (14 DA-A) to 81.30% (14 DA-A), at rate 0.4 L/ha from 41.30% (14 DA-A) to 86.30% (14 DA-A), at rate 0.5 L/ha from 50.00% (14 DA-A) to 92.30% (14 DA-A), at rate 0.6 L/ha from 61.30% (14 DA-A) to 92.50% (14 DA-A).
The efficacy of the tested herbicide was comparable to the standard products. In the trials efficacy amounted above 62.20% for Starane 333 EC and 76.90% for Rassel 100 SC during the assessment (Appendix 5 tab. 25).

21-28 DA-A
The efficiency of CHR/H/CFF 250 EC in control of BRSNW *Brassica napus* (self-sown plant) were investigated in 6 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha con-

trolled this species of weed at the low to high level of efficacy 23-28 DA-A. The effectiveness fluctuated from 68.57–92.72%.
The effectiveness fluctuated at rate 0.2-0.3 L/ha from 40.00% (28 DA-A) to 86.30% (28 DA-A), at rate 0.4 L/ha from 60.00% (28 DA-A) to 92.50% (28 DA-A), at rate 0.5 L/ha from 81.30% (23-28 DA-A) to 98.30% (28 DA-A), at rate 0.6 L/ha from 85.00% (23 DA-A) to 98.80% (28 DA-A).
The efficacy of the tested herbicide was comparable to the standard products. In the trials efficacy amounted above 62.53% for Starane 333 EC and 83.73% for Rassel 100 SC during the assessment (Appendix 5 tab. 26).

LAST ASSESSMENT
The efficiency of CHR/H/CFF 250 EC in control of BRSNW *Brassica napus* (self-sown plant) were investigated in 6 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the medium to high level of efficacy in last assessment. The effectiveness fluctuated from 81.78–99.58%.
The effectiveness fluctuated at rate 0.2-0.3 L/ha from 73.80% (43 DA-A) to 90.50% (57 DA-A), at rate 0.4 L/ha from 82.50% (43 DA-A) to 100% (56 DA-A), at rate 0.5 L/ha from 92.50% (65 DA-A) to 100% (56-63 DA-A), at rate 0.6 L/ha from 97.50% (65 DA-A) to 100% (43-63 DA-A).
The efficacy of the tested herbicide was higher thana and comparable to the standard products. In the trials efficacy amounted above 69.52% for Starane 333 EC and 93.75% for Rassel 100 SC during the assessment (Appendix 5 tab. 27).

3.2.3-1.10 The efficacy of CHR/H/CFF 250 EC in control of CENCY *Centareua cyanus*

14 DA-A
The efficiency of CHR/H/CFF 250 EC in control of CENCY *Centareua cyanus* were investigated in 4 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the low to medium level of efficacy 13-14 DA-A. The effectiveness fluctuated from 46.28–75.65%.
The effectiveness fluctuated at rate 0.2-0.3 L/ha from 41.30% (13 DA-A) to 48.80% (14 DA-A), at rate 0.4 L/ha from 52.50% (14 DA-A) to 82.50% (14 DA-A), at rate 0.5 L/ha from 57.50% (14 DA-A) to 90.00% (14 DA-A), at rate 0.6 L/ha from 60.00% (14 DA-A) to 93.80% (14 DA-A).
The efficacy of the tested herbicide was higher than and comparable to the standard products. In the trials efficacy amounted above 63.78% for Starane 333 EC and 52.20% for Rassel 100 SC during the assessment (Appendix 5 tab. 28).

21-28 DA-A
The efficiency of CHR/H/CFF 250 EC in control of CENCY *Centareua cyanus* were investigated in 6 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the medium to high level of efficacy 23-28 DA-A. The effectiveness fluctuated from 72.73–90.38%.
The effectiveness fluctuated at rate 0.2-0.3 L/ha from 60.00% (26 DA-A) to 87.50% (28 DA-A), at rate 0.4 L/ha from 70.00% (23 DA-A) to 96.30% (28 DA-A), at rate 0.5 L/ha from 72.50% (23 DA-A) to 100% (28 DA-A), at rate 0.6 L/ha from 81.30% (23 DA-A) to 100% (28 DA-A).
The efficacy of the tested herbicide was higher than and comparable to the standard products. In the trials efficacy amounted above 78.37% for Starane 333 EC and 78.78% for Rassel 100 SC during the assessment (Appendix 5 tab. 29).

LAST ASSESSMENT

The efficiency of CHR/H/CFF 250 EC in control of CENCY *Centareua cyanus* were investigated in 6 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the medium to high level of efficacy in last assessment. The effectiveness fluctuated from 78.65– 98.25%.
The effectiveness fluctuated at rate 0.2-0.3 L/ha from 58.80% (74 DA-A) to 88.00% (63 DA-A), at rate 0.4 L/ha from 80.00% (43 DA-A) to 100% (56 DA-A), at rate 0.5 L/ha from 90.00% (43 DA-A) to 100% (56-65 DA-A), at rate 0.6 L/ha from 95.00% (43 DA-A) to 100% (56-65 DA-A).
The efficacy of the tested herbicide was comparable to the standard products. In the trials efficacy amounted above 81.88% for Starane 333 EC and 87.23% for Rassel 100 SC during the assessment (Appendix 5 tab. 30).

3.2.3-1.11 The efficacy of CHR/H/CFF 250 EC in control of GALAP *Galium aparine*

14 DA-A
The efficiency of CHR/H/CFF 250 EC in control of GALAP *Galium aparine* were investigated in 5 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the low to medium level of efficacy 13-14 DA-A. The effectiveness fluctuated from 48.36–62.58%.
The effectiveness fluctuated at rate 0.2-0.3 L/ha from 20.00% (14 DA-A) to 79.30% (14 DA-A), at rate 0.4 L/ha from 31.30% (14 DA-A) to 85.00% (14 DA-A), at rate 0.5 L/ha from 38.80% (14 DA-A) to 85.50% (14 DA-A), at rate 0.6 L/ha from 48.80% (13 DA-A) to 87.80% (14 DA-A).
The efficacy of the tested herbicide was comparable to the standard products. In the trials efficacy amounted above 64.42% for Starane 333 EC and 52.08% for Rassel 100 SC during the assessment (Appendix 5 tab. 31).

21-28 DA-A
The efficiency of CHR/H/CFF 250 EC in control of GALAP *Galium aparine* were investigated in 7 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the medium level of efficacy 21-28 DA-A. The effectiveness fluctuated from 70.13–84.63%.
The effectiveness fluctuated at rate 0.2-0.3 L/ha from 50.00% (28 DA-A) to 86.50% (28 DA-A), at rate 0.4 L/ha from 55.00% (28 DA-A) to 89.50% (28 DA-A), at rate 0.5 L/ha from 60.00% (28 DA-A) to 93.00% (28 DA-A), at rate 0.6 L/ha from 71.30% (28 DA-A) to 95.00% (28 DA-A).
The efficacy of the tested herbicide was comparable to the standard products. In the trials efficacy amounted above 83.17% for Starane 333 EC and 76.57% for Rassel 100 SC during the assessment (Appendix 5 tab. 32).

LAST ASSESSMENT
The efficiency of CHR/H/CFF 250 EC in control of GALAP *Galium aparine* were investigated in 7 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the high level of efficacy in last assessment. The effectiveness fluctuated from 86.10–98.23%.
The effectiveness fluctuated at rate 0.2-0.3 L/ha from 80.00% (43 DA-A) to 100% (56 DA-A), at rate 0.4 L/ha from 80.00% (43 DA-A) to 100% (56 DA-A), at rate 0.5 L/ha from 85.00% (43 DA-A) to 100% (56-74 DA-A), at rate 0.6 L/ha from 95.00% (43 DA-A) to 100% (56-63 DA-A).

The efficacy of the tested herbicide was comparable to the standard products. In the trials efficacy amounted above 97.43% for Starane 333 EC and 89.87% for Rassel 100 SC during the assessment (Appendix 5 tab. 33).

3.2.3-1.12 The efficacy of CHR/H/CFF 250 EC in control of PAPRH *Papver rhoeas*

14 DA-A

The efficiency of CHR/H/CFF 250 EC in control of PAPRH *Papver rhoeas* were investigated in 4 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the low level of efficacy 13-14 DA-A. The effectiveness fluctuated from 48.75–65.08%.

The effectiveness fluctuated at rate 0.2-0.3 L/ha from 32.50% (13 DA-A) to 57.50% (14 DA-A), at rate 0.4 L/ha from 42.50% (13 DA-A) to 65.00% (14 DA-A), at rate 0.5 L/ha from 47.50% (13 DA-A) to 67.50% (14 DA-A), at rate 0.6 L/ha from 50.00% (13 DA-A) to 79.00% (14 DA-A).

The efficacy of the tested herbicide was comparable to the standard products. In the trials efficacy amounted above 22.08% for Starane 333 EC and 54.40% for Rassel 100 SC during the assessment (Appendix 5 tab. 34).

21-28 DA-A

The efficiency of CHR/H/CFF 250 EC in control of PAPRH *Papver rhoeas* were investigated in 6 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the medium to high level of efficacy 23-28 DA-A. The effectiveness fluctuated from 77.32–93.77%.

The effectiveness fluctuated at rate 0.2-0.3 L/ha from 68.80% (23 DA-A) to 90.00% (28 DA-A), at rate 0.4 L/ha from 72.50% (23 DA-A) to 90.00% (28 DA-A), at rate 0.5 L/ha from 82.50% (23 DA-A) to 95.00% (28 DA-A), at rate 0.6 L/ha from 85.00% (23 DA-A) to 100% (28 DA-A).

The efficacy of the tested herbicide was higher than and comparable to the standard products. In the trials efficacy amounted above 34.77% for Starane 333 EC and 82.72% for Rassel 100 SC during the assessment (Appendix 5 tab. 35).

LAST ASSESSMENT

The efficiency of CHR/H/CFF 250 EC in control of PAPRH *Papver rhoeas* were investigated in 5 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the medium to medium to high level of efficacy in last assessment. The effectiveness fluctuated from 82.26– 99.26%.

The effectiveness fluctuated at rate 0.2-0.3 L/ha from 77.50% (74 DA-A) to 87.50% (57 DA-A), at rate 0.4 L/ha from 80.00% (43 DA-A) to 93.80% (63 DA-A), at rate 0.5 L/ha from 92.50% (74 DA-A) to 96.30% (63 DA-A), at rate 0.6 L/ha from 96.30% (74 DA-A) to 100% (43-63 DA-A).

The efficacy of the tested herbicide was higher than and comparable to the standard products. In the trials efficacy amounted above 38.76% for Starane 333 EC and 91.52% for Rassel 100 SC during the assessment (Appendix 5 tab. 36).

3.2.3-1.13 The efficacy of CHR/H/CFF 250 EC in control of STEME *Stellaria media*

14 DA-A

The efficiency of CHR/H/CFF 250 EC in control of STEME *Stellaria media* were investigated in 4 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the low level of efficacy 13-14 DA-A. The effectiveness fluctuated from 54.40–69.73%.

The effectiveness fluctuated at rate 0.2-0.3 L/ha from 38.80% (13 DA-A) to 76.30% (14 DA-A), at rate 0.4 L/ha from 43.80% (13 DA-A) to 77.50% (14 DA-A), at rate 0.5 L/ha from 51.30% (13 DA-A) to 87.50% (14 DA-A), at rate 0.6 L/ha from 60.00% (14 DA-A) to 88.80% (14 DA-A).
The efficacy of the tested herbicide was comparable to the standard products. In the trials efficacy amounted above 68.40% for Starane 333 EC and 62.40% for Rassel 100 SC during the assessment (Appendix 5 tab. 37).

21-28 DA-A
The efficiency of CHR/H/CFF 250 EC in control of STEME *Stellaria media* were investigated in 6 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the medium to high level of efficacy 23-28 DA-A. The effectiveness fluctuated from 74.62–87.32%.
The effectiveness fluctuated at rate 0.2-0.3 L/ha from 58.80% (26 DA-A) to 91.30% (28 DA-A), at rate 0.4 L/ha from 65.00% (26 DA-A) to 98.50% (28 DA-A), at rate 0.5 L/ha from 70.00% (28 DA-A) to 95.00% (28 DA-A), at rate 0.6 L/ha from 80.00% (213 DA-A) to 95.00% (28 DA-A).
The efficacy of the tested herbicide was comparable to the standard products. In the trials efficacy amounted above 80.95% for Starane 333 EC and 75.87% for Rassel 100 SC during the assessment (Appendix 5 tab. 38).

LAST ASSESSMENT
The efficiency of CHR/H/CFF 250 EC in control of STEME *Stellaria media* were investigated in 5 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the high level of efficacy in last assessment. The effectiveness fluctuated from 89.26–99.40%.
The effectiveness fluctuated at rate 0.2-0.3 L/ha from 80.00% (43 DA-A) to 100% (56 DA-A), at rate 0.4 L/ha from 90.00% (43 DA-A) to 100% (56-74 DA-A), at rate 0.5 L/ha from 97.00% (57 DA-A) to 100% (43-74 DA-A), at rate 0.6 L/ha from 97.00% (57 DA-A) to 100% (43-74 DA-A).
The efficacy of the tested herbicide was comparable to the standard products. In the trials efficacy amounted above 93.76% for Starane 333 EC and 90.00% for Rassel 100 SC during the assessment (Appendix 5 tab. 39).

3.2.3-1.14 The efficacy of CHR/H/CFF 250 EC in control of MATIN *Tripleurospermum mar. inodorum*

14 DA-A
The efficiency of CHR/H/CFF 250 EC in control of MATIN *Tripleurospermum mar. inodorum* were investigated in 4 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the low to medium level of efficacy 13-14 DA-A. The effectiveness fluctuated from 66.45–82.83%.
The effectiveness fluctuated at rate 0.2-0.3 L/ha from 32.50% (13 DA-A) to 85.80% (14 DA-A), at rate 0.4 L/ha from 51.30% (13 DA-A) to 87.50% (14 DA-A), at rate 0.5 L/ha from 68.80% (14 DA-A) to 94.80% (14 DA-A), at rate 0.6 L/ha from 70.00% (14 DA-A) to 95.00% (14 DA-A).
The efficacy of the tested herbicide was comparable to the standard products. In the trials efficacy amounted above 52.83% for Starane 333 EC and 69.10% for Rassel 100 SC during the assessment (Appendix 5 tab. 40).

21-28 DA-A

The efficiency of CHR/H/CFF 250 EC in control of MATIN *Tripleurospermum mar. inodorum* were investigated in 6 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the medium to high level of efficacy 23-28 DA-A. The effectiveness fluctuated from 74.73–89.60%.
The effectiveness fluctuated at rate 0.2-0.3 L/ha from 53.80% (26 DA-A) to 90.80% (28 DA-A), at rate 0.4 L/ha from 65.00% (26 DA-A) to 92.50% (28 DA-A), at rate 0.5 L/ha from 80.00% (23 DA-A) to 97.50% (28 DA-A), at rate 0.6 L/ha from 75.00% (23 DA-A) to 98.80% (28 DA-A).
The efficacy of the tested herbicide was higher than and comparable to the standard products. In the trials efficacy amounted above 69.62% for Starane 333 EC and 78.97% for Rassel 100 SC during the assessment (Appendix 5 tab. 41).

LAST ASSESSMENT
The efficiency of CHR/H/CFF 250 EC in control of MATIN *Tripleurospermum mar. inodorum* were investigated in 6 trials. The tested product at rates: 0.2 L/ha, 0.3 L/ha, 0.4 L/ha, 0.5 L/ha and 0.6 L/ha controlled this species of weed at the medium to high level of efficacy in last assessment. The effectiveness fluctuated from 84.93–99.80%.
The effectiveness fluctuated at rate 0.2-0.3 L/ha from 75.00% (43 DA-A) to 94.50% (57 DA-A), at rate 0.4 L/ha from 85.00% (43 DA-A) to 100% (74 DA-A), at rate 0.5 L/ha from 97.50% (65 DA-A) to 100% (43-74 DA-A), at rate 0.6 L/ha from 98.80% (65 DA-A) to 100% (43-74 DA-A).
The efficacy of the tested herbicide was comparable to the standard products. In the trials efficacy amounted above 74.60% for Starane 333 EC and 88.68% for Rassel 100 SC during the assessment (Appendix 5 tab. 42).

Conclusions on the biological efficacy
The obtained data in performed trials show that: CHR/H/CFF 250 EC provides benefits against the most important weeds in winter wheat and winter triticale as shown in the tables below.

The following table describes the effectiveness of weeds:

S (Susceptible)	> 85% (within each trial the average must be higher than 85%)
MS (Moderately Susceptible)	70 – 85%
MT (Moderately Tolerant)	60 – 70%
T (Tolerant)	< 60%

The following table shows the average sensitivity of weeds in winter wheat:

Product code (L, kg/ha)	EPPO code	Scientific name	DA-A	Pest stage	Average	Efficacy
CHR/H/CFF 250 EC 0.2-0.3 L/ha	ANTAR	*Anthemis arvensis*	21-28 DA-A	BBCH 16-31	76.95	MS
	BRSNW	*Brassica napus* (self-sown plant)	21-28 DA-A	BBCH 14-51	76.82	MS
	CENCY	*Centaurea cyanus*	21-28 DA-A	BBCH 14-33	72.56	MS
	GALAP	*Galium aparine*	21-28 DA-A	BBCH 16-35	73.31	MS
	PAPRH	*Papver rhoeas*	21-28 DA-A	BBCH 16-32	75.30	MS
	STEME	*Stellaria media*	21-28 DA-A	BBCH 19-60	77.67	MS
	MATIN	*Tripleurospermum mar. inodorum*	21-28 DA-A	BBCH 13-61	78.96	MS
CHR/H/CFF 250 EC 0.4 L/ha	ANTAR	*Anthemis arvensis*	21-28 DA-A	BBCH 16-31	83.15	MS
	BRSNW	*Brassica napus* (self-sown plant)	21-28 DA-A	BBCH 14-51	86.67	S
	CENCY	*Centaurea cyanus*	21-28 DA-A	BBCH 14-33	81.39	MS
	GALAP	*Galium aparine*	21-28 DA-A	BBCH 16-35	81.62	MS
	PAPRH	*Papver rhoeas*	21-28 DA-A	BBCH 16-32	80.00	MS
	STEME	*Stellaria media*	21-28 DA-A	BBCH 19-60	84.81	MS
	MATIN	*Tripleurospermum mar. inodorum*	21-28 DA-A	BBCH 13-61	86.82	S
CHR/H/CFF 250 EC 0.5 L/ha	ANTAR	*Anthemis arvensis*	21-28 DA-A	BBCH 16-31	89.73	S
	BRSNW	*Brassica napus* (self-sown plant)	21-28 DA-A	BBCH 14-51	90.48	S
	CENCY	*Centaurea cyanus*	21-28 DA-A	BBCH 14-33	85.56	S
	GALAP	*Galium aparine*	21-28 DA-A	BBCH 16-35	84.86	MS

	PAPRH	*Papver rhoeas*	21-28 DA-A	BBCH 16-32	85.02	S
	STEME	*Stellaria media*	21-28 DA-A	BBCH 19-60	87.80	S
	MATIN	*Tripleurospermum mar. inodorum*	21-28 DA-A	BBCH 13-61	91.43	S
CHR/H/CFF 250 EC 0.6 L/ha	ANTAR	*Anthemis arvensis*	21-28 DA-A	BBCH 16-31	90.18	S
	BRSNW	*Brassica napus* (self-sown plant)	21-28 DA-A	BBCH 14-51	94.14	S
	CENCY	*Centaurea cyanus*	21-28 DA-A	BBCH 14-33	89.35	S
	GALAP	*Galium aparine*	21-28 DA-A	BBCH 16-35	87.32	S
	PAPRH	*Papver rhoeas*	21-28 DA-A	BBCH 16-32	88.69	S
	STEME	*Stellaria media*	21-28 DA-A	BBCH 19-60	90.73	S
	MATIN	*Tripleurospermum mar. inodorum*	21-28 DA-A	BBCH 13-61	93.44	S
Major 300 SL 0.4 L/ha	ANTAR	*Anthemis arvensis*	21-28 DA-A	BBCH 16-31	87.93	S
	BRSNW	*Brassica napus* (self-sown plant)	21-28 DA-A	BBCH 14-51	0.00	T
	CENCY	*Centaurea cyanus*	21-28 DA-A	BBCH 14-33	89.01	S
	GALAP	*Galium aparine*	21-28 DA-A	BBCH 16-35	13.76	T
	PAPRH	*Papver rhoeas*	21-28 DA-A	BBCH 16-32	21.77	T
	STEME	*Stellaria media*	21-28 DA-A	BBCH 19-60	22.17	T
	MATIN	*Tripleurospermum mar. inodorum*	21-28 DA-A	BBCH 13-61	90.06	S
Starane 333 EC 0.54 L/ha	ANTAR	*Anthemis arvensis*	21-28 DA-A	BBCH 16-31	68.64	MT
	BRSNW	*Brassica napus* (self-sown plant)	21-28 DA-A	BBCH 14-51	69.64	MT
	CENCY	*Centaurea cyanus*	21-28 DA-A	BBCH 14-33	72.80	MS
	GALAP	*Galium aparine*	21-28 DA-A	BBCH 16-35	81.11	MS
	PAPRH	*Papver rhoeas*	21-28 DA-A	BBCH 16-32	39.68	T
	STEME	*Stellaria media*	21-28 DA-A	BBCH 19-60	82.54	MS
	MATIN	*Tripleurospermum mar. inodorum*	21-28 DA-A	BBCH 13-61	72.18	MS
Rassel 100 SC 0.05 L/ha	ANTAR	*Anthemis arvensis*	21-28 DA-A	BBCH 16-31	82.03	MS
	BRSNW	*Brassica napus* (self-sown plant)	21-28 DA-A	BBCH 14-51	88.79	S
	CENCY	*Centaurea cyanus*	21-28 DA-A	BBCH 14-33	72.66	MS
	GALAP	*Galium aparine*	21-28 DA-A	BBCH 16-35	80.54	MS
	PAPRH	*Papver rhoeas*	21-28 DA-A	BBCH 16-32	82.03	MS
	STEME	*Stellaria media*	21-28 DA-A	BBCH 19-60	83.94	MS
	MATIN	*Tripleurospermum mar. inodorum*	21-28 DA-A	BBCH 13-61	85.21	S

On the basis of submitted research, it is possible to state that CHR/H/CFF 250 EC used at dose controlled:

Dose CHR/H/CFF 250 EC 0.2-0.3 L/ha
Moderately Susceptible: *Anthemis arvensis* (ANTAR), *Brassica napus* (self-sown plant) (BRSNW), *Centaurea cyanus* (CENCY), *Galium aparine* (GALAP), *Papver rhoeas* (PAPRH), *Stellaria media* (STEME), *Tripleurospermum mar. inodorum* (MATIN)

Dose CHR/H/CFF 250 EC 0.4 L/ha
Susceptible: *Brassica napus* (self-sown plant) (BRSNW), *Tripleurospermum mar. inodorum* (MATIN)
Moderately Susceptible: *Anthemis arvensis* (ANTAR), *Centaurea cyanus* (CENCY), *Galium aparine* (GALAP), *Papver rhoeas* (PAPRH), *Stellaria media* (STEME)

Dose CHR/H/CFF 250 EC 0.5 L/ha
Susceptible: *Anthemis arvensis* (ANTAR), *Brassica napus* (self-sown plant) (BRSNW), *Centaurea cyanus* (CENCY), *Papver rhoeas* (PAPRH), *Stellaria media* (STEME), *Tripleurospermum mar. inodorum* (MATIN)
Moderately Susceptible: *Galium aparine* (GALAP)

Dose CHR/H/CFF 250 EC 0.6 L/ha

<u>Susceptible: </u>*Anthemis arvensis* (ANTAR), *Brassica napus* (self-sown plant) (BRSNW), *Centaurea cyanus* (CENCY), *Galium aparine* (GALAP), *Papver rhoeas* (PAPRH), *Stellaria media* (STEME), *Tripleurospermum mar. inodorum* (MATIN)

The following table shows the average sensitivity of weeds in winter triticale:

Product code (L, kg/ha)	EPPO code	Scientific name	DA-A	Pest stage	Average	Efficacy
CHR/H/CFF 250 EC 0.2-0.3 L/ha	ANTAR	*Anthemis arvensis*	21-28 DA-A	BBCH 14-31	71.52	MS
	BRSNW	*Brassica napus* (self-sown plant)	21-28 DA-A	BBCH 14-32	68.57	MT
	CENCY	*Centaurea cyanus*	21-28 DA-A	BBCH 14-23	72.73	MS
	GALAP	*Galium aparine*	21-28 DA-A	BBCH 12-35	70.13	MS
	PAPRH	*Papver rhoeas*	21-28 DA-A	BBCH 14-32	77.32	MS
	STEME	*Stellaria media*	21-28 DA-A	BBCH 12-59	74.62	MS
	MATIN	*Tripleurospermum mar. inodorum*	21-28 DA-A	BBCH 19-31	74.73	MS
CHR/H/CFF 250 EC 0.4 L/ha	ANTAR	*Anthemis arvensis*	21-28 DA-A	BBCH 14-31	77.52	MS
	BRSNW	*Brassica napus* (self-sown plant)	21-28 DA-A	BBCH 14-32	77.52	MS
	CENCY	*Centaurea cyanus*	21-28 DA-A	BBCH 14-23	80.87	MS
	GALAP	*Galium aparine*	21-28 DA-A	BBCH 12-35	74.94	MS
	PAPRH	*Papver rhoeas*	21-28 DA-A	BBCH 14-32	82.30	MS
	STEME	*Stellaria media*	21-28 DA-A	BBCH 12-59	78.10	MS
	MATIN	*Tripleurospermum mar. inodorum*	21-28 DA-A	BBCH 19-31	80.43	MS
CHR/H/CFF 250 EC 0.5 L/ha	ANTAR	*Anthemis arvensis*	21-28 DA-A	BBCH 14-31	85.65	S
	BRSNW	*Brassica napus* (self-sown plant)	21-28 DA-A	BBCH 14-32	87.23	S
	CENCY	*Centaurea cyanus*	21-28 DA-A	BBCH 14-23	85.02	S
	GALAP	*Galium aparine*	21-28 DA-A	BBCH 12-35	78.13	MS
	PAPRH	*Papver rhoeas*	21-28 DA-A	BBCH 14-32	88.77	S
	STEME	*Stellaria media*	21-28 DA-A	BBCH 12-59	83.13	MS
	MATIN	*Tripleurospermum mar. inodorum*	21-28 DA-A	BBCH 19-31	87.92	S
CHR/H/CFF 250 EC 0.6 L/ha	ANTAR	*Anthemis arvensis*	21-28 DA-A	BBCH 14-31	89.93	S
	BRSNW	*Brassica napus* (self-sown plant)	21-28 DA-A	BBCH 14-32	92.72	S
	CENCY	*Centaurea cyanus*	21-28 DA-A	BBCH 14-23	90.38	S
	GALAP	*Galium aparine*	21-28 DA-A	BBCH 12-35	84.63	MS
	PAPRH	*Papver rhoeas*	21-28 DA-A	BBCH 14-32	93.77	S
	STEME	*Stellaria media*	21-28 DA-A	BBCH 12-59	87.32	S
	MATIN	*Tripleurospermum mar. inodorum*	21-28 DA-A	BBCH 19-31	89.60	S
Starane 333 EC 0.54 L/ha	ANTAR	*Anthemis arvensis*	21-28 DA-A	BBCH 14-31	69.53	MT
	BRSNW	*Brassica napus* (self-sown plant)	21-28 DA-A	BBCH 14-32	62.53	MT
	CENCY	*Centaurea cyanus*	21-28 DA-A	BBCH 14-23	78.37	MS
	GALAP	*Galium aparine*	21-28 DA-A	BBCH 12-35	83.17	MS
	PAPRH	*Papver rhoeas*	21-28 DA-A	BBCH 14-32	34.77	T
	STEME	*Stellaria media*	21-28 DA-A	BBCH 12-59	80.95	MS
	MATIN	*Tripleurospermum mar. inodorum*	21-28 DA-A	BBCH 19-31	69.62	MT
Rassel 100 SC 0.05 L/ha	ANTAR	*Anthemis arvensis*	21-28 DA-A	BBCH 14-31	82.30	MS
	BRSNW	*Brassica napus* (self-sown plant)	21-28 DA-A	BBCH 14-32	83.73	MS
	CENCY	*Centaurea cyanus*	21-28 DA-A	BBCH 14-23	78.78	MS
	GALAP	*Galium aparine*	21-28 DA-A	BBCH 12-35	76.57	MS
	PAPRH	*Papver rhoeas*	21-28 DA-A	BBCH 14-32	82.72	MS
	STEME	*Stellaria media*	21-28 DA-A	BBCH 12-59	75.87	MS
	MATIN	*Tripleurospermum mar. inodorum*	21-28 DA-A	BBCH 19-31	78.97	MS

On the basis of submitted research, it is possible to state that CHR/H/CFF 250 EC used at dose controlled:

Dose CHR/H/CFF 250 EC 0.2-0.3 L/ha

Moderately Susceptible: *Anthemis arvensis* (ANTAR), *Centaurea cyanus* (CENCY), *Galium aparine* (GALAP), *Papver rhoeas* (PAPRH), *Stellaria media* (STEME), *Tripleurospermum mar. inodorum* (MATIN)
Moderately Tolerant: *Brassica napus* (self-sown plant) (BRSNW),

Dose CHR/H/CFF 250 EC 0.4 L/ha
Moderately Susceptible: *Anthemis arvensis* (ANTAR), *Brassica napus* (self-sown plant) (BRSNW), *Centaurea cyanus* (CENCY), *Galium aparine* (GALAP), *Papver rhoeas* (PAPRH), *Stellaria media* (STEME), *Tripleurospermum mar. inodorum* (MATIN)

Dose CHR/H/CFF 250 EC 0.5 L/ha
Susceptible: *Anthemis arvensis* (ANTAR), *Brassica napus* (self-sown plant) (BRSNW), *Centaurea cyanus* (CENCY), *Papver rhoeas* (PAPRH), *Tripleurospermum mar. inodorum* (MATIN)
Moderately Susceptible: *Galium aparine* (GALAP), *Stellaria media* (STEME),

Dose CHR/H/CFF 250 EC 0.6 L/ha
Susceptible: *Anthemis arvensis* (ANTAR), *Brassica napus* (self-sown plant) (BRSNW), *Centaurea cyanus* (CENCY), *Papver rhoeas* (PAPRH), *Stellaria media* (STEME), *Tripleurospermum mar. inodorum* (MATIN)
Moderately Susceptible: *Galium aparine* (GALAP)

The following table shows the average sensitivity of weeds in winter cereals:

Product code (L, kg/ha)	EPPO code	Scientific name	DA-A	winter wheat		winter triticale		cereals	
				Average	Efficacy	Average	Efficacy	Average	Efficacy
CHR/H/CFF 250 EC 0.2-0.3 L/ha	ANTAR	*Anthemis arvensis*	21-28	76.95	MS	71.52	MS	74.23	MS
	BRSNW	*Brassica napus* (self-sown plant)	21-28	76.82	MS	68.57	MT	72.69	MS
	CENCY	*Centaurea cyanus*	21-28	72.56	MS	72.73	MS	72.65	MS
	GALAP	*Galium aparine*	21-28	73.31	MS	70.13	MS	71.72	MS
	PAPRH	*Papver rhoeas*	21-28	75.30	MS	77.32	MS	76.31	MS
	STEME	*Stellaria media*	21-28	77.67	MS	74.62	MS	76.14	MS
	MATIN	*Tripleurospermum mar. inodorum*	21-28	78.96	MS	74.73	MS	76.84	MS
CHR/H/CFF 250 EC 0.4 L/ha	ANTAR	*Anthemis arvensis*	21-28	83.15	MS	77.52	MS	80.33	MS
	BRSNW	*Brassica napus* (self-sown plant)	21-28	86.67	S	77.52	MS	82.09	MS
	CENCY	*Centaurea cyanus*	21-28	81.39	MS	80.87	MS	81.13	MS
	GALAP	*Galium aparine*	21-28	81.62	MS	74.94	MS	78.28	MS
	PAPRH	*Papver rhoeas*	21-28	80.00	MS	82.30	MS	81.15	MS
	STEME	*Stellaria media*	21-28	84.81	MS	78.10	MS	81.46	MS
	MATIN	*Tripleurospermum mar. inodorum*	21-28	86.82	S	80.43	MS	83.63	MS
CHR/H/CFF 250 EC 0.5 L/ha	ANTAR	*Anthemis arvensis*	21-28	89.73	S	85.65	S	87.69	S
	BRSNW	*Brassica napus* (self-sown plant)	21-28	90.48	S	87.23	S	88.86	S
	CENCY	*Centaurea cyanus*	21-28	85.56	S	85.02	S	85.29	S
	GALAP	*Galium aparine*	21-28	84.86	MS	78.13	MS	81.49	MS
	PAPRH	*Papver rhoeas*	21-28	85.02	S	88.77	S	86.89	S
	STEME	*Stellaria media*	21-28	87.80	S	83.13	MS	85.47	S
	MATIN	*Tripleurospermum mar. inodorum*	21-28	91.43	S	87.92	S	89.68	S
CHR/H/CFF 250 EC 0.6	ANTAR	*Anthemis arvensis*	21-28	90.18	S	89.93	S	90.05	S
	BRSNW	*Brassica napus* (self-sown	21-28	94.14	S	92.72	S	93.43	S

L/ha		plant)							
	CENCY	*Centaurea cyanus*	21-28	89.35	S	90.38	S	89.87	S
	GALAP	*Galium aparine*	21-28	87.32	S	84.63	MS	85.98	S
	PAPRH	*Papver rhoeas*	21-28	88.69	S	93.77	S	91.23	S
	STEME	*Stellaria media*	21-28	90.73	S	87.32	S	89.02	S
	MATIN	*Tripleurospermum mar. inodorum*	21-28	93.44	S	89.60	S	91.52	S
Major 300 SL 0.4 L/ha	ANTAR	*Anthemis arvensis*	21-28	87.93	S	-	-	87.93	S
	BRSNW	*Brassica napus* (self-sown plant)	21-28	0.00	T	-	-	0.00	T
	CENCY	*Centaurea cyanus*	21-28	89.01	S	-	-	89.01	S
	GALAP	*Galium aparine*	21-28	13.76	T	-	-	13.76	T
	PAPRH	*Papver rhoeas*	21-28	21.77	T	-	-	21.77	T
	STEME	*Stellaria media*	21-28	22.17	T	-	-	22.17	T
	MATIN	*Tripleurospermum mar. inodorum*	21-28	90.06	S	-	-	90.06	S
Starane 333 EC 0.54 L/ha	ANTAR	*Anthemis arvensis*	21-28	68.64	MT	69.53	MT	69.09	MT
	BRSNW	*Brassica napus* (self-sown plant)	21-28	69.64	MT	62.53	MT	66.09	MT
	CENCY	*Centaurea cyanus*	21-28	72.80	MS	78.37	MS	75.58	MS
	GALAP	*Galium aparine*	21-28	81.11	MS	83.17	MS	82.14	MS
	PAPRH	*Papver rhoeas*	21-28	39.68	T	34.77	T	37.22	T
	STEME	*Stellaria media*	21-28	82.54	MS	80.95	MS	81.75	MS
	MATIN	*Tripleurospermum mar. inodorum*	21-28	72.18	MS	69.62	MT	70.90	MS
Rassel 100 SC 0.05 L/ha	ANTAR	*Anthemis arvensis*	21-28	82.03	MS	82.30	MS	82.16	MS
	BRSNW	*Brassica napus* (self-sown plant)	21-28	88.79	S	83.73	MS	86.26	S
	CENCY	*Centaurea cyanus*	21-28	72.66	MS	78.78	MS	75.72	MS
	GALAP	*Galium aparine*	21-28	80.54	MS	76.57	MS	78.56	MS
	PAPRH	*Papver rhoeas*	21-28	82.03	MS	82.72	MS	82.38	MS
	STEME	*Stellaria media*	21-28	83.94	MS	75.87	MS	79.90	MS
	MATIN	*Tripleurospermum mar. inodorum*	21-28	85.21	S	78.97	MS	82.09	MS

On the basis of submitted research, it is possible to state that CHR/H/CFF 250 EC used at dose controlled:

Dose CHR/H/CFF 250 EC 0.2-0.3 L/ha

Moderately Susceptible: *Anthemis arvensis* (ANTAR), *Brassica napus* (self-sown plant) (BRSNW), *Centaurea cyanus* (CENCY), *Galium aparine* (GALAP), *Papver rhoeas* (PAPRH), *Stellaria media* (STEME), *Tripleurospermum mar. inodorum* (MATIN)

Dose CHR/H/CFF 250 EC 0.4 L/ha

Moderately Susceptible: *Anthemis arvensis* (ANTAR), *Brassica napus* (self-sown plant) (BRSNW), *Centaurea cyanus* (CENCY), *Galium aparine* (GALAP), *Papver rhoeas* (PAPRH), *Stellaria media* (STEME), *Tripleurospermum mar. inodorum* (MATIN)

Dose CHR/H/CFF 250 EC 0.5 L/ha

Susceptible: *Anthemis arvensis* (ANTAR), *Brassica napus* (self-sown plant) (BRSNW), *Centaurea cyanus* (CENCY), *Papver rhoeas* (PAPRH), *Stellaria media* (STEME), *Tripleurospermum mar. inodorum* (MATIN)

Moderately Susceptible: *Galium aparine* (GALAP)

Dose CHR/H/CFF 250 EC 0.6 L/ha

Susceptible: *Anthemis arvensis* (ANTAR), *Brassica napus* (self-sown plant) (BRSNW), *Centaurea cyanus* (CENCY), *Galium aparine* (GALAP), *Papver rhoeas* (PAPRH), *Stellaria media* (STEME), *Tripleurospermum mar. inodorum* (MATIN)

Table 3.2-1: Efficacy of product CHR/H/CFF 250 EC at the timing of assessment
Winter wheat

Target	CHR/H/CFF 250 EC at rate	Number of trials	Infestation in the un-treated control (unit)		% control								No of trials where product is >, <, = compared to standard(s)**
					CHR/H/CFF 250 EC at rate		Major 300 SL at rate 0.4 L/ha		Starane 333 EC at rate 0.54 L/ha		Rassel 100 SC at rate 0.05 L/ha		
			Mean	Min & Max	Mean	Min & Max	Mean	Min & Max	Mean	Min & Max	Mean	Min & Max	
Anthemis arvensis	0.2-0.3 L/ha	8	11.5	5.0 & 30.0	91.36	78.80 & 100	98.79	91.30 & 100	74.75	68.80 & 82.50	90.55	78.80 & 100	-
	0.4 L/ha				95.60	85.00 & 100							-
	0.5 L/ha				99.69	98.50 & 100							-
	0.6 L/ha				99.88	99.00 & 100							-
Brassica napus (self-sown plant)	0.2-0.3 L/ha	9	6.4	5.0 & 12.0	76.82	40.00 & 97.30	0.00	0.00 & 0.00	69.64	40.00 & 98.00	88.79	77.50 & 100	-
	0.4 L/ha				86.67	62.50 & 98.50							-
	0.5 L/ha				90.48	78.80 & 100							-
	0.6 L/ha				94.14	85.00 & 100							-
Centaurea cyanus	0.2-0.3 L/ha	8	12.70	5.0 & 31.0	72.56	65.00 & 83.80	89.01	72.50 & 100	72.80	62.50 & 82.50	72.66	62.50 & 80.00	-
	0.4 L/ha				81.39	71.30 & 96.30							-
	0.5 L/ha				85.56	76.30 & 100							-
	0.6 L/ha				89.35	80.00 & 100							-
Galium aparine	0.2-0.3 L/ha	9	5.7	5.0 & 8.5	73.31	40.00 & 89.30	13.76	0.00 & 35.00	81.11	45.00 & 100	80.54	52.50 & 91.30	-
	0.4 L/ha				81.62	51.30 & 94.00							-
	0.5 L/ha				84.86	60.00 & 100							-
	0.6 L/ha				87.32	71.30 & 100							-
Papver rhoeas	0.2 -0.3 L/ha	9	7.3	5.0 & 16.0	75.30	61.30 & 87.30	21.77	0.00 & 90.80	39.68	0.00 & 85.80	82.03	73.80 & 91.30	-
	0.4 L/ha				80.00	71.30 & 90.50							-
	0.5 L/ha				85.02	78.80 & 91.50							-
	0.6 L/ha				88.69	78.80 & 100							-
Stellaria media	0.2-0.3 L/ha	7	7.4	5.0 & 11.0	77.67	55.00 & 97.30	22.17	0.00 & 53.80	82.54	57.50 & 100	83.94	71.30 & 100	-
	0.4 L/ha				84.81	70.00 & 98.50							-
	0.5 L/ha				87.80	72.50 & 100							-
	0.6 L/ha				90.73	55.00 & 100							-
Tripleurospermum mar. inodorum	0.2-0.3 L/ha	9	8.4	5.0 & 18.0	78.96	37.50 & 94.00	90.06	81.30 & 98.00	72.18	50.00 & 88.50	85.21	72.50 & 100	-
	0.4 L/ha				86.82	61.30 & 98.00							-
	0.5 L/ha				91.43	77.50 & 100							-
	0.6 L/ha				93.44	83.80 & 100							-

* A, B, C can be a "trial group" (as defined in page 10, e.g. EPPO climatic zone A) or a specific target (e.g. weed A, weed B...). In order to adapt the table to the data presented, it is possible:
- to add lines or columns,
- to duplicate the table (e.g. one table for "trial group 1", one table for "trial group 2", one table for "all").

** Optional

Winter triticale

Target	CHR/H/CFF 250 EC at rate	Number of trials	Infestation in the untreated control (unit)		% control						No of trials where product is >, <, = compared to stand-ard(s)**
					CHR/H/CFF 250 EC at rate		Starane 333 EC at rate 0.54 L/ha		Rassel 100 SC at rate 0.05 L/ha		
			Mean	Min & Max	Mean	Min & Max	Mean	Min & Max	Mean	Min & Max	
Anthemis arvensis	0.2-0.3 L/ha	6	6.3	5.0 & 8.0	71.52	52.50 & 87.50	69.53	65.00& 78.80	82.30	71.30 & 90.00	-
	0.4 L/ha				77.52	65.00 & 87.50					-
	0.5 L/ha				85.65	78.80 & 95.00					-
	0.6 L/ha				89.93	80.00 & 98.30					-
Brassica napus (self-sown plant)	0.2-0.3 L/ha	6	6.6	5.0 & 10.0	68.57	40.00 & 86.30	62.53	40.00 & 76.30	83.73	72.50 & 93.50	-
	0.4 L/ha				77.52	60.00 & 92.50					-
	0.5 L/ha				87.23	81.30 & 98.30					-
	0.6 L/ha				92.72	85.00 & 98.80					-
Centaurea cyanus	0.2-0.3 L/ha	6	6.5	5.0 & 8.0	72.73	60.00 & 87.50	78.37	61.30 & 100	78.78	71.30 & 91.30	-
	0.4 L/ha				80.87	70.00 & 96.30					-
	0.5 L/ha				85.02	72.50& 100					-
	0.6 L/ha				90.38	81.30 & 100					-
Galium aparine	0.2-0.3 L/ha	7	7.5	5.0 & 19.0	70.13	50.00 & 86.50	83.17	60.00 & 98.30	76.57	52.50 & 90.00	-
	0.4 L/ha				74.94	55.00 & 89.50					-
	0.5 L/ha				78.13	60.00 & 93.00					-
	0.6 L/ha				84.63	71.30 & 95.00					-
Papver rhoeas	0.2-0.3 L/ha	6	5.2	5.0 & 6.0	77.32	68.80 & 90.00	34.77	0.00 & 65.00	82.72	72.50 & 90.00	-
	0.4 L/ha				82.30	72.50 & 90.00					-
	0.5 L/ha				88.77	82.50 & 95.00					-
	0.6 L/ha				93.77	85.00 & 100					-
Stellaria media	0.2-0.3 L/ha	6	7.0	5.0 & 10.0	74.62	58.80 & 91.30	80.95	73.80 & 90.00	75.87	66.30 & 91.30	-
	0.4 L/ha				78.10	65.00 & 98.50					-
	0.5 L/ha				83.13	70.00 & 95.00					-
	0.6 L/ha				87.32	80.00 & 95.00					-
Tripleurospermum mar. inodorum	0.2-0.3 L/ha	6	6.8	5.0 & 8.0	74.73	53.80 & 90.80	69.62	62.50 & 78.80	78.97	65.00 & 90.00	-
	0.4 L/ha				80.43	65.00 & 92.50					-
	0.5 L/ha				87.92	80.00 & 97.50					-
	0.6 L/ha				89.60	75.00 & 98.80					-

* A, B, C can be a "trial group" (as defined in page 10, e.g. EPPO climatic zone A) or a specific target (e.g. weed A, weed B...). In order to adapt the table to the data presented, it is possible:
- to add lines or columns,
- to duplicate the table (e.g. one table for "trial group 1", one table for "trial group 2", one table for "all").

** Optional

Crop(s) 2 / Target(s) 2

Not applicable

Minor use

Not applicable

Yield (and relevant quality indicators), from efficacy trials (in the presence of challenging pest populations)

Not applicable

Table 3.2-2: Yield (quality) effect of product in efficacy trials on crop * target 1

Not applicable

Summary and conclusion

Not applicable

Comments of zRMS:	All details about efficacy methodology used during efficacy trials are presented above by Applicant. Submitted reports from field trials (18 in total) carried out on winter cereals (winter wheat – 11 trials and winter triticale – 7 trials) include a detailed data on soil and field conditions, agro-technological procedures, fore-crop as well as meteorological conditions and technical details of the spraying etc. Applicant properly presented efficacy results. Applicant wish to register Turango 250 EC / Hapi 250 EC in PL (product code: CHR/H/CFF 250 EC) in Poland (N-E EPPO zone). Only trials with greater than 4-5 weeds/m^2 or over 2% ground cover should be taken for assessment. According to EPPO PP 1/226 at least 6 fully supportive results for major weeds and 2 trials for minor weeds should be required. Therefore, based on knowledge of major/minor status of weeds in each country, weeds with insufficient results should be excluded. In Poland, no PPP with florasulam, clopyralid and fluroxypyr is registered in one PPP product. Turango 250 EC / Hapi 250 EC will be the first on the Polish market in this formulation and composition. So, acording to Polish rules for major weeds – at least 6 trials are required and for minor weeds – at least 3 weeds. Submitted efficacy trials are correctly performed according to appropriate EPPO standards. Accepted weed species for Poland (N-E EPPO zone) should be presented to following scale of sensitivity: – S (susceptible) > 85%; – MS (moderately susceptible) 70-85%; – MT (moderately tolerant) 60-70%; – T (tolerant) < 60%. Applicant used correct classification of weeds sensitivity in this registration report. Applicant submitted trials carried out in 2020 and 2021. So, in line to appropriate EPPO standard two growing seasons were studied. Submitted studies were carried out by testing unit mandated to conduct research in the field of efficacy of plant protection products by the Chief Inspector of Plant Health and Seed Inspection and are officially GEP recognized. In the opinion of ZRMs number of trials for

winter wheat and winter triticale is accepted for Poland.

Below, ZRMs presented the assessment for studied weed species in winter wheat:

Winter wheat						
Weeds	**Number of trials**	**CHR/H/CFF 250 EC at dose 0.4 L/ha**	**CHR/H/CFF 250 EC at dose 0.5 L/ha**	**Major 300 SL at dose 0,4 L/ha**	**Rassel 100 SC at dose 0,05 L/ha**	**Starane 333 EC at dose 0,54 L/ha**
ANTAR	8	83.15%	89.73%	87.93%	82.03%	68.64%
BRSNW	9	86.67%	90.48%	0.00%	88.79%	69.64%
CENCY	8	81.39%	85.56%	89.01%	72.66%	72.80%
GALAP	8	81.62%	84.86%	13.76%	80.54%	81.11%
PAPRH	9	80.00%	85.02%	21.77%	82.03%	39.68%
STEME	7	84.81%	87.80%	22.17%	83.94%	82.54%
MATIN	9	86.82%	91.43%	90.06%	85.21%	72.18%

Classification marked by colour and eff. of weeds sensitivity according to Polish rules

Number of trials for all mentioned above weed species in table was acceptable. Trials were characterized by sufficient level of infestation.

On the basis on the submitted results it can be stated that for dose 0.4 L/ha of CHR/H/CFF 250 EC – 2 weeds were classified as a susceptible (BRSNW, MATIN) and 5 weeds as moderately susceptible (ANTAR, CENCY, GALAP, PAPRH, STEME).

On the basis on the submitted results it can be stated that against dose 0.5 L/ha of CHR/H/CFF 250 EC – one weed was classified as moderately susceptible (GALAP) and 6 weeds as susceptible (ANTAR, BRSNW, CENCY, PAPRH, STEME, MATIN).

In all trials standard reference products were used. Efficacy of them is presented in the table above, In generally it can be stated that CHR/H/CFF have best efficacy or comparable to st. ref. products.

Below, ZRMs presented the assessment for studied weed species in winter triticale:

Winter triticale						
Weeds	**Number of trials**	**CHR/H/CFF 250 EC at dose 0.4 L/ha**	**CHR/H/CFF 250 EC at dose 0.5 L/ha**	**Major 300 SL at dose 0,4 L/ha**	**Rassel 100 S.C. at dose 0,05 L/ha**	**Starane 333 EC at dose 0,54 L/ha**
ANTAR	6	77.52%	85.65%	-	82.30%	69.53%
BRSNW	6	77.52%	87.23%	-	83.73%	62.53%
CENCY	6	80.87%	85.02%	-	78.78%	78.37%
GALAP	7	74.94%	78.13%	-	76.57%	83.17%
PAPRH	6	82.30%	88.77%	-	82.72%	34.77%
STEME	6	78.10%	83.13%	-	75.87%	80.95%
MATIN	6	80.43%	85.65%	-	78.97%	69.62%

Classification marked by colour and eff. of weeds sensitivity according to Polish rules

Number of trials for all mentioned above weed species in table was acceptable. Trials were characterized by sufficient level of infestation.

On the basis on the submitted results it can be stated that for dose 0.4 L/ha of CHR/H/CFF 250 EC – 7 weeds were classified as a moderately susceptible (BRSNW, MATIN, ANTAR, CENCY, GALAP, PAPRH, STEME).

On the basis on the submitted results it can be stated that against dose 0.5 L/ha of

CHR/H/CFF 250 EC – two weeds were classified as moderately susceptible (GALAP, STEME) and 5 weeds as susceptible (ANTAR, BRSNW, CENCY, PAPRH, MATIN).

In all trials standard reference products were used. Efficacy of them is presented in the table above, In generally it can be stated that CHR/H/CFF have best efficacy or comparable to st. ref. products.

Weed species in winter cereals can be assessed together for winter wheat and winter triticale. So, below ZRMS presented results for recommended dose 0.4-0.5 L/ha for labelling purposes:

Winter triticale and winter wheat						
Weeds	**Number of trials**	**CHR/H/CFF 250 EC at dose 0.4 L/ha**	**CHR/H/CFF 250 EC at dose 0.5 L/ha**	**Major 300 SL at dose 0,4 L/ha**	**Rassel 100 S.C. at dose 0,05 L/ha**	**Starane 333 EC at dose 0,54 L/ha**
ANTAR	14	80.33%	87.69%	87.93%	82.16%	69.09%
BRSNW	15	82.09%	88.86%	0.00%	86.26%	66.09%
CENCY	14	81.13%	85.29%	89.01%	75.72%	75.58%
GALAP	15	78.28%	81.49%	13.76%	78.56%	82.14%
PAPRH	15	81.15%	86.89%	21.77%	82.38%	37.22%
STEME	13	81.46%	85.47%	22.17%	79.90%	81.75%
MATIN	15	83.63%	89.68%	90.06%	82.09%	70.90%

Classification marked by colour and eff. of weeds sensitivity according to Polish rules

Number of trials for all mentioned above weed species in table was acceptable. Trials were characterized by sufficient level of infestation.

On the basis on the submitted results it can be stated that for dose 0.4 L/ha of CHR/H/CFF 250 EC – 7 weeds were classified as a moderately susceptible (BRSNW, MATIN, ANTAR, CENCY, GALAP, PAPRH, STEME).

On the basis on the submitted results it can be stated that against dose 0.5 L/ha of CHR/H/CFF 250 EC – one weed is classified as moderately susceptible (GALAP) and 6 weeds as susceptible (ANTAR, BRSNW, CENCY, GALAP, PAPRH, MATIN).

Summary: The most effective for most studied weed species for post-emergence use on winter cereals (wheat, triticale) was dose 0.4 and 0.5 L/ha. The rate should be adjusted according to the development stage of the weeds and the weed species present in the field. The lower rate should be applied to weeds that are less developed, in the early stages of development and when weed infestation is less severe, while the higher of the recommended rates should be applied when weeds are more advanced in development.

Applicant would like to include 7 weed species in the label, for which assessment in this dRR was presented. However, **in the opinion of ZRMs also CAPBP can be included in label as a susceptible weed in line to 4 valid trials** (average eff. for dose 0.4 L/ha – 87,83% and for dose 0.5 L/ha – 97,33%). It is a minor weed in winter wheat and winter triticale according to in accordance with harmonization arrangements, so it should be also included in the label project. It level of infestation was acceptable in all 4 trials (3 trials-winter wheat and 1 trial-winter triticale).

VERPE was also represented by sufficient number of trials (4: 3 for winter wheat and 1 for winter triticale). However, it was tolerant against CHR/H/CFF 250 EC in 3 trials and susceptible in one trial. Its average efficacy was 39.10% for dose 0.4 L/ha and 45.03% L/ha. So, it can be concluded that VERPE is tolerant against

	VERPE, so in the opinion of ZRMs it should not been included in the label. Other weed species were not represented by a sufficient number of field trials: VIOAR (2 trials), VERHE (2 trials), MYOAR (1 trial), THLAR (2 trials), MATCH (2 trials), LITAR (1 trial), LAMPU (1 trials). So, properly they were not assessed by Applicant and not proposed for the Polish label project. **In Polish label following weeds species can be included:** – ***for winter triticale and winter wheat*** • **Dose 0.4 L/ha**: *Susceptible weeds:* CAPBP; *Moderately susceptible weeds*: BRSNW, MATIN, ANTAR, CENCY, GALAP, PAPRH, STEME • **Dose 0.5 L/ha:** *Susceptible weeds:* ANTAR, BRSNW, CAPBP, CENCY, GALAP, PAPRH, MATIN; *Moderately susceptible weeds:* GALAP. **ZRMs not accepted proposed by Applicant water volume: 200-400 L/ha.** During 18 eff. trials Applicant studied 200 L/ha of water in 12 trials; and 300 L/ha in 6 trials. So, recommended water volume should be 200-300 L/ha. 400 L/ha – was not studied and should not been accepted. **ZRMs not accepted application window: BBCH 21-33.** During trials following stage of crop development at application was studied: BBCH 21-32. So, Turango 250 EC / Hapi 250 EC should be recommended for use at BBCH 21-32 in the spring according to submitted trials. **This plant protection product 'Turango 250 EC / Hapi 250 EC' can be used in winter wheat and winter triticale against weed species included in the GAP table and label project. The product can be applied post-emergence in spring at BBCH 21-32.** **Also, following minor uses can be included in Polish label in line to Article 51 and claimed GAP table:** spelt, emmer wheat, *Triticum dicoccum*, Einkorn wheat, *Triticum monococcum*, Durum wheat, *Triticum durum*, Spring Rye and Secale cereal. In the opinion of ZRMs the same BBCH 21-32 as for major uses should be recommended on grounds of user convenience. CHR/H/CFF 250 EC can be registered for control dicotyledonous weeds at dose 0.4-0.5 L/ha.

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

Resistance Risk Assessment (*accroding to EPPO PP 1/213 (4) Resistance risk analysis*)

3.3.1 Mode of action

CHR/H/CFF 250 EC is a herbicide containing active substances: 120 g/L clopyralid, 10 g/L florasulam and 120 g/L fluroxypyr, which belong to different HRAC groups (different mode of action).

Clopyralid is the ISO common name for 3,6-dichloropyridine-2-carboxylic acid or 3,6- dichloropicolinic acid (IUPAC). According to the Herbicide Resistance Action Committee (HRAC) clopyralid is included in HRAC Group 4 (O) – auxin mimics. Clopyralid is used as a post emergence herbicide to control some broadleaf weeds in a range of dicotyledon and monocotyledon crops. The representative uses evaluated were broadcast foliar spray against broad leaf weed species such as *Circium arvensis*, *Scenecio vulgaris*, *Matricaria chamomilla* and *Matricaria inodorum* in winter cereals and grass.

Florasulam is a member of the triazolopyrimidine sulfonamides, a class of herbicides known to inhibit the plant enzyme acetolactate synthase enzyme (ALS). HRAC group 2 (B). The inhibition of ALS results in a number of distinctive whole plant symptoms. Growth of sensitive species is retarded within a matter of hours of application although visible effects may not be observed for several days. Symptoms appear first in the upper meristematic region of the plants as chlorosis and necrosis. The effects then spread to the remaining parts of the plant. In some species there is a reddening of the midrib and veins. Complete desiccation of the plant may occur in 7-10 days in ideal growing conditions, but may take up to 6-8 weeks under less ideal conditions. Florasulam is a post emergent herbicide and is taken up by the leaves. The active ingredient is rapidly degraded in soil and poorly taken up by the roots, thus providing very little soil activity. After foliar absorption, florasulam is translocated to the meristematic tissue, where it inhibits the plant enzyme acetolactate synthase (ALS) which is essential for amino acid synthesis. Inhibition of amino acid production inhibits cell division and results in plant death.

Fluroxypyr-1-methylheptyl (Fluroxypyr-meptyl) is a systemic herbicide used for the selective control of annual and perennial broadleaf weeds present in the field at the time of application. According to the Herbicide Resistance Action Committee (HRAC) diflufenican is included in HRAC Group 4 (O) – auxin mimics. Fluroxypyr 1-methylheptyl ester is a member of the pyridine class resulting in disruption of plant cell growth. In susceptible plant species the product induces an epinastic response (ie. stimulation of cell elongation and premature senescence, particularly in meristematic tissue) leading to cessation of normal growth and death. Fluroxypyr 1-methylheptyl ester is easily absorbed into the plant cuticle, hydrolysed to the free acid and either conjugated or translocated, symplastically in the phloem, to sites of its herbicidal effect. Fluroxypyr is recommended for the control of a range of economically important broadleaved weeds. Its intended uses are for amenity/pasture, cereals - winter & spring and maize.

3.3.2 Mechanism of resistance

CHR/H/CFF 250 EC is a herbicide containing active substances: 120 g/L clopyralid, 10 g/L florasulam and 120 g/L fluroxypyr, which belong to different HRAC groups (different mode of action). The mode of action involving a 'multi-site' action may indicate a lower risk to developing weeds resistance.
Accroding to EPPO PP 1/213 (4) Resistance risk analysis weeds usually only produce one generation per year and development of resistance is usually a relatively slow process. It is difficult to class any weed species as inherently more or less likely to develop resistance to a particular herbicide.

3.3.3 Evidence of resistance

Clopyralid

Clopyralid is the ISO common name for 3,6-dichloropyridine-2-carboxylic acid or 3,6- dichloro-picolinic acid (IUPAC). According to the Herbicide Resistance Action Committee (HRAC) clopyralid is included in HRAC Group 4 (O) – auxin mimics. Clopyralid is used as a post emergence herbi-cide to control some broadleaf weeds in a range of dicotyledon and monocotyledon crops. The representative uses evaluated were broadcast foliar spray against broad leaf weed species such as *Circium arvensis*, *Scenecio vulgaris*, *Matricaria chamomilla* and *Matricaria inodorum* in winter cereals and grass.This group of herbicides is quite well known and has been applied commercially for decades. According to Ian Heap's website (http://www.weedscience.org) there are only three species which have been reported as resistant to clopyralid: *Soliva sessilis*, *Chenopodium album* and *Centaurea stoebe* ssp. *micranthos* (Table 1).

According to https://weedscience.org/ :
Table 1. Herbicide resistance cases

Year	Species	Country	Actives	Crops
1999	*Soliva sessilis*	New Zealand	clopyralid, picloram, triclopyr	golf courses, turf

2005	*Chenopodium album*	New Zealand	dicamba, clopyralid, aminopyralid	maize
2013	*Centaurea stoebe* ssp. *micranthos*	Canada (British Columbia)	clopyralid, picloram	rangeland

Florasulam

Florasulam as an acetolactate synthase (ALS) inhibitor herbicide (HRAC group: 2 Inhibition of ALS, Legacy: B), which the mode of action is the inhibition of the plant enzyme acetolactate synthase, it has been classified as a high resistance risk.

According to https://weedscience.org/ :
Table 2. Herbicide resistance cases

Year	Species	Country	Actives	Crops
1991	*Stellaria media*	Denmark	chlorsulfuron, tribenuron-methyl, florasulam, iodosulfuron-methyl-Na	spring barley, wheat
1995	*Stellaria media*	Sweden	chlorsulfuron, tribenuron-methyl, florasulam	spring barley, spring wheat, winter wheat
1998	*Papaver rhoeas*	Greece	pyrithiobac-sodium, thifensulfuron-methyl, chlor-sulfuron, tribenuron-methyl, triasulfuron, imaza-mox, florasulam	winter wheat
1998	*Papaver rhoeas*	Italy	tribenuron-methyl, florasulam, iodosulfuron-methyl-Na	durum wheat
2000	*Stellaria media*	United Kingdom	metsulfuron-methyl, florasulam	cereals
2001	*Alopecurus myosuroid-es*	Denmark	clodinafop-propargyl, fenoxaprop-ethyl, cy-cloxydim, flupyrsulfuron-methyl-Na, pendime-thalin, florasulam, iodosulfuron-methyl-Na, mesosulfuron-methyl, pyroxsulam	winter wheat
2002	*Amaranthus retroflexus*	Canada	florasulam	wheat
2003	*Papaver rhoeas*	Denmark	tribenuron-methyl, florasulam, iodosulfuron-methyl-Na	wheat
2005	*Apera spica-venti*	Germany	sulfosulfuron, chlorsulfuron, flupyrsulfuron-methyl-Na, sulfometuron-methyl, florasulam, iodosulfuron-methyl-Na, mesosulfuron-methyl, pyroxsulam	wheat
2006	*Sinapis arvensis*	Italy	tribenuron-methyl, florasulam, iodosulfuron-methyl-Na	durum wheat
2006	*Spergula arvensis*	Norway	tribenuron-methyl, florasulam	winter wheat, winter barley
2007	*Polygonum convolvulus (=Fallopia convolvulus)*	Canada	thifensulfuron-methyl, tribenuron-methyl, flo-rasulam	wheat, peas
2007	*Lolium rigidum*	Israel	clodinafop-propargyl, imazapyr, chlorsulfuron, tribenuron-methyl, sulfometuron-methyl, flumetsulam, metosulam, glyphosate, florasulam, iodosulfuron-methyl-Na, mesosulfuron-methyl, pinoxaden, propoxycarbazone-Na	wheat
2009	*Senecio vulgaris*	France	tribenuron-methyl, prosulfuron, metsulfuron-methyl, flazasulfuron, imazamox, florasulam, iodosulfuron-methyl-Na, mesosulfuron-methyl, thiencarbazone-methyl	grapes, wheat
2010	*Tripleurospermum perforatum (=T. ino-dorum)*	Denmark	tribenuron-methyl, florasulam, iodosulfuron-methyl-Na	spring barley, winter wheat
2010	*Lolium perenne ssp. multiflorum*	Denmark	clodinafop-propargyl, florasulam, iodosulfuron-methyl-Na, mesosulfuron-methyl, pyroxsulam	winter wheat
2010	*Rapistrum rugosum*	Iran	bispyribac-sodium, tribenuron-methyl, florasu-lam, flucarbazone-Na	winter wheat
2010	*Alopecurus myosuroid-es*	Netherlands	florasulam, iodosulfuron-methyl-Na, mesosulfu-ron-methyl, pyroxsulam	winter wheat
2011	*Stellaria media*	Germany	thifensulfuron-methyl, amidosulfuron, triflusulfu-ron-methyl, tribenuron-methyl, nicosulfuron, imazamox, florasulam, iodosulfuron-methyl-Na,	spring barley, wheat, rapeseed

			tritosulfuron, mesosulfuron-methyl, pyroxsulam	
2012	*Capsella bursa-pastoris*	Denmark	tribenuron-methyl, florasulam	spring barley
2012	*Stellaria media*	France	thifensulfuron-methyl, metsulfuron-methyl, florasulam, iodosulfuron-methyl-Na, mesosulfuron-methyl	wheat
2012	*Papaver rhoeas*	Germany	imazamox, florasulam	cereals, rapeseed
2012	*Diplotaxis erucoides*	Israel	imazethapyr, tribenuron-methyl, flumetsulam, imazamox, florasulam	wheat
2012	*Erucaria hispanica*	Israel	tribenuron-methyl, flumetsulam, florasulam	wheat
2014	*Papaver rhoeas*	Belgium	metsulfuron-methyl, florasulam	wheat
2014	*Rumex dentatus*	India	florasulam, iodosulfuron-methyl-Na, mesosulfuron-methyl, pyroxsulam	wheat
2014	*Matricaria recutita (= M. chamomilla)*	Sweden	tribenuron-methyl, florasulam	wheat
2015	*Tripleurospermum perforatum (=T. inodorum)*	Sweden	tribenuron-methyl, florasulam	wheat
2016	*Apera spica-venti*	Denmark	fenoxaprop-ethyl, florasulam, iodosulfuron-methyl-Na, mesosulfuron-methyl, pinoxaden	wheat
2017	*Rumex obtusifolius*	France	thifensulfuron-methyl, metsulfuron-methyl, florasulam	wheat
2019	*Lithospermum arvense*	China	imazethapyr, pyrithiobac-sodium, tribenuron-methyl, florasulam, pyroxsulam	wheat
2020	*Amaranthus retroflexus*	Ukraine	imazethapyr, thifensulfuron-methyl, tribenuron-methyl, flumetsulam, imazamox, florasulam, iodosulfuron-methyl-Na, foramsulfuron, thiencarbazone-methyl	corn (maize), sunflower
2021	*Tripleurospermum perforatum (=T. inodorum)*	Czech Republic	tribenuron-methyl, florasulam	wheat

Fluroxypyr

Fluroxypyr 1-methylheptyl ester will hydrolyse during penetration to form fluroxypyr-acid which acts as an auxin like herbicide causing rapid cell growth within the plant. Once absorbed fluroxypyr acid moves readily through the plant via both the xylem and phloem and is distributed throughout the entire plant to the meristems and other developing parts. In susceptible plant species fluroxypyr induces an epinastic response (ie stimulation of cell elongation and premature senescence, particularly in meristematic tissue) leading to cessation of normal growth and rapid necrosis followed by plant death. According to the Herbicide Resistance Action Committee (HRAC) fluroxypyr is included in HRAC Group 4 (O) – auxin mimics. According to Ian Heap's website (http://www.weedscience.org) there are only four species which have been reported as resistant to fluroxypyr: *Galeopsis tetrahit, Kochia scoparia, Stellaria media* and *Galium aparine* (Table 3).

According to https://weedscience.org/ :
Table 3. Herbicide resistance cases

Year	Species	Country	Actives	Crops
1998	*Galeopsis tetrahit*	Canada	dicamba, MCPA, fluroxypyr	spring barley, cereals, cropland, wheat
2015	*Kochia scoparia*	Canada	thifensulfuron-methyl, tribenuron-methyl, dicamba, fluroxypyr	spring wheat
2010	*Stellaria media*	China	MCPA, fluroxypyr	winter wheat
2014	*Galium aparine*	China	fluroxypyr	wheat
2013	*Kochia scoparia*	United States	glyphosate, dicamba, fluroxypyr	corn (maize), sorghum
1994	*Kochia scoparia*	United States	dicamba, fluroxypyr	cropland, wheat

3.3.4 Cross-resistance

According to https://hracglobal.com/files/Herbicide-Cross-Resistance-and-Multiple-Resistance-in-Plants.pdf

Cross resistance is defined as the expression of a genetically-endowed mechanism conferring the ability to withstand herbicides from different chemical classes. There are two broad cross resistance categories; target site cross resistance and non-target site cross resistance. Cross resistance occurs mainly in the group of ALS inhibitors, including florasulam.

Target site cross resistance occurs when a change at the biochemical site of action of one herbicide also confers resistance to herbicides from a different chemical class that inhibit the same site of action in the plant. Target site cross resistance does not necessarily result in resistance to all herbicide classes with a similar mode of action or indeed all herbicides within a given herbicide class.

Target site cross resistance to acetolactate synthase (ALS)-inhibiting herbicides Over the past decade, the most important area of herbicide chemistry has been the discovery of herbicides inhibiting acetolactate synthase (ALS). There are 15 classes of chemistry which have been described as inhibitors of ALS (Saari et al., 1994). Of these, the chemically dissimilar sulfonylurea, imidazolinone and triazolopyrimidine herbicides have been commercialized and are in widespread use. The large scale adoption and often persistent use of these herbicides has led to the appearance of weed biotypes resistant to the ALS-inhibiting herbicides. As reviewed by Saari et al. (1994), there are now many biotypes within at least 15 weed species (especially *Kochia scoparia* and *Lolium rigidum*) which have developed resistance to ALS-inhibiting herbicides, mainly through selection with sulfonylurea herbicides (presumably because they have been in commercial use for the longest period). In the vast majority of cases of resistance following selection with sulfonylurea herbicides, the resistance mechanism is a change in the target site enzyme ALS (reviewed by Saari et al., 1994). In most cases, the sulfonylurea resistant biotypes with a resistant ALS enzyme exhibit varying levels of target site cross resistance to the chemically dissimilar, but ALS-inhibiting, imidazolinone and/or triazolopyrimidine herbicides. The considerable variation in the level of resistance across and within various ALS-inhibiting herbicide chemistries is likely to be due to subtly different binding by particular herbicides on the ALS enzyme and different mutations of ALS. Evidence from competitive binding studies show that the three classes of ALS-inhibiting herbicides bind to the same, or closely overlapping sites on ALS (Durner et al., 1991; Landstein et al., 1993). The wide variation in target site cross resistance amongst biotypes with resistant ALS enzyme implies that there are a number of different functional mutations of the ALS gene. Knowledge of specific mutations of ALS providing resistance is now emerging. ALS gene sequences from a number of resistant biotypes of higher plants which have been examined show a substitution at a proline residue (173) in a highly conserved region of the enzyme, known as domain A. However, the proline substitutions vary in that substitutions of threonine, alanine, serine, histidine and glutamine for this proline have all been observed. Guttieri et al. (1992) examined ALS from three resistant weed species and observed Thr substitution in *Kochia scoparia* and a His substitution in *Lactuca serriola* at Pro 173. No alteration was observed in 3 domain A of ALS for a resistant biotype of *Salsola iberica*. Five other resistant biotypes of *K. scoparia* were examined and only three contained a substitution at Pro 173. In addition to changes at the Pro 173 of domain A, at least two other mutations have been observed to give sulfonylurea and/or imidazolinone resistance in higher plants; Ser 653 Asn in *Arabidopsis thaliana* (Sathasivan et al., 1991), and Trp 573 Leu in *Nicotiana tabacum* (Lee et al., 1988), and a number of other mutations providing resistance are known from yeast (Mazur and Falco, 1989). Significantly, in the only case so far published of resistance selected by an imidazolinone herbicide, a biotype of *Xanthium strumarium* resistant to imidazolinone herbicides at the whole plant and ALS enzyme level is not cross resistant to sulfonylurea or triazolopyrimidine herbicides and possesses an ALS enzyme susceptible to these herbicides (Schmitzer et al., 1993). Therefore, it is clear that there are several possible mutations of the ALS gene which will confer resistance to sulfonylurea and imidazolinone herbicides and yet retain enzyme function. It is likely, although not yet established, that these different mutations in the ALS gene provide different levels of target site cross resistance within and between ALS inhibiting herbicide chemistries. The variations in target site cross resistance among herbicide-resistant mutants indicates that the binding domains for the various classes of ALS-inhibiting herbicides do not fully overlap. It is also clear from these studies that a number of different mutations can endow resistance to various ALS-inhibiting herbicides without any significant impairment of enzyme function in vivo. As discussed below, this is also likely to be the case for herbicide-resistant ACCase, but is not the case for herbicide-resistant PS2 in which very few mutations confer resistance and yet retain full enzyme functionality. Competitive fitness studies with ALS enzyme-based resistant biotypes of *Kochia scoparia* and *Lactuca serriola* indicate there is no fitness penalty to plants carrying a resistant ALS enzyme (Mallory-Smith et al., 1992).

Non target site cross resistance is defined as cross resistance to dissimilar herbicide classes conferred by a mechanism(s) other than resistant enzyme target sites. Until recently documented for *L. rigidum* and *A. myosuroides*, non-target site cross resistance was largely unknown in herbicide-resistant weeds but is well known in the insecticide resistance literature (Brattsten et al., 1986; Georghiou, 1986).

Non target site cross resistance to ALS inhibiting herbicides The study of Heap and Knight (1986) and widespread farmer experience in Australia has been that many (but not all) *L. rigidum* populations that developed 6 resistance following selection with the ACCase inhibiting herbicide diclofop-methyl display resistance to cereal-selective ALS herbicides without any exposure to ALS herbicides (non-target site cross resistance). Similarly, a laboratory experiment Matthews and Powles (unpublished data) showed that an initially susceptible *L. rigidum* population when selected for three generations with diclofop-methyl developed resistance to diclofop-methyl and simultaneously exhibited resistance to the ALS inhibiting herbicide chlorsulfuron without any exposure to chlorsulfuron. This study and the field observations conclusively established that selection with an ACCase-inhibiting herbicide can lead to resistant populations that display non target site cross resistance to ALS-inhibiting herbicides without exposure to these herbicides. The mechanistic basis of non-target site cross resistance to ALS herbicides has been thoroughly investigated in *L. rigidum*. As expected, cross resistance to ALS herbicides from selection with ACCase herbicides is not due to resistance at the ALS target enzyme (Matthews et al., 1990). Instead these biotypes of *L. rigidum* are resistant as a result of an enhanced rate of herbicide metabolism, which endows resistance to certain ALS-inhibiting herbicides (Figures 1 and 2). It is likely that the increased metabolism in these *L. rigidum* biotypes is catalyzed by the same Cyt P450 enzyme-based mechanism operating in wheat (Christopher et al., 1991; 1992). Wheat is resistant to many ALS-inhibiting herbicides as a result of rapid metabolism of these herbicides by aryl-hydroxylation (Sweetser et al., 1992), catalyzed by a Cyt P450 mono-oxygenase. Some chlorsulfuronresistant L. rigidum biotypes with sensitive ALS and a resistance profile to ALS-inhibiting herbicides similar to wheat can oxidatively metabolize chlorsulfuron more rapidly than the susceptible biotype (Figures 1 and 2; Christopher et al., 1991; Cotterman and Saari, 1992; Burnet et al., 1994a). The products of metabolism of chlorsulfuron in L. rigidum and wheat are also similar (Christopher et al., 1991; Cotterman and Saari, 1992), with the major metabolite identified as glucose-conjugated hydroxy-chlorsulfuron (Cotterman and Saari, 1992). Malathion which has been shown to inhibit the Cyt P450-dependent detoxification of primisulfuron, a sulfonylurea herbicide, in microsome preparations from maize (Kreuz and Fonné-Pfister, 1992) can inhibit chlorsulfuron metabolism and reduce chlorsulfuron resistance in the cross-resistant biotype SLR31 if applied in conjunction with chlorsulfuron (Christopher et al., 1994). This reversal of resistance in SLR31 by malathion confirms that detoxification plays a major role in chlorsulfuron resistance in this biotype. Taken together, these studies clearly establish that enhanced metabolism is the basis of non-target site cross resistance of *L. rigidum* to ALS herbicides. Cyt P450s are clearly implicated in enhanced metabolism of chlorsulfuron in resistant *L. rigidum*, however, the in vitro demonstration of Cyt P450-dependent chlorsulfuron metabolism in isolated microsomes has to date proved elusive (Preston and Powles, unpublished).

3.3.5 Sensitivity data

Applicant didn’t conduct separately trials for sensitivity data, this data was evaluated in efficacy trials. The 18 field trials postemergence use were established in order to determine the sensitivity of weeds in the winter wheat and winter triticale. The CHR/H/CFF 250 EC was tested at doses: 0.2 to 0.6 L/ha (50 – 150 g of active substances) in winter wheat and winter triticale for the control of dicot weeds. None of the tested weeds showed high tolerance to the product CHR/H/CFF 250 EC. Detailed studies on the weeds sensitivity are submitted and summarised in 3.2 Efficacy data (KCP 6).

3.3.6 Use pattern

Herbicide CHR/H/CFF 250 EC has demonstrated good crop tolerance to winter wheat and winter triticale. Therefore concluded that CHR/H/CFF 250 EC is safe usage at proposed rate and this support the label claim for the use in winter wheat and winter triticale.

Undesirable effects are not expected on succeeding crops, adjacent crop, part of plants used for propa-gating purposes and beneficial organisms.

Based on submitted data the following regulation on the label is proposed:
Winter wheat, winter triticale:
Recommended dose at:
CHR/H/CFF 250 EC 0.4-0.5 L/ha

The product CHR/H/CFF 250 EC should be use once per season at spring post – emergence. To avoid resistance, products contain active substance with the same group shouldn’t be used year after year on the same field.

CHR/H/CFF 250 EC is to be applied in spring:
BBCH 21- 32 in winter wheat, winter triticale

Recommended volume of water 200-300 L/ha (winter wheat, winter triticale)
Recommended medium droplet spraying

Use of CHR/H/CFF 250 EC according to the proposed GAP does not represent a hazard to rotational crops and does not justify a specific labelling. CHR/H/CFF 250 EC is not persistent in soil nor is it tak-en up by succeeding crops.

3.3.7 Resistance risk assessment of unrestricted use pattern

Not applicable

3.3.8 Test methods

Not applicable

3.3.9 Acceptability of the resistance risk

CHR/H/CFF 250 EC is a herbicide containing active substances: 120 g/L clopyralid, 10 g/L florasulam

and 120 g/L fluroxypyr, which belong to different HRAC groups (different mode of action). According to the Herbicide Resistance Action Committee (HRAC) clopyralid is included in HRAC Group 4 (O) – auxin mimics. According to Ian Heap's website (http://www.weedscience.org) there are only three species which have been reported as resistant to clopyralid: *Soliva sessilis, Chenopodium album* and *Centaurea stoebe* ssp. *Micranthos.* Florasulam as an acetolactate synthase (ALS) inhibitor herbicide (HRAC group: 2 Inhibition of ALS, Legacy: B), which the mode of action is the inhibition of the plant enzyme acetolactate synthase, it has been classified as a high resistance risk. According to the Herbicide Resistance Action Committee (HRAC) fluroxypyr is included in HRAC Group 4 (O) – auxin mimics. According to Ian Heap's website (http://www.weedscience.org) there are only four species which have been reported as resistant to fluroxypyr: *Galeopsis tetrahit, Kochia scoparia, Stellaria media* and *Galium aparine.*
According to submitted efficacy data none of the tested weeds showed high tolerance to the product CHR/H/CFF 250 EC.
CHR/H/CFF 250 EC is a herbicide containing active substances: 120 g/L clopyralid, 10 g/L florasulam and 120 g/L fluroxypyr, which belong to different HRAC groups (different mode of action). The mode of action involving a 'multi-site' action may indicate a lower risk to developing weeds resistance. Accroding to EPPO PP 1/213 (4) Resistance risk analysis weeds usually only produce one generation per year and development of resistance is usually a relatively slow process.
In conclusion, in the applicant's opinion, this level of weeds resistance risk should be considered to be acceptable.

3.3.10 Management strategy

Accroding to *Herbicide Resistance Action Committee (HRAC) (https://hracglobal.com/prevention-management/best-management-practices)*
Integrated Weed Management (IWM) refers to using chemical, cultural, mechanical and biological methods, in an integrated fashion, to control weeds. It does not rely excessively on any one method. When used in a integrated approach, the following tools help reduce selection pressure and survival of resistant weeds.

- Chemical - Applying herbicides to a crop.
- Mechanical - Includes measures such as hand-weeding using cultivation or ploughing to control emerged plants and bury non-germinated seed. It also includes harvest weed seed destruction such as stubble burning and cutting for hay or silage to prevent the weeds from setting seed.
- Cultural - Includes altering the crop planting date, row spacing and harvest timing to disrupt the weed cycle. It also includes planting crops that can out-compete weeds, buying certified seed that's free of weeds and using a diverse crop rotation. Growers should also sanitize farm equipment when moving between fields.
- Biological - Includes introducing insects and pathogens that control target weed species and introducing post-harvest grazing of growing weeds.

Using a diversified crop rotation allows farmers to use these different weed techniques. Avoid successive crops that use herbicides with the same mechanism of action to control the same weed species in the same field.
Guidelines for the sustainable use of herbicide site of action groups:
• Use mixtures or sequential treatments of herbicides having different sites of action. Each herbicide in the mixture should target the same weed species.
• Consider all chemical control options before planting, in-crop and after harvest.
• Avoid continued use of the same herbicides, or herbicides with the same site of action in the same field, unless integrated with other weed control practices.

• Limit the number of applications of a single herbicide or herbicides with the same site of action in a single growing season.
• Herbicide mixtures and herbicide rotations alone are not enough to prevent resistance. They must be used in a diversified plan than also incorporates mechanical, cultural and biological practices.
Growers should also do the following:
• Follow label use instructions, such as application rates, timing and equipment recommendations.
• Know the weeds in their fields and nearby non-crop areas and tailor their weed control program to weed densities and economic thresholds.
• Monitor herbicide results and be aware of any trends or changes in weed populations.
• Maintain detailed field records to confirm cropping and herbicide history.

3.3.11 Implementation of the management strategy

The herbicide label provides all the necessary information for preventing weed resistance to herbicides.

3.3.12 Monitoring, reporting and reaction to changes in performance

Accroding to https://hracglobal.com/files/Monitoring-and-Mitigation-of-Herbicide-Resistance.pdf
Managing the risk of herbicide resistance (HR) is an area of strategic importance for leading herbicide technology providers and is the focus of the Global Herbicide Resistance Action Committee (HRAC), an organization comprised of 8 major companies working as a part of Crop Life International. Early detection of HR, understanding the scope of HR in a defined area, and potential mitigation of resistance through efforts to limit its spread are important aspects of managing the risk of HR. Monitoring for HR populations has been employed by public and private weed scientists for both early detection and defining the scope of resistance. The primary methods used to monitor for resistance include:
1) field surveys where seed from putative resistant plants are collected and tested in a controlled environment using bioassay procedures,
2) market research surveys of farmers and weed management experts, and
3) tracking farmer performance inquiries with appropriate follow up field evaluation and testing.
The most common monitoring method is the use of field surveys designed to either qualitatively (i.e., determine whether the level of resistance is high, medium, or low) or quantitatively (i.e., determine the area infested with HR populations) define existing HR. The primary method to detect resistance in new species and in new geographies is to track farmer performance inquiries. Once resistance is detected, steps may be taken to mitigate its impact. A critical aspect to mitigation is the implementation of best management practices (BMPs) which is facilitated by effective education and training programs. Education efforts can be enhanced with information obtained from monitoring studies and early detection of resistant populations using appropriate monitoring methods can improve the outcome of mitigation efforts.

Comments of zRMS:	„Resistance” is defined as the naturally occurring, inheritable adjustment in the ability of individuals in a population to survive a plant protection product treatment that would normally give effective control. Resistance to crop protection chemicals is a common biological phenomenon that occurs in insects, fungi and weeds. It usually becomes evident after the repeated use of a particular pesticide selected the naturally occurring resistant biotypes allowing them to multiply over several seasons until they become an obvious problem. Although resistance can often be demonstrated in the laboratory this does not necessarily mean that pest control in the field is reduced. “Practical resistance” is the term used for loss of field control due to a shift in sensitivity (OEPP/EPPO, 1988).

The applicant has provided a resistance risk assessment according to the standard: EPPO PP1 PP 1/213 (4) resistance risk analysis.

Weeds are one of the most important reducing factors for crop yield reduction. Yield loss by weeds is reported to be higher than 30% in some cases depending on the different climatic conditions and management practices [Zand et al., 2003]. In particular, potential crop losses due to weeds are estimated to be 32% on average (range 26%–40%), exceeding potential losses due to pests (18%) and pathogens (15%) [Royal Society, 2009].

There are currently 533 unique cases of herbicide resistant weeds globally, with 273 species (156 dicots and 117 monocots). Weeds have evolved resistance to 21 of the 31 known herbicide sites of action and to 168 different herbicides. Herbicide resistant weeds have been reported in 101 crops in 72 countries. The website has 3313 registered users and 711 weed scientists have contributed new cases of herbicide resistant weeds. Resistance events have been reported in Europe for those three active substances and weed species target of Turango 250 EC / Hapi 250 EC (product code: CHR/H/CFF 250 EC).

- **Florasulam**

The applicant has correctly highlighted that florasulam belongs to HRAC group 2 (legacy B) – ALS inhibitors – Inhibition of acetolactate synthase and is part of the triazolopyrimidine chemical family. Inherent resistance risk for the active: high. There are many cases of resistance to ALS inhibitors.

The following table shows the current worldwide resistance cases specifically to the herbicide florasulam:

#	Year	Species	Country	MOAs	Actives	Situations
1	2014	*Papaver rhoeas*	Belgium	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B)	metsulfuron-methyl, florasulam	Wheat
2	2007	*Polygonum convolvulus (=Fallopia convolvulus)*	Canada (Alberta)	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B)	thifensulfuron-methyl, tribenuron-methyl, florasulam	Wheat, Peas
3	2002	*Amaranthus retroflexus*	Canada (Manitoba)	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B)	florasulam	Wheat
4	2019	*Lithospermum arvense*	China	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B)	imazethapyr, pyrithiobac-sodium, tribenuron-methyl, florasulam, pyroxsulam	Wheat
5	2021	*Tripleurospermum perforatum (=T. inodorum)*	Czech Republic	Inhibition of Acetolactate Synthase HRAC	tribenuron-methyl, florasulam	Wheat

					Group 2 (Legacy B)		
	6	1991	*Stellaria media*	Denmark	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B)	chlorsulfuron, tribenuron-methyl, florasulam, iodosulfuron-methyl-Na	Spring Barley, Wheat
	7	2001	*Alopecurus myo-suroides*	Denmark	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B), Inhibition of Acetyl CoA Carboxylase HRAC Group 1 (Legacy A), Inhibition of Microtubule Assembly HRAC Group 3 (Legacy K1)	clodinafop-propargyl, fenoxa-prop-ethyl, cy-cloxydim, flupyr-sulfuron-methyl-Na, pendimethalin, florasulam, iodosulfuron-methyl-Na, mesosulfuron-methyl, pyroxsulam	Winter wheat
	8	2003	*Papaver rhoeas*	Denmark	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B)	tribenuron-methyl, florasulam, iodosulfuron-methyl-Na	Wheat
	9	2010	*Tripleurospermum perforatum (=T. inodorum)*	Denmark	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B)	tribenuron-methyl, florasulam, iodosulfuron-methyl-Na	Spring Barley, Winter wheat
	10	2010	*Lolium perenne ssp. multiflorum*	Denmark	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B), Inhibition of Acetyl CoA Carboxylase HRAC Group 1 (Legacy A)	clodinafop-propargyl, florasu-lam, iodosulfuron-methyl-Na, mesosulfuron-methyl, pyroxsulam	Winter wheat
	11	2012	*Capsella bursa-pastoris*	Denmark	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B)	tribenuron-methyl, florasulam	Spring Barley
	12	2016	*Apera spica-venti*	Denmark	Inhibition of Acetolactate	fenoxaprop-ethyl, florasulam,	Wheat

					Synthase HRAC Group 2 (Legacy B), Inhibition of Acetyl CoA Carboxylase HRAC Group 1 (Legacy A)	iodosulfuron-methyl-Na, mesosulfuron-methyl, pinoxaden	
	13	2009	*Senecio vulgaris*	France	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B)	tribenuron-methyl, prosulfuron, metsulfuron-methyl, flazasulfuron, imazamox, florasulam, iodosulfuron-methyl-Na, mesosulfuron-methyl, thiencarbazone-methyl	Grapes, Wheat
	14	2012	*Stellaria media*	France	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B)	thifensulfuron-methyl, metsulfuron-methyl, florasulam, iodosulfuron-methyl-Na, mesosulfuron-methyl	Wheat
	15	2017	*Rumex obtusifolius*	France	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B)	thifensulfuron-methyl, metsulfuron-methyl, florasulam	Wheat
	16	2005	*Apera spica-venti*	Germany	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B)	sulfosulfuron, chlorsulfuron, flupyrsulfuron-methyl-Na, sulfometuron-methyl, florasulam, iodosulfuron-methyl-Na, mesosulfuron-methyl, pyroxsulam	Wheat
	17	2011	*Stellaria media*	Germany	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B)	thifensulfuron-methyl, amidosulfuron, triflusulfuron-methyl, tribenuron-methyl, nicosulfuron, imazamox, florasulam, iodosulfuron-methyl-Na, tritosulfuron, mesosulfuron-methyl, pyroxsulam	Spring Barley, Wheat, Rapeseed
	18	2012	*Papaver rhoeas*	Germany	Inhibition of Acetolactate Synthase HRAC	imazamox, florasulam	Cereals, Rapeseed

					Group 2 (Legacy B)		
	19	2017	*Anthriscus caucalis*	Germany	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B)	thifensulfuron-methyl, tribenuron-methyl, metsulfuron-methyl, florasulam	Winter wheat
	20	1998	*Papaver rhoeas*	Greece	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B)	pyrithiobac-sodium, thifensulfuron-methyl, chlorsulfuron, tribenuron-methyl, triasulfuron, imazamox, florasulam	Winter wheat
	21	2021	*Glebionis segetum*	Greece	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B)	tribenuron-methyl, imazamox, florasulam, pyroxsulam	Wheat, Winter barley
	22	2022	*Galium spurium*	Greece	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B)	bensulfuron-methyl, metsulfuron-methyl, florasulam, pyroxsulam	Wheat
	23	2014	*Rumex dentatus*	India	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B)	florasulam, iodosulfuron-methyl-Na, mesosulfuron-methyl, pyroxsulam	Wheat
	24	2010	*Rapistrum rugosum*	Iran	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B)	bispyribac-sodium, tribenuron-methyl, florasulam, flucarbazone-Na	Winter wheat
	25	2007	*Lolium rigidum*	Israel	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B), Inhibition of Acetyl CoA Carboxylase HRAC Group 1 (Legacy A), Inhibition of Enolpyruvyl Shikimate Phosphate Synthase HRAC Group 9	clodinafop-propargyl, imazapyr, chlorsulfuron, tribenuron-methyl, sulfometuron-methyl, flumetsulam, metosulam, glyphosate, florasulam, iodosulfuron-methyl-Na, mesosulfuron-methyl, pinoxaden, propoxycarbazone-Na	Wheat

					(Legacy G)		
	26	2012	*Diplotaxis eru-coides*	Israel	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B)	imazethapyr, tribe-nuron-methyl, flumetsulam, ima-zamox, florasulam	Wheat
	27	2012	*Erucaria hispanica*	Israel	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B)	tribenuron-methyl, flumetsulam, flo-rasulam	Wheat
	28	1998	*Papaver rhoeas*	Italy	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B)	tribenuron-methyl, florasulam, iodosulfuron-methyl-Na	Durum wheat
	29	2006	*Sinapis arvensis*	Italy	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B)	tribenuron-methyl, florasulam, iodosulfuron-methyl-Na	Durum wheat
	30	2010	*Alopecurus myo-suroides*	Netherlands	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B)	florasulam, iodo-sulfuron-methyl-Na, mesosulfuron-methyl, pyroxsulam	Winter wheat
	31	2006	*Spergula arvensis*	Norway	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B)	tribenuron-methyl, florasulam	Winter wheat, Winter barley
	32	1995	*Stellaria media*	Sweden	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B)	chlorsulfuron, tribenuron-methyl, florasulam	Spring Barley, Spring wheat, Winter wheat
	33	2014	*Matricaria recuti-ta (= M. chamo-milla)*	Sweden	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B)	tribenuron-methyl, florasulam	Wheat
	34	2015	*Tripleurospermum perforatum (=T. inodorum)*	Sweden	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B)	tribenuron-methyl, florasulam	Wheat
	35	2020	*Amaranthus*	Ukraine	Inhibition of	imazethapyr, thif-	Corn

		retroflexus		Acetolactate Synthase HRAC Group 2 (Legacy B)	ensulfuron-methyl, tribenuron-methyl, flumetsulam, imazamox, florasulam, iodosulfuron-methyl-Na, foramsulfuron, thiencarbazone-methyl	(maize), Sunflower
36	2022	Chenopodium album	Ukraine	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B)	thifensulfuron-methyl, tribenuron-methyl, flumetsulam, imazamox, florasulam, iodosulfuron-methyl-Na, thiencarbazone-methyl	Corn (maize), Soybean, Wheat, Sunflower
37	2000	Stellaria media	United Kingdom	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B)	metsulfuron-methyl, florasulam	Cereals

The table above highlights the cross resistance within ALS inhibiting herbicides, as in most cases where there is florasulam resistance there is also resistance to other ALS inhibitors.

Florasulam: high resistance risk. Globally, herbicide resistance to the Group 2 herbicide mode of action has been confirmed and documented in more than 170 grass and broadleaf weed species across more than 40 countries. Resistance to Group 2 is extensive and prolific, with tens of millions of hectares affected, in fact it is the most likely herbicide mode of action to develop resistance.

Research has shown that as few as four applications to the same population of annual ryegrass can result in the selection of resistant individuals and as few as six applications for wild radish. A population can go from an apparently small number of resistant individuals to a whole paddock failure in one season. Group 2 herbicides are presently the only post emergent herbicides that provide effective control of these grass weeds and this poses a severe risk of Group 2 resistance for growers with cereal dominant rotations.

- **Clopyralid**

Clopyralid belongs to the pyridine carboxylic acids group. Applied post-emergence, clopyralid is effective on a broad spectrum of broad-leaved weeds.

Clopyralid is rapidly degraded in soil (DT_{50} = 34 days) thus a prolonged exposure to weed populations does not occur which is a factor which decreases the re-sistance risk.

The probability of development of resistance or cross-resistance of weeds to clopyralis is considered as low. The evaluation of the agronomic risk concludes that clopyralid bears a low risk of resistance.

Plant protection products containing clopyralid are used from many years and no information’s concerning weed resistance for this active substance was noted. However, the information on possible development of resistance or cross-resistance is provided by scientific literature from many different countries and describes different weed species. Product should be used in rates neither lower nor higher than recommended in the label due to prevent resistance development.

According to weedscience.org, 4 cases of resistance were reported.

#	Year	Species	Country	MOAs	Actives	Situations
1	2013	*Centaurea stoebe ssp. micranthos*	Canada (British Columbia)	Auxin Mimics HRAC Group 4 (Legacy O)	clopyralid, picloram	Rangeland
2	1999	*Soliva sessilis*	New Zealand	Auxin Mimics HRAC Group 4 (Legacy O)	clopyralid, picloram, triclopyr	Golf courses, Turf
3	2005	*Chenopodium album*	New Zealand	Auxin Mimics HRAC Group 4 (Legacy O)	dicamba, clopyralid, aminopyralid	Corn (maize)
4	2022	*Ambrosia artemisiifolia*	United States (Michigan)	Auxin Mimics HRAC Group 4 (Legacy O)	clopyralid	Christmas Tree

- **Fluroxypyr**

According to the Herbicide Resistance Action Committee (HRAC) fluroxypyr is included in HRAC Group 4 (O) – auxin mimics.

Fluroxypyr is a very effective in controlling a wide range of broadleaf weeds and woody brush making it excellent for controlling weed problems on croplands and pastures as well as rights of way and industrial sights. It is also a selective herbicide meaning it will only harm target weeds and cause little to no effect on non-target desired vegetation.

Fluroxypyr (4-amino-3, 5-dichloro-6-fluoro-2-pyridyloxyacetic acid) is originally applied in cereal, olive tree, and fallow cropland fields, to control annual or perennial weeds (Hellou et al., 2009). These herbicides cause auxin overdose or excessive endogenous auxin concentrations, thereby resulting in an imbalance of auxin homeostasis and interaction with other hormones in tissues, which ultimately cause the succeeding series of biochemical and physiological processes associated with herbicide action (Grossmann, 2010). Liu (2014) demonstrated that the label fluroxypyr dose can be used in maize (Zea mays) and winter wheat (Triticum aestivum) fields, and has desirable control effects on broadleaf weeds.

#	Year	Species	Country	MOAs	Actives	Situations
1	1998	*Galeopsis tetrahit*	Canada (Alberta)	Auxin Mimics HRAC Group 4 (Legacy O)	dicamba, MCPA, fluroxypyr	Spring Barley, Cereals, Cropland, Wheat
2	2015	*Kochia scoparia*	Canada (Saskatchewan)	Auxin Mimics HRAC Group 4 (Legacy O), Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B)	thifensulfuron-methyl, tribenuron-methyl, dicamba, fluroxypyr	Spring wheat

3	2010	*Stellaria media*	China	Auxin Mimics HRAC Group 4 (Legacy O)	MCPA, fluroxypyr	Winter wheat
4	2014	*Galium aparine*	China	Auxin Mimics HRAC Group 4 (Legacy O)	fluroxypyr	Wheat
5	2013	*Kochia scoparia*	United States (Kansas)	Auxin Mimics HRAC Group 4 (Legacy O), Inhibition of Enolpyruvyl Shikimate Phosphate Synthase HRAC Group 9 (Legacy G)	glyphosate, dicamba, fluroxypyr	Corn (maize), Sorghum
6	1994	*Kochia scoparia*	United States (Montana)	Auxin Mimics HRAC Group 4 (Legacy O)	dicamba, fluroxypyr	Cropland, Wheat

The probability of development of resistance or cross-resistance of weeds to fluroxypyr in EU in PL is considered as low. The evaluation of the agronomic risk concludes that fluroxypyr bears a low risk of resistance in the EU.

Herbicide resistance has caused serious problems in weed control programs. Many researchers do not advise continuous applications of one herbicide or even a limited number of herbicides [Beckie et al., 2009]. Therefore, control of weeds should be based on a combination of several agronomic and cultural practices along with chemical solutions. One of the best alternative tactics to inhibit evolution of herbicide-resistant weeds is the rotational application of herbicides with different modes of action and the use of herbicide mixtures [Travlos et al., 2012].

Florasulam inhibits proto-porphyrinogen oxidase (PPO protox) and is used for broadleaf weed control. Florasulam inhibits the production of the ALS enzyme in plants. This enzyme is essential for the production of certain amino acids which are essential for plant growth. **Fluroxypyr** 1-methylheptyl ester will hydrolyse during penetration to form fluroxypyr-acid which acts as an auxin like herbicide causing rapid cell growth within the plant. Once absorbed fluroxypyr acid moves readily through the plant via both the xylem and phloem and is distributed throughout the entire plant to the meristems and other developing parts. In susceptible plant species fluroxypyr induces an epinastic response (ie stimulation of cell elongation and premature senescence, particularly in meristematic tissue) leading to cessation of normal growth and rapid necrosis followed by plant death. **Clopyralid** is an “auxin mimic” or synthetic auxin. This type of herbicide kills the target weed by mimicking the plant growth hormone auxin (indole acetic acid), and when administered at effective doses, cause uncontrolled and disorganized plant growth that leads to plant death. Taking into account that the use of different modes of action may enhance efficacy and increase the weed control spectrum, there is a clear need for evaluation of several new herbicide mixtures against serious weeds. Such a new tank mixture herbicide on the Polish market will be Turango 250 EC / Hapi 250 EC (product code: CHR/H/CFF 250 EC). Use of anti-resistant strategies is one of these principles and certainly, mixtures of herbicides can reduce the costs, lower the selection pressure, and prevent or delay herbicide-resistance issues especially when combined with several agronomic practices.

In the opinion of ZRMs due to the different mode of action of active substances: florasulam, fluroxypyr and clopyralid, the occurrence of resistance to this herbicide is low to medium.

The resistance strategy proposed by the Applicant was accepted by the ZRMs.

	Resistance management strategy for Turango 250 EC / Hapi 250 EC: To minimise the risk of weeds developing resistance to herbicides, follow good agricultural practice: • follow the instructions on the plant protection product label - apply the product at the recommended rate, at the recommended time to ensure optimum weed control, • tailor the choice of herbicide and the decision to treat to the prevailing (or potential) weed infestation, taking into account the dominant species and damage thresholds, • use a rotation of herbicides (active ingredients) with different modes of action, • use a mixture of herbicides (active substances) with different modes of action, • use a rotation and/or mixture of herbicides acting on several weed life processes (with different modes of action), • apply a herbicide with a given mode of action only once per crop growing season, • adapt tillage to field conditions, especially to the type and severity of weeds, • use a variety of weed control methods, including crop rotation, etc, • use certified seeds, • clean agricultural machinery to prevent the spread of weed propagating material to other sites, • report unsatisfactory weed control to the licence holder, • for more information, contact your adviser, the licensee or the licensee's representative. **The abidance of the requirements within the good agricultural practice is necessary. The resistance management is coordinated by HRAC recommendations. Applying the anti-resistance use recommendations, development of resistance can be considerably decreased or avoided. The restriction should be put on the label.**

3.4 Adverse effects on treated crops (KCP 6.4)

Information on trials submitted (3.4: Adverse effects on treated crops)

Table 3.4-1: Presentation of trials selectivity trials.

Crop*	Country	Type of trial**	Number of trials North-East Zone	Years	GEP, non-GEP, official***	Comments (any other relevant information)
winter wheat	Poland	S + Y + Q	4	2020	GEP	-
		S + Y + Q	4	2021	GEP	-
winter triticale	Poland	S + Y + Q	3	2020	GEP	-
		S + Y + Q	3	2021	GEP	-
TOTAL	-	-	**14**	**2020-2021**	-	-

* 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 organisatio

Table 3.4-2: Presentation of reference standards used in selectivity trials.

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)	
Winter wheat	Major 300 SL	Poland	R-237/2017	clopyralid	SL – Soluble concentrate	300 g/L	0.3-0.4 L/ha	0.4 L/ha and 0.8 L/ha	-
	Starane 333 EC	Poland	R-23/2016 wu	fluroxypyr	EC – Emulsifiable concentrate	333 g/L	0.54 L/ha	0.54 L/ha and 1.08 L/ha	-
	Rassel 100 SC	Poland	R-70/2019	florasulam	SC – Suspension concentrate	100 g/L	0.05 L/ha	0.05 L/ha and 0.10 L/ha	-
winter triticale	Starane 333 EC	Poland	R-23/2016 wu	fluroxypyr	EC – Emulsifiable concentrate	333 g/L	0.54 L/ha	0.54 L/ha and 1.08 L/ha	-
	Rassel 100 SC	Poland	R-70/2019	florasulam	SC – Suspension concentrate	100 g/L	0.05 L/ha	0.05 L/ha and 1.00 L/ha	-

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

3.4.1 Phytotoxicity to host crop (KCP 6.4.1)

Materials and methods
The applicant submitted 14 reports (in total) showing the results in research into product selectivity carried out in 2020 and 2021 in winter wheat (8 trials) and winter triticale (6 trials). List of these reports is contained in Appendix 1.

Site
Trials were conducted in different regions in Poland where winter wheat and winter triticale are grown commercially. The experiment was established on a set of complete randomized blocks in 4 replications. Details on trial sites, applications and data on effectiveness are included in Appendix 4 and 5.

Testing units
Efficacy studies on herbicide CHR/H/CFF 250 EC were performed in 2020 and 2021 by:
- SynTech Research Poland Sp. z o.o., ul. Jagiellońska 69/1, 85-027 Bydgoszcz, Poland
- A.T Sp. z o.o., ul. Przemysłowa 3, 88-300 Mogilno, Poland
- Poznań University of Life Sciences, Research and Education Center Gorzyń, ul. Wojska Polskiego 28, 60-637 Poznań; Poland

Experimental details
The efficacy trials were designed, conducted and reported according to the following EPPO guidelines:

- PP 1/135 (3) Phytotoxicity assessment
- PP 1/152 (3) Design and analysis of efficacy evaluation trials
- PP 1/181 (3) Conduct and reporting of efficacy evaluation trials including good experimental practice

They were carried out on the field in the conditions of natural agrofag infestation. The efficacy trials were concluded according to the EPPO standards:
- PP 1/93 (3) Weeds in cereals

Assessment methods

Statistical Analysis

Statistical analysis of the results were calculated out with the use of statistic pack of ARM 9.0. the trial results were statistically analyzed using Student & Newman & Kelus Test (p=0,05).
The treatment means of the assessment dates were calculated and compared using Student-Newman-Keuls test (P=0.05). The statistical procedures were applied using ARM 2020.1 software.
The test results were statistically evaluated using the ARM 2020.1 statistical program. All assessment data was analyzed by analysis of variance (two-way analysis of variance). The significance of differences between the combinations was assessed with the Student-Newman-Keuls test, at the significance level p = 0.05 using the "ARM 10" (version 2020.1).
Software for analysis of the results was ARM Revision 2017.4 from Gylling Data Management. Data were analysed using analysis of variance (ANOVA) on untransformed data and on transformed ones when the Bartlett's test indicated so. If transformation did not improve the distribution, original values were used and therefore significant differences reported should be interpreted with caution. The probability of no significant differences occurring between treatment means was calculated as the F probability value (Treatment Prob(F)). Student-Newman-Keuls (S-N-K) tests were applied when treatment differences were identified on the basis of the ANOVA test. Mean comparison performed only when AOV Treatment P(F) is significant at level selected. Results obtained where indicated by a letter-treatment means with no letters in common are significantly different in accordance with a S-N-K conducted at a 95% confidence level. Where data have been transformed, letters are included in the transformed data.
Statistical analysis of the results were calculated out with the use of statistic pack of ARM 9.0. the trial results were statistically analyzed using Student & Newman & Kelus Test (p=0,05).

Assessment of phytotoxicity

Phytotoxicity of whole symptoms of injuries observed on the crop plants. Recording all the symptoms of possible phytotoxic effect of tested product, mainly: changes in the growth (plant height, tillering, dates of succeeding growth stages), thinning out of plants, discolorations (without destruction of plant tissue), necroses, deformations, yield quantity and quality. The occurrence and intensity of outside symptoms of crop damages were determined using 0-100 % scale (0 % = no damage; 100 % = total plant destruction).
Phytotoxicity (chlorosis and necrosis), stunting and thinning were assessed by visual estimation of the intensity on an overall plot basis on a percentage scale 0-100 % (0=no damage). The assessment date was determined by the speed of action and period of efficacy of the test substances.
The phytotoxicity assessment of the tested product was carried out by visually assessing the intensity of chlorosis, necrosis, leaf twisting, reduction of plant turgor, etc. on the surface of the entire plots and comparing each plot with the control plot. The assessment was made directly on the plantation. The results are presented on a 0-100 scale, where 0 - no phytotoxicity, 100 - complete destruction of plants. Viability rating was done visually on a 0-100% scale where 0% = no crop and 100% = most viable plot in each replicate (at least one plot in each replication must be scored 100).

Harvest

The crop was harvested with a combine harvester from the central part of each plot.
Sample for each plots was analyzed on the grain analyzer: Aquamatic 5200 Perten; Inframatic 8800.
A plot combine for intermixing-free grain-harvest in field trials was used for harvesting the centre of the plot. The total yield is given in unit/ha adjusted to a fixed moisture content.

Applications methods and rates

The applications were carried out by a T-BOOM – BACCAI, plot sprayer – BACSPR, plot sprayer BICSPR in cereals.
Tested herbicide was applied at the growth stage:
BBCH 21-32 in winter wheat and winter triticale.
The product CHR/H/CFF 250 EC has been used:
in winter wheat and winter triticale at the following rates of 0.6, 1.2 L/ha.
Major 300 SL, Starane 333 EC and Rassel 100 SC were used as a reference products in winter wheat. Starane 333 EC and Rassel 100 SC were used as a reference products in winter triticale.
The experiment was established on a set of complete randomized blocks in 4 replications.

Experiment pattern:

Winter wheat

No.	Name	Rate (L/ha)	other rate (g a.s./ha)	Appl code	Growth Stage BBCH
1	Untreated Check				
2	CHR/H/CFF 250 EC	0.6 L/ha	150 g a.s./ha	A	BBCH 21-32
3	CHR/H/CFF 250 EC	1.2 L/ha	300 g a.s./ha	A	BBCH 21-32
4	Major 300 SL	0.4 L/ha	120 g a.s./ha	A	BBCH 21-32
5	Major 300 SL	0.8 L/ha	240 g a.s./ha	A	BBCH 21-32
6	Starane 333 EC	0.54 L/ha	179.82 g a.s./ha	A	BBCH 21-32
7	Starane 333 EC	1.08 L/ha	359.82 g a.s./ha	A	BBCH 21-32
8	Rassel 100 SC	0.05 L/ha	5 g a.s./ha	A	BBCH 21-32
9	Rassel 100 SC	0.1 L/ha	10 g a.s./ha	A	BBCH 21-32

Winter triticale

No.	Name	Rate (L/ha)	other rate (g a.s./ha)	Appl code	Growth Stage BBCH
1	Untreated Check				
2	CHR/H/CFF 250 EC	0.6 L/ha	150 g a.s./ha	A	BBCH 21-32
3	CHR/H/CFF 250 EC	1.2 L/ha	300 g a.s./ha	A	BBCH 21-32
4	Starane 333 EC	0.54 L/ha	179.82 g a.s./ha	A	BBCH 21-32
5	Starane 333 EC	1.08 L/ha	359.82 g a.s./ha	A	BBCH 21-32
6	Rassel 100 SC	0.05 L/ha	5 g a.s./ha	A	BBCH 21-32
7	Rassel 100 SC	0.1 L/ha	10 g a.s./ha	A	BBCH 21-32

Details of experiments

Winter wheat

Report code	A.T/2020/044/PO	A.T/2020/045/PO	A.T/2020/046/PO	A.T/2020/047/PO	A.T/2021/031/PO	AH/21/PO/5/Br/1	AH/21/PO/5/Gr/2	SRPL21-417-336HE
Location	Szapsk /Poland	Doręgowice /Poland	Góra /Poland	Sitowiec /Poland	Modrze /Poland	Brody /Poland	Gorzyń /Poland	Tomaryny /Poland
Plant /cultivar	winter wheat/ Rotax	winter wheat/ Julius	winter wheat/ Hondia	winter wheat/ Arkadia	winter wheat/ Linus	winter wheat/ Tonacja	winter wheat/ Jantarka	winter wheat/ Findus
Seeding date	28.10.2019	20.09.2019	23.09.2019	17.09.2019	01.10.2020	23.09.2020	15.10.2020	22.09.2020
Seeding rate	200 kg/ha	175 kg/ha	125 kg/ha	200 kg/ha	175 kg/ha	260 kg/ha	176 kg/ha	180 kg/ha
Forecrop	sugar beet	winter oilseed rape	winter triticale	winter oilseed rape	sugar beet	winter oilseed rape	leguminous plants	winter oilseed rape
Type of sprayer	BACCAI	BACCAI	BACCAI	BACCAI	BACCAI	BICCAI	BICCAI	BACCAI
Date of treat-ment	28.03.2020	28.03.2020	19.03.2020	06.04.2020	31.03.2021	13.04.2021	13.04.2021	12.04.2021
Plant deve-lopment phase	BBCH 26-30	BBCH 31-32	BBCH 29-32	BBCH 31-32	BBCH 23-28	BBCH 21-23	BBCH 23	BBCH 21-23
Soil type	loamy sand	loamy sand	loamy sand	sandy loam	sandy loam	sandy loam	sandy loam	silt loam
pH	5.2	6.2	5.9	5.2	6.2	5.6	6.4	6.5
Water (L/ha)	200 L/ha	200 L/ha	200 L/ha	300 L/ha	200 L/ha	230 L/ha	200 L/ha	200 L/ha

Winter triticale

Report code	A.T/2020/048/PŻO	A.T/2020/049/PŻO	A.T/2020/050/PŻO	A.T/2021/032/PŻO	AH/21/PszO/5/Br/1	SRPL21-416-336HE
Location	Lusowo /Poland	Sławęcin /Poland	Wilkowo /Poland	Stare Młodochowo /Poland	Brody /Poland	Murczyn /Poland
Plant /cultivar	winter triticale/ Kasyno	winter triticale/ Orinoko	winter triticale/ Porto	winter triticale/ Rotondo	winter triticale/ Twingo	winter triticale/ Toledo
Seeding date	30.09.2019	25.09.2019	15.09.2019	30.10.2020	23.09.2020	19.09.2020
Seeding rate	200 kg/ha	180 kg/ha	140 kg/ha	200 kg/ha	180 kg/ha	160 kg/ha
Forecrop	winter wheat	spring barley	winter rye	maize	spring wheat	winter barley
Type of sprayer	BACCAI	BACCAI	BACCAI	BACCAI	BICCAI	BACCAI
Date of treatment	19.03.2020	06.04.2020	08.04.2020	11.04.2021	13.04.2021	21.04.2021
Plant development phase	BBCH 27-30	BBCH 30-32	BBCH 30-31	BBCH 21-24	BBCH 21-24	BBCH 22-23
Soil type	sandy loam	sandy loam	loamy sand	loamy sand	sandy loam	sandy clay loam
pH	6.8	5.4	5.2	6.6	5.8	6.3
Water (L/ha)	300 L/ha	200 L/ha	200 L/ha	300 L/ha	230 L/ha	300 L/ha

Details of agricultural measures, fertilization, and other plant protection products applied during the experiments are included in detailed field study reports listed above.

Summary of the data from effectiveness trials can be found at Appendix 5.

Table 3.4-3: Phytotoxicity of product

Winter wheat and winter triticale post emergence application 14 selectivity trials and 18 efficacy trials (with phytotoxicity assessment) were carried out on winter wheat in Poland in 2020 and 2021 on a wide range of commercially grown varieties.

Winter wheat

The eight selectivity trials and eleven efficacy trials (with phytotoxicity assessment) were carried out on winter wheat in Poland in two seasons 2020 and 2021 on a wide range of commercially grown varieties. In two selectivity trials (report no A.T/2020/046/PO and SRPL21-417-336HE) there were observed some phytotoxicity symptoms on tested product and standard. Phytotoxicity have no impact on yield quality and quantity.

Number of trials with		**Selectivity trials (8)**								**Efficacy trials (11)**			
		CHR/H/CFF 250 EC		**Major 300 SL**		**Starane 333 EC**		**Rassel 100 SC**		**CHR/H/ CFF 250 EC**	**Major 300 SL**	**Starane 333 EC**	**Rassel 100 SC**
		1.2N	**2.4N (or other)**	**N**	**2N (or other)**	**N**	**2N (or other)**	**N**	**2N (or other)**	**N**	**N**	**N**	**N**
Maximum of phytotoxicity recorded during the trials	0% to 5%	1 with <5% and rest trials with 0%	2 with <5% and rest trials with 0%	0 with <5% and rest trials with 0%	0 with <5% and rest trials with 0%	1 with <5% and rest trials with 0%	1 with <5% and rest trials with 0%	0 with <5% and rest trials with 0%	0 with <5% and rest trials with 0%	~~n/a~~ 11	~~n/a~~ all trials	~~n/a~~ all trials	~~n/a~~ all trials
	>5% to 10%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	>10% to 15%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	>15 %	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Level of symptoms at the last assessments	0% to 5%	~~n/a~~ 8	~~n/a~~ 8	~~n/a~~ all trials	~~n/a~~ all trials	~~n/a~~ all trials	~~n/a~~ all trials	~~n/a~~ all trials	~~n/a~~ all trials	~~n/a~~ 11	~~n/a~~ all trials	~~n/a~~ all trials	~~n/a~~ all trials
	>5% to 10%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	>10% to 15%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	>15 %	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Winter triticale

The six selectivity trials and seven efficacy trials (with phytotoxicity assessment) were carried out on winter triticale in Poland in two seasons 2020 and 2021 on a wide range of commercially grown varieties. There were not observed any phytotoxicity symptoms on tested product and standard.

Number of trials with		**Selectivity trials (6)**						**Efficacy trials (7)**		
		CHR/H/CFF 250 EC		**Starane 333 EC**		**Rassel 100 SC**		**CHR/H /CFF 250 EC**	**Starane 333 EC**	**Rassel 100 SC**
		1.2N	**2.4N (or other)**	**N**	**2N (or other)**	**N**	**2N (or other)**	**N**	**N**	**N**
Maximum of phytotoxicity recorded during the trials	0% to 5%	~~n/a~~ 6	~~n/a~~ 6	~~n/a~~ all trials	~~n/a~~ all trials	~~n/a~~ all trials	~~n/a~~ all trials	~~n/a~~ 7	~~n/a~~ all trials	~~n/a~~ all trials
	>5% to 10%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	>10% to 15%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	>15 %	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Level of symptoms at the last assessments	0% to 5%	~~n/a~~ 6	~~n/a~~ 6	~~n/a~~ all trials	~~n/a~~ all trials	~~n/a~~ all trials	~~n/a~~ all trials	~~n/a~~ 7	~~n/a~~ all trials	~~n/a~~ all trials
	>5% to 10%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	>10% to 15%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	>15 %	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Comments of zRMS:	In the evaluation process the fact that the active ingredients – florasulam, fluroxypyr and clopyralid are used in many plant protection products and has been commonly used in crop protection were taken into consideration by Evaluator. However, in Poland – no PPP with all of those a.s. is already registered. Turango 250 EC / Hapi 250 EC (product code: CHR/H/CFF 250 EC) will be the first on the Polish market with this composition. The Applicant submitted in total 14 selectivity studies carried out on winter cereals (wheat and triticale). Winter wheat was studied in 8 selectivity trials carried out in two growing seasons 2020 (4 trials) and 2021 (4 trials) in Poland. Winter triticale was studied in 6 selectivity trials carried out in 2020 (3 trials) and 2021 (3 trials) in PL. Trials were conducted in line to appropriate EPPO standards. Different varietes were studied during selectivity trials: winter wheat (Rotax, Julius, Hondia, Arkadia, Linus, Tonacja, Jantarka, Findus) and winter triticale (Kasyno, Orinoko, Porto, Rotondo, Twingo, Toledo). Following provinces were studied: kujawsko-pomorskie (7 trials), wielkopolskie (5 trials), mazowieckie (1 trial), warmińsko-mazurskie (1 trial). Valid plot area was used: 15 – 25 m^2 (25m^2-1 trial; 24m^2-1 trial; 23,75m^2-1 trial; 21,25m^2-1 trial; 21m^2-1 trail; 20 m^2 – 4 trials; 18m^2-2 trial; 17,5m^2-2 trials; 15m^2-1 trial). Crop stage at application: BBCH 21-32. Water volume studied: 200-300 L/ha (200 L/ha – 8 trials; 230 L/ha – 3 trials; 300 L/ha -3 trials). The selectivity evaluation of the herbicide is to be performed according to listed below EPPO guidelines. The evaluation of herbicide selectivity was carried out 4-5 per season. Results were described in percent of destruction of plant for herbicides treatment compared to plant for untreated, where 0% means no phytotoxicity and 100% - complete destruction. Phytotoxicity assessment was carried out with the use of different cultivars (commercially grown varieties). N dose (0.5 L/ha) was not studied during selectivity trials. In all trials only 1.2 N dose (0.6 L/ha) and 2.4 N dose (1.2 L/ha) was studied. St. Reference products were used at N dose nad 2 N dose. In the opinion of ZRMs, studied higher than N dose should been accepted. No phytotoxicity symptom caused by Turango 250 EC / Hapi 250 EC (product code: CHR/H/CFF 250 EC) was observed in most selectivity studies. Only in two trials (A.T/2020/046/PO and SRPL21-417-336HE) carried out on winter wheat some phytotoxicity symptoms on tested product and standard were observed. Phytotoxicity have no impact on yield quality and quantity. **Report A.T/2020/046/PO (Variety: Hondia)** In the trial the tested herbicides were applied in the BBCH 30 phase of winter wheat. During the assessment: A2 (22 DAA A) on some of the tested objects the occurrence of phytotoxicity on wheat plants manifested by delicate leaf brightening (chlorosis) PHYCHL was noted. The highest intensity of the observed

	damage symptoms was recorded on the objects: • with the reference preparation Starane 333 EC applied in double dose (1,08 l/ha) - combination No. 7: PHYGEN = 4,8%, PHYCHL = 4,8% • with the test preparation CHR/H/CFF 250 EC applied in double dose (1,2 l/ha) - combination No. 3: PHYGEN = 3,8%, PHYCHL = 3,8% • with the reference preparation Starane 333 EC applied in standard dose (0,54 l/ha) - combination No. 6: PHYGEN = 1,5%, PHYCHL = 1,5% • with the test preparation CHR/H/CFF 250 EC applied in standard dose (0,6 l/ha) - combination No. 2: PHYGEN = 1,3%, PHYCHL = 1,3% The phytotoxicity symptoms noted on the tested objects, however, were slight and transient. During the assessments A3 (36 DAA A) and A4 (49 DAA A) both the tested preparation CHR/H/CFF 250 EC as well as the reference preparations Major 300 SL, Starane 333 EC and Rassel 100 SC, used in basic and doubled doses, did not show phytotoxic effects on winter wheat. **Report SRPL21-417-336HE (variety: Findus)** During the examination of the CHR / H / CFF 250 EC preparation tested at various doses, symptoms of chlorosis were observed at 14.22 DAA for a dose of 1.2 l / ha - 1-3%, hence it can be concluded that the tested preparation is not fully selective for winter wheat. In the case of reference products, as for the dose of 0.6 l / ha CHR / H / CFF 250 EC, no negative effects on the crop were observed. Phytotoxicity of recommended doses: 0.4 L/ha and 0.5 L/ha was studied during 18 efficacy trials (11 trials – winter wheat and 7 trials – winter triticale). No negative effect of CHR/H/CFF 250 EC was observed during those trials. **In the opinion of ZRMs it can be concluded that Turango 250 EC/ Hapi 250 EC is safe for use on winter wheat and winter triticale at recommended dose. Hovewer, according to the ZRMs, the following information will be required on the product label: *Transient symptoms of phytotoxicity not affecting yield or quality may occur after application of the product on some winter wheat varieties (e.g. Findus, Hondia).***

3.4.2 Effect on the yield of treated plants or plant product (KCP 6.4.2)

Influence of CHR/H/CFF 250 EC on the yield of grains was evaluated in selectivity research. The yield was evaluated on the basis of harvested grains quantity from one hectare (t/ha). The influence of the tested product on quantity of grain was evaluated in 14 field experiments in winter wheat 8 trials and winter triticale 6 trials in Poland in 2020 and 2021. There weren't difference between the treatment objects and standard.
In 2 trials in winter wheat there were phytotoxicity effects report no. A.T/2020/046/PO and SRPL21-417-336HE. This effects didn't have any negative effect on the yield of winter wheat.

Winter wheat

table 3.4.2.1-1 The influence of the CHR/H/CFF 250 EC on yield quantity [t/ha]

Crop code			**winter wheat yield t/ha**										
Report code			**A.T/2020/044/PO**	**A.T/2020/045/PO**	**A.T/2020/046/PO**	**A.T/2020/047/PO**	**A.T/2021/031/PO**	**AH/21/PO/5/Br/1**	**AH/21/PO/5/Gr/2**	**SRPL21-417-336HE**			
Application date			28.03.2020	28.03.2020	19.03.2020	06.04.2020	31.03.2021	13.04.2021	13.04.2021	12.04.2021			
Crop stage in application			BBCH 26-30	BBCH 31-32	BBCH 29-32	BBCH 31-32	BBCH 23-28	BBCH 21-23	BBCH 23	BBCH 21-23			
Assessment date			07.08.2020	06.08.2020	24.07.2020	08.08.2020	02.08.2021	24.07.2021	22.07.2021	03.08.2021			
Days after application DA-A			132 DA-A	131 DA-A	127 DA-A	124 DA-A	124 DA-A	102 DA-A	100 DA-A	113 DA-A			
Crop stage majority			BBCH 93	BBCH 99	BBCH 99	BBCH 99	BBCH 97	BBCH 99	BBCH 99	BBCH 89	**Ave-rage**	**Min.**	**Max.**
No.	Name	Rate (L, kg/ha)											
1	Untreated Check	-	6.35	8.17	8.64	8.03	8.63	8.50	5.81	6.90	7.63	5.81	8.64
2	CHR/H/CFF 250 EC	0.60	6.48	8.19	8.87	8.24	8.47	8.60	5.79	7.10	7.72	5.79	8.87
3	CHR/H/CFF 250 EC	1.20	6.45	8.02	8.31	7.89	8.22	8.89	5.87	6.70	7.54	5.87	8.89
4	Major 300 SL	0.40	6.37	8.12	8.71	7.90	8.59	8.23	5.46	7.30	7.59	5.46	8.71
5	Major 300 SL	0.80	6.58	8.24	7.15	7.50	7.21	8.30	5.49	6.90	7.17	5.49	8.30
6	Starane 333 EC	0.54	6.58	8.17	8.41	8.13	8.56	8.27	5.24	7.40	7.60	5.24	8.56
7	Starane 333 EC	1.08	6.18	7.88	8.46	7.73	8.72	8.45	5.30	6.80	7.44	5.30	8.72
8	Rassel 100 SC	0.05	6.30	8.16	8.40	8.23	8.58	8.48	5.43	7.30	7.61	5.43	8.58
9	Rassel 100 SC	0.10	6.24	8.21	8.32	8.33	8.44	8.03	4.77	7.00	7.42	4.77	8.44
LSD(P=.05)			0.642	0.373	0.472	0.485	0.442	0.513	1.092	1.220			

Winter triticale

table 3.4.2.1-2 The influence of the CHR/H/CFF 250 EC on yield quantity [t/ha]

Crop code			**winter triticale yield t/ha**								
Report code			**A.T/2020/048/PŻO**	**A.T/2020/049/PŻO**	**A.T/2020/050/PŻO**	**A.T/2021/032/PŻO**	**AH/21/PszO/5/Br/1**	**SRPL21-416-336HE**			
Application date			19.03.2020	06.04.2020	08.04.2020	11.04.2021	13.04.2021	21.04.2021			
Crop stage in application			BBCH 27-30	BBCH 30-32	BBCH 30-31	BBCH 21-24	BBCH 21-24	BBCH 22-23			
Assessment date			01.08.2020	08.08.2020	09.08.2020	12.08.2021	28.07.2021	31.07.2021			
Days after application DA-A			135 DA-A	124 DA-A	123 DA-A	123 DA-A	106 DA-A	101 DA-A			
Crop stage majority			BBCH 89	BBCH 99	BBCH 99	BBCH 92	BBCH 99	BBCH 99	**Average**	**Min.**	**Max.**
No.	Name	Rate (L, kg/ha)									
1	Untreated Check	-	7.08	7.56	6.66	6.75	3.95	8.59	6.77	3.95	8.59
2	CHR/H/CFF 250 EC	0.60	7.31	7.48	6.76	6.60	4.08	8.72	6.83	4.08	8.72
3	CHR/H/CFF 250 EC	1.20	7.11	7.60	6.71	6.49	4.00	8.51	6.74	4.00	8.51
4	Starane 333 EC	0.54	7.07	7.64	6.89	6.62	4.16	8.77	6.86	4.16	8.77
5	Starane 333 EC	1.08	6.52	7.17	6.97	6.52	3.88	8.66	6.62	3.88	8.66
6	Rassel 100 SC	0.05	7.07	7.71	6.92	6.70	3.94	8.56	6.82	3.94	8.56
7	Rassel 100 SC	0.10	6.94	7.52	7.04	6.54	3.91	8.80	6.79	3.91	8.80
LSD(P=.05)			0.701	0.360	0.519	0.152	0.310	0.457			

Table 3.4-4: Relationship between phytotoxicity and yield.

Winter wheat

In 2 trials in winter wheat there were phytotoxicity effects report no. A.T/2020/046/PO and SRPL21-417-336HE. This effects didn't have any negative effect on the yield of winter wheat.
No significant differences in the grain yield were noted.

Test report	Variety	Maximum phyto. at 1N* rate (%) (DAA)				Maximum phyto. at 2N* (or other) rate (%) (DAA)				Yield in the untreated control	Yield at 1N as % of untreated				Yield at 2N (or other) rate as % of un-treated			
		CHR/H/ CFF 250 EC	Major 300 SL	Starane 333 EC	Rassel 100 SC	CHR/H/ CFF 250 EC	Major 300 SL	Starane 333 EC	Rassel 100 SC	Absolute figures (%)	CHR/H/ CFF 250 EC	Major 300 SL	Starane 333 EC	Rassel 100 SC	CHR/H/ CFF 250 EC	Major 300 SL	Starane 333 EC	Rassel 100 SC
A.T/2020/046/PO	Hondia	1.3% (22 DA-A)	-	1.5% (22 DA-A)	-	3.8%(22 DA-A)	-	4.8% (22 DA-A)	-	8.64 (100%)	8.87 (102.7%)	8.71 (100.8%)	8.41 (97.3%)	8.40 (97.2%)	8.31 (96.2%)	7.15 (82.8%)	8.46 (97.9%)	8.32 (96.3%)
SRPL21-417-336HE	Findus	-	-	-	-	2.0% (14 DA-A)	-	-	-	6.90 (100%)	7.1 (102.9%)	7.3 (105.8%)	7.4 (107.2%)	7.3 (105.8%)	6.7 (97.1%)	6.9 (100%)	6.8 (98.6%)	7.0 (101.4%)

* For CHR/H/CFF 250 EC dose 1.2 N and 2.4 N was studied

Winter triticale

In winter triticale there were not observed any phytotoxicity symptoms on tested product and standard in trials. This effects didn't have any negative effect on the yield of winter triticale.

Comments of zRMS:	The effects of Turango 250 EC / Hapi 250 EC (product code: CHR/H/CFF 250 EC) on the yield of winter cereals (winter wheat and winter triticale) were evaluated in 14 selectivity trials (8 winter wheat; 6 winter triticale). In these trials, yield was assessed after application of a single 1.2 N dose (0.6 L/ha) of the above product and a 2.4 N dose (1.2 L/ha). Statistical analysis of yield and its parameters was performed. All results were comparable with standard reference products. In field trials with winter wheat and winter triticale, Turango 250 EC / Hapi 250 EC applied at single rate of 0.6 L/ha and double rate of 1.2 L/ha had no significant adverse effect on yield. Phytotoxic effects were not observed even on the doubled rate plots (except for two trials on winter wheat): A.T/2020/046/PO and SRPL21-417-336HE. However, this didn't have a negative effect on winter wheat yield. No statistical differences in yield were observed between the plots treated with CHR/H/CFF 250 EC and the control plots. The absence of a study on the recommended dose should be accepted as doses 1.2 N and 2.4 N have been tested.

3.4.3 Effects on the quality of plants or plant products (KCP 6.4.3)

The influence of CHR/H/CFF 250 EC on quality of grain was evaluated in 14 field experiments in winter wheat 8 trials and winter triticale 6 trials in Poland in 2020 and 2021. There weren't difference between the treatment objects and standard.
In 2 trials in winter wheat there were phytotoxicity effects report no. A.T/2020/046/PO and SRPL21-417-336HE. This effects didn't have any negative impact on the yield quality of winter wheat.
No significant differences in the grain yield quality were noted.
Details of the data shows tables below.

table 3.4.3.1-1 The influence of the CHR/H/CFF 250 EC on quality of yield
Winter wheat (HLW = weight 100 Ltr (hL))

Crop code			**winter wheat HLW kg/hL**										
Report code			**A.T/2020/044/PO**	**A.T/2020/045/PO**	**A.T/2020/046/PO**	**A.T/2020/047/PO**	**A.T/2021/031/PO**	**AH/21/PO/5/Br/1**	**AH/21/PO/5/Gr/2**	**SRPL21-417-336HE**			
Application date			28.03.2020	28.03.2020	19.03.2020	06.04.2020	31.03.2021	13.04.2021	13.04.2021	12.04.2021			
Crop stage in application			BBCH 26-30	BBCH 31-32	BBCH 29-32	BBCH 31-32	BBCH 23-28	BBCH 21-23	BBCH 23	BBCH 21-23			
Assessment date			28.09.2020	10.08.2020	14.08.2020	28.09.2020	05.08.2021	06.08.2021	05.08.2021	03.08.2021			
Days after application DA-A			184 DA-A	135 DA-A	148 DA-A	175 DA-A	127 DA-A	115 DA-A	114 DA-A	113 DA-A			
Crop stage majority			BBCH 99	BBCH 99	BBCH 99	BBCH 99	BBCH 99	BBCH 99	BBCH 99	BBCH 89	**Avera-ge**	**Min.**	**Max.**
No.	Name	Rate (L, kg/ha)											
1	Untreated Check	-	67.83	74.95	77.45	74.68	70.98	82.18	75.20	72.40	74.46	67.83	82.18
2	CHR/H/CFF 250 EC	0.60	66.05	75.58	77.80	72.13	70.03	81.93	75.08	72.43	73.88	66.05	81.93
3	CHR/H/CFF 250 EC	1.20	67.25	76.00	77.85	76.58	72.73	82.43	76.25	71.58	75.08	67.25	82.43
4	Major 300 SL	0.40	67.33	76.18	78.08	76.73	72.60	82.15	75.68	73.88	75.33	67.33	82.15
5	Major 300 SL	0.80	66.85	76.25	77.15	75.33	72.60	81.73	75.93	69.60	74.43	66.85	81.73
6	Starane 333 EC	0.54	67.43	76.23	78.10	73.90	69.30	82.28	75.48	74.35	74.63	67.43	82.28
7	Starane 333 EC	1.08	69.10	76.95	78.38	74.85	70.80	82.25	74.35	70.30	74.62	69.10	82.25
8	Rassel 100 SC	0.05	69.98	74.78	77.40	75.30	69.85	82.35	74.90	72.45	74.63	69.85	82.35
9	Rassel 100 SC	0.10	65.10	75.48	77.38	73.60	69.13	81.95	74.38	69.93	73.37	65.10	81.95
LSD(P=.05)			4.192	1.708	0.837	3.088	2.584	1.266	1.247	8.429			

table 3.4.3.1-2 The influence of the CHR/H/CFF 250 EC on quality of yield
Winter triticale (HLW = weight 100 Ltr (hl))

Crop code			**winter triticale HLW kg/hL**								
Report code			**A.T/2020/048/PŻO**	**A.T/2020/049/PŻO**	**A.T/2020/050/PŻO**	**A.T/2021/032/PŻO**	**AH/21/PszO/5/Br/1**	**SRPL21-416-336HE**			
Application date			19.03.2020	06.04.2020	08.04.2020	11.04.2021	13.04.2021	21.04.2021			
Crop stage in application			BBCH 27-30	BBCH 30-32	BBCH 30-31	BBCH 21-24	BBCH 21-24	BBCH 22-23			
Assessment date			28.09.2020	28.09.2020	29.09.2020	08.09.2021	12.08.2021	31.07.2021			
Days after application DA-A			193 DA-A	175 DA-A	174 DA-A	150 DA-A	121 DA-A	101 DA-A			
Crop stage majority			BBCH 99	BBCH 99	BBCH 99	BBCH 92	BBCH 99	BBCH 99	**Average**	**Min.**	**Max.**
No.	Name	Rate (L, kg/ha)									
1	Untreated Check	-	68.35	71.00	69.70	65.04	66.23	75.40	69.29	65.04	75.40
2	CHR/H/CFF 250 EC	0.60	69.58	70.67	71.18	66.89	66.80	74.83	69.99	66.80	74.83
3	CHR/H/CFF 250 EC	1.20	70.20	70.78	71.88	66.49	66.83	74.65	70.14	66.49	74.65
4	Starane 333 EC	0.54	69.69	71.18	80.87	65.78	67.08	75.03	71.61	65.78	80.87
5	Starane 333 EC	1.08	68.43	70.93	81.53	65.74	66.58	74.58	71.30	65.74	81.53
6	Rassel 100 SC	0.05	68.13	70.20	71.83	66.25	66.23	75.73	69.73	66.23	75.73
7	Rassel 100 SC	0.10	68.33	70.30	71.08	66.19	66.70	75.35	69.66	66.19	75.35
LSD(P=.05)			2.334	1.582	3.087	2.250	0.766	1.193			

table 3.4.3.1-3 The influence of the CHR/H/CFF 250 EC on quality of yield
Winter wheat thousand weight grain

Crop code			winter wheat TGW g										
Report code			**A.T/2020/044/PO**	**A.T/2020/045/PO**	**A.T/2020/046/PO**	**A.T/2020/047/PO**	**A.T/2021/031/PO**	**AH/21/PO/5/Br/1**	**AH/21/PO/5/Gr/2**	**SRPL21-417-336HE**			
Application date			28.03.2020	28.03.2020	19.03.2020	06.04.2020	31.03.2021	13.04.2021	13.04.2021	12.04.2021			
Crop stage in application			BBCH 26-30	BBCH 31-32	BBCH 29-32	BBCH 31-32	BBCH 23-28	BBCH 21-23	BBCH 23	BBCH 21-23			
Assessment date			28.09.2020	10.08.2020	14.08.2020	28.09.2020	05.08.2021	06.08.2021	05.08.2021	03.08.2021			
Days after application DA-A			184 DA-A	135 DA-A	148 DA-A	175 DA-A	127 DA-A	115 DA-A	114 DA-A	113 DA-A			
Crop stage majority			BBCH 99	BBCH 99	BBCH 99	BBCH 99	BBCH 99	BBCH 99	BBCH 99	BBCH 89	**Average**	**Min.**	**Max.**
No.	Name	Rate (L, kg/ha)											
1	Untreated Check	-	13.71	41.88	49.46	49.31	36.32	44.21	42.10	33.25	38.78	13.71	49.46
2	CHR/H/CFF 250 EC	0.60	43.16	41.64	49.29	47.65	34.54	44.59	43.63	34.13	42.33	34.13	49.29
3	CHR/H/CFF 250 EC	1.20	43.49	42.80	50.30	52.18	40.53	45.50	45.53	34.43	44.35	34.43	52.18
4	Major 300 SL	0.40	44.99	41.08	50.14	56.42	38.89	44.62	44.35	36.83	44.67	36.83	56.42
5	Major 300 SL	0.80	44.12	41.77	52.68	54.58	43.37	44.58	47.60	34.53	45.40	34.53	54.58
6	Starane 333 EC	0.54	43.45	41.13	49.90	50.09	35.92	44.54	42.53	35.63	42.90	35.63	50.09
7	Starane 333 EC	1.08	45.45	42.90	50.84	49.64	35.29	44.76	44.35	34.98	43.53	34.98	50.84
8	Rassel 100 SC	0.05	45.38	40.20	49.66	49.97	34.33	44.66	43.25	36.63	43.01	34.33	49.97
9	Rassel 100 SC	0.10	43.09	40.06	49.08	48.81	34.02	43.94	42.00	34.90	41.99	34.02	49.08
LSD(P=.05)			2.551	1.886	1.798	5.819	4.507	1.203	2.832	5.076			

table 3.4.3.1-4 The influence of the CHR/H/CFF 250 EC on quality of yield
Winter triticale thousand weight grain

Crop code			**winter triticale TGW g**								
Report code			**A.T/2020/048/PŻO**	**A.T/2020/049/PŻO**	**A.T/2020/050/PŻO**	**A.T/2021/032/PŻO**	**AH/21/PszO/5/Br/1**	**SRPL21-416-336HE**			
Application date			19.03.2020	06.04.2020	08.04.2020	11.04.2021	13.04.2021	21.04.2021			
Crop stage in application			BBCH 27-30	BBCH 30-32	BBCH 30-31	BBCH 21-24	BBCH 21-24	BBCH 22-23			
Assessment date			28.09.2020	28.09.2020	29.09.2020	08.09.2021	12.08.2021	02.08.2021			
Days after application DA-A			193 DA-A	175 DA-A	174 DA-A	150 DA-A	121 DA-A	103 DA-A			
Crop stage majority			BBCH 99	BBCH 99	BBCH 99	BBCH 92	BBCH 99	BBCH 99	**Average**	**Min.**	**Max.**
No.	Name	Rate (L, kg/ha)									
1	Untreated Check	-	48.06	51.39	45.68	37.33	42.01	44.63	44.85	37.33	51.39
2	CHR/H/CFF 250 EC	0.60	47.43	53.84	50.35	37.37	42.20	44.35	45.92	37.37	53.84
3	CHR/H/CFF 250 EC	1.20	49.03	53.46	48.09	36.66	42.81	45.03	45.85	36.66	53.46
4	Starane 333 EC	0.54	49.54	53.66	48.64	34.61	43.23	44.30	45.66	34.61	53.66
5	Starane 333 EC	1.08	48.91	53.52	46.92	37.96	44.04	44.65	46.00	37.96	53.52
6	Rassel 100 SC	0.05	47.46	51.44	46.29	36.96	43.44	45.10	45.12	36.96	51.44
7	Rassel 100 SC	0.10	47.42	52.54	46.26	35.84	43.52	45.28	45.14	35.84	52.54
LSD(P=.05)			3.171	2.251	2.474	3.028	1.578	1.270			

table 3.4.3.1-5 The influence of the CHR/H/CFF 250 EC on quality of yield
Winter wheat moisture content

Crop code			**winter wheat moisture content %**										
Report code			**A.T/2020/044/PO**	**A.T/2020/045/PO**	**A.T/2020/046/PO**	**A.T/2020/047/PO**	**A.T/2021/031/PO**	**AH/21/PO/5/Br/1**	**AH/21/PO/5/Gr/2**	**SRPL21-417-336HE**			
Application date			28.03.2020	28.03.2020	19.03.2020	06.04.2020	31.03.2021	13.04.2021	13.04.2021	12.04.2021			
Crop stage in application			BBCH 26-30	BBCH 31-32	BBCH 29-32	BBCH 31-32	BBCH 23-28	BBCH 21-23	BBCH 23	BBCH 21-23			
Assessment date			07.08.2020	06.08.2020	24.07.2020	08.08.2020	02.08.2021	24.07.2021	22.07.2021	03.08.2021			
Days after application DA-A			132 DA-A	131 DA-A	127 DA-A	124 DA-A	124 DA-A	102 DA-A	100 DA-A	113 DA-A			
Crop stage majority			BBCH 93	BBCH 99	BBCH 99	BBCH 99	BBCH 97	BBCH 99	BBCH 99	BBCH 89	**Avera-ge**	**Min.**	**Max.**
No.	Name	Rate (L, kg/ha)											
1	Untreated Check	-	12.80	13.18	13.05	12.88	16.35	13.73	14.05	13.95	13.75	12.80	16.35
2	CHR/H/CFF 250 EC	0.60	12.68	13.23	13.05	13.10	16.48	13.88	14.18	13.10	13.71	12.68	16.48
3	CHR/H/CFF 250 EC	1.20	12.78	13.35	13.13	13.08	16.23	13.63	14.43	13.53	13.77	12.78	16.23
4	Major 300 SL	0.40	12.80	13.23	13.08	13.03	1.30	13.98	14.23	13.58	11.90	1.30	14.23
5	Major 300 SL	0.80	12.73	13.35	12.98	12.88	16.28	13.80	14.43	13.93	13.80	12.73	16.28
6	Starane 333 EC	0.54	12.70	13.30	13.00	12.73	16.33	13.90	13.95	14.28	13.77	12.70	16.33
7	Starane 333 EC	1.08	12.75	13.33	13.05	12.83	16.23	13.78	14.10	13.65	13.72	12.75	16.23
8	Rassel 100 SC	0.05	12.70	13.15	13.00	13.03	16.38	13.70	14.18	14.15	13.79	12.70	16.38
9	Rassel 100 SC	0.10	12.60	13.23	13.18	12.83	16.40	13.73	13.93	13.65	13.69	12.60	16.40
LSD(P=.05)			0.264	0.188	0.215	0.396	0.233	0.503	0.394	0.894			

table 3.4.3.1-6 The influence of the CHR/H/CFF 250 EC on quality of yield
Winter triticale moisture content

Crop code			**winter triticale moisture content %**								
Report code			**A.T/2020/048/PŻO**	**A.T/2020/049/PŻO**	**A.T/2020/050/PŻO**	**A.T/2021/032/PŻO**	**AH/21/PszO/5/Br/1**	**SRPL21-416-336HE**			
Application date			19.03.2020	06.04.2020	08.04.2020	11.04.2021	13.04.2021	21.04.2021			
Crop stage in application			BBCH 27-30	BBCH 30-32	BBCH 30-31	BBCH 21-24	BBCH 21-24	BBCH 22-23			
Assessment date			01.08.2020	08.08.2020	09.08.2020	12.08.2021	28.07.2021	31.07.2021			
Days after application DA-A			135 DA-A	124 DA-A	123 DA-A	123 DA-A	106 DA-A	101 DA-A			
Crop stage majority			BBCH 89	BBCH 99	BBCH 99	BBCH 92	BBCH 99	BBCH 99	**Average**	**Min.**	**Max.**
No.	Name	Rate (L, kg/ha)									
1	Untreated Check	-	13.08	13.23	13.03	14.08	10.70	13.73	12.98	10.70	14.08
2	CHR/H/CFF 250 EC	0.60	12.93	13.23	12.95	13.95	10.53	13.50	12.85	10.53	13.95
3	CHR/H/CFF 250 EC	1.20	12.98	13.13	12.85	14.03	10.65	13.70	12.89	10.65	14.03
4	Starane 333 EC	0.54	12.93	13.33	13.03	14.00	10.43	13.65	12.90	10.43	14.00
5	Starane 333 EC	1.08	13.03	13.25	13.18	13.98	10.43	13.63	12.92	10.43	13.98
6	Rassel 100 SC	0.05	12.95	13.33	13.13	14.08	10.53	13.83	12.98	10.53	14.08
7	Rassel 100 SC	0.10	12.98	13.15	13.10	14.15	10.60	13.65	12.94	10.60	14.15
LSD(P=.05)			0.219	0.168	0.229	0.143	0.465	0.419			

table 3.4.3.1-7 The influence of the CHR/H/CFF 250 EC on quality of yield
Winter wheat protein content

Crop code			**winter wheat protein content %**										
Report code			**A.T/2020/044/PO**	**A.T/2020/045/PO**	**A.T/2020/046/PO**	**A.T/2020/047/PO**	**A.T/2021/031/PO**	**AH/21/PO/5/Br/1**	**AH/21/PO/5/Gr/2**	**SRPL21-417-336HE**			
Application date			28.03.2020	28.03.2020	19.03.2020	06.04.2020	31.03.2021	13.04.2021	13.04.2021	12.04.2021			
Crop stage in application			BBCH 26-30	BBCH 31-32	BBCH 29-32	BBCH 31-32	BBCH 23-28	BBCH 21-23	BBCH 23	BBCH 21-23			
Assessment date			28.09.2020	10.08.2020	14.08.2020	28.09.2020	05.08.2021	06.08.2021	12.08.2021	03.08.2021			
Days after application DA-A			184 DA-A	135 DA-A	148 DA-A	175 DA-A	127 DA-A	115 DA-A	121 DA-A	113 DA-A			
Crop stage majority			BBCH 99	BBCH 99	BBCH 99	BBCH 99	BBCH 99	BBCH 99	BBCH 99	BBCH 89	**Average**	**Min.**	**Max.**
No.	Name	Rate (L, kg/ha)											
1	Untreated Check	-	13.00	11.68	14.30	12.23	12.75	12.70	12.60	15.38	13.08	11.68	15.38
2	CHR/H/CFF 250 EC	0.60	12.98	11.78	14.20	14.03	14.33	13.40	11.80	15.63	13.52	11.78	15.63
3	CHR/H/CFF 250 EC	1.20	13.33	11.65	14.50	12.08	13.45	13.20	12.80	15.45	13.31	11.65	15.45
4	Major 300 SL	0.40	13.18	11.45	14.38	12.48	12.95	12.90	12.90	15.30	13.19	11.45	15.30
5	Major 300 SL	0.80	13.43	11.70	15.60	14.83	15.55	12.70	12.90	15.93	14.08	11.70	15.93
6	Starane 333 EC	0.54	13.45	12.05	14.08	13.58	14.00	12.90	12.40	15.43	13.49	12.05	15.43
7	Starane 333 EC	1.08	13.65	11.73	14.38	13.23	13.35	13.00	11.70	15.75	13.35	11.70	15.75
8	Rassel 100 SC	0.05	13.70	11.95	14.25	12.53	13.58	13.10	12.30	15.68	13.39	11.95	15.68
9	Rassel 100 SC	0.10	12.85	11.65	14.05	13.25	13.78	13.40	12.10	15.53	13.33	11.65	15.53
LSD(P=.05)			0.816	0.607	0.500	2.061	2.109	-	-	0.882			

table 3.4.3.1-8 The influence of the CHR/H/CFF 250 EC on quality of yield
Winter triticale protein content

Crop code			**winter triticale protein content %**								
Report code			**A.T/2020/048/PŻO**	**A.T/2020/049/PŻO**	**A.T/2020/050/PŻO**	**A.T/2021/032/PŻO**	**AH/21/PszO/5/Br/1**	**SRPL21-416-336HE**			
Application date			19.03.2020	06.04.2020	08.04.2020	11.04.2021	13.04.2021	21.04.2021			
Crop stage in application			BBCH 27-30	BBCH 30-32	BBCH 30-31	BBCH 21-24	BBCH 21-24	BBCH 22-23			
Assessment date			28.09.2020	28.09.2020	29.09.2020	08.09.2021	12.08.2021	02.08.2021			
Days after application DA-A			193 DA-A	175 DA-A	174 DA-A	150 DA-A	121 DA-A	103 DA-A			
Crop stage majority			BBCH 99	BBCH 99	BBCH 99	BBCH 92	BBCH 99	BBCH 99	**Avera-ge**	**Min.**	**Max.**
No.	Name	Rate (L, kg/ha)									
1	Untreated Check	-	9.18	11.75	11.50	11.47	10.80	10.88	10.93	9.18	11.75
2	CHR/H/CFF 250 EC	0.60	10.05	11.83	11.35	11.81	10.60	10.90	11.09	10.05	11.83
3	CHR/H/CFF 250 EC	1.20	9.90	11.85	11.50	12.18	10.50	10.83	11.13	9.90	12.18
4	Starane 333 EC	0.54	9.48	11.98	11.70	11.30	10.90	10.90	11.04	9.48	11.98
5	Starane 333 EC	1.08	9.50	11.95	11.18	11.93	10.70	10.90	11.03	9.50	11.95
6	Rassel 100 SC	0.05	9.33	11.90	11.50	11.55	10.70	10.83	10.97	9.33	11.90
7	Rassel 100 SC	0.10	9.53	11.75	11.35	11.58	10.70	10.90	10.97	9.53	11.75
LSD(P=.05)			1.409	0.730	0.570	0.623	-	0.201			

table 3.4.3.1-9 The influence of the CHR/H/CFF 250 EC on quality of yield
Winter wheat gluten content

Crop code			**winter wheat gluten content %**										
Report code			**A.T/2020/044/PO**	**A.T/2020/045/PO**	**A.T/2020/046/PO**	**A.T/2020/047/PO**	**A.T/2021/031/PO**	**AH/21/PO/5/Br/1**	**AH/21/PO/5/Gr/2**	**SRPL21-417-336HE**			
Application date			28.03.2020	28.03.2020	19.03.2020	06.04.2020	31.03.2021	13.04.2021	13.04.2021	12.04.2021			
Crop stage in application			BBCH 26-30	BBCH 31-32	BBCH 29-32	BBCH 31-32	BBCH 23-28	BBCH 21-23	BBCH 23	BBCH 21-23			
Assessment date			28.09.2020	10.08.2020	14.08.2020	28.09.2020	05.08.2021	06.08.2021	05.08.2021	03.08.2021			
Days after application DA-A			184 DA-A	135 DA-A	148 DA-A	175 DA-A	127 DA-A	115 DA-A	114 DA-A	113 DA-A			
Crop stage majority			BBCH 99	BBCH 99	BBCH 99	BBCH 99	BBCH 99	BBCH 99	BBCH 99	BBCH 89	**Ave-rage**	**Min.**	**Max.**
No.	Name	Rate (L, kg/ha)											
1	Untreated Check	-	27.25	24.98	30.88	24.80	24.89	26.10	26.80	24.20	26.24	24.20	30.88
2	CHR/H/CFF 250 EC	0.60	26.70	25.35	30.65	29.28	28.93	26.90	27.10	2.21	24.64	2.21	30.65
3	CHR/H/CFF 250 EC	1.20	27.43	24.88	31.03	24.50	26.88	27.90	27.50	24.20	26.79	24.20	31.03
4	Major 300 SL	0.40	27.45	24.48	31.33	25.48	25.83	28.40	26.90	24.18	26.76	24.18	31.33
5	Major 300 SL	0.80	27.58	25.23	34.28	31.50	32.48	29.40	26.80	24.09	28.92	24.09	34.28
6	Starane 333 EC	0.54	27.93	26.00	30.15	28.30	28.30	26.80	26.40	24.25	27.27	24.25	30.15
7	Starane 333 EC	1.08	28.35	25.10	31.13	27.43	26.60	27.30	26.60	24.18	27.09	24.18	31.13
8	Rassel 100 SC	0.05	28.73	25.90	30.35	27.21	27.08	26.10	27.00	24.30	27.08	24.30	30.35
9	Rassel 100 SC	0.10	26.55	24.95	30.20	27.38	27.45	25.60	25.90	24.26	26.54	24.26	30.20
LSD(P=.05)			2.147	1.604	1.612	4.841	5.296	-	-	0.670			

Comments of zRMS:	The effects of Turango 250 EC / Hapi 250 EC (product code: CHR/H/CFF 250 EC) on yield quality of winter cereals (winter wheat and winter triticale) were evaluated in 14 selectivity trials (8 winter wheat; 6 winter triticale). In these trials, yield quality was assessed after application of a single 1.2 N dose (0.6 L/ha) of the above product and a 2.4 N dose (1.2 L/ha). Statistical analysis of yield quality and its parameters was performed. All results were comparable with standard reference products. The following parameters were studied: HLW, TGW, moisture content (%), protein content (%) and gluten content (only in winter wheat). In field trials with winter wheat and winter triticale, Turango 250 EC / Hapi 250 EC applied at single rate of 0.6 L/ha and double rate of 1.2 L/ha had no significant adverse effect on yield quality. No phytotoxic effects were observed even on the doubled rate plots (except for two trials on winter wheat): A.T/2020/046/PO and SRPL21-417-336HE. However, this didn't have a negative effect on the yield quality of winter wheat. No statistical differences in yield quality were observed between the plots treated with CHR/H/CFF 250 EC and the control plots. The lack of a study on the recommended dose should be accepted as the doses 1.2 N and 2.4 N were tested.

3.4.4 Effects on transformation processes (KCP 6.4.4)

Lack of additional tests in this range. Active substances comprising in this product has been applied for many years, not only in Poland but also in the other countries of Europe.

Clopyralid

According to magnitude of residues in plants provided in Section B7 in core dossier no significant residues, i.e. >0.1 mg/kg, were found in grain and therefore processing studies are not required. No further studies have been performed. Therefore, no impact for effects on yeasts or lactic bacteria are predicted.

Florasulam

According to magnitude of residues in plants provided in Section B7 in core dossier no significant residues, i.e. >0.1 mg/kg, were found in grain and therefore processing studies are not required. No further studies have been performed. Therefore, no impact for effects on yeasts or lactic bacteria are predicted.

Fluroxypyr

According to magnitude of residues in plants provided in Section B7 in core dossier no significant residues, i.e. >0.1 mg/kg, were found in grain and therefore processing studies are not required. No further studies have been performed. Therefore, no impact for effects on yeasts or lactic bacteria are predicted.

According *EPPO 1/243 (2) Effects of plant protection products on transformation processes* and Section B7 additional study is not required.

Comments of zRMS:	Literature data shown that florasulam residues do not significantly impact the transformation processes (like brewing or fermentation) when used properly. The key is ensuring that residue levels are below the maximum residue limits (MRLs). Clopyralid residues can be problematic in the brewing process, especially if crop residiues are used in any way. This can interferer with the fermentation process by affecting yeast health. Ensuring compliance with MRLs is crucial. Residues of fluroxypyr are generally low if the herbicide is used acording to guidelines. However, residues might still affect yeast during fermentation, potentially altering the quality of the final product. In section B7 the following information is provided for florasulam, clopyralid and fluroxypyr: "*According to the level of residues in plants reported in Section B7 of the core dossier, no significant residues, i.e. >0.1 mg/kg, were found in cereals and therefore no processing studies are required. No further studies were per-*

	formed. Therefore no effects are predicted for effects on yeasts or lactic bacteria". The no data on effects on transformation processes were provided by the ZRMs, taking into account that there are no major transformation processes applicable to cereals and that products containing florasulam, clopyralid or fluroxypyr as the only active substance or together in co-formulations have been registered and extensively used as herbicides on cereals in all EU countries for many years and have been shown to have no adverse effects on all relevant transformation processes. The lack of data is therefore acceptable. For CHR/H/CFF 250 EC, no adverse effects on transformation processes are expected according to the opinion of the ZRMs.

3.4.5 Impact on treated plants or plant products to be used for propagation (KCP 6.4.5)

There is no information available pointing to presence of any limitations to using of CHR/H/CFF 250 EC in seed crops of winter wheat and winter triticale.
In the course of studies carried out in Poland in the season of 2020 and 2021 on product CHR/H/CFF 250 EC the herbicide has not been observed to have any significant influence on yield.
The product may be used in seed crops of winter wheat and winter triticale.

Comments of zRMS:	ZRMS accepted the Applicant's explanation for the lack of propagation trials. Turango 250 EC / Hapi 250 EC (product code: CHR/H/CFF 250 EC) has been shown to be selective to treated crops, similar to the reference products to which it was compared, with negligible phytotoxicity symptoms and no effect on yield at the N dose and higher (even 2.4N). Therefore, the evaluator considers that no further data are needed. Furthermore, products containing florasulam, clopyralid or fluroxypyr have been used for many years and have been shown to have no negative effect on the viability of the progeny seed. It can therefore be concluded that CHR/H/CFF 250 EC is not expected to have any adverse effects on propagation. Ensuring adherence to recommended application rates and pre-harvest intervals is crucial to minimize any adverse effects on the transformation processes in winter wheat and winter triticale. In conclusion, while florasulam, clopyralid and fluroxypyr are effective herbicide for weed control, it should be carefully managed to avoid negative impacts on the propagation of winter wheat and witer triticale. Proper application timing, adherence to recommended guidelines and monitoring of residues are key practices to ensure the healthy development and viability of seeds for future planting.

Summary and conclusion

The submitted efficacy data (reports from 18 field trials) and additional information fulfill requirements and conditions determined in the following EPPO guidelines:
- PP 1/135 (3) Phytotoxicity assessment
- PP 1/152 (3) Design and analysis of efficacy evaluation trials
- PP 1/181 (3) Conduct and reporting of efficacy evaluation trials including good experimental practice
They were carried out on the field in the conditions of natural agrofag infestation. The efficacy trials were concluded according to the EPPO standards:
- PP 1/93(3) Weeds in cereals

The studies fulfill also requirements of the Commission Regulation (EU) No 540/2011 of 25 May 2011 implementing Regulation (EC) No 1107/2009 of the European Parliament and of the Council as regards the data requirements for plant protection products.
The formulation of CHR/H/CFF 250 EC is emulsifiable concentrate (EC) and it comprises active substances: 120 g/L clopyralid, 10 g/L florasulam and 120 g/L fluroxypyr. The applicant submitted 18 reports in total (11 in winter wheat, 7 in winter triticale) showing the results in research into product efficacy carried out in 2020 and 2021 in winter wheat and winter triticale.
The obtained data in performed trials show that CHR/H/CFF 250 EC provides benefits against the most important weeds in winter wheat and winter triticale as shown in the table below.

The following table describes the effectiveness of weeds:

S (Susceptible)	> 85% (within each trial the average must be higher than 85%)
MS (Moderately Susceptible)	70 – 85%
MT (Moderately Tolerant)	60 – 70%
T (Tolerant)	< 60%

The following table shows the average sensitivity of weeds in winter wheat:

Product code (L, kg/ha)	EPPO code	Scientific name	DA-A	Pest stage	Average	Efficacy
CHR/H/CFF 250 EC 0.2 -0.3 L/ha	ANTAR	*Anthemis arvensis*	21-28 DA-A	BBCH 16-31	76.95	MS
	BRSNW	*Brassica napus* (self-sown plant)	21-28 DA-A	BBCH 14-51	76.82	MS
	CENCY	*Centaurea cyanus*	21-28 DA-A	BBCH 14-33	72.56	MS
	GALAP	*Galium aparine*	21-28 DA-A	BBCH 16-35	73.31	MS
	PAPRH	*Papver rhoeas*	21-28 DA-A	BBCH 16-32	75.30	MS
	STEME	*Stellaria media*	21-28 DA-A	BBCH 19-60	77.67	MS
	MATIN	*Tripleurospermum mar. inodorum*	21-28 DA-A	BBCH 13-61	78.96	MS
CHR/H/CFF 250 EC 0.4 L/ha	ANTAR	*Anthemis arvensis*	21-28 DA-A	BBCH 16-31	83.15	MS
	BRSNW	*Brassica napus* (self-sown plant)	21-28 DA-A	BBCH 14-51	86.67	S
	CENCY	*Centaurea cyanus*	21-28 DA-A	BBCH 14-33	81.39	MS
	GALAP	*Galium aparine*	21-28 DA-A	BBCH 16-35	81.62	MS
	PAPRH	*Papver rhoeas*	21-28 DA-A	BBCH 16-32	80.00	MS
	STEME	*Stellaria media*	21-28 DA-A	BBCH 19-60	84.81	MS
	MATIN	*Tripleurospermum mar. inodorum*	21-28 DA-A	BBCH 13-61	86.82	S
CHR/H/CFF 250 EC 0.5 L/ha	ANTAR	*Anthemis arvensis*	21-28 DA-A	BBCH 16-31	89.73	S
	BRSNW	*Brassica napus* (self-sown plant)	21-28 DA-A	BBCH 14-51	90.48	S
	CENCY	*Centaurea cyanus*	21-28 DA-A	BBCH 14-33	85.56	S
	GALAP	*Galium aparine*	21-28 DA-A	BBCH 16-35	84.86	MS
	PAPRH	*Papver rhoeas*	21-28 DA-A	BBCH 16-32	85.02	S
	STEME	*Stellaria media*	21-28 DA-A	BBCH 19-60	87.80	S
	MATIN	*Tripleurospermum mar. inodorum*	21-28 DA-A	BBCH 13-61	91.43	S
CHR/H/CFF 250 EC 0.6 L/ha	ANTAR	*Anthemis arvensis*	21-28 DA-A	BBCH 16-31	90.18	S
	BRSNW	*Brassica napus* (self-sown plant)	21-28 DA-A	BBCH 14-51	94.14	S
	CENCY	*Centaurea cyanus*	21-28 DA-A	BBCH 14-33	89.35	S
	GALAP	*Galium aparine*	21-28 DA-A	BBCH 16-35	87.32	S
	PAPRH	*Papver rhoeas*	21-28 DA-A	BBCH 16-32	88.69	S
	STEME	*Stellaria media*	21-28 DA-A	BBCH 19-60	90.73	S
	MATIN	*Tripleurospermum mar. inodorum*	21-28 DA-A	BBCH 13-61	93.44	S
Major 300 SL 0.4 L/ha	ANTAR	*Anthemis arvensis*	21-28 DA-A	BBCH 16-31	87.93	S
	BRSNW	*Brassica napus* (self-sown plant)	21-28 DA-A	BBCH 14-51	0.00	T
	CENCY	*Centaurea cyanus*	21-28 DA-A	BBCH 14-33	89.01	S

	GALAP	*Galium aparine*	21-28 DA-A	BBCH 16-35	13.76	T
	PAPRH	*Papver rhoeas*	21-28 DA-A	BBCH 16-32	21.77	T
	STEME	*Stellaria media*	21-28 DA-A	BBCH 19-60	22.17	T
	MATIN	*Tripleurospermum mar. inodorum*	21-28 DA-A	BBCH 13-61	90.06	S
Starane 333 EC 0.54 L/ha	ANTAR	*Anthemis arvensis*	21-28 DA-A	BBCH 16-31	68.64	MT
	BRSNW	*Brassica napus* (self-sown plant)	21-28 DA-A	BBCH 14-51	69.64	MT
	CENCY	*Centaurea cyanus*	21-28 DA-A	BBCH 14-33	72.80	MS
	GALAP	*Galium aparine*	21-28 DA-A	BBCH 16-35	81.11	MS
	PAPRH	*Papver rhoeas*	21-28 DA-A	BBCH 16-32	39.68	T
	STEME	*Stellaria media*	21-28 DA-A	BBCH 19-60	82.54	MS
	MATIN	*Tripleurospermum mar. inodorum*	21-28 DA-A	BBCH 13-61	72.18	MS
Rassel 100 SC 0.05 L/ha	ANTAR	*Anthemis arvensis*	21-28 DA-A	BBCH 16-31	82.03	MS
	BRSNW	*Brassica napus* (self-sown plant)	21-28 DA-A	BBCH 14-51	88.79	S
	CENCY	*Centaurea cyanus*	21-28 DA-A	BBCH 14-33	72.66	MS
	GALAP	*Galium aparine*	21-28 DA-A	BBCH 16-35	80.54	MS
	PAPRH	*Papver rhoeas*	21-28 DA-A	BBCH 16-32	82.03	MS
	STEME	*Stellaria media*	21-28 DA-A	BBCH 19-60	83.94	MS
	MATIN	*Tripleurospermum mar. inodorum*	21-28 DA-A	BBCH 13-61	85.21	S

On the basis of submitted research, it is possible to state that CHR/H/CFF 250 EC used at dose controlled:

Dose CHR/H/CFF 250 EC 0.2-0.3 L/ha
Moderately Susceptible: *Anthemis arvensis* (ANTAR), *Brassica napus* (self-sown plant) (BRSNW), *Centaurea cyanus* (CENCY), *Galium aparine* (GALAP), *Papver rhoeas* (PAPRH), *Stellaria media* (STEME), *Tripleurospermum mar. inodorum* (MATIN)

Dose CHR/H/CFF 250 EC 0.4 L/ha
Susceptible: *Brassica napus* (self-sown plant) (BRSNW), *Tripleurospermum mar. inodorum* (MATIN)
Moderately Susceptible: *Anthemis arvensis* (ANTAR), *Centaurea cyanus* (CENCY), *Galium aparine* (GALAP), *Papver rhoeas* (PAPRH), *Stellaria media* (STEME)

Dose CHR/H/CFF 250 EC 0.5 L/ha
Susceptible: *Anthemis arvensis* (ANTAR), *Brassica napus* (self-sown plant) (BRSNW), *Centaurea cyanus* (CENCY), *Papver rhoeas* (PAPRH), *Stellaria media* (STEME), *Tripleurospermum mar. inodorum* (MATIN)
Moderately Susceptible: *Galium aparine* (GALAP)

Dose CHR/H/CFF 250 EC 0.6 L/ha
Susceptible: *Anthemis arvensis* (ANTAR), *Brassica napus* (self-sown plant) (BRSNW), *Centaurea cyanus* (CENCY), *Galium aparine* (GALAP), *Papver rhoeas* (PAPRH), *Stellaria media* (STEME), *Tripleurospermum mar. inodorum* (MATIN)

The following table shows the average sensitivity of weeds in winter triticale:

Product code (L, kg/ha)	EPPO code	Scientific name	DA-A	Pest stage	Average	Efficacy
CHR/H/CFF 250 EC 0.2-0.3 L/ha	ANTAR	*Anthemis arvensis*	21-28 DA-A	BBCH 14-31	71.52	MS
	BRSNW	*Brassica napus* (self-sown plant)	21-28 DA-A	BBCH 14-32	68.57	MT
	CENCY	*Centaurea cyanus*	21-28 DA-A	BBCH 14-23	72.73	MS
	GALAP	*Galium aparine*	21-28 DA-A	BBCH 12-35	70.13	MS
	PAPRH	*Papver rhoeas*	21-28 DA-A	BBCH 14-32	77.32	MS
	STEME	*Stellaria media*	21-28 DA-A	BBCH 12-59	74.62	MS
	MATIN	*Tripleurospermum mar. inodorum*	21-28 DA-A	BBCH 19-31	74.73	MS

CHR/H/CFF 250 EC 0.4 L/ha	ANTAR	*Anthemis arvensis*	21-28 DA-A	BBCH 14-31	77.52	MS
	BRSNW	*Brassica napus* (self-sown plant)	21-28 DA-A	BBCH 14-32	77.52	MS
	CENCY	*Centaurea cyanus*	21-28 DA-A	BBCH 14-23	80.87	MS
	GALAP	*Galium aparine*	21-28 DA-A	BBCH 12-35	74.94	MS
	PAPRH	*Papver rhoeas*	21-28 DA-A	BBCH 14-32	82.30	MS
	STEME	*Stellaria media*	21-28 DA-A	BBCH 12-59	78.10	MS
	MATIN	*Tripleurospermum mar. inodorum*	21-28 DA-A	BBCH 19-31	80.43	MS
CHR/H/CFF 250 EC 0.5 L/ha	ANTAR	*Anthemis arvensis*	21-28 DA-A	BBCH 14-31	85.65	S
	BRSNW	*Brassica napus* (self-sown plant)	21-28 DA-A	BBCH 14-32	87.23	S
	CENCY	*Centaurea cyanus*	21-28 DA-A	BBCH 14-23	85.02	S
	GALAP	*Galium aparine*	21-28 DA-A	BBCH 12-35	78.13	MS
	PAPRH	*Papver rhoeas*	21-28 DA-A	BBCH 14-32	88.77	S
	STEME	*Stellaria media*	21-28 DA-A	BBCH 12-59	83.13	MS
	MATIN	*Tripleurospermum mar. inodorum*	21-28 DA-A	BBCH 19-31	87.92	S
CHR/H/CFF 250 EC 0.6 L/ha	ANTAR	*Anthemis arvensis*	21-28 DA-A	BBCH 14-31	89.93	S
	BRSNW	*Brassica napus* (self-sown plant)	21-28 DA-A	BBCH 14-32	92.72	S
	CENCY	*Centaurea cyanus*	21-28 DA-A	BBCH 14-23	90.38	S
	GALAP	*Galium aparine*	21-28 DA-A	BBCH 12-35	84.63	MS
	PAPRH	*Papver rhoeas*	21-28 DA-A	BBCH 14-32	93.77	S
	STEME	*Stellaria media*	21-28 DA-A	BBCH 12-59	87.32	S
	MATIN	*Tripleurospermum mar. inodorum*	21-28 DA-A	BBCH 19-31	89.60	S
Starane 333 EC 0.54 L/ha	ANTAR	*Anthemis arvensis*	21-28 DA-A	BBCH 14-31	69.53	MT
	BRSNW	*Brassica napus* (self-sown plant)	21-28 DA-A	BBCH 14-32	62.53	MT
	CENCY	*Centaurea cyanus*	21-28 DA-A	BBCH 14-23	78.37	MS
	GALAP	*Galium aparine*	21-28 DA-A	BBCH 12-35	83.17	MS
	PAPRH	*Papver rhoeas*	21-28 DA-A	BBCH 14-32	34.77	T
	STEME	*Stellaria media*	21-28 DA-A	BBCH 12-59	80.95	MS
	MATIN	*Tripleurospermum mar. inodorum*	21-28 DA-A	BBCH 19-31	69.62	MT
Rassel 100 SC 0.05 L/ha	ANTAR	*Anthemis arvensis*	21-28 DA-A	BBCH 14-31	82.30	MS
	BRSNW	*Brassica napus* (self-sown plant)	21-28 DA-A	BBCH 14-32	83.73	MS
	CENCY	*Centaurea cyanus*	21-28 DA-A	BBCH 14-23	78.78	MS
	GALAP	*Galium aparine*	21-28 DA-A	BBCH 12-35	76.57	MS
	PAPRH	*Papver rhoeas*	21-28 DA-A	BBCH 14-32	82.72	MS
	STEME	*Stellaria media*	21-28 DA-A	BBCH 12-59	75.87	MS
	MATIN	*Tripleurospermum mar. inodorum*	21-28 DA-A	BBCH 19-31	78.97	MS

On the basis of submitted research, it is possible to state that CHR/H/CFF 250 EC used at dose controlled:

Dose CHR/H/CFF 250 EC 0.2-0.3 L/ha
Moderately Susceptible: *Anthemis arvensis* (ANTAR), *Centaurea cyanus* (CENCY), *Galium aparine* (GALAP), *Papver rhoeas* (PAPRH), *Stellaria media* (STEME), *Tripleurospermum mar. inodorum* (MATIN)
Moderately Tolerant: *Brassica napus* (self-sown plant) (BRSNW),

Dose CHR/H/CFF 250 EC 0.4 L/ha
Moderately Susceptible: *Anthemis arvensis* (ANTAR), *Brassica napus* (self-sown plant) (BRSNW), *Centaurea cyanus* (CENCY), *Galium aparine* (GALAP), *Papver rhoeas* (PAPRH), *Stellaria media* (STEME), *Tripleurospermum mar. inodorum* (MATIN)

Dose CHR/H/CFF 250 EC 0.5 L/ha
Susceptible: *Anthemis arvensis* (ANTAR), *Brassica napus* (self-sown plant) (BRSNW), *Centaurea cyanus* (CENCY), *Papver rhoeas* (PAPRH), *Tripleurospermum mar. inodorum* (MATIN)
Moderately Susceptible: *Galium aparine* (GALAP), *Stellaria media* (STEME),

Dose CHR/H/CFF 250 EC 0.6 L/ha
Susceptible: *Anthemis arvensis* (ANTAR), *Brassica napus* (self-sown plant) (BRSNW), *Centaurea cyanus* (CENCY), *Papver rhoeas* (PAPRH), *Stellaria media* (STEME), *Tripleurospermum mar. inodorum* (MATIN)
Moderately Susceptible: *Galium aparine* (GALAP)

The following table shows the average sensitivity of weeds in winter cereals:

Product code (L, kg/ha)	EPPO code	Scientific name	DA-A	winter wheat		winter triticale		cereals	
				Average	Efficacy	Average	Efficacy	Average	Efficacy
CHR/H/CFF 250 EC 0.2-0.3 L/ha	ANTAR	*Anthemis arvensis*	21-28	76.95	MS	71.52	MS	74.23	MS
	BRSNW	*Brassica napus* (self-sown plant)	21-28	76.82	MS	68.57	MT	72.69	MS
	CENCY	*Centaurea cyanus*	21-28	72.56	MS	72.73	MS	72.65	MS
	GALAP	*Galium aparine*	21-28	73.31	MS	70.13	MS	71.72	MS
	PAPRH	*Papver rhoeas*	21-28	75.30	MS	77.32	MS	76.31	MS
	STEME	*Stellaria media*	21-28	77.67	MS	74.62	MS	76.14	MS
	MATIN	*Tripleurospermum mar. inodorum*	21-28	78.96	MS	74.73	MS	76.84	MS
CHR/H/CFF 250 EC 0.4 L/ha	ANTAR	*Anthemis arvensis*	21-28	83.15	MS	77.52	MS	80.33	MS
	BRSNW	*Brassica napus* (self-sown plant)	21-28	86.67	S	77.52	MS	82.09	MS
	CENCY	*Centaurea cyanus*	21-28	81.39	MS	80.87	MS	81.13	MS
	GALAP	*Galium aparine*	21-28	81.62	MS	74.94	MS	78.28	MS
	PAPRH	*Papver rhoeas*	21-28	80.00	MS	82.30	MS	81.15	MS
	STEME	*Stellaria media*	21-28	84.81	MS	78.10	MS	81.46	MS
	MATIN	*Tripleurospermum mar. inodorum*	21-28	86.82	S	80.43	MS	83.63	MS
CHR/H/CFF 250 EC 0.5 L/ha	ANTAR	*Anthemis arvensis*	21-28	89.73	S	85.65	S	87.69	S
	BRSNW	*Brassica napus* (self-sown plant)	21-28	90.48	S	87.23	S	88.86	S
	CENCY	*Centaurea cyanus*	21-28	85.56	S	85.02	S	85.29	S
	GALAP	*Galium aparine*	21-28	84.86	MS	78.13	MS	81.49	MS
	PAPRH	*Papver rhoeas*	21-28	85.02	S	88.77	S	86.89	S
	STEME	*Stellaria media*	21-28	87.80	S	83.13	MS	85.47	S
	MATIN	*Tripleurospermum mar. inodorum*	21-28	91.43	S	87.92	S	89.68	S
CHR/H/CFF 250 EC 0.6 L/ha	ANTAR	*Anthemis arvensis*	21-28	90.18	S	89.93	S	90.05	S
	BRSNW	*Brassica napus* (self-sown plant)	21-28	94.14	S	92.72	S	93.43	S
	CENCY	*Centaurea cyanus*	21-28	89.35	S	90.38	S	89.87	S
	GALAP	*Galium aparine*	21-28	87.32	S	84.63	MS	85.98	S
	PAPRH	*Papver rhoeas*	21-28	88.69	S	93.77	S	91.23	S
	STEME	*Stellaria media*	21-28	90.73	S	87.32	S	89.02	S
	MATIN	*Tripleurospermum mar. inodorum*	21-28	93.44	S	89.60	S	91.52	S
Major 300 SL 0.4 L/ha	ANTAR	*Anthemis arvensis*	21-28	87.93	S	-	-	87.93	S
	BRSNW	*Brassica napus* (self-sown plant)	21-28	0.00	T	-	-	0.00	T
	CENCY	*Centaurea cyanus*	21-28	89.01	S	-	-	89.01	S
	GALAP	*Galium aparine*	21-28	13.76	T	-	-	13.76	T
	PAPRH	*Papver rhoeas*	21-28	21.77	T	-	-	21.77	T
	STEME	*Stellaria media*	21-28	22.17	T	-	-	22.17	T
	MATIN	*Tripleurospermum mar. inodorum*	21-28	90.06	S	-	-	90.06	S
Starane 333 EC 0.54 L/ha	ANTAR	*Anthemis arvensis*	21-28	68.64	MT	69.53	MT	69.09	MT
	BRSNW	*Brassica napus* (self-sown plant)	21-28	69.64	MT	62.53	MT	66.09	MT
	CENCY	*Centaurea cyanus*	21-28	72.80	MS	78.37	MS	75.58	MS

	GALAP	*Galium aparine*	21-28	81.11	MS	83.17	MS	82.14	MS
	PAPRH	*Papver rhoeas*	21-28	39.68	T	34.77	T	37.22	T
	STEME	*Stellaria media*	21-28	82.54	MS	80.95	MS	81.75	MS
	MATIN	*Tripleurospermum mar. inodorum*	21-28	72.18	MS	69.62	MT	70.90	MS
Rassel 100 SC 0.05 L/ha	ANTAR	*Anthemis arvensis*	21-28	82.03	MS	82.30	MS	82.16	MS
	BRSNW	*Brassica napus* (self-sown plant)	21-28	88.79	S	83.73	MS	86.26	S
	CENCY	*Centaurea cyanus*	21-28	72.66	MS	78.78	MS	75.72	MS
	GALAP	*Galium aparine*	21-28	80.54	MS	76.57	MS	78.56	MS
	PAPRH	*Papver rhoeas*	21-28	82.03	MS	82.72	MS	82.38	MS
	STEME	*Stellaria media*	21-28	83.94	MS	75.87	MS	79.90	MS
	MATIN	*Tripleurospermum mar. inodorum*	21-28	85.21	S	78.97	MS	82.09	MS

On the basis of submitted research, it is possible to state that CHR/H/CFF 250 EC used at dose controlled:

Dose CHR/H/CFF 250 EC 0.2-0.3 L/ha
Moderately Susceptible: *Anthemis arvensis* (ANTAR), *Brassica napus* (self-sown plant) (BRSNW), *Centaurea cyanus* (CENCY), *Galium aparine* (GALAP), *Papver rhoeas* (PAPRH), *Stellaria media* (STEME), *Tripleurospermum mar. inodorum* (MATIN)

Dose CHR/H/CFF 250 EC 0.4 L/ha
Moderately Susceptible: *Anthemis arvensis* (ANTAR), *Brassica napus* (self-sown plant) (BRSNW), *Centaurea cyanus* (CENCY), *Galium aparine* (GALAP), *Papver rhoeas* (PAPRH), *Stellaria media* (STEME), *Tripleurospermum mar. inodorum* (MATIN)
Dose CHR/H/CFF 250 EC 0.5 L/ha
Susceptible: *Anthemis arvensis* (ANTAR), *Brassica napus* (self-sown plant) (BRSNW), *Centaurea cyanus* (CENCY), *Papver rhoeas* (PAPRH), *Stellaria media* (STEME), *Tripleurospermum mar. inodorum* (MATIN)
Moderately Susceptible: *Galium aparine* (GALAP)

Dose CHR/H/CFF 250 EC 0.6 L/ha
Susceptible: *Anthemis arvensis* (ANTAR), *Brassica napus* (self-sown plant) (BRSNW), *Centaurea cyanus* (CENCY), *Galium aparine* (GALAP), *Papver rhoeas* (PAPRH), *Stellaria media* (STEME), *Tripleurospermum mar. inodorum* (MATIN)

Herbicide CHR/H/CFF 250 EC has demonstrated good crop tolerance to winter wheat and winter triticale. Therefore concluded that CHR/H/CFF 250 EC is safe usage at proposed rate and this support the label claim for the use in winter wheat and winter triticale.

Undesirable effects are not expected on succeeding crops, adjacent crop, part of plants used for propagating purposes and beneficial organisms.

According to the above, the plant protection product CHR/H/CFF 250 EC can be approved to the market and use in Poland according to proposed range of use – GAP
Based on submitted data the following regulation on the label is proposed:
Poland
Winter wheat, winter triticale:
Recommended dose at:
CHR/H/CFF 250 EC 0.4-0.5 L/ha

The product CHR/H/CFF 250 EC should be use once per season at spring post – emergence. To avoid resistance, products contain active substance with the same group shouldn't be used year after year on the same field.

CHR/H/CFF 250 EC is to be applied in spring:
BBCH 21- 32 in winter wheat and winter triticale.

Recommended volume of water 200-300 L/ha (winter wheat, winter triticale)
Recommended medium droplet spraying

Use of CHR/H/CFF 250 EC according to the proposed GAP does not represent a hazard to rotational crops and does not justify a specific labelling. CHR/H/CFF 250 EC is not persistent in soil nor is it taken up by succeeding crops.

Comments of zRMS:	<u>**In Polish label following weeds species can be included:**</u> – ***for winter triticale and winter wheat*** • **Dose 0.4 L/ha**: *Susceptible weeds:* CAPBP; *Moderately susceptible weeds*: BRSNW, MATIN, ANTAR, CENCY, GALAP, PAPRH, STEME • **Dose 0.5 L/ha:** *Susceptible weeds:* ANTAR, BRSNW, CAPBP, CENCY, GALAP, PAPRH, MATIN; *Moderately susceptible weeds:* GALAP. **ZRMs not accepted proposed by Applicant water volume: 200-400 L/ha.** During 18 eff. trials Applicant studied 200 L/ha of water in 12 trials; and 300 L/ha in 6 trials. So, water volume 200-300 L/ha can be accepted. 400 L/ha – was not studied and should not been recommended for use. **ZRMs not accepted application window: BBCH 21-33.** During trials following stage of crop development at application was studied: BBCH 21-32. So, Turango 250 EC / Hapi 250 EC should be recommended for use at BBCH 21-32 in the spring according to submitted trials. **This plant protection product 'Turango 250 EC / Hapi 250 EC' can be used in winter wheat and winter triticale against weed species included in the GAP table and label project. The product can be applied post-emergence in spring at BBCH 21-32.** **Also, following minor uses can be included in Polish label in line to Article 51 and claimed GAP table:** spelt, emmer wheat, *Triticum dicoccum*, Einkorn wheat, *Triticum monococcum,* Durum wheat, *Triticum durum,* Spring Rye and Secale cereal. In the opinion of ZRMs the same BBCH 21-32 as for major uses should be recommended on grounds of user convenience. CHR/H/CFF 250 EC can be registered for control dicotyledonous weeds at dose 0.4-0.5 L/ha.

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

3.5.1 Impact on succeeding crops (KCP 6.5.1)

For more information please refer to section B7 in Core dossier.

Waiting period before planting succeeding crops		**Overall waiting period proposed by zRMS for CHR/H/CFF 250 EC**
Crop group	**Led by clopyralid, fluroxypyr, florasulam**	
Leafy vegetables	NR	Non specific plant back restriction related to CHR/H/CFF 250 EC are required.
Root vegetables	NR	
Oilseed	NR	
Cereals	NR	

According to EPPO guidance PP 1/207 worst case NOER from Seedling Emergence study (A. Wróbel, Study code: G-06-20):

Table 3.5-1: Recalculated NOER-value for test product

Crop	Worst case NOER from seedling emergence study [ml/ha]	Recalculated NOER to g/ha using product's density = 1.0826 g/ml	Recalculated NOER from g/ha to mg/kg soil using factor 750 (5 cm depth and 1.5 g/cm soil's density)
Pisum sativum	12.8	13.86	0.0185
Linum usitatissimum	32	34.64	0.0462
Daucus carota	12.8	13.86	0.0185
Allium cepa	32	34.64	0.0462
Lolium perenne	500	541.30	0.7217
Avena sativa	500	541.30	0.7217

Predicted Environmental Concentrations (PEC) for the individual actives are performed with equations (1) and (2) (cfr. EPPO guidance PP 1/207(2)):

(1) $$PECini = \frac{A\,.\,(1\text{-}fint)}{100\,.\,d\,.\,b}$$

(2) PECact (t) = PECini . e-k.t = PECini . e-t.ln2/DT50

Whereby A = application rate (g active/ha), fint = fraction intercepted by crop cover (50% for winter cereals at BBCH 21-32), d = depth of soil layer (cm) and bd = bulk density of soil.
DT50 = 64.6 days – used clopyralid's DT50 as worst case scenario for product's DT50

Table 3.5-2: PEC-values and TER-calculation of test product (active substance) based on NOER-values.

Succeeding crop(1)	Days after application(2)	NOER mg/kg soil (3)	PEC(4)				TER(5)			
			mg/kg soil e.g. 5 cm	mg/kg soil e.g. 10 cm	mg/kg soil e.g. 20 cm	mg/kg soil e.g. 30 cm	NOER/PEC e.g. 5 cm	NOER/PEC e.g. 10 cm	NOER/PEC e.g. 20 cm	NOER/PEC e.g. 30 cm
Pisum sativum	1	0.0185	0.3609	0.1804	0.0902	0.0601	0.05120	0.10240	0.20480	0.30720
	100		0.1234	0.0617	0.0309	0.0206	0.14971	0.29943	0.59885	0.89828
	110		0.1109	0.0554	0.0277	0.0185	0.16667	0.33334	0.66668	1.00003
	140		0.0803	0.0402	0.0201	0.0134	0.22996	0.45992	0.91985	-
	150		0.0722	0.0361	0.0180	0.0120	0.25601	0.51202	1.02404	-
	210		0.0379	0.0190	0.0095	0.0063	0.48736	0.97472	-	-

Succeeding crop(1)	Days after applica-tion(2)	NOER mg/kg soil (3)	PEC(4)				TER(5)			
			mg/kg soil e.g. 5 cm	mg/kg soil e.g. 10 cm	mg/kg soil e.g. 20 cm	mg/kg soil e.g. 30 cm	NOER/PEC e.g. 5 cm	NOER/PEC e.g. 10 cm	NOER/PEC e.g. 20 cm	NOER/PEC e.g. 30 cm
	220		0.0341	0.0170	0.0085	0.0057	0.54526	1.08512	-	-
	270		0.0199	0.0100	0.0050	0.0033	0.92778	-	-	-
	280		0.0179	0.0089	0.0045	0.0030	1.03287	-	-	-
Linum usitatissi-mum	1	0.0462	0.3609	0.1804	0.0902	0.0601	0.12800	0.25600	0.51200	0.76800
	20		0.2912	0.1456	0.0728	0.0485	0.15864	0.31728	0.63455	0.95183
	30		0.2615	0.1308	0.0654	0.0485	0.17661	0.35321	0.70643	1.05964
	60		0.1896	0.0948	0.0474	0.0316	0.24367	0.48734	0.97469	-
	70		0.1703	0.0851	0.0426	0.0284	0.27127	0.54254	1.08508	-
	120		0.0996	0.0498	0.0249	0.0166	0.46387	0.92775	-	-
	130		0.0894	0.0447	0.0224	0.0149	0.51641	1.03283	-	-
	190		0.0470	0.0235	0.0117	0.0078	0.98309	-	-	-
	200		0.0422	0.0211	0.0106	0.0070	1.09444	-	-	-
Daucus carota	1	0.0185	0.3609	0.1804	0.0902	0.0601	0.05120	0.10240	0.20480	0.30720
	100		0.1234	0.0617	0.0309	0.0206	0.14971	0.29943	0.59885	0.89828
	110		0.1109	0.0554	0.0277	0.0185	0.16667	0.33334	0.66668	1.00003
	140		0.0803	0.0402	0.0201	0.0134	0.22996	0.45992	0.91985	-
	150		0.0722	0.0361	0.0180	0.0120	0.25601	0.51202	1.02404	-
	210		0.0379	0.0190	0.0095	0.0063	0.48736	0.97472	-	-
	220		0.0341	0.0170	0.0085	0.0057	0.54526	1.08512	-	-
	270		0.0199	0.0100	0.0050	0.0033	0.92778	-	-	-
	280		0.0179	0.0089	0.0045	0.0030	1.03287	-	-	-
Allium cepa	1	0.0462	0.3609	0.1804	0.0902	0.0601	0.12800	0.25600	0.51200	0.76800
	20		0.2912	0.1456	0.0728	0.0485	0.15864	0.31728	0.63455	0.95183
	30		0.2615	0.1308	0.0654	0.0485	0.17661	0.35321	0.70643	1.05964
	60		0.1896	0.0948	0.0474	0.0316	0.24367	0.48734	0.97469	-
	70		0.1703	0.0851	0.0426	0.0284	0.27127	0.54254	1.08508	-
	120		0.0996	0.0498	0.0249	0.0166	0.46387	0.92775	-	-
	130		0.0894	0.0447	0.0224	0.0149	0.51641	1.03283	-	-
	190		0.0470	0.0235	0.0117	0.0078	0.98309	-	-	-
	200		0.0422	0.0211	0.0106	0.0070	1.09444	-	-	-
Lolium perenne	1	0.7217	0.3609	0.1804	0.0902	0.0601	2.00000	4.00000	8.00000	12.0000
Avena sativa	1	0.7217	0.3609	0.1804	0.0902	0.0601	2.00000	4.00000	8.00000	12.0000

(1) possible following crops in a regular crop rotation
(2) adequate value for following crop in a regular crop rotation

(3) NOER-values of succeeding crops
(4) PEC (soil depth e.g. 5/20 cm)
(5) TER (soil depth e.g. 5/20 cm)

The TER values of CHR/H/CFF 250 EC do exceed a trigger value 1 , then no further trials are required when:

Crop	Date of sowing	Crop rotation
		DT50= 64.6
Pisum sativum	April	Normal crop rotation after plowing on 10 cm depth befoe sowing
Linum usitatissimum	April	Normal crop rotation after plowing on 10 cm depth befoe sowing
Daucus carota	April	Normal crop rotation after plowing on 10 cm depth befoe sowing
Allium cepa	April	Normal crop rotation after plowing on 10 cm depth befoe sowing
Lolium perenne	September	Normal crop rotation without plowing
Avena sativa	March	Normal crop rotation without plowing

Labeling in Succeding crop sections:
- in normal crop rotation after plowing on 10 cm, you can sow oilseeds (flax, etc.), legumes (peas, etc.), bulbs (onions, etc.) and root crops (daucus, etc.).
- in normal crop rotation without plowing you can sow: winter and spring cereals.

In case of crop failure as a succeeding crop you can sow winter and spring cereals (including maize) – without plowing before sowing.

<table>
<tr><td>Comments of zRMS:</td><td>
The EU requirements on plant protection products requires, that sufficient data must be reported to permit an evaluation of possible adverse effects of a treatment with the plant protection product on succeeding crops if studies and evaluations presented in the other part of the dossier, show that significant residues of the active substance, its metabolites or degradation products, which have or may have biological activity on succeeding crops, remain in soil or in plant materials up to sowing or planting time of possible succeeding crops.
Therefore, the Applicant should present the assessment of the possible effect of CHR/H/CFF 250 EC on crops grown as rotational or replacement crops following crops treated with that product, prepared in accordance to the EPPO Standard Efficacy evaluation of plant protection products.
Effects on succeeding crops (PP 1/207 (2)). This standard is intended as a general standard on the methods used to examine whether the active substance of a plant protection product can cause negative effects on crops grown after a crop treated with that product. These crops can be grown as normal rotational crops as well as replacement crops in case of crop failure.
Components of Turango 250 EC / Hapi 250 EC are old active ingredients (florasulam, fluroxypyr and clopyralid) authorised for cereals production for long time ago. So, restrictions on rotational crops are well-known. According to the scientific data half dissipation time (DT_{50}) of florasulam is 2-18 days, for fluroxypyr - a typical half-life is 36 days and for clopyralid is 40-70 days. So, it can be assumed that the herbicide Turango 250 EC / Hapi 250 EC (product code: CHR/H/CFF 250 EC) is degraded in the soil during the growing season to a level that does not pose a risk to succeeding crops.
<u>ZRMS accepted following entry in the label (proposed by the applicant):</u> „CHR/H/CFF 250 EC decomposes in the soil (microbial degradation) during the growing season to a level that poses no risk to subsequent crops. If a field treated with the product is ploughed early (as a result of plant damage by frost, disease or pests), all winter and spring cereals and maize can be grown on the field after
</td></tr>
</table>

	pre-sowing cultivation. All arable crops can be grown in the same growing season after the crop has been harvested. When using CHR/H/CFF 250 EC in a mixture with other herbicides, follow the crop rotation recommendations for the products in the mixture."

3.5.2 Impact on other plants including adjacent crops (KCP 6.5.2)

No specific studies were conducted to fill this data point.
No phytotoxic effects were observed in the commissioned trials. Tested herbicides did not influence on yield, degree of plant lodging and tillering, weight of 1000 grains regardless of herbicide dose) it is expected the product is safe for plants of adjacent crops.
CHR/H/CFF 250 EC effectively controlled dicotyledons plants therefore users must exercise caution to avoid drift or vapors which may cause discoloration and damage to non-target foliage.

According to A. Gierbuszewska, Study code: G-05-20 and A. Wróbel, Study code: G-06-20 please find results for seedling emergence and vegetative vigour below. For details for those two studies please refer to Apendix 1.

Assessment of the risk for non-target plants due to the use of CHR/H/CFF 250 EC in winter cereals

Intended use	Winter cereals				
Active substance/product	CHR/H/CFF 250 EC				
Application rate (g/ha)	1 x 541.3				
MAF	1				
Test species	**ER_{50} (g/ha)**	**Drift rate**	**$PER_{off-field}$ (g/ha)**	**TER criterion: TER ≥ 5**	
Pisum sativum	88.7 g prod/ha	0.0277	14.99	5.92	21 d Seedling emergence
Linum usitatissimum	75.7 g prod/ha	0.0277	14.99	5.05	21 d Seedling emergence
Daucus carota	51.9 g prod/ha	0.0277	14.99	15.04	21 d Seedling emergence
Allium cepa	167.5 g prod/ha	0.0277	14.99	11.17	21 d Seedling emergence
Lolium perenne	543.1 g prod/ha	0.0277	14.99	36.23	21 d Seedling emergence
Avena Sativa	543.1 g prod/ha	0.0277	14.99	36.23	21 d Seedling emergence
Pisum sativum	53.9 g prod/ha	0.0277	14.99	3.60	21 d Vegetative vigour
Linum usitatissimum	36.8 g prod/ha	0.0277	14.99	2.46	21 d Vegetative vigour
Daucus carota	21 g prod/ha	0.0277	14.99	1.40	21 d Vegetative vigour
Allium cepa	162.1 g prod/ha	0.0277	14.99	10.81	21 d Vegetative vigour

Lolium perenne	543.1 g prod/ha	0.0277	14.99	36.23	21 d Vegetative vigour
Avena Sativa	543.1 g prod/ha	0.0277	14.99	36.23	21 d Vegetative vigour

MAF: Multiple application factor; PER: Predicted environmental rate; TER: toxicity to exposure ratio. TER values shown in bold fall below the relevant trigger.

In order to reduce the off-field exposure, risk mitigation measures can be implemented. These correspond to unsprayed in-field buffer strips of a given width and/or the usage of drift reducing nozzles. The results of the risk assessment using typical mitigation measures (no-spray buffer zones of 5 or 10 m; drift-reducing nozzles with reduction by 50 %, 75 %, or 90 %) are summarised in the following table.

Risk assessment for non-target terrestrial plants due to the use of CHR/H/CFF 250 EC in winter cereals considering risk mitigation (in-field no-spray buffer zones, and drift-reducing nozzles)

Intended use		Cereals winter			
Active substance/product		CHR/H/CFF 250 EC			
Application rate (g/ha)		1 × 541.3			
MAF		1			
Buffer strip (m)	**Drift rate (%)**	**PER$_{off-field}$ (g/ha)**	**PER$_{off-field}$ 50 % drift red. (g/ha)**	**PER$_{off-field}$ 75 % drift red. (g/ha)**	**PER$_{off-field}$ 90 % drift red. (g/ha)**
1	2.77	14.99	7.50	3.74	1.50
5	0.57	3.09	-	-	-
Toxicity value ER_{50} = 21 g/ha		**TER** **criterion: TER ≥ 5**			
1		1.40	2.8	5.61	14
5		6.80			

MAF: Multiple application factor; PER: Predicted environmental rates; TER: toxicity to exposure ratio. Criteria values shown in bold breach the relevant trigger.

Based on the predicted rates of CHR/H/CFF 250 EC in off-field areas, the TER values describing the risk for non-target plants following exposure to CHR/H/CFF 250 EC according to the GAP of the formulation CHR/H/CFF 250 EC achieve the acceptability criteria TER ≥ 5 with applying:

- 5 m
- 1 m and use of 75 % drift reducing nozzles

Comments of zRMS:	The Turango 250 EC / Hapi 250 EC (product code CHR/H/CFF 250 EC) is effective against some mono- and dicotyledonous weeds. In this situation, this plant protection product may also cause discoloration and damage to non-target foliage plants, including adjacent crops. The information in this registration report and label warns against overlapping and drift of the spray liquid should be presented. Therefore, warnings to avoid spray drift on adjacent crops should appear on the label. For example: *During spraying, maintain a safety zone of at least 5 m from residential buildings/habitats and members of the public. To protect arthropods, it is necessary to establish a 1 m protection zone from non-agricultural areas and to use techniques that reduce spray drift during treatment by 75%.*

Tank cleaning

Cleaning of equipment should be conducted according to the flowing procedure:

- Immediately after spraying drain tank completely. Any contamination on the outside of the spraying equipment should be removed by washing with clean water.
- Rinse inside of tank with clean water and flush through boom and hoses using at least one tenth of the spray tank volume. Drain completely.
- Fill the tank with clean water and add one of the cleaning agents recommended for clean-up of spraying equipment. Agitate for a minimum of 10 min. and then flush the boom and hoses with the cleaning solution. Nozzles and filters should be removed and cleaned up separately with a recommended cleaning agent.
- Rinse the tank with clean water and flush through the boom and hoses using at least one tenth of the spray tank volume. Drain tank completely.
- CHR/H/CFF 250 EC is non-corrosive to equipment, non-flammable and non-volatile.

Comments of zRMS:	Tank cleaning procedure proposed by Applicant is accepted by ZRMs.

3.5.3 Effects on beneficial and other non-target organisms (KCP 6.5.3)

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

Comments of zRMS:	Detailed studies on the possible adverse effects to beneficial organisms are submitted and summarised in Ecotoxicology section. However, accordingly to documentation submitted by Applicant (efficacy and selectivity trials) – none negative effect was observed on non-target organisms during all trials.

Compatibility with current management practices including IPM

Not applicable

Summary and conclusion

Not applicable

3.6 Other/special studies

Not performed

Comments of zRMS:	Statement accepted.

3.7 List of test facilities including the corresponding certificates

Table 3.7-1: List of test facilities

Test facility	Address	Certificate (Yes or No)
SynTech Research Poland Sp. z o.o.	ul. Jagiellońska 69/1, 85-027 Bydgoszcz,	Yes

Test facility	Address	Certificate (Yes or No)
	Poland	
A.T Sp. z o.o.	ul. Przemysłowa 3, 88-300 Mogilno, Poland	Yes
Poznań University of Life Sciences, Research and Education Center Gorzyń	ul. Wojska Polskiego 28, 60-637 Poznań, Poland	Yes

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 Company Report No. Source (where different from company) GLP or GEP status Published or not	Data Verte-brate study Y/N	Owner
KCP 6.2	Joanna Guzińska	2020	Efficacy evaluation of herbicide CHR/H/CFF 250 EC when applied at spring into winter wheat to control of weeds, Poland, 2020 A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno Report no.: A.T/2020/037/PO GEP - yes Unpublished	N	Chemirol Sp. z o.o.
KCP 6.2	Joanna Guzińska	2020	Efficacy evaluation of herbicide CHR/H/CFF 250 EC when applied at spring into winter wheat to control of weeds, Poland, 2020. A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno Report no.: A.T/2020/038/PO GEP - yes Unpublished	N	Chemirol Sp. z o.o.
KCP 6.2	Joanna Guzińska	2020	Efficacy evaluation of herbicide CHR/H/CFF 250 EC when applied at spring into winter wheat to control of weeds, Poland, 2020. A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno Report no.: A.T/2020/039/PO GEP - yes Unpublished	N	Chemirol Sp. z o.o.
KCP 6.2	Joanna Guzińska	2020	Efficacy evaluation of herbicide CHR/H/CFF 250 EC when applied at spring into winter wheat to control of weeds, Poland, 2020. A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno Report no.: A.T/2020/040/PO GEP - yes Unpublished	N	Chemirol Sp. z o.o.
KCP 6.2	Joanna Guzińska	2021	Efficacy evaluation of herbicide CHR/H/CFF 250 EC when applied at spring into winter wheat to control of weeds, Poland, 2021.	N	Chemirol Sp. z o.o.

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Data Verte-brate study Y/N	Owner
			A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno Report no.: A.T/2021/029/PO GEP - yes Unpublished		
KCP 6.2	Joanna Guzińska	2021	Efficacy evaluation of herbicide CHR/H/CFF 250 EC when applied at spring into winter wheat to control of weeds, Poland, 2021. A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno Report no.: A.T/2021/033/PO GEP - yes Unpublished	N	Chemirol Sp. z o.o.
KCP 6.2	Robert Idziak	2020	Assessment of efficacy of herbicide CHR/H/CFF applied in winter wheat Poznań University of Life Sciences, Research and Education Center Gorzyń, Agronomy Department; ul. Wojska Polskiego 28, 60-637 Poznań Report no.: AH/20/PO/2/Pr/CFF GEP - yes Unpublished	N	Chemirol Sp. z o.o.
KCP 6.2	Łukasz Sobiech	2021	Efficacy and selectivity of the CHR/H/CFF preparation in the control of weeds in the cultivation of winter cereals Poznań University of Life Sciences, Research and Education Center Gorzyń, Agronomy Department; ul. Wojska Polskiego 28, 60-637 Poznań Report no.: AH/21/PO/5/Pr/1 GEP - yes Unpublished	N	Chemirol Sp. z o.o.
KCP 6.2	Łukasz Sobiech	2021	Efficacy and selectivity of the CHR/H/CFF preparation in the control of weeds in the cultivation of winter cereals Poznań University of Life Sciences, Research and Education Center Gorzyń, Agronomy Department; ul. Wojska Polskiego 28, 60-637 Poznań Report no.: AH/21/PO/5/Ra/2 GEP - yes Unpublished	N	Chemirol Sp. z o.o.
KCP 6.2	Zdzisław Jaskólski	2021	Efficacy and selectivity of CHR/H/CFF 250 EC (clopyralid 120 g/L, fluroxypyr 120 g/L, florasulam 10 g/L), winter wheat. SynTech Research Poland Sp. z o.o.	N	Chemirol Sp. z o.o.

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Data Verte-brate study Y/N	Owner
			69/1 Jagiellonska 85-027 Bydgoszcz Poland Report no.: SRPL21-414-336HE GEP - yes Unpublished		
KCP 6.2	Zdzisław Jaskólski	2021	Efficacy and selectivity of CHR/H/CFF 250 EC (clopyralid 120 g/L, fluroxypyr 120 g/L, florasulam 10 g/L), winter wheat. SynTech Research Poland Sp. z o.o. 69/1 Jagiellonska 85-027 Bydgoszcz Poland Report no.: SRPL21-415-336HE GEP - yes Unpublished	N	Chemirol Sp. z o.o.
KCP 6.4	Joanna Guzińska	2020	Selectivity evaluation of herbicide CHR/H/CFF 250 EC when applied at spring into winter wheat, Poland, 2020. A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno Report no.: A.T/2020/044/PO GEP - yes Unpublished	N	Chemirol Sp. z o.o.
KCP 6.4	Joanna Guzińska	2020	Selectivity evaluation of herbicide CHR/H/CFF 250 EC when applied at spring into winter wheat, Poland, 2020. A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno Report no.: A.T/2020/045/PO GEP - yes Unpublished	N	Chemirol Sp. z o.o.
KCP 6.4	Joanna Guzińska	2020	Selectivity evaluation of herbicide CHR/H/CFF 250 EC when applied at spring into winter wheat, Poland, 2020. A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno Report no.: A.T/2020/046/PO GEP - yes Unpublished	N	Chemirol Sp. z o.o.
KCP 6.4	Joanna Guzińska	2020	Selectivity evaluation of herbicide CHR/H/CFF 250 EC when applied at spring into winter wheat, Poland, 2020.	N	Chemirol Sp. z o.o.

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Data Verte-brate study Y/N	Owner
			A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno Report no.: A.T/2020/047/PO GEP - yes Unpublished		
KCP 6.4	Joanna Guzińska	2021	Selectivity evaluation of herbicide CHR/H/CFF 250 EC when applied into winter wheat to control of weeds, Poland, 2021. A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno Report no.: A.T/2021/031/PO GEP - yes Unpublished	N	Chemirol Sp. z o.o.
KCP 6.4	Beata Szymańska	2021	Study of herbicide phytotoxicity CHR/H/CFF in cereal winter Poznań University of Life Sciences, Research and Education Center Gorzyń, Wojska Polskiego 28, 60-637 Poznań Report no.: AH/21/PO/5/Br/1 GEP - yes Unpublished	N	Chemirol Sp. z o.o.
KCP 6.4	Beata Szymańska	2021	Study of herbicide phytotoxicity CHR/H/CFF in cereal winter Poznań University of Life Sciences, Research and Education Center Gorzyń, Wojska Polskiego 28, 60-637 Poznań Report no.: AH/21/PO/5/Gr/2 GEP - yes Unpublished	N	Chemirol Sp. z o.o.
KCP 6.4	Zdzisław Jaskólski	2021	Selectivity of CHR/H/CFF 250 EC (clopyralid 120 g/L, fluroxypyr 120 g/L, florasulam 10 g/L), winter wheat. SynTech Research Poland Sp. z o.o. 69/1 Jagiellonska 85-027 Bydgoszcz Poland Report no.: SRPL21-417-336HE GEP - yes Unpublished	N	Chemirol Sp. z o.o.
KCP 6.2	Joanna Guzińska	2020	Efficacy evaluation of herbicide CHR/H/CFF 250 EC when applied at spring into winter triticale to control of weeds, Poland, 2020. A.T Sp. z o.o. ul. Przemysłowa 3	N	Chemirol Sp. z o.o.

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Data Verte-brate study Y/N	Owner
			88-300 Mogilno Report no.: A.T/2020/041/PŻO GEP - yes Unpublished		
KCP 6.2	Joanna Guzińska	2020	Efficacy evaluation of herbicide CHR/H/CFF 250 EC when applied at spring into winter triticale to control of weeds, Poland, 2020. A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno Report no.: A.T/2020/042/PŻO GEP - yes Unpublished	N	Chemirol Sp. z o.o.
KCP 6.2	Joanna Guzińska	2020	Efficacy evaluation of herbicide CHR/H/CFF 250 EC when applied at spring into winter triticale to control of weeds, Poland, 2020 A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno Report no.: A.T/2020/043/PŻO GEP - yes Unpublished	N	Chemirol Sp. z o.o.
KCP 6.2	Joanna Guzińska	2021	Efficacy evaluation of herbicide CHR/H/CFF 250 EC when applied at spring into winter triticale to control of weeds, Poland, 2021. A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno Report no.: A.T/2021/030/PŻO GEP - yes Unpublished	N	Chemirol Sp. z o.o.
KCP 6.2	Łukasz Sobiech	2021	Efficacy and selectivity of the CHR/H/CFF preparation in the control of weeds in the cultivation of winter cereals Poznań University of Life Sciences, Research and Education Center Gorzyń, Agronomy Department; ul. Wojska Polskiego 28, 60-637 Poznań Report no.: AH/21/PszO/5/Bu/2 GEP - yes Unpublished	N	Chemirol Sp. z o.o.
KCP 6.2	Łukasz Sobiech	2021	Efficacy and selectivity of the CHR/H/CFF preparation in the control of weeds in the cultivation of winter cereals Poznań University of Life Sciences, Research and Education Center Gorzyń, Agronomy	N	Chemirol Sp. z o.o.

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Data Verte-brate study Y/N	Owner
			Department; ul. Wojska Polskiego 28, 60-637 Poznań Report no.: AH/21/PszO/5/Ra/1 GEP - yes Unpublished		
KCP 6.2	Zdzisław Jaskólski	2021	Efficacy and selectivity of CHR/H/CFF 250 EC (clopyralid 120 g/L, fluroxypyr 120 g/L, florasulam 10 g/L), triticale w. SynTech Research Poland Sp. z o.o. 69/1 Jagiellonska 85-027 Bydgoszcz Poland Report no.: SRPL21-413-336HE GEP - yes Unpublished	N	Chemirol Sp. z o.o.
KCP 6.4	Joanna Guzińska	2020	Selectivity evaluation of herbicide CHR/H/CFF 250 EC when applied at spring into winter triticale, Poland, 2020. A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno Report no.: A.T/2020/048/PŻO GEP - yes Unpublished	N	Chemirol Sp. z o.o.
KCP 6.4	Joanna Guzińska	2020	Selectivity evaluation of herbicide CHR/H/CFF 250 EC when applied at spring into winter triticale, Poland, 2020. Report no.: A.T/2020/049/PŻO GEP - yes Unpublished	N	Chemirol Sp. z o.o.
KCP 6.4	Joanna Guzińska	2020	Selectivity evaluation of herbicide CHR/H/CFF 250 EC when applied at spring into winter triticale, Poland, 2020. A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno Report no.: A.T/2020/050/PŻO GEP - yes Unpublished	N	Chemirol Sp. z o.o.
KCP 6.4	Joanna Guzińska	2021	Selectivity evaluation of herbicide CHR/H/CFF 250 EC when applied into winter triticale to control of weeds, Poland, 2021. A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno Report no.: A.T/2021/032/PŻO	N	Chemirol Sp. z o.o.

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Data Verte-brate study Y/N	Owner
			GEP - yes Unpublished		
KCP 6.4	Beata Szymańska	2021	Study of herbicide phytotoxicity CHR/H/CFF in cereal winter Poznań University of Life Sciences, Research and Education Center Gorzyń, Agronomy Department; ul. Wojska Polskiego 28, 60-637 Poznań Report no.: AH/21/PszO/5/Br/1 GEP - yes Unpublished	N	Chemirol Sp. z o.o.
KCP 6.4	Zdzisław Jaskólski	2021	Selectivity of CHR/H/CFF 250 EC (clopyralid 120 g/L, fluroxypyr 120 g/L, florasulam 10 g/L), triticale w. SynTech Research Poland Sp. z o.o. 69/1 Jagiellonska 85-027 Bydgoszcz Poland Report no.: SRPL21-416-336HE GEP - yes Unpublished	N	Chemirol Sp. z o.o.
KCP 10.6/01	A. Wróbel	2023	CHR/H/CFF 250 EC Terrestial Plant Test: Seedling Emergence and Seedling Growth Test G-06-20 Łukasiewicz Research Network – Institute of Industrial Organic Chemistry, Branch Pszczyna Department of Ecotoxicological Studies, Doświadczalna 27, 43-200 Pszczyna, Poland GLP Unpublished	N	Chemirol
KCP 10.6/02	A. Gierbuszewska	2023	CHR/H/CFF 250 EC Terrestial Plant Test: Vegetative Vigour Test G-05-20 Łukasiewicz Research Network – Institute of Industrial Organic Chemistry, Branch Pszczyna Department of Ecotoxicological Studies, Doświadczalna 27, 43-200 Pszczyna, Poland GLP Unpublished	N	Chemirol

List of data submitted or referred to by the applicant and relied on, but already evaluated at EU peer review

Not applicable

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Vertebrate study Y/N	Owner
n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a

List of data submitted by the applicant and not relied on

Not applicable

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Vertebrate study Y/N	Owner
n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a

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

Not applicable

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Vertebrate study Y/N	Owner
n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a

Appendix 2 Additional information provided by the applicant

COMPARISON OF CLIMATIC AND AGRICULTURAL CONDITIONS IN POLAND AND THE CZECH REPUBLIC IN REFERENCE TO REGISTRATION OF PLANT PROTECTION PRODUCT CHR/H/CFF 250 EC

1. Introduction

The purpose of the following document is to compare climatic and agricultural conditions of Poland and the Czech Republic in order to enable data from efficacy and phytotoxicity trials conducted in Poland to be used for registration purposes of spring, foliar applied, cereal herbicide CHR/H/CFF 250 EC in the Czech Republic.

2. Plant protection products under consideration

2.1. General

The efficacy and phytotoxicity studies were conducted in Poland in 2020 and 2021 in winter wheat and winter triticale on the plant protection product CHR/H/CFF 250 EC containing the active substances: 120 g/L clopyralid, 10 g/L florasulam and 120 g/L fluroxypyr and a standard herbicides: Major 300 SL containing the active substance clopyralid 300 g/L, Stararne 333 Ec containing the active substance fluroxypyr 333 g/L and Rassel 100 SC containing the active substance florasulam 100 g/L. Total of 18 efficacy (11 trilas in winter wheat and 7 trials in winter triticale) and 14 phytotoxicity (8 trilas in winter wheat, 6 trials in winter triticale) GEP trials were carried out to assess the product's efficacy and phytotoxic potential.

2.2. Products' characteristics:

Table 1. Products' characteristics

PRODUCT	CHR/H/CFF 250 EC	MAJOR 300 SL	STARANE 333 EC	RASSEL 100 SC
active substance content	250 g/L (120 g/L clopyralid, 10 g/L florasulam and 120 g/L fluroxypyr)	clopyralid 300 g/L	fluroxypyr 333 g/L	florasulam 100 g/L
formulation	EC – Emulsifiable Concentrate	SL – Soluble Concentrate	EC – Emulsifiable Concentrate	SC – Suspension Concentrate

The following information originates from Conclusion on the peer review of the pesticide risk assessment of the active substance *Clopyralid_RAR_01_Volume_1_2017_05_31.pdf* for the active substance clopyralid, *Fluroxypyr_AR_01_Vol1_public.pdf* for the active substance fluroxypyr and *Florasulam_RAR_01_Volume_1_2013-11-25_san.pdf* for the active substance florasulam.

Table 2. Properties of active substances

active substance common name	Clopyralid	Florasulam	Fluroxypyr
active substance chemical name	3,6-dichloropyridine-2-carboxylic acid	N-(2,6-difluorophenyl)-8-fluoro-5-methoxy-[1,2,4]triazolo[1,5-c]pyrimidine-2-sulfonamide	2-(4-amino-3,5-dichloro-6-fluoropyridin-2-yl)oxyacetic acid
function	Clopyralid will mainly be absorbed through green leaves,	Florasulam is a herbicide which is active against broadleaf weeds in	Fluroxypyr is absorbed after foliar application and is translocated to

	uptake through roots is of much less importance. The MoA is not yet completely understood. But it has been shown that clopyralid is being accumulated in merestemic tissue and influencing cell division, cell elongation and cell extension as well as RNA synthesis. Consequently, merestemic tissue dies off. Typical symptoms of suscep-tible plants are deformation and curling of young leaves and stem followed by growth stop and necrosis.	winter and spring cereals by inhibiting the plant enzyme, acetolactate synthase (ALS). This result in complete desiccation of susceptible plants in 7-10 days under ideal growing conditions, however, this may take up to 6-8 weeks under less ideal conditions.	other parts of the plant, therefore making it systemic in its action. The compound causes typical auxin-type responses in its target plants, such as leaf rolling. Fluroxypyr is on cereals, fallow land and on-farm non-cropland. The formulated product is absorbed through the leaves of susceptible plants.
mode of action	auxin mimics	inhibits the plant enzyme acetolactate synthase (ALS)	auxin mimics
application	apply from the phase, between growth stage BBCH 13-39 in winter cereals	apply from the phase, between growth stage BBCH 12-49 in winter cereals	apply from the phase, between growth stage BBCH 12-39 in winter cereals

3. Climatic conditions

Poland and the Czech Republic are geographically very close to one another. The geographical coordinates of the Czech Republic are: latitude 49.45°N, longitude 15.30°E. The geographical coordinates of Poland are: latitude 52.00°N, longitude 20.00°E. The two countries share 615 km border.

The following map (originating from maps.google.com) illustrates the two countries.

Figure 1. Location of Poland and the Czech Republic

The following sections present and compare particular elements of Polish and Czech climate. The following parameters are compared: average monthly temperature, average maximum monthly temperature, average minimum monthly temperature, average monthly precipitation sum. To compare data in each country there were selected several locations from which average readings were calculated. The following map presents the location of climate stations included in calculations.

Figure 2. Location of climate stations

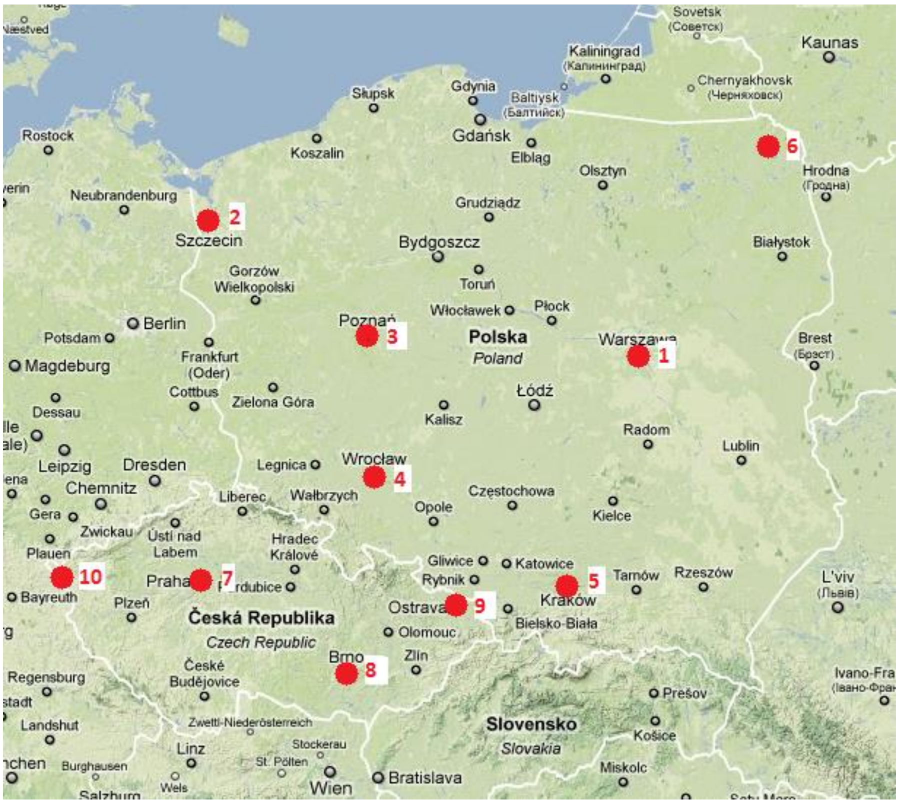


Table 3. Parameters of climate stations

Number on map	Location	Latitude	Longitude	Elevation (meters AMSL)
POLAND				
1.	Warsaw	52.10°N	20.58°E	106
2.	Szczecin	52.35°N	14.54°E	1
3.	Poznan	52.25°N	16.50°E	86
4.	Wroclaw	51.06°N	16.53°E	120
5.	Krakow	50.05°N	19.48°E	237
6.	Suwalki	54.08°N	22.57°E	186
THE CZECH REPUBLIC				
7.	Prague	50.00°N	14.40°E	303
8.	Brno	49.15°N	16.70°E	238
9.	Ostrava	49.68°N	18.10°E	256
10.	Cheb	50.08°N	12.40°E	474

data source: http://pl.allmetsat.com/klimat/

Climate stations were selected in a way that ensures their equal distribution throughout the area of each country. Data from Poland was collected from six stations while data from the Czech Republic was collected from four stations. The number of Czech stations is smaller than that of Polish stations as detailed climatic data was not readily available from a greater number of stations in the Czech Republic. What is more, the authors of this report believe that the number of stations taken into account is sufficient to perform the comparison of climatic conditions and that it is relative to the acreage of each country.

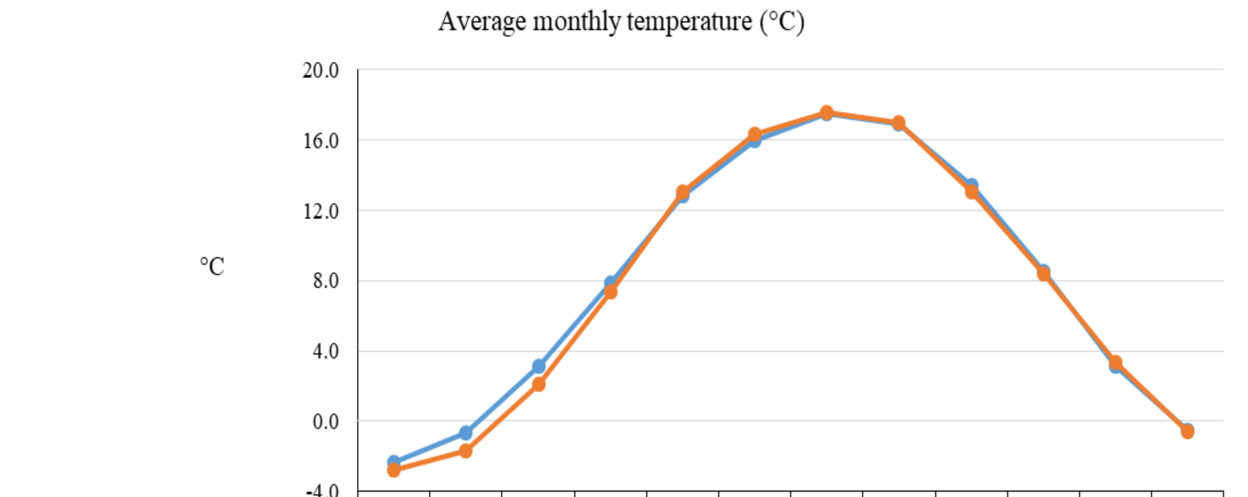
3.1. Average monthly temperature

Table 4. Average monthly temperature data

Location	Average monthly temperature (°C)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
The Czech Rep.: Cheb	-2.5	-1.2	2.4	6.7	11.7	15.0	16.5	15.8	12.5	7.8	2.4	-1.0
The Czech Rep.: Prague	-2.0	-0.6	3.1	7.6	12.5	15.6	17.1	16.6	13.2	8.3	3.0	-0.2
The Czech Rep.: Brno	-2.5	-0.3	3.8	9.0	13.9	17.0	18.5	18.1	14.3	9.1	3.5	-0.6
The Czech Rep.: Ostrava	-2.4	-0.7	3.2	8.2	13.2	16.4	17.8	17.2	13.6	8.9	3.7	-0.4
The Czech Rep. - AVERAGE	-2.35	-0.70	3.13	7.88	12.83	16.00	17.48	16.93	13.40	8.53	3.15	-0.55
Poland: Warsaw	-3.3	-2.1	1.9	7.7	13.5	16.7	18.0	17.3	13.1	8.2	3.2	-0.9
Poland: Poznan	-2.0	-1.0	2.7	7.6	13.3	16.7	18.0	17.4	13.4	8.8	3.8	-0.1
Poland: Wroclaw	-1.8	-0.5	3.2	8.0	13.1	16.5	17.7	17.2	13.4	8.9	3.9	0.2
Poland: Krakow	-3.3	-1.6	2.4	7.9	13.1	16.2	17.5	16.9	13.1	8.3	3.2	-1.0
Poland: Szczecin	-1.1	-0.3	3.0	7.4	12.9	16.4	17.7	17.2	13.5	9.2	4.4	0.8
Poland: Suwalki	-5.3	-4.6	-0.6	5.6	12.2	15.4	16.6	16.0	11.6	6.8	1.7	-2.7
Poland - AVERAGE	-2.80	-1.68	2.10	7.37	13.02	16.32	17.58	17.00	13.02	8.37	3.37	-0.62

data source:
http://www.climate-charts.com/; NOAA Global Climate Normals 1961-1990; National Oceanic and Atmospheric Administration (NOAA).

Figure 3. Average monthly temperature graph



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
The Czech Rep. - AVERAGE	-2.35	-0.70	3.13	7.88	12.83	16.00	17.48	16.93	13.40	8.53	3.15	-0.55
Poland - AVERAGE	-2.80	-1.68	2.10	7.37	13.02	16.32	17.58	17.00	13.02	8.37	3.37	-0.62

The table and graph above show that average temperature in Poland and in the Czech Republic is very similar. There are slight differences only in the winter months. The time which is of most importance to the application of product CHR/H/CFF 250 EC is spring. In the months of March through May there are a very close correlations between average temperatures in Poland and in the Czech Republic.

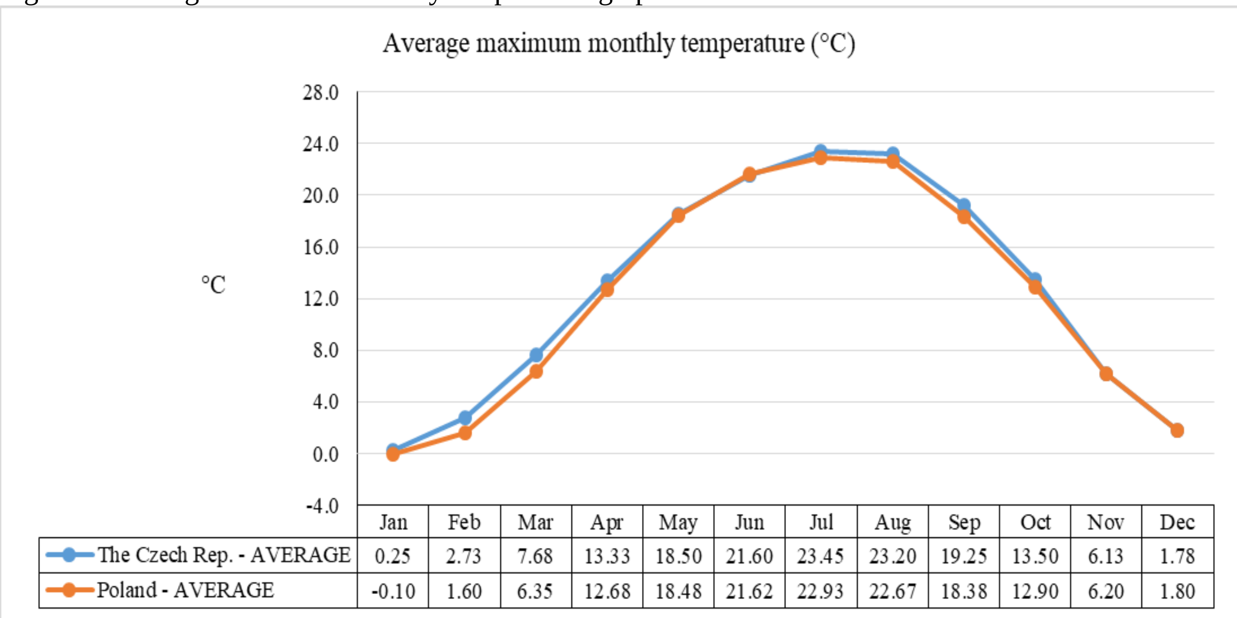
3.2. Average maximum monthly temperature

Table 5. Average maximum monthly temperature data

Location	Average maximum monthly temperature (°C)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
The Czech Rep.: Cheb	0.0	2.3	7.0	12.2	17.4	20.6	22.4	22.2	18.5	12.8	5.2	1.3
The Czech Rep.: Prague	0.4	2.7	7.7	13.2	18.3	21.4	23.3	23.0	19.0	13.1	6.0	1.9
The Czech Rep.: Brno	0.2	3.1	8.4	14.4	19.5	22.5	24.5	24.2	20.1	14.1	6.6	1.9
The Czech Rep.: Ostrava	0.4	2.8	7.6	13.5	18.8	21.9	23.6	23.4	19.4	14.0	6.7	2.0
The Czech Rep. - AVERAGE	0.25	2.73	7.68	13.33	18.50	21.60	23.45	23.20	19.25	13.50	6.13	1.78
Poland: Warsaw	-0.7	1.0	6.0	12.9	18.8	22.0	23.3	22.9	18.3	12.7	5.9	1.4
Poland: Poznan	0.5	2.2	6.8	13.0	18.8	22.1	23.5	23.1	18.7	13.1	6.4	2.2
Poland: Wroclaw	1.3	3.2	7.9	13.6	18.8	22.0	23.4	23.2	19.3	14.1	7.4	3.0
Poland: Krakow	-0.1	2.1	7.1	13.5	18.7	21.6	23.0	22.8	18.8	13.8	6.8	1.8
Poland: Szczecin	1.3	2.8	7.2	12.6	18.4	21.6	22.8	22.6	18.6	13.1	6.9	3.0
Poland: Suwalki	-2.9	-1.7	3.1	10.5	17.4	20.4	21.6	21.4	16.6	10.6	3.8	-0.6
Poland - AVERAGE	-0.10	1.60	6.35	12.68	18.48	21.62	22.93	22.67	18.38	12.90	6.20	1.80

data source:
http://www.climate-charts.com/; NOAA Global Climate Normals 1961-1990; National Oceanic and Atmospheric Administration (NOAA).

Figure 4. Average maximum monthly temperature graph



The table and graph above present the average maximum temperature in each month. It is clear that maximum temperature in Poland and in the Czech Republic is very similar. In spring months that are crucial to the application of product CHR/H/CFF 250 EC average maximum temperature in both countries differs by no more than 1.3°C in March.

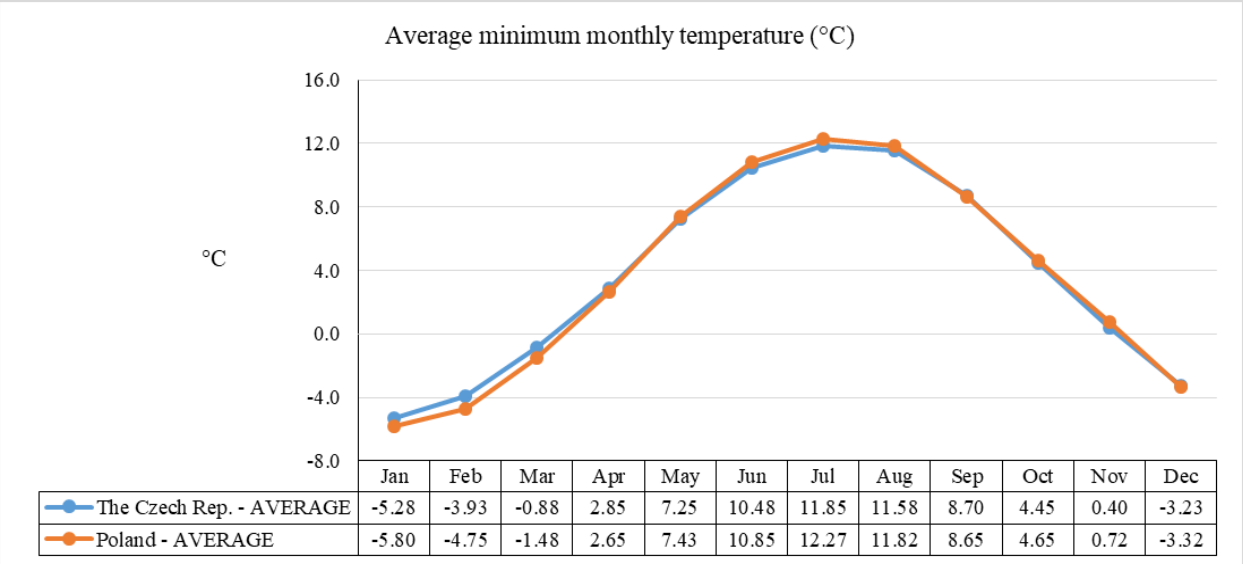
3.3. Average minimum monthly temperatures

Table 6. Average minimum monthly temperature data

Location	Average minimum monthly temperature (°C)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
The Czech Rep.: Cheb	-5.0	-4.1	-1.2	2.1	6.3	9.6	11.0	10.6	8.0	4.1	0.0	-3.3
The Czech Rep.: Prague	-5.3	-4.2	-1.3	2.4	7.1	10.4	11.8	11.5	8.6	4.0	-0.2	-3.4
The Czech Rep.: Brno	-5.2	-3.3	-0.2	3.9	8.3	11.3	12.7	12.6	9.5	5.0	0.9	-3.0
The Czech Rep.: Ostrava	-5.6	-4.1	-0.8	3.0	7.3	10.6	11.9	11.6	8.7	4.7	0.9	-3.2
The Czech Rep. - AVERAGE	-5.28	-3.93	-0.88	2.85	7.25	10.48	11.85	11.58	8.70	4.45	0.40	-3.23
Poland: Warsaw	-6.1	-5.0	-1.5	3.0	8.0	11.3	12.6	12.1	8.7	4.5	0.8	-3.4
Poland: Poznan	-4.8	-3.9	-0.8	2.8	7.7	11.2	12.5	12.2	9.0	5.3	1.2	-2.6
Poland: Wroclaw	-5.3	-4.0	-0.9	2.8	7.1	10.7	12.0	11.6	8.7	4.6	0.6	-3.1
Poland: Krakow	-6.7	-4.8	-1.3	3.0	7.6	10.8	12.2	11.8	8.6	4.2	0.2	-4.0
Poland: Szczecin	-3.7	-3.1	-0.4	2.9	7.5	11.1	12.9	12.3	9.5	5.8	2.0	-1.6
Poland: Suwalki	-8.2	-7.7	-4.0	1.4	6.7	10.0	11.4	10.9	7.4	3.5	-0.5	-5.2
Poland - AVERAGE	-5.80	-4.75	-1.48	2.65	7.43	10.85	12.27	11.82	8.65	4.65	0.72	-3.32

data source:
http://www.climate-charts.com/; NOAA Global Climate Normals 1961-1990; National Oceanic and Atmospheric Administration (NOAA) .

Figure 5. Average minimum monthly temperature graph



Average minimum monthly temperature in Poland and in the Czech Republic follows almost the same pattern, therefore, it is comparable. The table and graph above show that minimum monthly temperature in Poland and in the Czech Republic is very similar. There are slight differences only in the winter months. The time which is of most importance to the application of product CHR/H/CFF 250 EC is spring. In the months of March through May there are a very close correlations between average temperatures in Poland and in the Czech Republic.

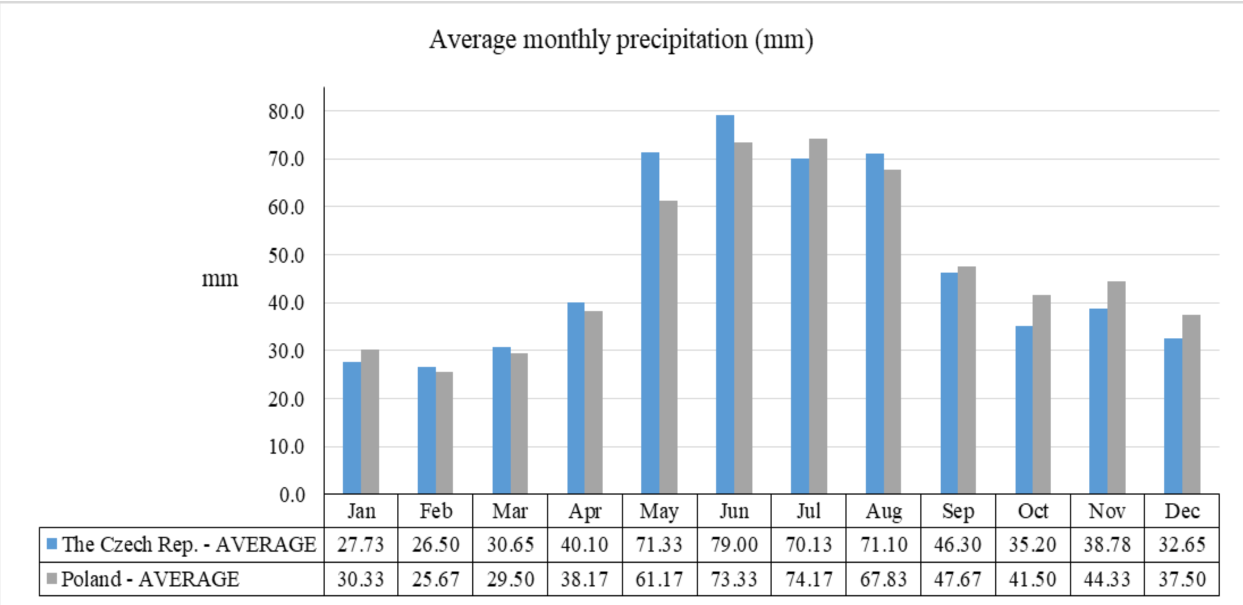
3.4. Average monthly precipitation sum

Table 7. Average monthly precipitation sum data

Location	Average monthly precipitation sum (mm)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
The Czech Rep.: Cheb	36.1	29.5	36.3	38.3	56.0	66.9	59.2	66.5	48.4	37.5	41.1	43.9
The Czech Rep.: Prague	23.6	22.6	28.1	38.2	77.2	72.7	66.2	69.6	40.4	30.5	31.9	25.3
The Czech Rep.: Brno	24.5	23.7	24.2	31.5	60.9	72.0	64.0	56.5	37.6	30.5	37.5	27.1
The Czech Rep.: Ostrava	26.7	30.2	34.0	52.4	91.2	104.4	91.1	91.8	58.8	42.3	44.6	34.3
The Czech Rep. - AVERAGE	27.73	26.50	30.65	40.10	71.33	79.00	70.13	71.10	46.30	35.20	38.78	32.65
Poland: Warsaw	22.0	21.0	26.0	33.0	58.0	71.0	69.0	62.0	43.0	37.0	41.0	32.0
Poland: Poznan	30.0	24.0	27.0	36.0	53.0	60.0	69.0	57.0	43.0	39.0	39.0	38.0
Poland: Wroclaw	28.0	26.0	26.0	39.0	64.0	80.0	84.0	78.0	48.0	40.0	43.0	34.0
Poland: Krakow	34.0	32.0	34.0	48.0	83.0	97.0	85.0	87.0	54.0	46.0	45.0	41.0
Poland: Szczecin	36.0	27.0	32.0	38.0	52.0	57.0	61.0	55.0	44.0	38.0	46.0	41.0
Poland: Suwalki	32.0	24.0	32.0	35.0	57.0	75.0	77.0	68.0	54.0	49.0	52.0	39.0
Poland - AVERAGE	30.33	25.67	29.50	38.17	61.17	73.33	74.17	67.83	47.67	41.50	44.33	37.50

data source:
http://www.climate-charts.com/; NOAA Global Climate Normals 1961-1990; National Oceanic and Atmospheric Administration (NOAA).

Figure 6. Average monthly precipitation sum graph



Average monthly precipitation sum in Poland and in the Czech Republic is similar.

4. Soil conditions

Soil conditions in Poland and in the Czech Republic are not compared.

As has been mentioned above in Table 2. Clopyralid, florasulam and fluroxypyr act primarily through foliar uptake with little or no soil activity. This allows authors of this report to disregard soil conditions as they have very limited or no influence on the efficacy of the product.

5. Agricultural practice

5.1. Winter wheat and winter triticale sowing timing

According to the MOCA Study carried out by The MARS STAT Action in Poland sowing of winter wheat takes place in the second half of September (depending on the region term of sowing ranges from September 15th till October 5th). In the Czech Republic term of sowing of winter wheat is similar – the optimum sowing time is September 15th till October 15th.

Winter triticale follows practically are the same pattern with respect to sowing and entering subsequent development phases.

The crops are winter cereals, therefore, it is assumed, they are subject to the same agricultural practices at the same time in each country.

5.2. Winter wheat growth and development

Figure 7. Phenological crop calendar for winter wheat in Poland

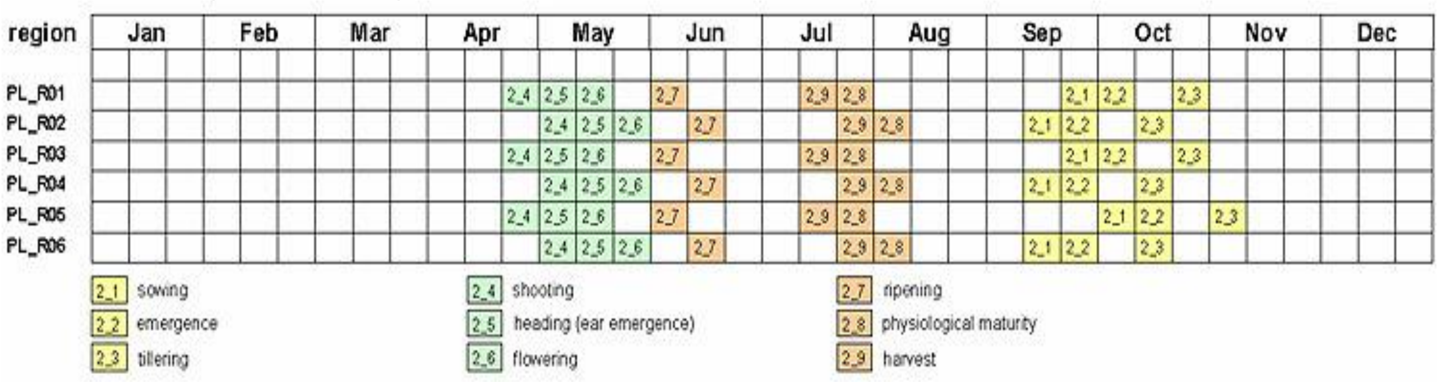


Figure 8. Phenological crop calendar for winter wheat in the Czech Republic

The data tables are incomplete with respect to tillering and shooting phases in the Czech Republic. It is so, because for financial reasons complete phenological data from the Czech Hydrometeorological Institute was not available to the authors of the MOCA Study. However, the distribution of the other available phenological phases allows for the assumption that the missing data is also comparable. In both countries climatic conditions are comparable so the development of winter wheat follows a similar pattern. Tillering starts in the fall in the second half of October and continues in the spring with the start of vegetation season at the end of March until the end of April when shooting follows and ends no later than first half of May.

In general, it may be stated that winter wheat develops in a similar way in Poland and in the Czech Republic.

5.3. Timing of application

According to *Clopyralid_RAR_01_Volume_1_2017_05_31.pdf* clopyralid is applied up to maximum rate 120 g a.s./ha between growth stage BBCH 13-39 of the winter cereals, usually once per season, in 80-400 L water/ha.

According to *Florasulam_RAR_01_Volume_1_2013-11-25_san.pdf* Florasulam, as EF-1343, is applied up to maximum rate of 6.25 g a.s./ha, between growth stage BBCH 12-49 of the winter cereals, usually once per season, in 100-400 L water/ha.

According to *Fluroxypyr_AR_01_Vol1_public.pdf* fluroxypyr is applied up to maximum rate 200 g a.s./ha between growth stage BBCH 12-39 of the winter cereals, usually once per season, in 200-400 L water/ha.

5.4. Target weeds

5.4.1. Weed spectrum in Europe

In the study published in 1993 by Shroeder et al. Table 8. lists 15 weeds species most important in winter cereals in Europe. Both Poland and the Czech Republic are included in this survey.

Table 8. Most abundant weeds in winter cereals in Europe

Weed species	% of maximum score (78 pts.)*
Galium aparine	69
Stellaria media	62
Cirsium arvense	58
Viola arvensis	58
Apera spica-venti	53
Lamium purpureum	50
Poa annua	50
Alopecurus myosuroides	48
Capsella bursa-pastoris	47
Agropyron repens	45
Polygonum aviculare	42
Avena fatua	41
Myosotis arvensis	41
Thlaspi arvense	41
Galeopsis tetrachit	37

* there were 26 countries included, in each recipients ranked every weed species: 3 – very frequent and abundant, 2 – frequent and abundant, 1 – less frequent and abundant; therefore, maximum score for each weed species is 26 x 3 = 78.

5.4.2. Weed spectrum in Europe

In the study published in 1993 by Shroeder et al. Table 9 lists 15 weeds species most important in Europe. Both Poland and the Czech Republic are included in this survey.

Table 9. Most abundant weeds in Europe

Rank	Weed species	% of maximum score (78 points)
1	*Chenopodium album* L.	48
1	*Stellaria media* (L.) Vill.	48
3	*Cirsium arvense* (L.) Scop.	41
4	*Polygonum aviculare* L.	37
4	*Poa annua* L.	37
6	*Echinochloa crus-galli* (L.) P. Beauv.	36
7	*Agropyron repens* (L.) P. Beauv.	35
7	*Convolvulus arvensis* L.	35
7	*Galium aparine* L.	35
10	*Polygonum persicaria* L.	34
11	*Capsella bursa-pastoris* (L.) Med.	33
12	*Amaranthus retroflexus* L.	31
13	*Solanum nigrum* L.	30
13	*Sonchus arvensis* L.	30
13	*Lamium purpureum* L.	30
13	*Fallopia convolvulus* (L.) A Loeve	30
13	*Viola arvense* Murr.	30
18	*Thlaspi arvense* L.	28
18	*Fumaria officinalis* L.	28
20	*Atriplex patula* L.	23

* there were 26 countries included, in each recipients ranked every weed species: 3 – very frequent and abundant, 2 – frequent and abundant, 1 – less frequent and abundant; therefore, maximum score for each weed species is 26 x 3 = 78.
Data source(http://www.unifr.ch/biol/ecology/muellerschaerer/group/mueller/webpage/pdf/publications/publications_1993_02_hms.pdf)

5.4.3.Weed spectrum in Poland

According to Małecka et al. (2006) Table 10. the most abundant weeds in winter wheat crops cultivated traditionally are:

Table 10. Weed abundance in winter wheat crops

Weed species	Fresh weight (g/m^2)
Viola arvensis	103.5
Apera spica-venti	94.3
Veronica hederifolia	56.8
Centaurea cyanus	23.8
Lamium purpureum	13.8
Papaver rhoeas	4.1
Brassica napus	2.7
Stellaria media	2.5
Capsella bursa-pastoris	1.9
Matricaria inodora	1.7
Geranium pusillum	1.2
Galium aparine	1.0
Consolida regalis	1.0
Polygonum convolvulus	0.1

5.4.4 Weed spectrum in the Czech Republic

According to Losová et al. (2008) Table 11. the most abundant weeds in the Czech Republic in cereals are:

Table 11. Weed abundance in cereals in the Czech Republic

Weed species	% of vegetation plots in which the species was recorded*
Viola arvensis	79
Stellaria media	71
Fallopia convolvulus (Polygonum convolvulus)	67
Tripleurospermum inodorum (Matricaria inodora)	65
Capsella bursa-pastoris	64
Cirsium arvense	61
Myosotis arvensis	58
Galium aparine	57
Polygonum aviculare	57
Thlaspi arvense	56
Elytrigia repens (Agropyron repens)	52
Chenopodium album	52
Veronica persica	51

***** data from 2696 plots that were between 12 and 100 m^2 in size and sampled on arable land

5.4.5. Weed species controlled by CHR/H/CFF 250 EC

The following table lists weeds that were included in efficacy studies of product CHR/H/CFF 250 EC. These weeds were present in experimental plots and their sensitivity depended on the dose of the product applied.

Table 12. Weed species and their sensitivity to CHR/H/CFF 250 EC

Product code (L, kg/ha)	EPPO code	Scientific name	DA-A	winter wheat		winter triticale		cereals	
				Average	Efficacy	Average	Efficacy	Average	Efficacy
CHR/H/CFF 250 EC 0.2 - 0.3 L/ha	ANTAR	*Anthemis arvensis*	21-28	76.95	MS	71.52	MS	74.23	MS
	BRSNW	*Brassica napus* (self-sown plant)	21-28	76.82	MS	68.57	MT	72.69	MS
	CENCY	*Centaurea cyanus*	21-28	72.56	MS	72.73	MS	72.65	MS
	GALAP	*Galium aparine*	21-28	73.31	MS	70.13	MS	71.72	MS
	PAPRH	*Papver rhoeas*	21-28	75.30	MS	77.32	MS	76.31	MS
	STEME	*Stellaria media*	21-28	77.67	MS	74.62	MS	76.14	MS
	MATIN	*Tripleurospermum mar. inodorum*	21-28	78.96	MS	74.73	MS	76.84	MS
CHR/H/CFF 250 EC 0.4 L/ha	ANTAR	*Anthemis arvensis*	21-28	83.15	MS	77.52	MS	80.33	MS
	BRSNW	*Brassica napus* (self-sown plant)	21-28	86.67	S	77.52	MS	82.09	MS
	CENCY	*Centaurea cyanus*	21-28	81.39	MS	80.87	MS	81.13	MS
	GALAP	*Galium aparine*	21-28	81.62	MS	74.94	MS	78.28	MS
	PAPRH	*Papver rhoeas*	21-28	80.00	MS	82.30	MS	81.15	MS
	STEME	*Stellaria media*	21-28	84.81	MS	78.10	MS	81.46	MS
	MATIN	*Tripleurospermum mar. inodorum*	21-28	86.82	S	80.43	MS	83.63	MS
CHR/H/CFF 250 EC 0.5 L/ha	ANTAR	*Anthemis arvensis*	21-28	89.73	S	85.65	S	87.69	S
	BRSNW	*Brassica napus* (self-sown plant)	21-28	90.48	S	87.23	S	88.86	S
	CENCY	*Centaurea cyanus*	21-28	85.56	S	85.02	S	85.29	S
	GALAP	*Galium aparine*	21-28	84.86	MS	78.13	MS	81.49	MS
	PAPRH	*Papver rhoeas*	21-28	85.02	S	88.77	S	86.89	S
	STEME	*Stellaria media*	21-28	87.80	S	83.13	MS	85.47	S
	MATIN	*Tripleurospermum mar. inodorum*	21-28	91.43	S	87.92	S	89.68	S
CHR/H/CFF 250 EC 0.6 L/ha	ANTAR	*Anthemis arvensis*	21-28	90.18	S	89.93	S	90.05	S
	BRSNW	*Brassica napus* (self-sown plant)	21-28	94.14	S	92.72	S	93.43	S
	CENCY	*Centaurea cyanus*	21-28	89.35	S	90.38	S	89.87	S
	GALAP	*Galium aparine*	21-28	87.32	S	84.63	MS	85.98	S
	PAPRH	*Papver rhoeas*	21-28	88.69	S	93.77	S	91.23	S
	STEME	*Stellaria media*	21-28	90.73	S	87.32	S	89.02	S
	MATIN	*Tripleurospermum mar. inodorum*	21-28	93.44	S	89.60	S	91.52	S
Major 300	ANTAR	*Anthemis arvensis*	21-28	87.93	S	-	-	87.93	S

SL 0.4 L/ha	BRSNW	*Brassica napus* (self-sown plant)	21-28	0.00	T	-	-	0.00	T
	CENCY	*Centaurea cyanus*	21-28	89.01	S	-	-	89.01	S
	GALAP	*Galium aparine*	21-28	13.76	T	-	-	13.76	T
	PAPRH	*Papver rhoeas*	21-28	21.77	T	-	-	21.77	T
	STEME	*Stellaria media*	21-28	22.17	T	-	-	22.17	T
	MATIN	*Tripleurospermum mar. inodorum*	21-28	90.06	S	-	-	90.06	S
Starane 333 EC 0.54 L/ha	ANTAR	*Anthemis arvensis*	21-28	68.64	MT	69.53	MT	69.09	MT
	BRSNW	*Brassica napus* (self-sown plant)	21-28	69.64	MT	62.53	MT	66.09	MT
	CENCY	*Centaurea cyanus*	21-28	72.80	MS	78.37	MS	75.58	MS
	GALAP	*Galium aparine*	21-28	81.11	MS	83.17	MS	82.14	MS
	PAPRH	*Papver rhoeas*	21-28	39.68	T	34.77	T	37.22	T
	STEME	*Stellaria media*	21-28	82.54	MS	80.95	MS	81.75	MS
	MATIN	*Tripleurospermum mar. inodorum*	21-28	72.18	MS	69.62	MT	70.90	MS
Rassel 100 SC 0.05 L/ha	ANTAR	*Anthemis arvensis*	21-28	82.03	MS	82.30	MS	82.16	MS
	BRSNW	*Brassica napus* (self-sown plant)	21-28	88.79	S	83.73	MS	86.26	S
	CENCY	*Centaurea cyanus*	21-28	72.66	MS	78.78	MS	75.72	MS
	GALAP	*Galium aparine*	21-28	80.54	MS	76.57	MS	78.56	MS
	PAPRH	*Papver rhoeas*	21-28	82.03	MS	82.72	MS	82.38	MS
	STEME	*Stellaria media*	21-28	83.94	MS	75.87	MS	79.90	MS
	MATIN	*Tripleurospermum mar. inodorum*	21-28	85.21	S	78.97	MS	82.09	MS

In summary, it may be stated that the most problematic weeds species in winter wheat and winter triticale, crops in Poland and in the Czech Republic are comparable and they are almost all controlled by CHR/H/CFF 250 EC. Therefore product CHR/H/CFF 250 EC is expected to be equally highly efficient in both Poland and in the Czech Republic.

6. Conclusion

Poland and the Czech Republic are neighboring countries. Both lie in central Europe in the moderate climate zone. They share not only the border but also important climatic characteristics. Yearly temperature and precipitation patterns are very similar in both counties. This has influence on the agricultural practice in these countries and on the development of cultivated crops. Winter wheat and winter triticale which are of interest to the authors of this report, go through its development phases at relatively close calendar dates. What is more, the greatest weed problems are posed by almost the same weed species in both countries. All of these and many more are targeted by clopyralid, florasulam and fluroxypyr which are the active substances of product CHR/H/CFF 250 EC.

In conclusion, authors of this report state that Poland and the Czech Republic share many elements of climatic and agricultural conditions. This allows efficacy and phytotoxicity study results acquired in Poland to be used in registration procedures of a spring, foliar applied, cereal herbicide CHR/H/CFF 250 EC in the Czech Republic.

Comments of zRMS:	The Applicant presented a comparison of agro-climatic conditions between Poland and the Czech Republic. He showed that both climate and growing conditions are very similar between Poland and the Czech Republic. The ZRMs considered that the data contained in this report could be used by the Czech Republic to registered the CHR/H/CFF 250 EC (but classification of weed species should be done by CZ in line to national rules, for ex. using the SANCO scale). However, the Applicant only included Poland in the GAP table.

Appendix 3 Summary of data on trials site and application details per use

Test report/ research number (1)	Trial location (2); Crop cultivar; F/G (3); N/A (4)	Testing Unit (5)	Test method (6); Plot size; Sample size (7)	Treatment			
				Growth stage (8)	Inter-val	Total num-ber	Spray volume (L/ha)
A.T/2020/037/PO	Kopaszyn /Poland winter wheat/ Linus F N	A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno	EPPO PP 1/93(3) 2.5 m x 3.5 m = 13.75 m^2	BBCH 28-32	n/a	1	200 L/ha
A.T/2020/038/PO	Angowice /Poland winter wheat/ Etana F N	A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno	EPPO PP 1/93(3) 2.5 m x 6.7 m = 16.75 m^2	BBCH 30-31	n/a	1	200 L/ha
A.T/2020/039/PO	Kocanowo /Poland winter wheat/ Apostel F N	A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno	EPPO PP 1/93(3) 2.5 m x 5.0 m = 12.5 m^2	BBCH 30-32	n/a	1	200 L/ha
A.T/2020/040/PO	Wilcze /Poland winter wheat/ Arka-dia F N	A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno	EPPO PP 1/93(3) 2.5 m x 7.5 m = 18.75 m^2	BBCH 30-31	n/a	1	200 L/ha
A.T/2021/029/PO	Pacholewo /Poland winter wheat/ Plejada F N	A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno	EPPO PP 1/93(3) 2.5 m x 7.0 m = 17.75 m^2	BBCH 25-28	n/a	1	200 L/ha
A.T/2021/033/PO	Kiełbowo /Poland winter wheat/ Ton-nage F N	A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno	EPPO PP 1/93(3) 2.5 m x 5.0 m = 12.5 m^2	BBCH 21-30	n/a	1	200 L/ha
AH/20/PO/2/Pr/CFF	Wymysłowo /Poland winter wheat/ Arka-dia F N	Poznań University of Life Sciences, Re-search and Education Center Gorzyń, Agronomy Depart-ment; ul. Wojska Polskiego 28, 60-637 Poznań	EPPO PP 1/93(3) 2.0 m x 12.0 m = 24.0 m^2	BBCH 25-28	n/a	1	200 L/ha
AH/21/PO/5/Pr/1	Przybroda /Poland winter wheat/ Prin-ceps F N	Poznań University of Life Sciences, Re-search and Education Center Gorzyń, Agronomy Depart-ment; ul. Wojska Polskiego 28, 60-637 Poznań	EPPO PP 1/93(3) 2.0 m x 12.0 m = 24.0 m^2	BBCH 21	n/a	1	200 L/ha
AH/21/PO/5/Ra/2	Rataje /Poland winter wheat/ Hondia F N	Poznań University of Life Sciences, Re-search and Education Center Gorzyń, Agronomy Depart-ment; ul. Wojska Polskiego 28, 60-637 Poznań	EPPO PP 1/93(3) 1.5 m x 12.0 m = 18.0 m^2	BBCH 21	n/a	1	200 L/ha
SRPL21-414-336HE	Owczary /Poland winter wheat/ Hondia F N	SynTech Research Poland Sp. z o.o. 69/1 Jagiellonska 85-027 Bydgoszcz Poland	EPPO PP 1/93(3) 3.0 m x 5.0 m = 15.0 m^2	BBCH 21-23	n/a	1	200 L/ha
SRPL21-415-336HE	Leonów /Poland winter wheat/ Hondia F N	SynTech Research Poland Sp. z o.o. 69/1 Jagiellonska 85-027 Bydgoszcz Poland	EPPO PP 1/93(3) 2.5 m x 5.0 m = 12.5 m^2	BBCH 21-23	n/a	1	200 L/ha
A.T/2020/044/PO	Szapsk /Poland winter wheat/ Rotax	A.T Sp. z o.o. ul. Przemysłowa 3 88-300	EPPO PP 1/93(3)	BBCH 26-30	n/a	1	200 L/ha

	F N	Mogilno	2.5 m x 9.5 m = 23.75 m^2				
A.T/2020/045/PO	Doręgowice /Poland winter wheat/ Julius	A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno	EPPO PP 1/93(3) 2.5 m x 8.0 m = 20.0 m^2	BBCH 31-32	n/a	1	200 L/ha
A.T/2020/046/PO	Góra /Poland winter wheat/ Hondia F N	A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno	EPPO PP 1/93(3) 2.5 m x 7.0 m = 17.5 m^2	BBCH 29-32	n/a	1	200 L/ha
A.T/2020/047/PO	Sitowiec /Poland winter wheat/ Arkadia F N	A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno	EPPO PP 1/93(3) 2.5 m x 8.5 m = 21.25 m^2	BBCH 31-32	n/a	1	300 L/ha
A.T/2021/031/PO	Modrze /Poland winter wheat/ Linus F N	A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno	EPPO PP 1/93(3) 2.5 m x 7.0 m = 17.5 m^2	BBCH 23-28	n/a	1	200 L/ha
AH/21/PO/5/Br/1	Brody /Poland winter wheat/ Tonacja F N	Poznań University of Life Sciences, Research and Education Center Gorzyń, Wojska Polskiego 28, 60-637 Poznań	EPPO PP 1/93(3) 2.5 m x 8.0 m = 20.0 m^2	BBCH 21-23	n/a	1	230 L/ha
AH/21/PO/5/Gr/2	Gorzyń /Poland winter wheat/ Jantarka F N	Poznań University of Life Sciences, Research and Education Center Gorzyń, Wojska Polskiego 28, 60-637 Poznań	EPPO PP 1/93(3) 1.5 m x 12.0 m = 18.0 m^2	BBCH 23	n/a	1	200 L/ha
SRPL21-417-336HE	Tomaryny /Poland winter wheat/ Findus F N	SynTech Research Poland Sp. z o.o. 69/1 Jagiellonska 85-027 Bydgoszcz Poland	EPPO PP 1/93(3) 3.0 m x 8.0 m = 24.0 m^2	BBCH 21-23	n/a	1	200 L/ha
A.T/2020/041/PŻO	Wierzchucin Królewski /Poland winter triticale/ Borwo F N	A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno	EPPO PP 1/93(3) 2.5 m x 4.0 m = 10.0 m^2	BBCH 25-28	n/a	1	200 L/ha
A.T/2020/042/PŻO	Kopaszyn /Poland winter triticale/ Trapero F N	A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno	EPPO PP 1/93(3) 2.5 m x 4.0 m = 10.0 m^2	BBCH 25-28	n/a	1	200 L/ha
A.T/2020/043/PŻO	Zamarte /Poland winter triticale/ Meloman F N	A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno	EPPO PP 1/93(3) 2.5 m x 4.0 m = 10.0 m^2	BBCH 25-28	n/a	1	200 L/ha
A.T/2021/030/PŻO	Białe Błoto /Poland winter triticale/ Borowik F N	A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno	EPPO PP 1/93(3) 2.5 m x 4.0 m = 10.0 m^2	BBCH 25-28	n/a	1	200 L/ha
AH/21/PszO/5/Bu/2	Budzyń /Poland winter triticale/ Meloman F N	Poznań University of Life Sciences, Research and Education Center Gorzyń, Agronomy Department; ul. Wojska Polskiego 28, 60-637 Poznań	EPPO PP 1/93(3) 2.5 m x 4.0 m = 10.0 m^2	BBCH 25-28	n/a	1	200 L/ha
AH/21/PszO/5/Ra/1	Rataje /Poland winter triticale/ Porto F N	Poznań University of Life Sciences, Research and Education Center Gorzyń, Agronomy	EPPO PP 1/93(3) 2.5 m x 4.0 m = 10.0 m^2	BBCH 25-28	n/a	1	200 L/ha

		Department; ul. Wojska Polskiego 28, 60-637 Poznań					
SRPL21-413-336HE	Leonów /Poland winter triticale/ Kasyno F N	SynTech Research Poland Sp. z o.o. 69/1 Jagiellonska 85-027 Bydgoszcz Poland	EPPO PP 1/93(3) 2.5 m x 4.0 m = 10.0 m^2	BBCH 25-28	n/a	1	200 L/ha
A.T/2020/048/PŻO	Lusowo /Poland winter triticale/ Kasyno F N	A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno	EPPO PP 1/93(3) 2.5 m x 8.0 m = 20.0 m^2	BBCH 27-30	n/a	1	300 L/ha
A.T/2020/049/PŻO	Sławęcin /Poland winter triticale/ Orinoko F N	A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno	EPPO PP 1/93(3) 2.5 m x 10.0 m = 25.0 m^2	BBCH 30-32	n/a	1	200 L/ha
A.T/2020/050/PŻO	Wilkowo /Poland winter triticale/ Porto F N	A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno	EPPO PP 1/93(3) 2.5 m x 8.0 m = 20.0 m^2	BBCH 30-31	n/a	1	200 L/ha
A.T/2021/032/PŻO	Stare Młodochowo /Poland winter triticale/ Rotondo F N	A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno	EPPO PP 1/93(3) 2.5 m x 6.0 m = 15.0 m^2	BBCH 21-24	n/a	1	300 L/ha
AH/21/PszO/5/Br/1	Brody /Poland winter triticale/ Twingo F N	Poznań University of Life Sciences, Research and Education Center Gorzyń, Wojska Polskiego 28	EPPO PP 1/93(3) 2.0 m x 9.0 m = 18.0 m^2	BBCH 21-24	n/a	1	230 L/ha
SRPL21-416-336HE	Murczyn /Poland winter triticale/ Toledo F N	SynTech Research Poland Sp. z o.o. 69/1 Jagiellonska 85-027 Bydgoszcz Poland	EPPO PP 1/93(3) 3.0 m x 7.0 m = 21.0 m^2	BBCH 22-23	n/a	1	300 L/ha

Notes:
(1): test report number including the year of establishing the trial
(2): precise place of the trial followed by the country
(3): F= field trial, G=protected crop, specify
(4): N=Natural infestation, A= Artificial inoculation
(5): Trial responsible entity/ officially recognized organization
(6): Test guideline used
(7): Sample size per plot
(8): Crop growth stage at application timing

Appendix 4 Summary of data on effectiveness trials per use

Test report (1)	**Crop/ cultivar Harmful organism/ weed species or intended use**	**Assessed part and variable (2) no / m^2**	**Untreated** BBCH (during application)	**Efficacy treatments (3)**				**Remarks (4)**
				Product		**Standard (s)**		
				name	**Dose [L,kg//ha]**	**name**	**dose [L/ha]**	
A.T/2020/037/PO	winter wheat/ Rotax ANTAR MATIN VERPE CAPBP PAPRH VIOAR GALAP VERHE STEME BRSNW LITAR THALR	ANTAR 12.0 MATIN 9.0 VERPE 11.0 CAPBP 7.0 PAPRH 6.0 VIOAR 5.0 GALAP 6.0 VERHE 5.0 STEME 7.0 BRSNW 5.0 LITAR 5.0 THALR 5.0	ANTAR BBCH 25-30 MATIN BBCH 25-32 VERPE BBCH 45-55 CAPBP BBCH 25-31 PAPRH BBCH 28-32 VIOAR BBCH 30-35 GALAP BBCH 26-35 VERHE BBCH 55-60 STEME BBCH 55-60 BRSNW BBCH 35-51 LITAR BBCH 26-30 THLAR BBCH 35-45	CHR/H/CFF 250 EC CHR/H/CFF 250 EC CHR/H/CFF 250 EC CHR/H/CFF 250 EC	~~0.2~~ 0.3 L/ha 0.4 L/ha 0.5 L/ha 0.6 L/ha	Major 300 SL Starane 333 EC Rassel 100 SC	0.40 L/ha 0.54 L/ha 0.05 L/ha	Application date: 06.04.2020 Assessment date: 06.04.2020 20.04.2020 04.05.2020 02.06.2020
A.T/2020/038/PO	winter wheat/ Julius MATIN CENCY GALAP BRSNW ANTAR PAPRH LAMPU	MATIN 6.0 CENCY 6.0 GALAP 5.0 BRSNW 5.0 ANTAR 7.0 PAPRH 5.0 LAMPU 5.0	MATIN BBCH 51-61 CENCY BBCH 19-31 GALAP BBCH 33-35 BRSNW BBCH 16-21 ANTAR BBCH 17-31 PAPRH BBCH 18-31 LAMPU BBCH 19-33	CHR/H/CFF 250 EC CHR/H/CFF 250 EC CHR/H/CFF 250 EC CHR/H/CFF 250 EC	~~0.2~~ 0.3 L/ha 0.4 L/ha 0.5 L/ha 0.6 L/ha	Major 300 SL Starane 333 EC Rassel 100 SC	0.40 L/ha 0.54 L/ha 0.05 L/ha	Application date: 06.04.2020 Assessment date: 06.04.2020 20.04.2020 04.05.2020 27.05.2020
A.T/2020/039/PO	winter wheat/ Hondia ANTAR PAPRH CENCY STEME BRSNW MATIN GALAP	ANTAR 15.0 PAPRH 15.0 CENCY 6.0 STEME 6.0 BRSNW 5.0 MATIN 5.0 GALAP 5.0	ANTAR BBCH 21-35 PAPRH BBCH 25-30 CENCY BBCH 25-32 STEME BBCH 25-30 BRSNW BBCH 30-35 MATIN BBCH 21-28 GALAP BBCH 25-28	CHR/H/CFF 250 EC CHR/H/CFF 250 EC CHR/H/CFF 250 EC CHR/H/CFF 250 EC	~~0.2~~ 0.3 L/ha 0.4 L/ha 0.5 L/ha 0.6 L/ha	Major 300 SL Starane 333 EC Rassel 100 SC	0.40 L/ha 0.54 L/ha 0.05 L/ha	Application date: 07.04.2020 Assessment date: 07.04.2020 21.04.2020 05.05.2020 12.06.2020
A.T/2020/040/PO	winter wheat/ Arkadia CENCY ANTAR PAPRH VIOAR BRSNW VERHE	CENCY 7.0 ANTAR 6.0 PAPRH 6.0 VIOAR 5.0 BRSNW 6.0 VERHE 5.0 GALAP 5.0 STEME 5.0	CENCY BBCH 19-31 ANTAR BBCH 19-31 PAPRH BBCH 19-31 VIOAR BBCH 19-30 BRSNW BBCH 19-31 VERHE BBCH 31-51 GALAP BBCH 31-39 STEME BBCH 30-55	CHR/H/CFF 250 EC CHR/H/CFF 250 EC CHR/H/CFF 250 EC CHR/H/CFF 250 EC	~~0.2~~ 0.3 L/ha 0.4 L/ha 0.5 L/ha 0.6 L/ha	Major 300 SL Starane 333 EC Rassel 100 SC	0.40 L/ha 0.54 L/ha 0.05 L/ha	Application date: 06.04.2020 Assessment date: 06.04.2020 20.04.2020 04.05.2020 29.05.2020 24.06.2020

	GALAP STEME							
A.T/2021/029/PO	winter wheat/ Linus ANTAR MATIN CENCY PAPRH VIOAR BRSNW	ANTAR 39.0 MATIN 19.0 CENCY 32.0 PAPRH 8.0 VIOAR 12.0 BRSNW 5.0	ANTAR BBCH 16-23 MATIN BBCH 16-23 CENCY BBCH 14-25 PAPRH BBCH 16-28 VIOAR BBCH 14-21 BRSNW BBCH 21-29	CHR/H/CFF 250 EC CHR/H/CFF 250 EC CHR/H/CFF 250 EC CHR/H/CFF 250 EC	0.2 L/ha 0.4 L/ha 0.5 L/ha 0.6 L/ha	Major 300 SL Starane 333 EC Rassel 100 SC	0.40 L/ha 0.54 L/ha 0.05 L/ha	Application date: 30.03.2021 Assessment date: 30.03.2021 13.04.2021 27.04.2021 20.05.2021 18.06.2021
A.T/2021/033/PO	winter wheat/ Tonacja CENCY ANTAR MATIN VIOAR CAPBP GALAP BRSNW	CENCY 30.0 ANTAR 10.0 MATIN 10.0 VIOAR 20.0 CAPBP 6.0 GALAP 5.0 BRSNW 5.0	CENCY BBCH 14-30 ANTAR BBCH 16-23 MATIN BBCH 14-21 VIOAR BBCH 16-21 CAPBP BBCH 14-21 GALAP BBCH 14-21 BRSNW BBCH 31-35	CHR/H/CFF 250 EC CHR/H/CFF 250 EC CHR/H/CFF 250 EC CHR/H/CFF 250 EC	0.2 L/ha 0.4 L/ha 0.5 L/ha 0.6 L/ha	Major 300 SL Starane 333 EC Rassel 100 SC	0.40 L/ha 0.54 L/ha 0.05 L/ha	Application date: 11.04.2021 Assessment date: 11.04.2021 22.04.2021 05.05.2021 28.05.2021 16.06.2021
AH/20/PO/2/Pr/CFF	winter wheat/ Jantarka LAMPU VIOAR VERPE PAPRH MATIN THLAR	LAMPU 7.0 VIOAR 8.0 VERPE 6.0 PAPRH 5.0 MATIN 5.0 THLAR 5.0	LAMPU BBCH 30-39 VIOAR BBCH 30-51 VERPE BBCH 35-51 PAPRH BBCH 13-36 MATIN BBCH 13-17 THLAR BBCH 30-51	CHR/H/CFF 250 EC CHR/H/CFF 250 EC CHR/H/CFF 250 EC CHR/H/CFF 250 EC	0.2 L/ha 0.4 L/ha 0.5 L/ha 0.6 L/ha	Major 300 SL Starane 333 EC Rassel 100 SC	0.40 L/ha 0.54 L/ha 0.05 L/ha	Application date: 07.04.2020 Assessment date: 29.04.2020 25.05.2020
AH/21/PO/5/Pr/1	winter wheat/ Findus GALAP CENCY BRSNW PAPRH ANTAR MATIN STEME	GALAP 6.0 CENCY 5.0 BRSNW 7.0 PAPRH 6.0 ANTAR 6.0 MATIN 6.0 STEME 11.0	GALAP BBCH 18 CENCY BBCH 21 BRSNW BBCH 26 PAPRH BBCH 21 ANTAR BBCH 22 MATIN BBCH 21 STEME BBCH 22	CHR/H/CFF 250 EC CHR/H/CFF 250 EC CHR/H/CFF 250 EC CHR/H/CFF 250 EC	0.2 L/ha 0.4 L/ha 0.5 L/ha 0.6 L/ha	Major 300 SL Starane 333 EC Rassel 100 SC	0.40 L/ha 0.54 L/ha 0.05 L/ha	Application date: 13.04.2021 Assessment date: 04.05.2021 25.05.2021 09.07.2021
AH/21/PO/5/Ra/2	winter wheat/ Rotax GALAP CENCY BRSNW PAPRH ANTAR MATIN STEME	GALAP 5.0 CENCY 7.0 BRSNW 12.0 PAPRH 5.0 ANTAR 5.0 MATIN 7.0 STEME 9.0	GALAP BBCH 22 CENCY BBCH 19 BRSNW BBCH 30 PAPRH BBCH 24 ANTAR BBCH 22 MATIN BBCH 23 STEME BBCH 24	CHR/H/CFF 250 EC CHR/H/CFF 250 EC CHR/H/CFF 250 EC CHR/H/CFF 250 EC	0.2 L/ha 0.4 L/ha 0.5 L/ha 0.6 L/ha	Major 300 SL Starane 333 EC Rassel 100 SC	0.40 L/ha 0.54 L/ha 0.05 L/ha	Application date: 11.04.2021 Assessment date: 04.05.2021 24.05.2021 05.07.2021
SRPL21-414-336HE	winter wheat/ Julius	GALAP 7.8 CENCY 8.0	GALAP BBCH 23-30 CENCY BBCH 29-33	CHR/H/CFF 250 EC CHR/H/CFF 250 EC	0.2 L/ha 0.4 L/ha	Major 300 SL Starane 333 EC	0.40 L/ha 0.54 L/ha	Application date: 22.04.2021

	GALAP CENCY PAPRH MATIN STEME CAPBP	PAPRH 7.5 MATIN 11.0 STEME 7.3 CAPBP 7.5	PAPRH BBCH 19-30 MATIN BBCH 19-30 STEME BBCH 19-29 CAPBP BBCH 19-31	CHR/H/CFF 250 EC CHR/H/CFF 250 EC	0.5 L/ha 0.6 L/ha	Rassel 100 SC	0.05 L/ha	Assessment date: 22.04.2021 29.04.2021 06.05.2021 20.05.2021 17.06.2021
SRPL21-415-336HE	winter wheat/ Hondia MATCH VIOAR VERPE MYOAR STEME GALAP CAPBP BRSN	MATCH 8.75 VIOAR 13.25 VERPE 5.0 MYOAR 7.0 STEME 5.75 GALAP 5.0 CAPBP 5.25 BRSNW 6.25	MATCH BBCH 16-19 VIOAR BBCH 12-19 VERPE BBCH 14-21 MYOAR BBCH 14-19 STEME BBCH 39-59 GALAP BBCH 16-31 CAPBP BBCH 18-19 BRSNW BBCH 14-19	CHR/H/CFF 250 EC CHR/H/CFF 250 EC CHR/H/CFF 250 EC CHR/H/CFF 250 EC	0.2 L/ha 0.4 L/ha 0.5 L/ha 0.6 L/ha	Major 300 SL Starane 333 EC Rassel 100 SC	0.40 L/ha 0.54 L/ha 0.05 L/ha	Application date: 09.04.2021 Assessment date: 09.04.2021 16.04.2021 23.04.2021 30.04.2021 07.05.2021 04.06.2021
A.T/2020/041/PŻO	winter triticale/ Borwo GALAP CENCY BRSNW MATIN VIOAR ANTAR STEME PAPRH CAPBP	GALAP 5.0 CENCY 6.0 BRSNW 6.0 MATIN 7.0 VIOAR 5.0 ANTAR 5.0 STEME 10.0 PAPRH 5.0 CAPBP 5.0	GALAP BBCH 15-17 CENCY BBCH 17-19 BRSNW BBCH 31-32 MATIN BBCH 19-31 VIOAR BBCH 21-25 ANTAR BBCH 16-19 STEME BBCH 45-55 PAPRH BBCH 15-17 CAPBP BBCH 17-31	CHR/H/CFF 250 EC CHR/H/CFF 250 EC CHR/H/CFF 250 EC CHR/H/CFF 250 EC	~~0.2~~ 0.3 L/ha 0.4 L/ha 0.5 L/ha 0.6 L/ha	Starane 333 EC Rassel 100 SC	0.54 L/ha 0.05 L/ha	Application date: 06.04.2020 Assessment date: 06.04.2020 20.04.2020 04.05.2020 08.06.2020
A.T/2020/042/PŻO	winter triticale/ Trapero GALAP PAPRH MATIN STEME ANTAR BRSNW	GALAP 19.0 PAPRH 5.0 MATIN 7.0 STEME 6.0 ANTAR 8.0 BRSNW 5.0	GALAP BBCH 26-35 PAPRH BBCH 28-31 MATIN BBCH 23-26 STEME BBCH 25-31 ANTAR BBCH 25-28 BRSNW BBCH 30-32	CHR/H/CFF 250 EC CHR/H/CFF 250 EC CHR/H/CFF 250 EC CHR/H/CFF 250 EC	~~0.2~~ 0.3 L/ha 0.4 L/ha 0.5 L/ha 0.6 L/ha	Starane 333 EC Rassel 100 SC	0.54 L/ha 0.05 L/ha	Application date: 06.04.2020 Assessment date: 06.04.2020 20.04.2020 04.05.2020 02.06.2020
A.T/2020/043/PŻO	winter triticale/ Melo-man CENCY BRSNW MATIN GALAP ANTAR PAPRH	CENCY 7.0 BRSNW 6.0 MATIN 8.0 GALAP 7.0 ANTAR 5.0 PAPRH 5.0	CENCY BBCH 17-19 BRSNW BBCH 31-32 MATIN BBCH 19-31 GALAP BBCH 19-31 ANTAR BBCH 18-31 PAPRH BBCH 19-32	CHR/H/CFF 250 EC CHR/H/CFF 250 EC CHR/H/CFF 250 EC CHR/H/CFF 250 EC	~~0.2~~ 0.3 L/ha 0.4 L/ha 0.5 L/ha 0.6 L/ha	Starane 333 EC Rassel 100 SC	0.54 L/ha 0.05 L/ha	Application date: 08.04.2020 Assessment date: 08.04.2020 22.04.2020 06.05.2020 12.06.2020

A.T/2021/030/PŻO	winter triticale/ Borowik CENCY VIOAR ANTAR MATIN VERPE STEME GALAP PAPRH	CENCY 8.0 VIOAR 30.0 ANTAR 7.0 MATIN 8.0 VERPE 7.0 STEME 5.0 GALAP 5.0 PAPRH 5.0	CENCY BBCH 12-16 VIOAR BBCH 14-21 ANTAR BBCH 14-21 MATIN BBCH 14-21 VERPE BBCH 12-16 STEME BBCH 12-16 GALAP BBCH 12-16 PAPRH BBCH 14-16	CHR/H/CFF 250 EC CHR/H/CFF 250 EC CHR/H/CFF 250 EC CHR/H/CFF 250 EC	0.2 L/ha 0.4 L/ha 0.5 L/ha 0.6 L/ha	Starane 333 EC Rassel 100 SC	0.54 L/ha 0.05 L/ha	Application date: 09.04.2021 Assessment date: 09.04.2021 22.04.2021 05.05.2021 28.05.2021 22.06.2021
AH/21/PszO/5/Bu/2	winter triticale/ Melo-man GALAP CENCY BRSNW PAPRH ANTAR MATIN STEME	GALAP 6.0 CENCY 5.0 BRSNW 6.0 PAPRH 6.0 ANTAR 6.0 MATIN 6.0 STEME 7.0	GALAP BBCH 23 CENCY BBCH 22 BRSNW BBCH 23 PAPRH BBCH 23 ANTAR BBCH 24 MATIN BBCH 23 STEME BBCH 24	CHR/H/CFF 250 EC CHR/H/CFF 250 EC CHR/H/CFF 250 EC CHR/H/CFF 250 EC	0.2 L/ha 0.4 L/ha 0.5 L/ha 0.6 L/ha	Starane 333 EC Rassel 100 SC	0.54 L/ha 0.05 L/ha	Application date: 11.04.2021 Assessment date: 04.05.2021 24.05.2021 05.07.2021
AH/21/PszO/5/Ra/1	winter triticale/ Porto GALAP CENCY BRSNW PAPRH ANTAR MATIN STEME	GALAP 5.0 CENCY 6.0 BRSNW 10.0 PAPRH 5.0 ANTAR 7.0 MATIN 5.0 STEME 8.0	GALAP BBCH 23 CENCY BBCH 23 BRSNW BBCH 30 PAPRH BBCH 24 ANTAR BBCH 24 MATIN BBCH 23 STEME BBCH 24	CHR/H/CFF 250 EC CHR/H/CFF 250 EC CHR/H/CFF 250 EC CHR/H/CFF 250 EC	0.2 L/ha 0.4 L/ha 0.5 L/ha 0.6 L/ha	Starane 333 EC Rassel 100 SC	0.54 L/ha 0.05 L/ha	Application date: 11.04.2021 Assessment date: 04.05.2021 24.05.2021 05.07.2021
SRPL21-413-336HE	winter triticale/ Kasyno BRSNW VIAOR MATCH GALAP STEME CENCY	BRSNW 5.5 VIAOR 20.5 MATCH 6.75 GALAP 5.0 STEME 2.75 CENCY 5.75	BRSNW BBCH 14-19 VIOAR BBCH 12-19 MATCH BBCH 16-19 GALAP BBCH 19-33 STEME BBCH 39-59 CENCY BBCH 14-19	CHR/H/CFF 250 EC CHR/H/CFF 250 EC CHR/H/CFF 250 EC CHR/H/CFF 250 EC	0.2 L/ha 0.4 L/ha 0.5 L/ha 0.6 L/ha	Starane 333 EC Rassel 100 SC	0.54 L/ha 0.05 L/ha	Application date: 09.04.2021 Assessment date: 09.04.2021 16.04.2021 23.04.2021 30.04.2021 07.05.2021 04.06.2021

Notes:
1): Test report number including the year of establishing the trial
(2): Plant part assessed and criteria for assessment
(3): efficacy or intended effect
(4): Relevant conclusions on effectiveness

Appendix 5 Summary of detailed data on herbicide effectiveness trials

Table 1. The efficacy of CHR/H/CFF 250 EC in control of ANTAR Anthemis arvensis in winter wheat 14 DA-A

Pest code			**ANTAR *Anthemis arvensis***								
Report code			**A.T/2020/037/PO**	**A.T/2020/038/PO**	**A.T/2020/039/PO**	**A.T/2020/040/PO**	**A.T/2021/029/PO**	**A.T/2021/033/PO**			
Application date			06.04.2020	06.04.2020	07.04.2020	06.04.2020	30.03.2021	11.04.2021			
Crop stage in application			BBCH 28-32	BBCH 30-31	BBCH 30-32	BBCH 30-31	BBCH 25-28	BBCH 21-30			
Pest stage			BBCH 25-30	BBCH 17-31	BBCH 21-35	BBCH 19-31	BBCH 16-23	BBCH 16-23			
Assessment date			20.04.2020	20.04.2020	21.04.2020	20.04.2020	13.04.2021	22.04.2021			
Days after application DA-A			14 DA-A	14 DA-A	14 DA-A	14 DA-A	14 DA-A	11 DA-A	**Average**	**Min.**	**Max.**
weeds density pcs/m^2			12.0	7.0	16.0	6.0	37.0	10.0	**14.7**	**6.0**	**37.0**
No.	Name	Rate (L, kg/ha)									
1	Untreated Check	-	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2a	CHR/H/CFF 250 EC	0.2	-	-	-	-	83.50	32.50	**58.0**	**32.50**	**83.50**
2	CHR/H/CFF 250 EC	0.3	83.30	72.50	75.00	68.80	~~83.50~~ -	~~32.50~~	~~69.27~~ **74.90**	~~32.50~~ **68.80**	~~83.50~~ **83.30**
3	CHR/H/CFF 250 EC	0.4	87.50	77.50	81.30	71.30	88.50	51.30	**76.23**	**51.30**	**88.50**
	CHR/H/CFF 250 EC	0.5	88.00	83.80	87.50	72.50	91.30	70.00	**82.18**	**70.00**	**91.30**
5	CHR/H/CFF 250 EC	0.6	91.00	85.00	87.50	75.00	94.00	76.30	**84.80**	**75.00**	**94.00**
6	Major 300 SL	0.4	90.50	82.50	86.30	67.50	87.30	71.30	**80.90**	**67.50**	**90.50**
7	Starane 333 EC	0.54	79.50	70.00	66.30	57.50	72.30	42.50	**64.68**	**42.50**	**79.50**
8	Rassel 100 SC	0.05	77.00	75.00	77.50	68.80	84.00	72.50	**75.80**	**68.80**	**84.00**
LSD(P=.05)			2.920	6.040	5.210	4.080	2.330	5.290			

Table 2. The efficacy of CHR/H/CFF 250 EC in control of ANTAR Anthemis arvensis in winter wheat 21-28 DA-A

Pest code			**ANTAR *Anthemis arvensis***										
Report code			**A.T/2020/037/PO**	**A.T/2020/038/PO**	**A.T/2020/039/PO**	**A.T/2020/040/PO**	**A.T/2021/029/PO**	**A.T/2021/033/PO**	**AH/21/PO/5/Pr/1**	**AH/21/PO/5/Ra/2**			
Application date			06.04.2020	06.04.2020	07.04.2020	06.04.2020	30.03.2021	11.04.2021	13.04.2021	11.04.2021			
Crop stage in application			BBCH 28-32	BBCH 30-31	BBCH 30-32	BBCH 30-31	BBCH 25-28	BBCH 21-30	BBCH 21	BBCH 21			
Pest stage			BBCH 25-30	BBCH 17-31	BBCH 21-35	BBCH 19-31	BBCH 16-23	BBCH 16-23	BBCH 22	BBCH 22			
Assessment date			04.05.2020	04.05.2020	05.05.2020	04.05.2020	27.04.2021	05.05.2021	04.05.2021	04.05.2021			
Days after application DA-A			28 DA-A	28 DA-A	28 DA-A	28 DA-A	28 DA-A	24 DA-A	21 DA-A	23 DA-A	**Average**	**Min.**	**Max.**
weeds density pcs/m^2			12.0	7.0	16.0	6.0	37.0	10.0	6.0	5.0	**12.4**	**5.0**	**37.0**
No.	Name	Rate (L, kg/ha)											
1	Untreated Check	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~94.00~~	~~90.00~~	~~83.80~~	~~67.50~~	94.00	42.50	72.50	71.30	~~76.95~~ **70.08**	**42.50**	**94.00**
2a	CHR/H/CFF 250 EC	0.3	94.00	90.00	83.80	67.50					**83.83**	**67.50**	**94.00**
3	CHR/H/CFF 250 EC	0.4	97.00	93.80	88.80	71.30	98.00	61.30	77.50	77.50	**83.15**	**61.30**	**98.00**
4	CHR/H/CFF 250 EC	0.5	98.50	97.50	97.50	77.50	98.00	80.00	85.00	83.80	**89.73**	**77.50**	**98.50**
5	CHR/H/CFF 250 EC	0.6	99.00	100.00	98.80	77.50	98.80	78.50	85.00	83.80	**90.18**	**77.50**	**100.00**
6	Major 300 SL	0.4	97.30	87.50	97.50	72.50	97.30	81.30	85.00	85.00	**87.93**	**72.50**	**97.50**
7	Starane 333 EC	0.54	78.30	71.30	72.50	70.00	77.00	50.00	65.00	65.00	**68.64**	**50.00**	**78.30**
8	Rassel 100 SC	0.05	86.50	88.80	83.80	77.50	93.30	82.50	72.50	71.30	**82.03**	**71.30**	**93.30**
LSD(P=.05)			3.100	4.130	5.080	4.840	2.800	4.660	4.050	3.540			

Table 3. The efficacy of CHR/H/CFF 250 EC in control of ANTAR Anthemis arvensis in winter wheat LAST ASSESSMENT

Pest code			**ANTAR *Anthemis arvensis***										
Report code			**A.T/2020/037/ PO**	**A.T/2020/038/ PO**	**A.T/2020/039/ PO**	**A.T/2020/040/ PO**	**A.T/2021/029/ PO**	**A.T/2021/033/ PO**	**AH/21/PO/5/Pr /1**	**AH/21/PO/5/R a/2**			
Application date			06.04.2020	06.04.2020	07.04.2020	06.04.2020	30.03.2021	11.04.2021	13.04.2021	11.04.2021			
Crop stage in application			BBCH 28-32	BBCH 30-31	BBCH 30-32	BBCH 30-31	BBCH 25-28	BBCH 21-30	BBCH 21	BBCH 21			
Pest stage			BBCH 25-30	BBCH 17-31	BBCH 21-35	BBCH 19-31	BBCH 16-23	BBCH 16-23	BBCH 22	BBCH 22			
Assessment date			02.06.2020	27.05.2020	12.06.2020	29.05.2020	18.06.2021	16.06.2021	25.05.2021	24.05.2021			
Days after application DA-A			57 DA-A	51 DA-A	66 DA-A	53 DA-A	80 DA-A	66 DA-A	42 DA-A	43 DA-A	**Ave-rage**	**Min.**	**Max.**
weeds density pcs/m^2			12.0	7.0	16.0	6.0	30.0	10.0	6.0	5.0	**11.5**	**5.0**	**30.0**
No.	Name	Rate (L, kg/ha)											
1	Untreated Check	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~95.50~~	~~92.50~~	~~98.80~~	~~99.00~~	100.00	86.30	80.00	78.80	**~~91.36~~ 86.28**	**78.80**	**100.00**
2a	CHR/H/CFF 250 EC	0.3	95.50	92.50	98.80	99.00					**96.45**	**92.50**	**99.00**
3	CHR/H/CFF 250 EC	0.4	100.00	97.50	100.00	99.00	100.00	98.30	85.00	85.00	**95.60**	**85.00**	**100.00**
4	CHR/H/CFF 250 EC	0.5	100.00	100.00	100.00	99.00	100.00	98.50	100.00	100.00	**99.69**	**98.50**	**100.00**
5	CHR/H/CFF 250 EC	0.6	100.00	100.00	100.00	99.00	100.00	100.00	100.00	100.00	**99.88**	**99.00**	**100.00**
6	Major 300 SL	0.4	100.00	91.30	100.00	99.00	100.00	100.00	100.00	100.00	**98.79**	**91.30**	**100.00**
7	Starane 333 EC	0.54	77.80	71.30	78.80	72.50	76.30	82.50	70.00	68.80	**74.75**	**68.80**	**82.50**
8	Rassel 100 SC	0.05	87.80	95.00	83.80	99.00	100.00	100.00	80.00	78.80	**90.55**	**78.80**	**100.00**
LSD(P=.05)			2.450	5.190	3.440	1.620	1.400	3.450	3.590	2.490			

Table 4. The efficacy of CHR/H/CFF 250 EC in control of BRSNW Brassica napus (self-sown plant) in winter wheat 14 DA-A

Pest code			**BRSNW *Brassica napus***									
Report code			**A.T/2020/037/ PO**	**A.T/2020/038/ PO**	**A.T/2020/039/ PO**	**A.T/2020/040/ PO**	**A.T/2021/029/ PO**	**A.T/2021/033/ PO**	**SRPL21-415-336HE**			
Application date			06.04.2020	06.04.2020	07.04.2020	06.04.2020	30.03.2021	11.04.2021	09.04.2021			
Crop stage in application			BBCH 28-32	BBCH 30-31	BBCH 30-32	BBCH 30-31	BBCH 25-28	BBCH 21-30	BBCH 21-23			
Pest stage			BBCH 35-51	BBCH 16-21	BBCH 30-35	BBCH 19-31	BBCH 21-29	BBCH 31-35	BBCH 14-18			
Assessment date			20.04.2020	20.04.2020	21.04.2020	20.04.2020	13.04.2021	22.04.2021	23.04.2021			
Days after application DA-A			14 DA-A	14 DA-A	14 DA-A	14 DA-A	14 DA-A	11 DA-A	14 DA-A	**Average**	**Min.**	**Max.**
weeds density pcs/m^2			5.0	5.0	5.0	6.0	5.0	5.0	6.8	**5.4**	**5.0**	**6.8**
No.	Name	Rate (L, kg/ha)										
1	Untreated Check	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~90.50~~	~~50.00~~	~~84.50~~	~~70.00~~	77.50	42.50	30.00	~~**63.57**~~ **59.00**	**30.00**	~~**90.50**~~ **77.50**
2a	CHR/H/CFF 250 EC	0.3	90.50	50.00	84.50	70.00				**73.75**	**50.00**	**90.50**
3	CHR/H/CFF 250 EC	0.4	93.30	50.00	88.30	75.00	82.50	51.30	40.00	**68.63**	**40.00**	**93.30**
4	CHR/H/CFF 250 EC	0.5	95.30	37.50	90.00	77.50	88.80	53.80	50.00	**70.41**	**37.50**	**95.30**
5	CHR/H/CFF 250 EC	0.6	97.80	50.00	92.00	82.50	91.30	56.30	61.30	**75.89**	**50.00**	**97.80**
6	Major 300 SL	0.4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
7	Starane 333 EC	0.54	90.00	14.80	74.50	68.80	67.50	42.50	60.00	**59.73**	**14.80**	**90.00**
8	Rassel 100 SC	0.05	93.30	46.30	86.00	77.50	91.30	58.80	60.00	**73.31**	**46.30**	**93.30**
LSD(P=.05)			3.610	17.560	3.330	5.670	3.740	4.540	2.210			

Table 5. The efficacy of CHR/H/CFF 250 EC in control of BRSNW Brassica napus (self-sown plant) in winter wheat 21-28 DA-A

Pest code			**BRSNW *Brassica napus***											
Report code			**A.T/2020/037 /PO**	**A.T/2020/038 /PO**	**A.T/2020/039 /PO**	**A.T/2020/040 /PO**	**A.T/2021/029 /PO**	**A.T/2021/033 /PO**	**AH/21/PO/5/ Pr/1**	**AH/21/PO/5/ Ra/2**	**SRPL21-415-336HE**			
Application date			06.04.2020	06.04.2020	07.04.2020	06.04.2020	30.03.2021	11.04.2021	13.04.2021	11.04.2021	09.04.2021			
Crop stage in application			BBCH 28-32	BBCH 30-31	BBCH 30-32	BBCH 30-31	BBCH 25-28	BBCH 21-30	BBCH 21	BBCH 21	BBCH 21-23			
Pest stage			BBCH 35-51	BBCH 16-21	BBCH 30-35	BBCH 19-31	BBCH 21-29	BBCH 31-35	BBCH 26	BBCH 30	BBCH 14-18			
Assessment date			04.05.2020	04.05.2020	05.05.2020	04.05.2020	27.04.2021	05.05.2021	04.05.2021	04.05.2021	07.05.2021			
Days after application DA-A			28 DA-A	28 DA-A	28 DA-A	28 DA-A	28 DA-A	24 DA-A	21 DA-A	23 DA-A	28 DA-A	**Ave-rage**	**Min.**	**Max.**
weeds density pcs/m^2			5.0	5.0	5.0	6.0	5.0	5.0	7.0	12.0	7.5	**6.4**	**5.0**	**12.0**
No.	Name	Rate (L, kg/ha)												
1	Untreated Check	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~97.30~~	~~90.00~~	~~86.50~~	~~85.00~~	82.50	83.80	63.80	62.50	40.00	~~**76.82**~~ **66.52**	**40.00**	~~**97.30**~~ **83.80**
2a	CHR/H/CFF 250 EC	0.3	97.30	90.00	86.50	85.00						**89.70**	**85.00**	**97.30**
3	CHR/H/CFF 250 EC	0.4	98.50	90.00	94.00	90.00	97.50	97.50	75.00	75.00	62.50	**86.67**	**62.50**	**98.50**
4	CHR/H/CFF 250 EC	0.5	99.50	90.00	96.00	90.00	100.00	100.00	80.00	78.80	80.00	**90.48**	**78.80**	**100.00**
5	CHR/H/CFF 250 EC	0.6	100.00	90.00	97.30	95.00	100.00	100.00	85.00	85.00	95.00	**94.14**	**85.00**	**100.00**
6	Major 300 SL	0.4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
7	Starane 333 EC	0.54	98.00	72.50	73.80	70.00	77.50	80.00	57.50	57.50	40.00	**69.64**	**40.00**	**98.00**
8	Rassel 100 SC	0.05	98.00	90.00	91.00	85.00	100.00	100.00	78.80	77.50	78.80	**88.79**	**77.50**	**100.00**
LSD(P=.05)			1.050	1.620	2.620	4.950	2.650	3.340	4.320	3.730	3.530			

Table 6. The efficacy of CHR/H/CFF 250 EC in control of BRSNW Brassica napus (self-sown plant) in winter wheat LAST ASSESSMENT

Pest code			**BRSNW *Brassica napus***											
Report code			**A.T/2020/037 /PO**	**A.T/2020/038 /PO**	**A.T/2020/039 /PO**	**A.T/2020/040 /PO**	**A.T/2021/029 /PO**	**A.T/2021/033 /PO**	**AH/21/PO/5/ Pr/1**	**AH/21/PO/5/ Ra/2**	**SRPL21-415-336HE**			
Application date			06.04.2020	06.04.2020	07.04.2020	06.04.2020	30.03.2021	11.04.2021	13.04.2021	11.04.2021	09.04.2021			
Crop stage in application			BBCH 28-32	BBCH 30-31	BBCH 30-32	BBCH 30-31	BBCH 25-28	BBCH 21-30	BBCH 21	BBCH 21	BBCH 21-23			
Pest stage			BBCH 35-51	BBCH 16-21	BBCH 30-35	BBCH 19-31	BBCH 21-29	BBCH 31-35	BBCH 26	BBCH 30	BBCH 14-18			
Assessment date			02.06.2020	27.05.2020	12.06.2020	29.05.2020	18.06.2021	16.06.2021	25.05.2021	24.05.2021	04.06.2021			
Days after application DA-A			57 DA-A	51 DA-A	66 DA-A	53 DA-A	80 DA-A	66 DA-A	42 DA-A	43 DA-A	56 DA-A	**Ave-rage**	**Min.**	**Max.**
weeds density pcs/m^2			5.0	5.0	5.0	6.0	5.0	5.0	7.0	12.0	7.5	**6.4**	**5.0**	**12.0**
No.	Name	Rate (L, kg/ha)												
1	Untreated Check	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~100.00~~	~~92.00~~	~~89.30~~	~~87.50~~	82.50	83.80	75.00	75.00	81.30	~~85.16~~ **79.52**	**75.00**	~~100.00~~ **83.80**
2a	CHR/H/CFF 250 EC	0.3	100.00	92.00	89.30	87.50						**92.20**	**87.50**	**100**
3	CHR/H/CFF 250 EC	0.4	100.00	99.00	98.00	92.50	97.50	97.50	85.00	85.00	88.80	**93.70**	**85.00**	**100.00**
4	CHR/H/CFF 250 EC	0.5	100.00	99.00	100.00	97.50	100.00	100.00	95.00	95.00	100.00	**98.50**	**95.00**	**100.00**
5	CHR/H/CFF 250 EC	0.6	100.00	99.00	100.00	98.80	100.00	100.00	100.00	98.80	100.00	**99.62**	**98.80**	**100.00**
6	Major 300 SL	0.4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
7	Starane 333 EC	0.54	97.30	75.00	75.00	75.00	77.50	80.00	60.00	60.00	81.30	**75.68**	**60.00**	**97.30**
8	Rassel 100 SC	0.05	100.00	97.00	95.80	95.00	100.00	100.00	90.00	90.00	100.00	**96.42**	**90.00**	**100.00**
LSD(P=.05)			0.840	3.110	0.960	5.520	2.650	3.340	3.680	3.900	3.450			

Table 7. The efficacy of CHR/H/CFF 250 EC in control of CENCY Centaurea cyanus in winter wheat 14 DA-A

Pest code			**CENCY *Centaurea cyanus***								
Report code			**A.T/2020/038/PO**	**A.T/2020/039/PO**	**A.T/2020/040/PO**	**A.T/2021/029/PO**	**A.T/2021/033/PO**	**SRPL21-414-336HE**			
Application date			06.04.2020	07.04.2020	06.04.2020	30.03.2021	11.04.2021	22.04.2021			
Crop stage in application			BBCH 30-31	BBCH 30-32	BBCH 30-31	BBCH 25-28	BBCH 21-30	BBCH 21-23			
Pest stage			BBCH 19-31	BBCH 25-32	BBCH 19-31	BBCH 14-25	BBCH 14-30	BBCH 29-33			
Assessment date			20.04.2020	21.04.2020	20.04.2020	13.04.2021	22.04.2021	06.05.2021			
Days after application DA-A			14 DA-A	14 DA-A	14 DA-A	14 DA-A	11 DA-A	14 DA-A	**Average**	**Min.**	**Max.**
weeds density pcs/m^2			6.0	6.0	7.0	31.0	29.0	8.8	**14.6**	**6.0**	**31.0**
No.	Name	Rate (L, kg/ha)									
1	Untreated Check	-	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~50.00~~	~~77.00~~	~~37.50~~	78.30	35.00	48.80	~~54.43~~ **54.03**	**35.00**	**78.30**
2a	CHR/H/CFF 250 EC	0.3	50.00	77.00	37.50				**54.83**	**37.50**	**77.00**
3	CHR/H/CFF 250 EC	0.4	50.00	79.80	50.00	83.50	57.50	82.50	**67.22**	**50.00**	**83.50**
4	CHR/H/CFF 250 EC	0.5	50.00	85.00	57.50	87.30	68.80	90.00	**73.10**	**50.00**	**90.00**
5	CHR/H/CFF 250 EC	0.6	49.80	87.30	68.80	89.00	82.50	93.80	**78.53**	**49.80**	**93.80**
6	Major 300 SL	0.4	45.00	87.80	50.00	93.00	91.30	91.30	**76.40**	**45.00**	**93.00**
7	Starane 333 EC	0.54	27.50	74.80	45.00	62.30	71.30	62.50	**57.23**	**27.50**	**74.80**
8	Rassel 100 SC	0.05	22.50	49.50	45.00	74.00	53.80	50.00	**49.13**	**22.50**	**74.00**
LSD(P=.05)			6.330	4.870	6.080	5.170	5.080	8.260			

Table 8. The efficacy of CHR/H/CFF 250 EC in control of CENCY Centaurea cyanus in winter wheat 21-28 DA-A

Pest code			CENCY *Centaurea cyanus*										
Report code			**A.T/2020/038/ PO**	**A.T/2020/039/ PO**	**A.T/2020/040/ PO**	**A.T/2021/029/ PO**	**A.T/2021/033/ PO**	**AH/21/PO/5/Pr /1**	**AH/21/PO/5/R a/2**	**SRPL21-414-336HE**			
Application date			06.04.2020	07.04.2020	06.04.2020	30.03.2021	11.04.2021	13.04.2021	11.04.2021	22.04.2021			
Crop stage in application			BBCH 30-31	BBCH 30-32	BBCH 30-31	BBCH 25-28	BBCH 21-30	BBCH 21	BBCH 21	BBCH 21-23			
Pest stage			BBCH 19-31	BBCH 25-32	BBCH 19-31	BBCH 14-25	BBCH 14-30	BBCH 21	BBCH 19	BBCH 29-33			
Assessment date			04.05.2020	05.05.2020	04.05.2020	27.04.2021	05.05.2021	04.05.2021	04.05.2021	20.05.2021			
Days after application DA-A			28 DA-A	28 DA-A	28 DA-A	28 DA-A	24 DA-A	21 DA-A	23 DA-A	28 DA-A	**Avera-ge**	**Min.**	**Max.**
weeds density pcs/m^2			6.0	7.0	7.0	31.0	30.0	5.0	7.0	8.8	**12.7**	**5.0**	**31.0**
No.	Name	Rate (L, kg/ha)											
1	Untreated Check	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~81.30~~	~~77.80~~	~~67.50~~	83.80	65.00	67.50	66.30	71.30	~~72.56~~ **70.78**	**65.00**	**83.80**
2a	CHR/H/CFF 250 EC	0.3	81.30	77.80	67.50						**75.53**	**67.50**	**81.30**
3	CHR/H/CFF 250 EC	0.4	90.00	84.00	71.30	92.00	72.50	72.50	72.50	96.30	**81.39**	**71.30**	**96.30**
4	CHR/H/CFF 250 EC	0.5	90.00	87.80	78.80	95.30	78.80	77.50	76.30	100.00	**85.56**	**76.30**	**100.00**
5	CHR/H/CFF 250 EC	0.6	90.00	91.80	82.50	98.00	92.50	80.00	80.00	100.00	**89.35**	**80.00**	**100.00**
6	Major 300 SL	0.4	90.00	98.00	72.50	99.50	93.30	80.00	78.80	100.00	**89.01**	**72.50**	**100.00**
7	Starane 333 EC	0.54	82.50	76.50	62.50	75.80	73.80	65.00	63.80	82.50	**72.80**	**62.50**	**82.50**
8	Rassel 100 SC	0.05	80.00	63.50	70.00	79.00	62.50	80.00	78.80	67.50	**72.66**	**62.50**	**80.00**
LSD(P=.05)			4.050	6.070	6.300	3.580	4.950	3.720	3.640	4.830			

Table 9. The efficacy of CHR/H/CFF 250 EC in control of CENCY Centaurea cyanus in winter wheat LAST ASSESSMENT

Pest code			**CENCY *Centaurea cyanus***										
Report code			**A.T/2020/038/PO**	**A.T/2020/039/PO**	**A.T/2020/040/PO**	**A.T/2021/029/PO**	**A.T/2021/033/PO**	**AH/21/PO/5/Pr/1**	**AH/21/PO/5/Ra/2**	**SRPL21-414-336HE**			
Application date			06.04.2020	07.04.2020	06.04.2020	30.03.2021	11.04.2021	13.04.2021	11.04.2021	22.04.2021			
Crop stage in application			BBCH 30-31	BBCH 30-32	BBCH 30-31	BBCH 25-28	BBCH 21-30	BBCH 21	BBCH 21	BBCH 21-23			
Pest stage			BBCH 19-31	BBCH 25-32	BBCH 19-31	BBCH 14-25	BBCH 14-30	BBCH 21	BBCH 19	BBCH 29-33			
Assessment date			27.05.2020	12.06.2020	29.05.2020	18.06.2021	16.06.2021	25.05.2021	24.05.2021	17.06.2021			
Days after application DA-A			51 DA-A	66 DA-A	53 DA-A	80 DA-A	66 DA-A	42 DA-A	43 DA-A	56 DA-A	**Average**	**Min.**	**Max.**
weeds density pcs/m^2			6.0	7.0	7.0	26.0	30.0	5.0	7.0	8.8	**12.1**	**5.0**	**30.0**
No.	Name	Rate (L, kg/ha)											
1	Untreated Check	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~87.30~~	~~87.30~~	~~95.00~~	95.00	67.50	75.00	75.00	86.30	~~**83.55**~~ **79.88**	**67.50**	**95.00**
2a	CHR/H/CFF 250 EC	0.3	87.30	87.30	95.00						**89.87**	**87.30**	**95.00**
3	CHR/H/CFF 250 EC	0.4	92.50	93.30	99.00	100.00	97.00	80.00	80.00	100.00	**92.73**	**80.00**	**100.00**
4	CHR/H/CFF 250 EC	0.5	99.00	100.00	99.00	100.00	97.50	90.00	90.00	100.00	**96.94**	**90.00**	**100.00**
5	CHR/H/CFF 250 EC	0.6	99.00	99.50	99.00	100.00	99.30	95.00	93.80	100.00	**98.20**	**93.80**	**100.00**
6	Major 300 SL	0.4	99.00	100.00	99.00	100.00	100.00	95.00	95.00	100.00	**98.50**	**95.00**	**100.00**
7	Starane 333 EC	0.54	72.50	78.30	80.00	82.50	77.50	70.00	70.00	97.00	**78.48**	**70.00**	**97.00**
8	Rassel 100 SC	0.05	71.30	63.00	91.30	68.80	70.00	90.00	88.80	78.80	**77.75**	**63.00**	**91.30**
LSD(P=.05)			4.010	3.750	3.280	4.930	4.510	4.170	4.210	4.550			

Table 10. The efficacy of CHR/H/CFF 250 EC in control of GALAP Galium aparine in winter wheat 14 DA-A

Pest code			**GALAP *Galium aparine***									
Report code			**A.T/2020/037/ PO**	**A.T/2020/038/ PO**	**A.T/2020/039/ PO**	**A.T/2020/040/ PO**	**A.T/2021/033/ PO**	**SRPL21-414-336HE**	**SRPL21-415-336HE**			
Application date			06.04.2020	06.04.2020	07.04.2020	06.04.2020	11.04.2021	22.04.2021	09.04.2021			
Crop stage in application			BBCH 28-32	BBCH 30-31	BBCH 30-32	BBCH 30-31	BBCH 21-30	BBCH 21-23	BBCH 21-23			
Pest stage			BBCH 26-35	BBCH 33-35	BBCH 25-28	BBCH 31-39	BBCH 14-21	BBCH 23-30	BBCH 16-31			
Assessment date			20.04.2020	20.04.2020	21.04.2020	20.04.2020	22.04.2021	06.05.2021	23.04.2021			
Days after application DA-A			14 DA-A	14 DA-A	14 DA-A	14 DA-A	11 DA-A	14 DA-A	14 DA-A	**Average**	**Min.**	**Max.**
weeds density pcs/m^2			6.0	5.0	5.0	5.0	5.0	7.8	5.5	**5.6**	**5.0**	**7.8**
No.	Name	Rate (L, kg/ha)										
1	Untreated Check	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~84.50~~	~~50.00~~	~~80.00~~	~~52.50~~	36.30	47.50	12.50	~~51.90~~ **32.10**	**12.50**	~~84.50~~ **47.50**
2a	CHR/H/CFF 250 EC	0.3	84.50	50.00	80.00	52.50				**66.75**	**50.00**	**84.50**
3	CHR/H/CFF 250 EC	0.4	86.50	50.00	85.00	55.00	51.30	76.30	28.80	**61.84**	**28.80**	**86.50**
4	CHR/H/CFF 250 EC	0.5	88.80	50.00	86.50	63.80	53.80	87.50	41.30	**67.39**	**41.30**	**88.80**
5	CHR/H/CFF 250 EC	0.6	91.50	50.00	88.00	62.50	56.00	93.80	51.30	**70.44**	**50.00**	**93.80**
6	Major 300 SL	0.4	0.00	0.00	0.00	35.00	0.00	22.50	0.00	**8.21**	**0.00**	**35.00**
7	Starane 333 EC	0.54	94.00	47.50	80.80	35.00	55.00	91.30	60.00	**66.23**	**35.00**	**94.00**
8	Rassel 100 SC	0.05	61.50	45.00	85.80	45.00	51.30	77.50	42.50	**58.37**	**42.50**	**85.80**
LSD(P=.05)			3.690	3.810	2.870	7.950	3.210	6.830	4.990			

Table 11. The efficacy of CHR/H/CFF 250 EC in control of GALAP Galium aparine in winter wheat 21-28 DA-A

Pest code			**GALAP *Galium aparine***											
Report code			**A.T/2020/037/PO**	**A.T/2020/038/PO**	**A.T/2020/039/PO**	**A.T/2020/040/PO**	**A.T/2021/033/PO**	**AH/21/PO/5/Pr/1**	**AH/21/PO/5/Ra/2**	**SRPL21-414-336HE**	**SRPL21-415-336HE**			
Application date			06.04.2020	06.04.2020	07.04.2020	06.04.2020	11.04.2021	13.04.2021	11.04.2021	22.04.2021	09.04.2021			
Crop stage in application			BBCH 28-32	BBCH 30-31	BBCH 30-32	BBCH 30-31	BBCH 21-30	BBCH 21	BBCH 21	BBCH 21-23	BBCH 21-23			
Pest stage			BBCH 26-35	BBCH 33-35	BBCH 25-28	BBCH 31-39	BBCH 14-21	BBCH 18	BBCH 22	BBCH 23-30	BBCH 16-31			
Assessment date			04.05.2020	04.05.2020	05.05.2020	04.05.2020	05.05.2021	04.05.2021	04.05.2021	20.05.2021	07.05.2021			
Days after application DA-A			28 DA-A	28 DA-A	28 DA-A	28 DA-A	24 DA-A	21 DA-A	23 DA-A	28 DA-A	28 DA-A	**Ave-rage**	**Min.**	**Max.**
weeds density pcs/m^2			6.0	5.0	5.0	5.0	5.0	6.0	5.0	8.5	5.8	**5.7**	**5.0**	**8.5**
No.	Name	Rate (L, kg/ha)												
1	Untreated Check	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~89.30~~	~~83.80~~	~~80.30~~	~~72.50~~	81.30	71.30	70.00	71.30	40.00	~~**73.31**~~ **66.78**	**40.00**	~~**89.30**~~ **81.30**
2a	CHR/H/CFF 250 EC	0.3	89.30	83.80	80.30	72.50						**81.48**	**72.50**	**89.30**
3	CHR/H/CFF 250 EC	0.4	94.00	87.50	90.00	75.00	90.50	82.50	71.30	92.50	51.30	**81.62**	**51.30**	**94.00**
4	CHR/H/CFF 250 EC	0.5	98.00	88.80	90.30	77.50	96.50	76.30	76.30	100.00	60.00	**84.86**	**60.00**	**100.00**
5	CHR/H/CFF 250 EC	0.6	98.50	90.00	94.50	76.30	96.50	80.00	78.80	100.00	71.30	**87.32**	**71.30**	**100.00**
6	Major 300 SL	0.4	0.00	0.00	0.00	35.00	0.00	30.00	31.30	27.50	0.00	**13.76**	**0.00**	**35.00**
7	Starane 333 EC	0.54	100.00	88.80	80.30	45.00	96.50	80.00	78.80	98.80	61.80	**81.11**	**45.00**	**100.00**
8	Rassel 100 SC	0.05	85.80	87.50	89.00	73.80	85.00	80.00	80.00	91.30	52.50	**80.54**	**52.50**	**91.30**
LSD(P=.05)			2.850	3.310	2.880	6.150	3.370	3.110	3.730	5.600	4.650			

Table 12. The efficacy of CHR/H/CFF 250 EC in control of GALAP Galium aparine in winter wheat LAST ASSESSMENT

Pest code			**GALAP *Galium aparine***											
Report code			**A.T/2020/037 /PO**	**A.T/2020/038 /PO**	**A.T/2020/039 /PO**	**A.T/2020/040 /PO**	**A.T/2021/033 /PO**	**AH/21/PO/5/ Pr/1**	**AH/21/PO/5/ Ra/2**	**SRPL21-414-336HE**	**SRPL21-415-336HE**			
Application date			06.04.2020	06.04.2020	07.04.2020	06.04.2020	11.04.2021	13.04.2021	11.04.2021	22.04.2021	09.04.2021			
Crop stage in application			BBCH 28-32	BBCH 30-31	BBCH 30-32	BBCH 30-31	BBCH 21-30	BBCH 21	BBCH 21	BBCH 21-23	BBCH 21-23			
Pest stage			BBCH 26-35	BBCH 33-35	BBCH 25-28	BBCH 31-39	BBCH 14-21	BBCH 18	BBCH 22	BBCH 23-30	BBCH 16-31			
Assessment date			02.06.2020	27.05.2020	12.06.2020	29.05.2020	16.06.2021	25.05.2021	24.05.2021	17.06.2021	04.06.2021			
Days after application DA-A			57 DA-A	51 DA-A	66 DA-A	53 DA-A	66 DA-A	42 DA-A	43 DA-A	56 DA-A	56 DA-A	**Ave-rage**	**Min.**	**Max.**
weeds density pcs/m^2			5.0	5.0	5.0	5.0	5.0	6.0	5.0	8.5	5.8	**5.6**	**5.0**	**8.5**
No.	Name	Rate (L, kg/ha)												
1	Untreated Check	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~92.80~~	~~90.00~~	~~83.50~~	~~90.00~~	81.30	80.00	78.80	87.50	100.00	~~87.10~~ **85.52**	**78.80**	**100.00**
2a	CHR/H/CFF 250 EC	0.3	92.80	90.00	83.50	90.00						**89.08**	**83.50**	**92.80**
3	CHR/H/CFF 250 EC	0.4	100.00	99.00	95.00	96.80	90.50	80.00	80.00	100.00	100.00	**93.48**	**80.00**	**100.00**
4	CHR/H/CFF 250 EC	0.5	100.00	99.00	96.00	100.00	97.50	85.00	85.00	100.00	100.00	**95.83**	**85.00**	**100.00**
5	CHR/H/CFF 250 EC	0.6	100.00	99.00	99.50	100.00	100.00	95.00	95.00	100.00	100.00	**98.72**	**95.00**	**100.00**
6	Major 300 SL	0.4	0.00	0.00	0.00	0.00	0.00	30.00	30.00	22.50	0.00	**9.17**	**0.00**	**30.00**
7	Starane 333 EC	0.54	100.00	98.00	86.30	100.00	100.00	95.00	95.00	100.00	100.00	**97.14**	**86.30**	**100.00**
8	Rassel 100 SC	0.05	91.50	92.50	93.50	87.50	90.50	95.00	93.80	97.50	100.00	**93.53**	**87.50**	**100.00**
LSD(P=.05)			2.030	1.880	3.260	2.140	4.070	3.850	4.280	4.650	-			

Table 13. The efficacy of CHR/H/CFF 250 EC in control of PAPRH Papver rhoeas in winter wheat 14 DA-A

Pest code			**PAPRH *Papaver rhoeas***								
Report code			**A.T/2020/037/PO**	**A.T/2020/038/PO**	**A.T/2020/039/PO**	**A.T/2020/040/PO**	**A.T/2021/029/PO**	**SRPL21-414-336HE**			
Application date			06.04.2020	06.04.2020	07.04.2020	06.04.2020	30.03.2021	22.04.2021			
Crop stage in application			BBCH 28-32	BBCH 30-31	BBCH 30-32	BBCH 30-31	BBCH 25-28	BBCH 21-23			
Pest stage			BBCH 28-32	BBCH 18-31	BBCH 25-30	BBCH 19-31	BBCH 16-28	BBCH 19-30			
Assessment date			20.04.2020	20.04.2020	21.04.2020	20.04.2020	13.04.2021	06.05.2021			
Days after application DA-A			14 DA-A	14 DA-A	14 DA-A	14 DA-A	14 DA-A	14 DA-A	**Average**	**Min.**	**Max.**
weeds density pcs/m^2			6.0	5.0	15.0	6.0	8.0	7.8	**8.0**	**5.0**	**15.0**
No.	Name	Rate (L, kg/ha)									
1	Untreated Check	-	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~65.00~~	~~50.00~~	~~59.00~~	~~52.50~~	74.50	42.50	~~57.25~~ **58.50**	**42.50**	**74.50**
2a	CHR/H/CFF 250 EC	0.3	65.00	50.00	59.00	52.50			**56.63**	**50.00**	**65.00**
3	CHR/H/CFF 250 EC	0.4	72.80	50.00	63.30	60.00	81.00	62.50	**64.93**	**50.00**	**81.00**
4	CHR/H/CFF 250 EC	0.5	73.50	50.00	67.30	61.30	83.80	77.50	**68.90**	**50.00**	**83.80**
5	CHR/H/CFF 250 EC	0.6	76.50	51.30	71.50	58.80	86.50	90.00	**72.43**	**51.30**	**90.00**
6	Major 300 SL	0.4	0.00	15.00	0.00	30.00	0.00	13.80	**9.80**	**0.00**	**30.00**
7	Starane 333 EC	0.54	16.30	31.30	0.00	50.00	23.80	48.80	**28.37**	**0.00**	**50.00**
8	Rassel 100 SC	0.05	69.50	52.50	53.30	47.50	83.00	78.80	**64.10**	**47.50**	**83.00**
LSD(P=.05)			6.790	4.170	4.800	5.790	4.320	5.510			

Table 14. The efficacy of CHR/H/CFF 250 EC in control of PAPRH Papver rhoeas in winter wheat 21-28 DA-A

Pest code			**PAPRH *Papaver rhoeas***											
Report code			**A.T/2020/037/ PO**	**A.T/2020/038/ PO**	**A.T/2020/039/ PO**	**A.T/2020/040/ PO**	**A.T/2021/029/ PO**	**AH/20/PO/2/ Pr/CFF**	**AH/21/PO/5/ Pr/1**	**AH/21/PO/5/ Ra/2**	**SRPL21-414-336HE**			
Application date			06.04.2020	06.04.2020	07.04.2020	06.04.2020	30.03.2021	07.04.2020	13.04.2021	11.04.2021	22.04.2021			
Crop stage in application			BBCH 28-32	BBCH 30-31	BBCH 30-32	BBCH 30-31	BBCH 25-28	BBCH 25-28	BBCH 21	BBCH 21	BBCH 21-23			
Pest stage			BBCH 28-32	BBCH 18-31	BBCH 25-30	BBCH 19-31	BBCH 16-28	BBCH 13-36	BBCH 21	BBCH 24	BBCH 19-30			
Assessment date			04.05.2020	04.05.2020	05.05.2020	04.05.2020	27.04.2021	29.04.2020	04.05.2021	04.05.2021	20.05.2021			
Days after application DA-A			28 DA-A	28 DA-A	28 DA-A	28 DA-A	28 DA-A	22 DA-A	21 DA-A	23 DA-A	28 DA-A	**Ave-rage**	**Min.**	**Max.**
weeds density pcs/m^2			6.0	5.0	16.0	6.0	8.0	5.5	6.0	5.0	8.0	**7.3**	**5.0**	**16.0**
No.	Name	Rate (L, kg/ha)												
1	Untreated Check	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~82.50~~	~~77.50~~	~~71.80~~	~~77.50~~	79.80	87.30	70.00	70.00	61.30	~~75.30~~ **73.68**	**61.30**	**87.30**
2a	CHR/H/CFF 250 EC	0.3	82.50	77.50	71.80	77.50						**77.33**	**71.80**	**82.50**
3	CHR/H/CFF 250 EC	0.4	87.30	80.00	76.80	80.00	85.30	90.50	71.30	71.30	77.50	**80.00**	**71.30**	**90.50**
4	CHR/H/CFF 250 EC	0.5	91.50	83.80	81.00	81.30	88.00	90.80	80.00	78.80	90.00	**85.02**	**78.80**	**91.50**
5	CHR/H/CFF 250 EC	0.6	93.80	87.50	83.50	78.80	92.80	91.80	85.00	85.00	100.00	**88.69**	**78.80**	**100.00**
6	Major 300 SL	0.4	0.00	0.00	0.00	30.00	0.00	90.80	28.80	28.80	17.50	**21.77**	**0.00**	**90.80**
7	Starane 333 EC	0.54	7.50	22.50	2.50	67.50	0.00	85.80	55.00	55.00	61.30	**39.68**	**0.00**	**85.80**
8	Rassel 100 SC	0.05	86.80	82.50	75.80	73.80	83.30	91.00	77.50	76.30	91.30	**82.03**	**73.80**	**91.30**
LSD(P=.05)			6.370	8.890	4.670	3.170	2.990	2.840	4.280	4.320	6.160			

Table 15. The efficacy of CHR/H/CFF 250 EC in control of PAPRH Papver rhoeas in winter wheat LAST ASSESSMENT

Pest code			**PAPRH *Papaver rhoeas***											
Report code			**A.T/2020/037 /PO**	**A.T/2020/038 /PO**	**A.T/2020/039 /PO**	**A.T/2020/040 /PO**	**A.T/2021/029 /PO**	**AH/20/PO/2/ Pr/CFF**	**AH/21/PO/5/ Pr/1**	**AH/21/PO/5/ Ra/2**	**SRPL21-414-336HE**			
Application date			06.04.2020	06.04.2020	07.04.2020	06.04.2020	30.03.2021	07.04.2020	13.04.2021	11.04.2021	22.04.2021			
Crop stage in application			BBCH 28-32	BBCH 30-31	BBCH 30-32	BBCH 30-31	BBCH 25-28	BBCH 25-28	BBCH 21	BBCH 21	BBCH 21-23			
Pest stage			BBCH 28-32	BBCH 18-31	BBCH 25-30	BBCH 19-31	BBCH 16-28	BBCH 13-36	BBCH 21	BBCH 24	BBCH 19-30			
Assessment date			02.06.2020	27.05.2020	12.06.2020	29.05.2020	18.06.2021	25.05.2020	25.05.2021	24.05.2021	17.06.2021			
Days after application DA-A			57 DA-A	51 DA-A	66 DA-A	53 DA-A	80 DA-A	48 DA-A	42 DA-A	43 DA-A	56 DA-A	**Ave-rage**	**Min.**	**Max.**
weeds density pcs/m^2			6.0	5.0	16.0	6.0	7.0	6.0	6.0	5.0	8.0	**7.2**	**5.0**	**16.0**
No.	Name	Rate (L, kg/ha)												
1	Untreated Check	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~84.50~~	~~82.00~~	~~75.30~~	~~85.30~~	77.50	90.50	80.00	78.80	71.30	~~80.58~~ **79.62**	**71.30**	**90.50**
2a	CHR/H/CFF 250 EC	0.3	84.50	82.00	75.30	85.30						**81.78**	**75.30**	**85.30**
3	CHR/H/CFF 250 EC	0.4	92.80	90.50	80.00	90.00	85.00	93.00	80.00	80.00	90.00	**86.81**	**80.00**	**93.00**
4	CHR/H/CFF 250 EC	0.5	96.00	96.30	86.50	99.00	90.00	93.00	95.00	95.00	96.30	**94.12**	**86.50**	**99.00**
5	CHR/H/CFF 250 EC	0.6	97.30	99.00	89.80	99.00	95.00	94.50	100.00	98.80	100.00	**97.04**	**89.80**	**100.00**
6	Major 300 SL	0.4	0.00	0.00	0.00	0.00	0.00	92.50	30.00	30.00	12.50	**18.33**	**0.00**	**92.50**
7	Starane 333 EC	0.54	0.00	25.00	0.00	40.00	0.00	89.50	60.00	60.00	70.00	**38.28**	**0.00**	**89.50**
8	Rassel 100 SC	0.05	90.50	90.00	77.30	81.30	88.80	93.00	90.00	90.00	96.30	**88.58**	**77.30**	**96.30**
LSD(P=.05)			3.550	3.740	2.740	3.190	4.460	3.130	3.850	4.280	7.060			

Table 16. The efficacy of CHR/H/CFF 250 EC in control of STEME Stellaria media in winter wheat 14 DA-A

Pest code			**STEME *Stellaria media***							
Report code			**A.T/2020/037/PO**	**A.T/2020/039/PO**	**A.T/2020/040/PO**	**SRPL21-414-336HE**	**SRPL21-415-336HE**			
Application date			06.04.2020	07.04.2020	06.04.2020	22.04.2021	09.04.2021			
Crop stage in application			BBCH 28-32	BBCH 30-32	BBCH 30-31	BBCH 21-23	BBCH 21-23			
Pest stage			BBCH 55-60	BBCH 25-30	BBCH 30-55	BBCH 19-29	BBCH 39-59			
Assessment date			20.04.2020	21.04.2020	20.04.2020	06.05.2021	23.04.2021			
Days after application DA-A			14 DA-A	14 DA-A	14 DA-A	14 DA-A	14 DA-A	**Average**	**Min.**	**Max.**
weeds density pcs/m^2			7.0	6.0	5.0	7.8	5.0	**6.2**	**5.0**	**7.8**
No.	Name	Rate (L, kg/ha)								
1	Untreated Check	-	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~89.00~~	~~87.00~~	~~77.50~~	53.80	31.30	~~67.72~~ **42.55**	**31.30**	~~89.00~~ **53.80**
2a	CHR/H/CFF 250 EC	0.3	89.00	87.00	77.50			**84.50**	**77.50**	**89.00**
3	CHR/H/CFF 250 EC	0.4	91.50	87.50	80.00	75.00	53.80	**77.56**	**53.80**	**91.50**
4	CHR/H/CFF 250 EC	0.5	93.00	88.80	82.50	91.30	62.50	**83.62**	**62.50**	**93.00**
5	CHR/H/CFF 250 EC	0.6	95.50	93.30	83.80	93.80	72.50	**87.78**	**72.50**	**95.50**
6	Major 300 SL	0.4	28.80	23.80	30.00	36.30	0.00	**23.78**	**0.00**	**36.30**
7	Starane 333 EC	0.54	89.30	81.30	82.50	91.30	42.50	**77.38**	**42.50**	**91.30**
8	Rassel 100 SC	0.05	85.80	80.00	81.30	90.00	70.00	**81.42**	**70.00**	**90.00**
LSD(P=.05)			4.750	5.490	4.890	7.170	4.940			

Table 17. The efficacy of CHR/H/CFF 250 EC in control of STEME Stellaria media in winter wheat 21-28 DA-A

Pest code			**STEME *Stellaria media***									
Report code			**A.T/2020/037/ PO**	**A.T/2020/039/ PO**	**A.T/2020/040/ PO**	**AH/21/PO/5/P r/1**	**AH/21/PO/5/R a/2**	**SRPL21-414- 336HE**	**SRPL21-415- 336HE**			
Application date			06.04.2020	07.04.2020	06.04.2020	13.04.2021	11.04.2021	22.04.2021	09.04.2021			
Crop stage in application			BBCH 28-32	BBCH 30-32	BBCH 30-31	BBCH 21	BBCH 21	BBCH 21-23	BBCH 21-23			
Pest stage			BBCH 55-60	BBCH 25-30	BBCH 30-55	BBCH 22	BBCH 24	BBCH 19-29	BBCH 39-59			
Assessment date			04.05.2020	05.05.2020	04.05.2020	04.05.2021	04.05.2021	20.05.2021	07.05.2021			
Days after application DA-A			28 DA-A	28 DA-A	28 DA-A	21 DA-A	23 DA-A	28 DA-A	28 DA-A	**Average**	**Min.**	**Max.**
weeds density pcs/m^2			7.0	6.0	5.0	11.0	9.0	8.0	5.8	**7.4**	**5.0**	**11.0**
No.	Name	Rate (L, kg/ha)										
1	Untreated Check	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~97.30~~	~~86.30~~	~~90.00~~	71.30	70.00	73.80	55.00	~~77.67~~ **67.53**	**55.00**	~~97.30~~ **73.80**
2a	CHR/H/CFF 250 EC	0.3	97.30	86.30	90.00					**91.20**	**86.30**	**97.30**
3	CHR/H/CFF 250 EC	0.4	98.50	88.80	90.00	78.80	78.80	88.80	70.00	**84.81**	**70.00**	**98.50**
4	CHR/H/CFF 250 EC	0.5	99.50	88.80	90.00	82.50	81.30	100.00	72.50	**87.80**	**72.50**	**100.00**
5	CHR/H/CFF 250 EC	0.6	100.00	92.50	90.00	85.00	83.80	100.00	83.80	**90.73**	**83.80**	**100.00**
6	Major 300 SL	0.4	7.50	22.50	13.80	28.80	28.80	53.80	0.00	**22.17**	**0.00**	**53.80**
7	Starane 333 EC	0.54	89.50	82.00	85.00	82.50	81.30	100.00	57.50	**82.54**	**57.50**	**100.00**
8	Rassel 100 SC	0.05	98.00	83.30	90.00	72.50	72.50	100.00	71.30	**83.94**	**71.30**	**100.00**
LSD(P=.05)			8.410	7.240	3.890	4.510	3.900	5.980	4.480			

Table 18. The efficacy of CHR/H/CFF 250 EC in control of STEME Stellaria media in winter wheat LAST ASSESSMENT

Pest code			**STEME *Stellaria media***									
Report code			**A.T/2020/037/PO**	**A.T/2020/039/PO**	**A.T/2020/040/PO**	**AH/21/PO/5/Pr/1**	**AH/21/PO/5/Ra/2**	**SRPL21-414-336HE**	**SRPL21-415-336HE**			
Application date			06.04.2020	07.04.2020	06.04.2020	13.04.2021	11.04.2021	22.04.2021	09.04.2021			
Crop stage in application			BBCH 28-32	BBCH 30-32	BBCH 30-31	BBCH 21	BBCH 21	BBCH 21-23	BBCH 21-23			
Pest stage			BBCH 55-60	BBCH 25-30	BBCH 30-55	BBCH 22	BBCH 24	BBCH 19-29	BBCH 39-59			
Assessment date			02.06.2020	12.06.2020	29.05.2020	25.05.2021	24.05.2021	17.06.2021	04.06.2021			
Days after application DA-A			57 DA-A	66 DA-A	53 DA-A	42 DA-A	43 DA-A	56 DA-A	56 DA-A	**Average**	**Min.**	**Max.**
weeds density pcs/m^2			5.0	6.0	5.0	11.0	9.0	8.0	4.8	**7.0**	**4.8**	**11.0**
No.	Name	Rate (L, kg/ha)										
1	Untreated Check	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~98.00~~	~~85.00~~	~~95.00~~	80.00	78.80	88.80	71.30	~~85.27~~ **79.73**	**71.30**	~~98.00~~ **88.80**
2a	CHR/H/CFF 250 EC	0.3	98.00	85.00	95.00					**92.67**	**85.00**	**98.00**
3	CHR/H/CFF 250 EC	0.4	100.00	95.00	100.00	90.00	90.00	100.00	100.00	**96.43**	**90.00**	**100.00**
4	CHR/H/CFF 250 EC	0.5	100.00	100.00	100.00	100.00	100.00	100.00	100.00	**100.00**	**100.00**	**100.00**
5	CHR/H/CFF 250 EC	0.6	100.00	100.00	100.00	100.00	100.00	100.00	100.00	**100.00**	**100.00**	**100.00**
6	Major 300 SL	0.4	0.00	0.00	0.00	30.00	30.00	65.00	0.00	**17.86**	**0.00**	**65.00**
7	Starane 333 EC	0.54	89.50	87.50	92.50	90.00	88.80	100.00	71.30	**88.51**	**71.30**	**100.00**
8	Rassel 100 SC	0.05	98.00	88.80	100.00	80.00	80.00	100.00	100.00	**92.40**	**80.00**	**100.00**
LSD(P=.05)			0.560	3.830	1.620	3.850	3.540	5.360	3.210			

Table 19. The efficacy of CHR/H/CFF 250 EC in control of MATIN Tripleurospermum mar. inodorum in winter wheat 14 DA-A

Pest code			**MATIN *Tripleurospermum inodorum***								
Report code			**A.T/2020/037/PO**	**A.T/2020/038/PO**	**A.T/2020/039/PO**	**A.T/2021/029/PO**	**A.T/2021/033/PO**	**SRPL21-414-336HE**			
Application date			06.04.2020	06.04.2020	07.04.2020	30.03.2021	11.04.2021	22.04.2021			
Crop stage in application			BBCH 28-32	BBCH 30-31	BBCH 30-32	BBCH 25-28	BBCH 21-30	BBCH 21-23			
Pest stage			BBCH 25-32	BBCH 51-61	BBCH 21-28	BBCH 16-23	BBCH 14-21	BBCH 19-30			
Assessment date			20.04.2020	20.04.2020	21.04.2020	13.04.2021	22.04.2021	06.05.2021			
Days after application DA-A			14 DA-A	14 DA-A	14 DA-A	14 DA-A	11 DA-A	14 DA-A	**Average**	**Min.**	**Max.**
weeds density pcs/m^2			9.0	6.0	5.0	18.0	11.0	11.0	**10.0**	**5.0**	**18.0**
No.	Name	Rate (L, kg/ha)									
1	Untreated Check	-	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~84.30~~	~~80.00~~	~~77.00~~	84.50	32.50	76.30	~~72.43~~ **64.43**	**32.50**	**84.50**
2a	CHR/H/CFF 250 EC	0.3	84.30	80.00	77.00				**80.43**	**77.00**	**84.30**
3	CHR/H/CFF 250 EC	0.4	88.00	82.50	83.30	89.50	51.30	90.00	**80.77**	**51.30**	**90.00**
4	CHR/H/CFF 250 EC	0.5	88.50	86.30	83.30	91.30	70.00	92.50	**85.32**	**70.00**	**92.50**
5	CHR/H/CFF 250 EC	0.6	91.50	90.00	87.50	94.00	76.30	96.30	**89.27**	**76.30**	**96.30**
6	Major 300 SL	0.4	90.50	88.80	82.50	87.80	71.30	88.80	**84.95**	**71.30**	**90.50**
7	Starane 333 EC	0.54	79.50	77.50	75.00	73.50	72.50	56.30	**72.38**	**56.30**	**79.50**
8	Rassel 100 SC	0.05	77.80	75.00	76.30	84.00	72.50	90.00	**79.27**	**72.50**	**90.00**
LSD(P=.05)			3.110	3.280	5.270	2.310	5.290	6.580			

Table 20. The efficacy of CHR/H/CFF 250 EC in control of MATIN Tripleurospermum mar. inodorum in winter wheat 21-28 DA-A

Pest code			**MATIN *Tripleurospermum inodorum***											
Report code			**A.T/2020/037/PO**	**A.T/2020/038/PO**	**A.T/2020/039/PO**	**A.T/2021/029/PO**	**A.T/2021/033/PO**	**AH/20/PO/2/Pr/CFF**	**AH/21/PO/5/Pr/1**	**AH/21/PO/5/Ra/2**	**SRPL21-414-336HE**			
Application date			06.04.2020	06.04.2020	07.04.2020	30.03.2021	11.04.2021	07.04.2020	13.04.2021	11.04.2021	22.04.2021			
Crop stage in application			BBCH 28-32	BBCH 30-31	BBCH 30-32	BBCH 25-28	BBCH 21-30	BBCH 25-28	BBCH 21	BBCH 21	BBCH 21-23			
Pest stage			BBCH 25-32	BBCH 51-61	BBCH 21-28	BBCH 16-23	BBCH 14-21	BBCH 13-17	BBCH 21	BBCH 23	BBCH 19-30			
Assessment date			04.05.2020	04.05.2020	05.05.2020	27.04.2021	05.05.2021	29.04.2020	04.05.2021	04.05.2021	20.05.2021			
Days after application DA-A			28 DA-A	28 DA-A	28 DA-A	28 DA-A	24 DA-A	22 DA-A	21 DA-A	23 DA-A	28 DA-A	**Avera-ge**	**Min.**	**Max.**
weeds density pcs/m^2			9.0	6.0	5.0	18.0	8.0	5.3	6.0	7.0	11.5	**8.4**	**5.0**	**18.0**
No.	Name	Rate (L, kg/ha)												
1	Untreated Check	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~94.00~~	~~88.80~~	~~89.50~~	94.00	37.50	86.80	65.00	65.00	90.00	~~78.96~~ **73.05**	**37.50**	**94.00**
2a	CHR/H/CFF 250 EC	0.3	94.00	88.80	89.50							**90.77**	**88.80**	**94.00**
3	CHR/H/CFF 250 EC	0.4	97.50	92.50	93.80	98.00	61.30	90.80	75.00	75.00	97.50	**86.82**	**61.30**	**98.00**
4	CHR/H/CFF 250 EC	0.5	98.80	95.00	96.30	98.00	77.50	91.00	83.80	82.50	100.00	**91.43**	**77.50**	**100.00**
5	CHR/H/CFF 250 EC	0.6	99.00	97.50	98.80	98.80	86.30	91.80	85.00	83.80	100.00	**93.44**	**83.80**	**100.00**
6	Major 300 SL	0.4	98.00	86.30	91.30	94.80	81.30	91.30	85.00	85.00	97.50	**90.06**	**81.30**	**98.00**
7	Starane 333 EC	0.54	80.30	80.00	72.50	77.00	50.00	88.50	65.00	65.00	71.30	**72.18**	**50.00**	**88.50**
8	Rassel 100 SC	0.05	86.50	86.30	83.80	92.50	82.50	90.30	72.50	72.50	100.00	**85.21**	**72.50**	**100.00**
LSD(P=.05)			2.910	4.240	3.120	4.300	3.620	2.990	5.300	5.110	4.230			

Table 21. The efficacy of CHR/H/CFF 250 EC in control of MATIN Tripleurospermum mar. inodorum in winter wheat LAST ASSESSMENT

Pest code			**MATIN *Tripleurospermum inodorum***											
Report code			**A.T/2020/037/PO**	**A.T/2020/038/PO**	**A.T/2020/039/PO**	**A.T/2021/029/PO**	**A.T/2021/033/PO**	**AH/20/PO/2/Pr/CFF**	**AH/21/PO/5/Pr/1**	**AH/21/PO/5/Ra/2**	**SRPL21-414-336HE**			
Application date			06.04.2020	06.04.2020	07.04.2020	30.03.2021	11.04.2021	07.04.2020	13.04.2021	11.04.2021	22.04.2021			
Crop stage in application			BBCH 28-32	BBCH 30-31	BBCH 30-32	BBCH 25-28	BBCH 21-30	BBCH 25-28	BBCH 21	BBCH 21	BBCH 21-23			
Pest stage			BBCH 25-32	BBCH 51-61	BBCH 21-28	BBCH 16-23	BBCH 14-21	BBCH 13-17	BBCH 21	BBCH 23	BBCH 19-30			
Assessment date			02.06.2020	27.05.2020	12.06.2020	18.06.2021	16.06.2021	25.05.2020	25.05.2021	24.05.2021	17.06.2021			
Days after application DA-A			57 DA-A	51 DA-A	66 DA-A	80 DA-A	66 DA-A	48 DA-A	42 DA-A	43 DA-A	56 DA-A	**Ave-rage**	**Min.**	**Max.**
weeds density pcs/m^2			9.0	6.0	5.0	18.0	8.0	5.8	6.0	7.0	11.8	**8.5**	**5.0**	**18.0**
No.	Name	Rate (L, kg/ha)												
1	Untreated Check	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~95.50~~	~~92.50~~	~~90.00~~	100.00	82.50	90.50	75.00	73.80	96.30	~~88.46~~ **86.35**	**73.80**	**100.00**
2a	CHR/H/CFF 250 EC	0.3	95.50	92.50	90.00							**92.67**	**90.00**	**95.50**
3	CHR/H/CFF 250 EC	0.4	100.00	95.00	97.50	100.00	95.00	93.00	85.00	85.00	100.00	**94.50**	**85.00**	**100.00**
4	CHR/H/CFF 250 EC	0.5	100.00	97.50	100.00	100.00	98.80	93.30	100.00	100.00	100.00	**98.84**	**93.30**	**100.00**
5	CHR/H/CFF 250 EC	0.6	100.00	98.80	100.00	100.00	99.80	94.50	100.00	100.00	100.00	**99.23**	**94.50**	**100.00**
6	Major 300 SL	0.4	100.00	93.80	96.30	100.00	100.00	94.00	100.00	100.00	100.00	**98.23**	**93.80**	**100.00**
7	Starane 333 EC	0.54	79.00	83.80	82.50	76.30	82.50	91.00	70.00	68.80	82.50	**79.60**	**68.80**	**91.00**
8	Rassel 100 SC	0.05	87.80	87.50	92.50	100.00	100.00	93.30	80.00	80.00	100.00	**91.23**	**80.00**	**100.00**
LSD(P=.05)			2.200	4.490	3.940	1.400	3.450	2.970	3.850	3.720	3.530			

Table 22. The efficacy of CHR/H/CFF 250 EC in control of ANTAR Anthemis arvensis in winter triticale 14 DA-A

Pest code			**ANTAR *Anthemis arvensis***						
Report code			**A.T/2020/041/PŻO**	**A.T/2020/042/PŻO**	**A.T/2020/043/PŻO**	**A.T/2021/030/PŻO**			
Application date			06.04.2020	06.04.2020	08.04.2020	09.04.2021			
Crop stage in application			BBCH 25-28	BBCH 30-32	BBCH 30-31	BBCH 21-24			
Pest stage			BBCH 16-19	BBCH 25-28	BBCH 18-31	BBCH 14-21			
Assessment date			20.04.2020	20.04.2020	22.04.2020	22.04.2021			
Days after application DA-A			14 DA-A	14 DA-A	14 DA-A	13 DA-A	**Average**	**Min.**	**Max.**
weeds density pcs/m^2			5.0	8.0	5.0	7.0	**6.3**	**5.0**	**8.0**
No.	Name	Rate (L, kg/ha)							
1	Untreated Check	-	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~72.50~~	~~75.00~~	~~80.00~~	32.50	~~65.00~~ **32.50**	**32.50**	~~80.00~~ **32.50**
2a	CHR/H/CFF 250 EC	0.3	72.50	75.00	80.00		**75.83**	**72.50**	**80.00**
3	CHR/H/CFF 250 EC	0.4	75.00	82.50	87.50	52.50	**74.38**	**52.50**	**87.50**
4	CHR/H/CFF 250 EC	0.5	77.50	83.80	92.50	72.50	**81.58**	**72.50**	**92.50**
5	CHR/H/CFF 250 EC	0.6	80.00	93.50	95.00	77.50	**86.50**	**77.50**	**95.00**
6	Starane 333 EC	0.54	77.50	65.80	61.30	40.00	**61.15**	**40.00**	**77.50**
7	Rassel 100 SC	0.05	78.80	79.00	78.80	73.80	**77.60**	**73.80**	**79.00**
LSD(P=.05)			5.710	4.040	6.400	4.750			

Table 23. The efficacy of CHR/H/CFF 250 EC in control of ANTAR Anthemis arvensis in winter triticale 21-28 DA-A

Pest code			**ANTAR *Anthemis arvensis***								
Report code			**A.T/2020/041/PŻO**	**A.T/2020/042/PŻO**	**A.T/2020/043/PŻO**	**A.T/2021/030/PŻO**	**AH/21/PszO/5/Bu/2**	**AH/21/PszO/5/Ra/1**			
Application date			06.04.2020	06.04.2020	08.04.2020	09.04.2021	11.04.2021	11.04.2021			
Crop stage in application			BBCH 25-28	BBCH 30-32	BBCH 30-31	BBCH 21-24	BBCH 22	BBCH 22			
Pest stage			BBCH 16-19	BBCH 25-28	BBCH 18-31	BBCH 14-21	BBCH 24	BBCH 24			
Assessment date			04.05.2020	04.05.2020	06.05.2020	05.05.2021	04.05.2021	04.05.2021			
Days after application DA-A			28 DA-A	28 DA-A	28 DA-A	26 DA-A	23 DA-A	23 DA-A	**Avera-ge**	**Min.**	**Max.**
weeds density pcs/m^2			5.0	8.0	5.0	7.0	6.0	7.0	**6.3**	**5.0**	**8.0**
No.	Name	Rate (L, kg/ha)									
1	Untreated Check	-	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~80.30~~	~~80.00~~	~~87.50~~	52.50	63.80	65.00	~~71.52~~ **60.43**	**52.50**	~~87.50~~ **65.00**
2a	CHR/H/CFF 250 EC	0.3	80.30	80.00	87.50				**82.60**	**80.00**	**87.50**
3	CHR/H/CFF 250 EC	0.4	87.50	87.50	87.50	65.00	68.80	68.80	**77.52**	**65.00**	**87.50**
4	CHR/H/CFF 250 EC	0.5	88.80	88.80	95.00	82.50	78.80	80.00	**85.65**	**78.80**	**95.00**
5	CHR/H/CFF 250 EC	0.6	95.00	98.30	97.50	88.80	80.00	80.00	**89.93**	**80.00**	**98.30**
6	Starane 333 EC	0.54	78.80	70.80	68.80	68.80	65.00	65.00	**69.53**	**65.00**	**78.80**
7	Rassel 100 SC	0.05	90.00	85.00	87.50	87.50	71.30	72.50	**82.30**	**71.30**	**90.00**
LSD(P=.05)			2.880	4.110	6.240	7.980	5.290	5.270			

Table 24. The efficacy of CHR/H/CFF 250 EC in control of ANTAR Anthemis arvensis in winter triticale LAST ASSESSMENT

Pest code			**ANTAR *Anthemis arvensis***							
Report code			**A.T/2020/041/PŻO**	**A.T/2020/042/PŻO**	**A.T/2021/030/PŻO**	**AH/21/PszO/5/Bu/2**	**AH/21/PszO/5/Ra/1**			
Application date			06.04.2020	06.04.2020	09.04.2021	11.04.2021	11.04.2021			
Crop stage in application			BBCH 25-28	BBCH 30-32	BBCH 21-24	BBCH 22	BBCH 22			
Pest stage			BBCH 16-19	BBCH 25-28	BBCH 14-21	BBCH 24	BBCH 24			
Assessment date			08.06.2020	02.06.2020	22.06.2021	24.05.2021	24.05.2021			
Days after application DA-A			63 DA-A	57 DA-A	74 DA-A	43 DA-A	43 DA-A	**Average**	**Min.**	**Max.**
weeds density pcs/m^2			5.0	8.0	7.0	6.0	7.0	**6.6**	**5.0**	**8.0**
No.	Name	Rate (L, kg/ha)								
1	Untreated Check	-	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~92.50~~	~~88.00~~	92.50	81.30	80.00	~~86.86~~ **84.60**	~~80.00~~	**92.50**
2a	CHR/H/CFF 250 EC	0.3	92.50	88.00				**90.25**	**88.00**	**92.50**
3	CHR/H/CFF 250 EC	0.4	96.30	92.30	99.50	85.00	85.00	**91.62**	**85.00**	**99.50**
4	CHR/H/CFF 250 EC	0.5	100.00	96.80	100.00	100.00	100.00	**99.36**	**96.80**	**100.00**
5	CHR/H/CFF 250 EC	0.6	100.00	100.00	100.00	100.00	100.00	**100.00**	**100.00**	**100.00**
6	Starane 333 EC	0.54	77.50	77.00	77.50	71.30	70.00	**74.66**	**70.00**	**77.50**
7	Rassel 100 SC	0.05	92.50	90.00	100.00	80.00	80.00	**88.50**	**80.00**	**100.00**
LSD(P=.05)			3.530	5.350	3.840	3.470	3.100			

Table 25. The efficacy of CHR/H/CFF 250 EC in control of BRSNW Brassica napus (self-sown plant) in winter triticale 14 DA-A

Pest code			**BRSNW *Brassica napus***						
Report code			**A.T/2020/041/PŻO**	**A.T/2020/042/PŻO**	**A.T/2020/043/PŻO**	**SRPL21-413-336HE**			
Application date			06.04.2020	06.04.2020	08.04.2020	09.04.2021			
Crop stage in application			BBCH 25-28	BBCH 30-32	BBCH 30-31	BBCH 21-23			
Pest stage			BBCH 31-32	BBCH 30-32	BBCH 31-32	BBCH 14-19			
Assessment date			20.04.2020	20.04.2020	22.04.2020	23.04.2021			
Days after application DA-A			14 DA-A	14 DA-A	14 DA-A	14 DA-A	**Average**	**Min.**	**Max.**
weeds density pcs/m^2			6.0	5.0	6.0	5.5	**5.6**	**5.0**	**6.0**
No.	Name	Rate (L, kg/ha)							
1	Untreated Check	-	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~81.30~~	~~80.30~~	~~67.50~~	28.80	~~**64.48**~~ **28.80**	**28.80**	~~**81.30**~~ **28.80**
2a	CHR/H/CFF 250 EC	0.3	81.30	80.30	67.50		**76.37**	**67.50**	**81.30**
3	CHR/H/CFF 250 EC	0.4	85.00	86.30	71.30	41.30	**70.98**	**41.30**	**86.30**
4	CHR/H/CFF 250 EC	0.5	86.30	92.30	77.50	50.00	**76.53**	**50.00**	**92.30**
5	CHR/H/CFF 250 EC	0.6	92.50	91.50	77.50	61.30	**80.70**	**61.30**	**92.50**
6	Starane 333 EC	0.54	62.50	57.50	66.30	62.50	**62.20**	**57.50**	**66.30**
7	Rassel 100 SC	0.05	83.80	88.80	75.00	60.00	**76.90**	**60.00**	**88.80**
LSD(P=.05)			4.550	5.690	6.400	4.960			

Table 26. The efficacy of CHR/H/CFF 250 EC in control of BRSNW Brassica napus (self-sown plant) in winter triticale 21-28 DA-A

Pest code			**BRSNW *Brassica napus***								
Report code			**A.T/2020/041/PŻO**	**A.T/2020/042/PŻO**	**A.T/2020/043/PŻO**	**AH/21/PszO/5/Bu/2**	**AH/21/PszO/5/Ra/1**	**SRPL21-413-336HE**			
Application date			06.04.2020	06.04.2020	08.04.2020	11.04.2021	11.04.2021	09.04.2021			
Crop stage in application			BBCH 25-28	BBCH 30-32	BBCH 30-31	BBCH 22	BBCH 22	BBCH 21-23			
Pest stage			BBCH 31-32	BBCH 30-32	BBCH 31-32	BBCH 23	BBCH 30	BBCH 14-19			
Assessment date			04.05.2020	04.05.2020	06.05.2020	04.05.2021	04.05.2021	07.05.2021			
Days after application DA-A			28 DA-A	28 DA-A	28 DA-A	23 DA-A	23 DA-A	28 DA-A	**Average**	**Min.**	**Max.**
weeds density pcs/m²			6.0	5.0	6.0	6.0	10.0	6.3	**6.6**	**5.0**	**10.0**
No.	Name	Rate (L, kg/ha)									
1	Untreated Check	-	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~86.30~~	~~83.80~~	~~75.00~~	63.80	62.50	40.00	~~68.57~~ **55.43**	**40.00**	~~86.30~~ **63.80**
2a	CHR/H/CFF 250 EC	0.3	86.30	83.80	75.00				**81.70**	**75.00**	**86.30**
3	CHR/H/CFF 250 EC	0.4	92.50	90.00	80.00	71.30	71.30	60.00	**77.52**	**60.00**	**92.50**
4	CHR/H/CFF 250 EC	0.5	95.00	98.30	85.00	82.50	81.30	81.30	**87.23**	**81.30**	**98.30**
5	CHR/H/CFF 250 EC	0.6	97.50	98.80	95.00	85.00	85.00	95.00	**92.72**	**85.00**	**98.80**
6	Starane 333 EC	0.54	76.30	62.50	68.80	63.80	63.80	40.00	**62.53**	**40.00**	**76.30**
7	Rassel 100 SC	0.05	88.80	93.50	91.30	73.80	72.50	82.50	**83.73**	**72.50**	**93.50**
LSD(P=.05)			3.790	4.450	6.500	3.370	3.440	3.370			

Table 27. The efficacy of CHR/H/CFF 250 EC in control of BRSNW Brassica napus (self-sown plant) in winter triticale LAST ASSESSMENT

Pest code			**BRSNW *Brassica napus***								
Report code			**A.T/2020/041/PŻO**	**A.T/2020/042/PŻO**	**A.T/2020/043/PŻO**	**AH/21/PszO/5/Bu/ 2**	**AH/21/PszO/5/Ra/ 1**	**SRPL21-413-336HE**			
Application date			06.04.2020	06.04.2020	08.04.2020	11.04.2021	11.04.2021	09.04.2021			
Crop stage in application			BBCH 25-28	BBCH 30-32	BBCH 30-31	BBCH 22	BBCH 22	BBCH 21-23			
Pest stage			BBCH 31-32	BBCH 30-32	BBCH 31-32	BBCH 23	BBCH 30	BBCH 14-19			
Assessment date			08.06.2020	02.06.2020	12.06.2020	24.05.2021	24.05.2021	04.06.2021			
Days after application DA-A			63 DA-A	57 DA-A	65 DA-A	43 DA-A	43 DA-A	56 DA-A	**Average**	**Min.**	**Max.**
weeds density pcs/m^2			6.0	5.0	6.0	6.0	10.0	6.3	**6.6**	**5.0**	**10.0**
No.	Name	Rate (L, kg/ha)									
1	Untreated Check	-	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~88.80~~	~~90.50~~	~~83.80~~	73.80	75.00	78.80	~~81.78~~ **75.87**	**73.80**	~~90.50~~ **78.80**
2a	CHR/H/CFF 250 EC	0.3	88.80	90.50	83.80				**87.70**	**83.80**	**90.50**
3	CHR/H/CFF 250 EC	0.4	93.80	94.50	88.80	82.50	85.00	100.00	**90.77**	**82.50**	**100.00**
4	CHR/H/CFF 250 EC	0.5	100.00	100.00	92.50	95.00	95.00	100.00	**97.08**	**92.50**	**100.00**
5	CHR/H/CFF 250 EC	0.6	100.00	100.00	97.50	100.00	100.00	100.00	**99.58**	**97.50**	**100.00**
6	Starane 333 EC	0.54	73.80	72.00	70.00	68.80	70.00	62.50	**69.52**	**62.50**	**73.80**
7	Rassel 100 SC	0.05	92.50	97.50	92.50	90.00	90.00	100.00	**93.75**	**90.00**	**100.00**
LSD(P=.05)			2.840	2.470	4.560	5.190	3.370	3.370			

Table 28. The efficacy of CHR/H/CFF 250 EC in control of CENCY Centaurea cyanus in winter triticale 14 DA-A

Pest code			**CENCY *Centaurea cyanus***						
Report code			**A.T/2020/041/PŻO**	**A.T/2020/043/PŻO**	**A.T/2021/030/PŻO**	**SRPL21-413-336HE**			
Application date			06.04.2020	08.04.2020	09.04.2021	09.04.2021			
Crop stage in application			BBCH 25-28	BBCH 30-31	BBCH 21-24	BBCH 21-23			
Pest stage			BBCH 17-19	BBCH 17-19	BBCH 12-16	BBCH 14-19			
Assessment date			20.04.2020	22.04.2020	22.04.2021	23.04.2021			
Days after application DA-A			14 DA-A	14 DA-A	13 DA-A	14 DA-A	**Average**	**Min.**	**Max.**
weeds density pcs/m^2			6.0	7.0	10.0	6.5	**7.4**	**6.0**	**10.0**
No.	Name	Rate (L, kg/ha)							
1	Untreated Check	-	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~47.50~~	~~47.50~~	41.30	48.80	~~46.28~~ **45.05**	**41.30**	**48.80**
2a	CHR/H/CFF 250 EC	0.3	47.50	47.50			**47.50**	**47.50**	**47.50**
3	CHR/H/CFF 250 EC	0.4	52.50	52.50	63.80	82.50	**62.83**	**52.50**	**82.50**
4	CHR/H/CFF 250 EC	0.5	57.50	61.30	71.30	90.00	**70.03**	**57.50**	**90.00**
5	CHR/H/CFF 250 EC	0.6	60.00	62.50	86.30	93.80	**75.65**	**60.00**	**93.80**
6	Starane 333 EC	0.54	55.00	37.50	71.30	91.30	**63.78**	**37.50**	**91.30**
7	Rassel 100 SC	0.05	42.50	50.00	53.80	62.50	**52.20**	**42.50**	**62.50**
LSD(P=.05)			6.920	5.600	4.630	7.730			

Table 29. The efficacy of CHR/H/CFF 250 EC in control of CENCY Centaurea cyanus in winter triticale 21-28 DA-A

Pest code			**CENCY *Centaurea cyanus***								
Report code			**A.T/2020/041/PŻO**	**A.T/2020/043/PŻO**	**A.T/2021/030/PŻO**	**AH/21/PszO/5/Bu/2**	**AH/21/PszO/5/Ra/1**	**SRPL21-413-336HE**			
Application date			06.04.2020	08.04.2020	09.04.2021	11.04.2021	11.04.2021	09.04.2021			
Crop stage in application			BBCH 25-28	BBCH 30-31	BBCH 21-24	BBCH 22	BBCH 22	BBCH 21-23			
Pest stage			BBCH 17-19	BBCH 17-19	BBCH 12-16	BBCH 22	BBCH 23	BBCH 14-19			
Assessment date			04.05.2020	06.05.2020	05.05.2021	04.05.2021	04.05.2021	07.05.2021			
Days after application DA-A			28 DA-A	28 DA-A	26 DA-A	23 DA-A	23 DA-A	28 DA-A	**Average**	**Min.**	**Max.**
weeds density pcs/m^2			6.0	7.0	8.0	5.0	6.0	7.0	**6.5**	**5.0**	**8.0**
No.	Name	Rate (L, kg/ha)									
1	Untreated Check	-	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~83.80~~	~~87.50~~	60.00	67.50	66.30	71.30	~~72.73~~ **66.28**	**60.00**	~~87.50~~ **71.30**
2a	CHR/H/CFF 250 EC	0.3	83.80	87.50					**85.65**	**83.80**	**87.50**
3	CHR/H/CFF 250 EC	0.4	86.30	88.80	73.80	70.00	70.00	96.30	**80.87**	**70.00**	**96.30**
4	CHR/H/CFF 250 EC	0.5	88.80	93.80	82.50	72.50	72.50	100.00	**85.02**	**72.50**	**100.00**
5	CHR/H/CFF 250 EC	0.6	90.00	96.00	92.50	82.50	81.30	100.00	**90.38**	**81.30**	**100.00**
6	Starane 333 EC	0.54	86.30	76.30	85.00	61.30	61.30	100.00	**78.37**	**61.30**	**100.00**
7	Rassel 100 SC	0.05	71.30	91.30	83.80	72.50	71.30	82.50	**78.78**	**71.30**	**91.30**
LSD(P=.05)			4.480	3.530	6.350	4.110	3.800	4.370			

Table 30. The efficacy of CHR/H/CFF 250 EC in control of CENCY Centaurea cyanus in winter triticale LAST ASSESSMENT

Pest code			**CENCY *Centaurea cyanus***								
Report code			**A.T/2020/041/PŻO**	**A.T/2020/043/PŻO**	**A.T/2021/030/PŻO**	**AH/21/PszO/5/Bu/2**	**AH/21/PszO/5/Ra/1**	**SRPL21-413-336HE**			
Application date			06.04.2020	08.04.2020	09.04.2021	11.04.2021	11.04.2021	09.04.2021			
Crop stage in application			BBCH 25-28	BBCH 30-31	BBCH 21-24	BBCH 22	BBCH 22	BBCH 21-23			
Pest stage			BBCH 17-19	BBCH 17-19	BBCH 12-16	BBCH 22	BBCH 23	BBCH 14-19			
Assessment date			08.06.2020	12.06.2020	22.06.2021	24.05.2021	24.05.2021	04.06.2021			
Days after application DA-A			63 DA-A	65 DA-A	74 DA-A	43 DA-A	43 DA-A	56 DA-A	**Average**	**Min.**	**Max.**
weeds density pcs/m^2			6.0	7.0	8.0	5.0	6.0	7.3	**6.6**	**5.0**	**8.0**
No.	Name	Rate (L, kg/ha)									
1	Untreated Check	-	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~88.00~~	~~87.50~~	58.80	76.30	75.00	86.30	~~78.65~~ **74.10**	**58.80**	~~88.00~~ **86.30**
2a	CHR/H/CFF 250 EC	0.3	88.00	87.50					**87.75**	**87.50**	**88.00**
3	CHR/H/CFF 250 EC	0.4	96.00	93.80	97.50	81.30	80.00	100.00	**91.43**	**80.00**	**100.00**
4	CHR/H/CFF 250 EC	0.5	100.00	100.00	99.00	90.00	90.00	100.00	**96.50**	**90.00**	**100.00**
5	CHR/H/CFF 250 EC	0.6	100.00	100.00	99.50	95.00	95.00	100.00	**98.25**	**95.00**	**100.00**
6	Starane 333 EC	0.54	85.00	81.30	85.00	70.00	70.00	100.00	**81.88**	**70.00**	**100.00**
7	Rassel 100 SC	0.05	81.30	91.30	72.50	91.30	90.00	97.00	**87.23**	**72.50**	**97.00**
LSD(P=.05)			2.980	3.250	7.600	4.340	4.190	4.620			

Table 31. The efficacy of CHR/H/CFF 250 EC in control of GALAP Galium aparine in winter triticale 14 DA-A

Pest code			**GALAP *Galium aparine***							
Report code			**A.T/2020/041/PŻO**	**A.T/2020/042/PŻO**	**A.T/2020/043/PŻO**	**A.T/2021/030/PŻO**	**SRPL21-413-336HE**			
Application date			06.04.2020	06.04.2020	08.04.2020	09.04.2021	09.04.2021			
Crop stage in application			BBCH 25-28	BBCH 30-32	BBCH 30-31	BBCH 21-24	BBCH 21-23			
Pest stage			BBCH 15-17	BBCH 26-35	BBCH 19-31	BBCH 12-16	BBCH 19-33			
Assessment date			20.04.2020	20.04.2020	22.04.2020	22.04.2021	23.04.2021			
Days after application DA-A			14 DA-A	14 DA-A	14 DA-A	13 DA-A	14 DA-A	**Average**	**Min.**	**Max.**
weeds density pcs/m^2			5.0	19.0	7.0	5.0	5.8	**8.4**	**5.0**	**19.0**
No.	Name	Rate (L, kg/ha)								
1	Untreated Check	-	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~52.50~~	~~79.30~~	~~57.50~~	32.50	20.00	~~**48.36**~~ **26.25**	**20.00**	~~**79.30**~~ **32.50**
2a	CHR/H/CFF 250 EC	0.3	52.50	79.30	57.50			**63.10**	**52.50**	**79.30**
3	CHR/H/CFF 250 EC	0.4	55.00	85.00	60.00	46.30	31.30	**55.52**	**31.30**	**85.00**
4	CHR/H/CFF 250 EC	0.5	57.50	85.50	63.80	46.30	38.80	**58.38**	**38.80**	**85.50**
5	CHR/H/CFF 250 EC	0.6	57.50	87.80	67.50	48.80	51.30	**62.58**	**48.80**	**87.80**
6	Starane 333 EC	0.54	55.00	89.50	66.30	50.00	61.30	**64.42**	**50.00**	**89.50**
7	Rassel 100 SC	0.05	45.00	66.50	66.30	41.30	41.30	**52.08**	**41.30**	**66.50**
LSD(P=.05)			6.500	3.090	5.310	3.370	5.380			

Table 32. The efficacy of CHR/H/CFF 250 EC in control of GALAP Galium aparine in winter triticale 21-28 DA-A

Pest code			**GALAP *Galium aparine***									
Report code			**A.T/2020/041/PŻO**	**A.T/2020/042/PŻO**	**A.T/2020/043/PŻO**	**A.T/2021/030/PŻO**	**AH/21/PszO/5/Bu/2**	**AH/21/PszO/5/Ra/1**	**SRPL21-413-336HE**			
Application date			06.04.2020	06.04.2020	08.04.2020	09.04.2021	11.04.2021	11.04.2021	09.04.2021			
Crop stage in application			BBCH 25-28	BBCH 30-32	BBCH 30-31	BBCH 21-24	BBCH 22	BBCH 22	BBCH 21-23			
Pest stage			BBCH 15-17	BBCH 26-35	BBCH 19-31	BBCH 12-16	BBCH 23	BBCH 23	BBCH 19-33			
Assessment date			04.05.2020	04.05.2020	06.05.2020	05.05.2021	04.05.2021	04.05.2021	07.05.2021			
Days after application DA-A			28 DA-A	28 DA-A	28 DA-A	26 DA-A	23 DA-A	23 DA-A	28 DA-A	**Average**	**Min.**	**Max.**
weeds density pcs/m^2			5.0	19.0	7.0	5.0	6.0	5.0	5.8	**7.5**	**5.0**	**19.0**
No.	Name	Rate (L, kg/ha)										
1	Untreated Check	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~83.80~~	~~86.50~~	~~83.00~~	56.30	65.00	66.30	50.00	~~70.13~~ **59.40**	**50.00**	~~86.50~~ **66.30**
2a	CHR/H/CFF 250 EC	0.3	83.80	86.50	83.00					**84.43**	**83.00**	**86.50**
3	CHR/H/CFF 250 EC	0.4	87.50	89.50	87.50	62.50	71.30	71.30	55.00	**74.94**	**55.00**	**89.50**
4	CHR/H/CFF 250 EC	0.5	88.80	93.00	82.50	73.80	73.80	75.00	60.00	**78.13**	**60.00**	**93.00**
5	CHR/H/CFF 250 EC	0.6	88.80	94.80	95.00	87.50	77.50	77.50	71.30	**84.63**	**71.30**	**95.00**
6	Starane 333 EC	0.54	85.00	98.30	88.80	91.30	78.80	80.00	60.00	**83.17**	**60.00**	**98.30**
7	Rassel 100 SC	0.05	75.00	81.00	90.00	82.50	77.50	77.50	52.50	**76.57**	**52.50**	**90.00**
LSD(P=.05)			5.070	3.330	3.490	7.570	4.030	3.210	3.370			

Table 33. The efficacy of CHR/H/CFF 250 EC in control of GALAP Galium aparine in winter triticale LAST ASSESSMENT

Pest code			**GALAP *Galium aparine***									
Report code			**A.T/2020/041/PŻO**	**A.T/2020/042/PŻO**	**A.T/2020/043/PŻO**	**A.T/2021/030/PŻO**	**AH/21/PszO/5/Bu/2**	**AH/21/PszO/5/Ra/1**	**SRPL21-413-336HE**			
Application date			06.04.2020	06.04.2020	08.04.2020	09.04.2021	11.04.2021	11.04.2021	09.04.2021			
Crop stage in application			BBCH 25-28	BBCH 30-32	BBCH 30-31	BBCH 21-24	BBCH 22	BBCH 22	BBCH 21-23			
Pest stage			BBCH 15-17	BBCH 26-35	BBCH 19-31	BBCH 12-16	BBCH 23	BBCH 23	BBCH 19-33			
Assessment date			08.06.2020	02.06.2020	12.06.2020	22.06.2021	24.05.2021	24.05.2021	04.06.2021			
Days after application DA-A			63 DA-A	57 DA-A	65 DA-A	74 DA-A	43 DA-A	43 DA-A	56 DA-A	**Avera-ge**	**Min.**	**Max.**
weeds density pcs/m^2			5.0	19.0	7.0	5.0	6.0	5.0	5.5	**7.5**	**5.0**	**19.0**
No.	Name	Rate (L, kg/ha)										
1	Untreated Check	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~88.80~~	~~83.80~~	~~85.00~~	83.80	81.30	80.00	100.00	~~86.10~~ **86.27**	**80.00**	**100.00**
2a	CHR/H/CFF 250 EC	0.3	88.80	83.80	85.00					**85.87**	**85.00**	**88.80**
3	CHR/H/CFF 250 EC	0.4	92.50	90.00	88.80	92.50	80.00	80.00	100.00	**89.11**	**80.00**	**100.00**
4	CHR/H/CFF 250 EC	0.5	100.00	96.80	97.50	100.00	86.30	85.00	100.00	**95.09**	**85.00**	**100.00**
5	CHR/H/CFF 250 EC	0.6	98.80	98.80	100.00	100.00	95.00	95.00	100.00	**98.23**	**95.00**	**100.00**
6	Starane 333 EC	0.54	100.00	99.50	92.50	100.00	95.00	95.00	100.00	**97.43**	**92.50**	**100.00**
7	Rassel 100 SC	0.05	87.00	84.50	88.80	87.50	86.30	95.00	100.00	**89.87**	**84.50**	**100.00**
LSD(P=.05)			2.310	2.270	4.490	5.490	4.340	4.190	-			

Table 34. The efficacy of CHR/H/CFF 250 EC in control of PAPRH Papver rhoeas in winter triticale 14 DA-A

Pest code			**PAPRH *Papaver rhoeas***						
Report code			**A.T/2020/041/PŻO**	**A.T/2020/042/PŻO**	**A.T/2020/043/PŻO**	**A.T/2021/030/PŻO**			
Application date			06.04.2020	06.04.2020	08.04.2020	09.04.2021			
Crop stage in application			BBCH 25-28	BBCH 30-32	BBCH 30-31	BBCH 21-24			
Pest stage			BBCH 15-17	BBCH 28-31	BBCH 19-32	BBCH 14-16			
Assessment date			20.04.2020	20.04.2020	22.04.2020	22.04.2021			
Days after application DA-A			14 DA-A	14 DA-A	14 DA-A	13 DA-A	**Average**	**Min.**	**Max.**
weeds density pcs/m^2			5.0	5.0	5.0	5.0	**5.0**	**5.0**	**5.0**
No.	Name	Rate (L, kg/ha)							
1	Untreated Check	-	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~57.50~~	~~52.50~~	~~52.50~~	32.50	~~48.75~~ **32.50**	**32.50**	~~57.50~~ **32.50**
2a	CHR/H/CFF 250 EC	0.3	57.50	52.50	52.50		**54.16**	**52,50**	**57.50**
3	CHR/H/CFF 250 EC	0.4	65.00	60.30	57.50	42.50	**56.33**	**42.50**	**65.00**
4	CHR/H/CFF 250 EC	0.5	67.50	65.80	57.50	47.50	**59.58**	**47.50**	**67.50**
5	CHR/H/CFF 250 EC	0.6	68.80	79.00	62.50	50.00	**65.08**	**50.00**	**79.00**
6	Starane 333 EC	0.54	28.80	29.50	30.00	0.00	**22.08**	**0.00**	**30.00**
7	Rassel 100 SC	0.05	53.80	71.30	55.00	37.50	**54.40**	**37.50**	**71.30**
LSD(P=.05)			6.190	5.570	7.190	4.770			

Table 35. The efficacy of CHR/H/CFF 250 EC in control of PAPRH Papver rhoeas in winter triticale 21-28 DA-A

Pest code			**PAPRH *Papaver rhoeas***								
Report code			**A.T/2020/041/PŻO**	**A.T/2020/042/PŻO**	**A.T/2020/043/PŻO**	**A.T/2021/030/PŻO**	**AH/21/PszO/5/Bu/2**	**AH/21/PszO/5/Ra/1**			
Application date			06.04.2020	06.04.2020	08.04.2020	09.04.2021	11.04.2021	11.04.2021			
Crop stage in application			BBCH 25-28	BBCH 30-32	BBCH 30-31	BBCH 21-24	BBCH 22	BBCH 22			
Pest stage			BBCH 15-17	BBCH 28-31	BBCH 19-32	BBCH 14-16	BBCH 23	BBCH 24			
Assessment date			04.05.2020	04.05.2020	06.05.2020	05.05.2021	04.05.2021	04.05.2021			
Days after application DA-A			28 DA-A	28 DA-A	28 DA-A	26 DA-A	23 DA-A	23 DA-A	**Average**	**Min.**	**Max.**
weeds density pcs/m^2			5.0	5.0	5.0	5.0	6.0	5.0	**5.2**	**5.0**	**6.0**
No.	Name	Rate (L, kg/ha)									
1	Untreated Check	-	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~78.80~~	~~78.80~~	~~90.00~~	77.50	70.00	68.80	~~**77.32**~~ **72.10**	**68.80**	~~**90.00**~~ **77.50**
2a	CHR/H/CFF 250 EC	0.3	78.80	78.80	90.00				**82.53**	**78.80**	**90.00**
3	CHR/H/CFF 250 EC	0.4	83.80	87.50	90.00	87.50	72.50	72.50	**82.30**	**72.50**	**90.00**
4	CHR/H/CFF 250 EC	0.5	88.80	91.30	95.00	92.50	82.50	82.50	**88.77**	**82.50**	**95.00**
5	CHR/H/CFF 250 EC	0.6	90.00	96.30	100.00	96.30	85.00	95.00	**93.77**	**85.00**	**100.00**
6	Starane 333 EC	0.54	21.30	22.30	35.00	0.00	65.00	65.00	**34.77**	**0.00**	**65.00**
7	Rassel 100 SC	0.05	85.00	85.00	90.00	90.00	73.80	72.50	**82.72**	**72.50**	**90.00**
LSD(P=.05)			4.130	5.430	3.550	4.480	4.410	4.750			

Table 36. The efficacy of CHR/H/CFF 250 EC in control of PAPRH Papver rhoeas in winter triticale LAST ASSESSMENT

Pest code			**PAPRH *Papaver rhoeas***							
Report code			**A.T/2020/041/PŻO**	**A.T/2020/042/PŻO**	**A.T/2021/030/PŻO**	**AH/21/PszO/5/Bu/2**	**AH/21/PszO/5/Ra/1**			
Application date			06.04.2020	06.04.2020	09.04.2021	11.04.2021	11.04.2021			
Crop stage in application			BBCH 25-28	BBCH 30-32	BBCH 21-24	BBCH 22	BBCH 22			
Pest stage			BBCH 15-17	BBCH 28-31	BBCH 14-16	BBCH 23	BBCH 24			
Assessment date			08.06.2020	02.06.2020	22.06.2021	24.05.2021	24.05.2021			
Days after application DA-A			63 DA-A	57 DA-A	74 DA-A	43 DA-A	43 DA-A	**Average**	**Min.**	**Max.**
weeds density pcs/m^2			5.0	5.0	5.0	6.0	5.0	**5.2**	**5.0**	**6.0**
No.	Name	Rate (L, kg/ha)								
1	Untreated Check	-	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~87.50~~	~~87.50~~	77.50	78.80	80.00	~~**82.26**~~ **78.77**	**77.50**	~~**87.50**~~ **80.00**
2a	CHR/H/CFF 250 EC	0.3	87.50	87.50				**87.50**	**87.50**	**87.50**
3	CHR/H/CFF 250 EC	0.4	93.80	91.30	87.50	80.00	80.00	**86.52**	**80.00**	**93.80**
4	CHR/H/CFF 250 EC	0.5	96.30	95.00	92.50	95.00	95.00	**94.76**	**92.50**	**96.30**
5	CHR/H/CFF 250 EC	0.6	100.00	100.00	96.30	100.00	100.00	**99.26**	**96.30**	**100.00**
6	Starane 333 EC	0.54	25.00	28.80	0.00	70.00	70.00	**38.76**	**0.00**	**70.00**
7	Rassel 100 SC	0.05	92.50	93.80	90.00	91.30	90.00	**91.52**	**90.00**	**93.80**
LSD(P=.05)			5.560	3.250	4.480	4.510	4.190			

Table 37. The efficacy of CHR/H/CFF 250 EC in control of STEME Stellaria media in winter triticale 14 DA-A

Pest code			**STEME *Stellaria media***						
Report code			**A.T/2020/041/PŻO**	**A.T/2020/042/PŻO**	**A.T/2021/030/PŻO**	**SRPL21-413-336HE**			
Application date			06.04.2020	06.04.2020	09.04.2021	09.04.2021			
Crop stage in application			BBCH 25-28	BBCH 30-32	BBCH 21-24	BBCH 21-23			
Pest stage			BBCH 45-55	BBCH 25-31	BBCH 12-16	BBCH 39-59			
Assessment date			20.04.2020	20.04.2020	22.04.2021	23.04.2021			
Days after application DA-A			14 DA-A	14 DA-A	13 DA-A	14 DA-A	**Average**	**Min.**	**Max.**
weeds density pcs/m^2			10.0	6.0	5.0	5.0	**6.5**	**5.0**	**10.0**
No.	Name	Rate (L, kg/ha)							
1	Untreated Check	-	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~55.00~~	~~76.30~~	38.80	47.50	~~**54.40**~~ **43.15**	**38.80**	~~**76.30**~~ **47.50**
2a	CHR/H/CFF 250 EC	0.3	55.00	76.30			**65.65**	**55.00**	**76.30**
3	CHR/H/CFF 250 EC	0.4	55.00	77.50	43.80	51.30	**56.90**	**43.80**	**77.50**
4	CHR/H/CFF 250 EC	0.5	60.00	87.50	51.30	60.00	**64.70**	**51.30**	**87.50**
5	CHR/H/CFF 250 EC	0.6	60.00	88.80	61.30	68.80	**69.73**	**60.00**	**88.80**
6	Starane 333 EC	0.54	60.00	82.30	58.80	72.50	**68.40**	**58.80**	**82.30**
7	Rassel 100 SC	0.05	50.00	80.80	61.30	57.50	**62.40**	**50.00**	**80.80**
LSD(P=.05)			5.500	4.310	3.640	3.830			

Table 38. The efficacy of CHR/H/CFF 250 EC in control of STEME Stellaria media in winter triticale 21-28 DA-A

Pest code			**STEME *Stellaria media***								
Report code			**A.T/2020/041/PŻO**	**A.T/2020/042/PŻO**	**A.T/2021/030/PŻO**	**AH/21/PszO/5/Bu/2**	**AH/21/PszO/5/Ra/1**	**SRPL21-413-336HE**			
Application date			06.04.2020	06.04.2020	09.04.2021	11.04.2021	11.04.2021	09.04.2021			
Crop stage in application			BBCH 25-28	BBCH 30-32	BBCH 21-24	BBCH 22	BBCH 22	BBCH 21-23			
Pest stage			BBCH 45-55	BBCH 25-31	BBCH 12-16	BBCH 24	BBCH 24	BBCH 39-59			
Assessment date			04.05.2020	04.05.2020	05.05.2021	04.05.2021	04.05.2021	07.05.2021			
Days after application DA-A			28 DA-A	28 DA-A	26 DA-A	23 DA-A	23 DA-A	28 DA-A	**Average**	**Min.**	**Max.**
weeds density pcs/m^2			10.0	6.0	5.0	7.0	8.0	6.0	**7.0**	**5.0**	**10.0**
No.	Name	Rate (L, kg/ha)									
1	Untreated Check	-	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~86.30~~	~~91.30~~	58.80	73.80	72.50	65.00	~~**74.62**~~ **67.53**	**58.80**	~~**91.30**~~ **73.80**
2a	CHR/H/CFF 250 EC	0.3	86.30	91.30					**88.80**	**86.30**	**91.30**
3	CHR/H/CFF 250 EC	0.4	98.50	82.50	65.00	76.30	76.30	70.00	**78.10**	**65.00**	**98.50**
4	CHR/H/CFF 250 EC	0.5	95.00	92.50	81.30	80.00	80.00	70.00	**83.13**	**70.00**	**95.00**
5	CHR/H/CFF 250 EC	0.6	95.00	93.80	91.30	81.30	80.00	82.50	**87.32**	**80.00**	**95.00**
6	Starane 333 EC	0.54	90.00	86.80	85.00	73.80	73.80	76.30	**80.95**	**73.80**	**90.00**
7	Rassel 100 SC	0.05	77.50	83.80	91.30	68.80	67.50	66.30	**75.87**	**66.30**	**91.30**
LSD(P=.05)			5.600	3.780	5.560	5.100	5.940	4.370			

Table 39. The efficacy of CHR/H/CFF 250 EC in control of STEME Stellaria media in winter triticale LAST ASSESSMENT

Pest code			**STEME *Stellaria media***							
Report code			**A.T/2020/042/PŻO**	**A.T/2021/030/PŻO**	**AH/21/PszO/5/Bu/2**	**AH/21/PszO/5/Ra/1**	**SRPL21-413-336HE**			
Application date			06.04.2020	09.04.2021	11.04.2021	11.04.2021	09.04.2021			
Crop stage in application			BBCH 30-32	BBCH 21-24	BBCH 22	BBCH 22	BBCH 21-23			
Pest stage			BBCH 25-31	BBCH 12-16	BBCH 24	BBCH 24	BBCH 39-59			
Assessment date			02.06.2020	22.06.2021	24.05.2021	24.05.2021	04.06.2021			
Days after application DA-A			57 DA-A	74 DA-A	43 DA-A	43 DA-A	56 DA-A	**Average**	**Min.**	**Max.**
weeds density pcs/m^2			6.0	5.0	7.0	8.0	5.0	**6.2**	**5.0**	**8.0**
No.	Name	Rate (L, kg/ha)								
1	Untreated Check	-	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~88.00~~	97.00	81.30	80.00	100.00	~~89.26~~ **89.58**	**80.00**	**100.00**
2a	CHR/H/CFF 250 EC	0.3	88.00					**88.00**	**88.00**	**88.00**
3	CHR/H/CFF 250 EC	0.4	92.30	100.00	90.00	90.00	100.00	**94.46**	**90.00**	**100.00**
4	CHR/H/CFF 250 EC	0.5	97.00	100.00	100.00	100.00	100.00	**99.40**	**97.00**	**100.00**
5	CHR/H/CFF 250 EC	0.6	97.00	100.00	100.00	100.00	100.00	**99.40**	**97.00**	**100.00**
6	Starane 333 EC	0.54	93.30	95.50	90.00	90.00	100.00	**93.76**	**90.00**	**100.00**
7	Rassel 100 SC	0.05	90.00	100.00	80.00	80.00	100.00	**90.00**	**80.00**	**100.00**
LSD(P=.05)			3.180	1.690	3.650	3.970	-			

Table 40. The efficacy of CHR/H/CFF 250 EC in control of MATIN Tripleurospermum mar. inodorum in winter triticale 14 DA-A

Pest code			**MATIN *Tripleurospermum inodorum***						
Report code			**A.T/2020/041/PŻO**	**A.T/2020/042/PŻO**	**A.T/2020/043/PŻO**	**A.T/2021/030/PŻO**			
Application date			06.04.2020	06.04.2020	08.04.2020	09.04.2021			
Crop stage in application			BBCH 25-28	BBCH 30-32	BBCH 30-31	BBCH 21-24			
Pest stage			BBCH 19-31	BBCH 23-26	BBCH 19-31	BBCH 14-21			
Assessment date			20.04.2020	20.04.2020	22.04.2020	22.04.2021			
Days after application DA-A			14 DA-A	14 DA-A	14 DA-A	13 DA-A	**Average**	**Min.**	**Max.**
weeds density pcs/m^2			7.0	7.0	8.0	8.0	**7.5**	**7.0**	**8.0**
No.	Name	Rate (L, kg/ha)							
1	Untreated Check	-	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~80.00~~	~~85.80~~	~~67.50~~	32.50	~~**66.45**~~ **32.50**	**32.50**	~~**85.80**~~ **32.50**
2a	CHR/H/CFF 250 EC	0.3	80.00	85.80	67.50		**77.77**	**67.50**	**85.80**
3	CHR/H/CFF 250 EC	0.4	82.50	87.50	67.50	51.30	**72.20**	**51.30**	**87.50**
4	CHR/H/CFF 250 EC	0.5	85.00	94.80	68.80	72.50	**80.28**	**68.80**	**94.80**
5	CHR/H/CFF 250 EC	0.6	90.00	95.00	70.00	76.30	**82.83**	**70.00**	**95.00**
6	Starane 333 EC	0.54	62.50	67.50	37.50	43.80	**52.83**	**37.50**	**67.50**
7	Rassel 100 SC	0.05	60.00	76.30	66.30	73.80	**69.10**	**60.00**	**76.30**
LSD(P=.05)			5.730	3.690	6.650	5.150			

Table 41. The efficacy of CHR/H/CFF 250 EC in control of MATIN Tripleurospermum mar. inodorum in winter triticale 21-28 DA-A

Pest code			**MATIN *Tripleurospermum inodorum***								
Report code			**A.T/2020/041/PŻO**	**A.T/2020/042/PŻO**	**A.T/2020/043/PŻO**	**A.T/2021/030/PŻO**	**AH/21/PszO/5/Bu/2**	**AH/21/PszO/5/Ra/1**			
Application date			06.04.2020	06.04.2020	08.04.2020	09.04.2021	11.04.2021	11.04.2021			
Crop stage in application			BBCH 25-28	BBCH 30-32	BBCH 30-31	BBCH 21-24	BBCH 22	BBCH 22			
Pest stage			BBCH 19-31	BBCH 23-26	BBCH 19-31	BBCH 14-21	BBCH 23	BBCH 23			
Assessment date			04.05.2020	04.05.2020	06.05.2020	05.05.2021	04.05.2021	04.05.2021			
Days after application DA-A			28 DA-A	28 DA-A	28 DA-A	26 DA-A	23 DA-A	23 DA-A	**Avera-ge**	**Min.**	**Max.**
weeds density pcs/m^2			7.0	7.0	8.0	8.0	6.0	5.0	**6.8**	**5.0**	**8.0**
No.	Name	Rate (L, kg/ha)									
1	Untreated Check	-	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~85.00~~	~~90.80~~	~~90.00~~	53.80	63.80	65.00	~~**74.73**~~ **60.87**	**53.80**	~~**90.80**~~ **65.00**
2a	CHR/H/CFF 250 EC	0.3	85.00	90.80	90.00				**88.60**	**85.00**	**90.00**
3	CHR/H/CFF 250 EC	0.4	87.50	92.50	90.00	65.00	73.80	73.80	**80.43**	**65.00**	**92.50**
4	CHR/H/CFF 250 EC	0.5	95.00	97.50	92.50	82.50	80.00	80.00	**87.92**	**80.00**	**97.50**
5	CHR/H/CFF 250 EC	0.6	97.50	98.80	92.50	87.50	86.30	75.00	**89.60**	**75.00**	**98.80**
6	Starane 333 EC	0.54	78.80	73.80	70.00	68.80	63.80	62.50	**69.62**	**62.50**	**78.80**
7	Rassel 100 SC	0.05	85.00	81.30	90.00	87.50	65.00	65.00	**78.97**	**65.00**	**90.00**
LSD(P=.05)			5.250	4.510	3.370	7.900	4.680	4.260			

Table 42. The efficacy of CHR/H/CFF 250 EC in control of MATIN Tripleurospermum mar. inodorum in winter triticale LAST ASSESSMENT

Pest code			**MATIN *Tripleurospermum inodorum***								
Report code			**A.T/2020/041/PŻO**	**A.T/2020/042/PŻO**	**A.T/2020/043/PŻO**	**A.T/2021/030/PŻO**	**AH/21/PszO/5/Bu/2**	**AH/21/PszO/5/Ra/1**			
Application date			06.04.2020	06.04.2020	08.04.2020	09.04.2021	11.04.2021	11.04.2021			
Crop stage in application			BBCH 25-28	BBCH 30-32	BBCH 30-31	BBCH 21-24	BBCH 22	BBCH 22			
Pest stage			BBCH 19-31	BBCH 23-26	BBCH 19-31	BBCH 14-21	BBCH 23	BBCH 23			
Assessment date			08.06.2020	02.06.2020	12.06.2020	22.06.2021	24.05.2021	24.05.2021			
Days after application DA-A			63 DA-A	57 DA-A	65 DA-A	74 DA-A	43 DA-A	43 DA-A	**Average**	**Min.**	**Max.**
weeds density pcs/m^2			7.0	7.0	8.0	8.0	6.0	5.0	**6.8**	**5.0**	**8.0**
No.	Name	Rate (L, kg/ha)									
1	Untreated Check	-	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**
2	CHR/H/CFF 250 EC	0.2	~~91.30~~	~~94.50~~	~~90.00~~	83.80	75.00	75.00	~~84.93~~ **77.93**	**75.00**	~~94.50~~ **83.80**
2a	CHR/H/CFF 250 EC	0.3	91.30	94.50	90.00				**91.93**	**90.00**	**94.50**
3	CHR/H/CFF 250 EC	0.4	92.50	98.00	92.50	100.00	86.30	85.00	**92.38**	**85.00**	**100.00**
4	CHR/H/CFF 250 EC	0.5	97.50	100.00	97.50	100.00	100.00	100.00	**99.17**	**97.50**	**100.00**
5	CHR/H/CFF 250 EC	0.6	100.00	100.00	98.80	100.00	100.00	100.00	**99.80**	**98.80**	**100.00**
6	Starane 333 EC	0.54	81.30	82.50	68.80	75.00	70.00	70.00	**74.60**	**68.80**	**82.50**
7	Rassel 100 SC	0.05	88.80	92.00	92.50	100.00	78.80	80.00	**88.68**	**78.80**	**100.00**
LSD(P=.05)			3.440	2.960	3.810	1.540	4.000	3.370			

Appendix 6 Summary of phytotoxicity trials data in summary form

Table 1 – data from phytotoxicity trials – winter wheat (selectivity trials)

Report code	Treatment	Dose [L/ha]	Phytotoxicity in %					
A.T/2020/044/PO	Timing of assessment date	DA-A	08.04.2020	23.04.2020	22.05.2020	-	-	-
			11 DA-A	26 DA-A	55 DA-A	-	-	-
	Untreated Check	-	0.00	0.00	0.00	-	-	-
	CHR/H/CFF 250 EC	0.60	0.00	0.00	0.00	-	-	-
	CHR/H/CFF 250 EC	1.20	0.00	0.00	0.00	-	-	-
	Major 300 SL	0.40	0.00	0.00	0.00	-	-	-
	Major 300 SL	0.80	0.00	0.00	0.00	-	-	-
	Starane 333 EC	0.54	0.00	0.00	0.00	-	-	-
	Starane 333 EC	1.08	0.00	0.00	0.00	-	-	-
	Rassel 100 SC	0.05	0.00	0.00	0.00	-	-	-
	Rassel 100 SC	0.10	0.00	0.00	0.00	-	-	-
	LSD (P=0.05)		-	-	-	-	-	-
A.T/2020/045/PO	Timing of assessment date	DA-A	14 DA-A	24 DA-A	38 DA-A	-	-	-
			11.04.2020	21.04.2020	05.05.2020	-	-	-
	Untreated Check	-	0.00	0.00	0.00	-	-	-
	CHR/H/CFF 250 EC	0.60	0.00	0.00	0.00	-	-	-
	CHR/H/CFF 250 EC	1.20	0.00	0.00	0.00	-	-	-
	Major 300 SL	0.40	0.00	0.00	0.00	-	-	-
	Major 300 SL	0.80	0.00	0.00	0.00	-	-	-
	Starane 333 EC	0.54	0.00	0.00	0.00	-	-	-
	Starane 333 EC	1.08	0.00	0.00	0.00	-	-	-
	Rassel 100 SC	0.05	0.00	0.00	0.00	-	-	-
	Rassel 100 SC	0.10	0.00	0.00	0.00	-	-	-
	LSD (P=0.05)		-	-	-	-	-	-
A.T/2020/046/PO	Timing of assessment date	DA-A	13 DA-A	22 DA-A	36 DA-A	49 DA-A	-	-
			01.04.2020	10.04.2020	24.04.2020	07.05.2020	-	-
	Untreated Check	-	0.00	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.60	0.00	1.30	0.00	0.00	-	-
	CHR/H/CFF 250 EC	1.20	0.00	3.80	0.00	0.00	-	-
	Major 300 SL	0.40	0.00	0.00	0.00	0.00	-	-
	Major 300 SL	0.80	0.00	0.00	0.00	0.00	-	-
	Starane 333 EC	0.54	0.00	1.50	0.00	0.00	-	-

	Starane 333 EC	1.08	0.00	4.80	0.00	0.00	-	-
	Rassel 100 SC	0.05	0.00	0.00	0.00	0.00	-	-
	Rassel 100 SC	0.10	0.00	0.00	0.00	0.00	-	-
	LSD (P=0.05)		-	1.32	-	-	-	-
A.T/2020/047/PO	Timing of assessment	DA-A	14 DA-A	21 DA-A	32 DA-A	-	-	-
	date		20.04.2020	27.04.2020	08.05.2020	-	-	-
	Untreated Check	-	0.00	0.00	0.00	-	-	-
	CHR/H/CFF 250 EC	0.60	0.00	0.00	0.00	-	-	-
	CHR/H/CFF 250 EC	1.20	0.00	0.00	0.00	-	-	-
	Major 300 SL	0.40	0.00	0.00	0.00	-	-	-
	Major 300 SL	0.80	0.00	0.00	0.00	-	-	-
	Starane 333 EC	0.54	0.00	0.00	0.00	-	-	-
	Starane 333 EC	1.08	0.00	0.00	0.00	-	-	-
	Rassel 100 SC	0.05	0.00	0.00	0.00	-	-	-
	Rassel 100 SC	0.10	0.00	0.00	0.00	-	-	-
	LSD (P=0.05)		-	-	-	-	-	-
A.T/2021/031/PO	Timing of assessment	DA-A	13 DA-A	23 DA-A	47 DA-A	-	-	-
	date		13.04.2021	23.04.2021	17.05.2021	-	-	-
	Untreated Check	-	0.00	0.00	0.00	-	-	-
	CHR/H/CFF 250 EC	0.60	0.00	0.00	0.00	-	-	-
	CHR/H/CFF 250 EC	1.20	0.00	0.00	0.00	-	-	-
	Major 300 SL	0.40	0.00	0.00	0.00	-	-	-
	Major 300 SL	0.80	0.00	0.00	0.00	-	-	-
	Starane 333 EC	0.54	0.00	0.00	0.00	-	-	-
	Starane 333 EC	1.08	0.00	0.00	0.00	-	-	-
	Rassel 100 SC	0.05	0.00	0.00	0.00	-	-	-
	Rassel 100 SC	0.10	0.00	0.00	0.00	-	-	-
	LSD (P=0.05)		-	-	-	-	-	-
AH/21/PO/5/Br/1	Timing of assessment	DA-A	3 DA-A	7 DA-A	14 DA-A	35 DA-A	-	-
	date		16.04.2021	20.04.2021	27.04.2021	18.05.2021	-	-
	Untreated Check	-	0.00	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.60	0.00	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	1.20	0.00	0.00	0.00	0.00	-	-
	Major 300 SL	0.40	0.00	0.00	0.00	0.00	-	-
	Major 300 SL	0.80	0.00	0.00	0.00	0.00	-	-
	Starane 333 EC	0.54	0.00	0.00	0.00	0.00	-	-
	Starane 333 EC	1.08	0.00	0.00	0.00	0.00	-	-

	Rassel 100 SC	0.05	0.00	0.00	0.00	0.00	-	-
	Rassel 100 SC	0.10	0.00	0.00	0.00	0.00	-	-
	LSD (P=0.05)		-	-	-	-	-	-
AH/21/PO/5/Gr/2	Timing of assessment date	DA-A	3 DA-A	6 DA-A	9 DA-A	16 DA-A	23 DA-A	37 DA-A
			16.04.2021	19.04.2021	22.04.2021	29.04.2021	06.05.2021	20.05.2021
	Untreated Check	-	0.00	0.00	0.00	0.00	0.00	0.00
	CHR/H/CFF 250 EC	0.60	0.00	0.00	0.00	0.00	0.00	0.00
	CHR/H/CFF 250 EC	1.20	0.00	0.00	0.00	0.00	0.00	0.00
	Major 300 SL	0.40	0.00	0.00	0.00	0.00	0.00	0.00
	Major 300 SL	0.80	0.00	0.00	0.00	0.00	0.00	0.00
	Starane 333 EC	0.54	0.00	0.00	0.00	0.00	0.00	0.00
	Starane 333 EC	1.08	0.00	0.00	0.00	0.00	0.00	0.00
	Rassel 100 SC	0.05	0.00	0.00	0.00	0.00	0.00	0.00
	Rassel 100 SC	0.10	0.00	0.00	0.00	0.00	0.00	0.00
	LSD (P=0.05)		-	-	-	-	-	-
SRPL21-417-336HE	Timing of assessment date	DA-A	7 DA-A	14 DA-A	22 DA-A	28 DA-A	56 DA-A	-
			19.04.2021	26.04.2021	04.05.2021	10.05.2021	07.06.2021	-
	Untreated Check	-	0.00	0.00	0.00	0.00	0.00	-
	CHR/H/CFF 250 EC	0.60	0.00	0.00	0.00	0.00	0.00	-
	CHR/H/CFF 250 EC	1.20	0.00	2.00	1.50	0.00	0.00	-
	Major 300 SL	0.40	0.00	0.00	0.00	0.00	0.00	-
	Major 300 SL	0.80	0.00	0.00	0.00	0.00	0.00	-
	Starane 333 EC	0.54	0.00	0.00	0.00	0.00	0.00	-
	Starane 333 EC	1.08	0.00	0.00	0.00	0.00	0.00	-
	Rassel 100 SC	0.05	0.00	0.00	0.00	0.00	0.00	-
	Rassel 100 SC	0.10	0.00	0.00	0.00	0.00	0.00	-
	LSD (P=0.05)		-	0.93	0.8	-	-	-

Table 2 – data from phytotoxicity trials – winter wheat (efficacy trials)

Report code	Treatment	Dose [L/ha]	Phytotoxicity in %				
A.T/2020/037/PO	Timing of assessment	DA-A	14 DA-A	28 DA-A	57 DA-A	-	-
	date		20.04.2020	04.05.2020	02.06.2020	-	-
	Untreated Check	-	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.3	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.4	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.5	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.6	0.00	0.00	0.00	-	-
	Major 300 SL	0.40	0.00	0.00	0.00	-	-
	Starane 333 EC	0.54	0.00	0.00	0.00	-	-
	Rassel 100 SC	0.05	0.00	0.00	0.00	-	-
	LSD (P=0.05)		-	-	-	-	-
A.T/2020/038/PO	Timing of assessment	DA-A	14 DA-A	28 DA-A	51 DA-A	-	-
	date		20.04.2020	04.05.2020	27.05.2020	-	-
	Untreated Check	-	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.3	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.4	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.5	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.6	0.00	0.00	0.00	-	-
	Major 300 SL	0.40	0.00	0.00	0.00	-	-
	Starane 333 EC	0.54	0.00	0.00	0.00	-	-
	Rassel 100 SC	0.05	0.00	0.00	0.00	-	-
	LSD (P=0.05)		-	-	-	-	-
A.T/2020/039/PO	Timing of assessment	DA-A	14 DA-A	28 DA-A	66 DA-A	-	-
	date		21.04.2020	05.05.2020	12.06.2020	-	-
	Untreated Check	-	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.3	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.4	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.5	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.6	0.00	0.00	0.00	-	-
	Major 300 SL	0.40	0.00	0.00	0.00	-	-
	Starane 333 EC	0.54	0.00	0.00	0.00	-	-
	Rassel 100 SC	0.05	0.00	0.00	0.00	-	-
	LSD (P=0.05)		-	-	-	-	-
A.T/2020/040/PO	Timing of assessment	DA-A	14 DA-A	28 DA-A	53 DA-A	-	-

	date		20.04.2020	04.05.2020	29.05.2020	-	-
	Untreated Check	-	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.3	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.4	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.5	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.6	0.00	0.00	0.00	-	-
	Major 300 SL	0.40	0.00	0.00	0.00	-	-
	Starane 333 EC	0.54	0.00	0.00	0.00	-	-
	Rassel 100 SC	0.05	0.00	0.00	0.00	-	-
	LSD (P=0.05)		-	-	-	-	-
A.T/2021/029/PO	Timing of assessment	DA-A	14 DA-A	28 DA-A	51 DA-A	80 DA-A	-
	date		13.04.2021	27.04.2021	20.05.2021	18.06.2021	-
	Untreated Check	-	0.00	0.00	0.00	0.00	-
	CHR/H/CFF 250 EC	0.3	0.00	0.00	0.00	0.00	-
	CHR/H/CFF 250 EC	0.4	0.00	0.00	0.00	0.00	-
	CHR/H/CFF 250 EC	0.5	0.00	0.00	0.00	0.00	-
	CHR/H/CFF 250 EC	0.6	0.00	0.00	0.00	0.00	-
	Major 300 SL	0.40	0.00	0.00	0.00	0.00	-
	Starane 333 EC	0.54	0.00	0.00	0.00	0.00	-
	Rassel 100 SC	0.05	0.00	0.00	0.00	0.00	-
	LSD (P=0.05)		-	-	-	-	-
A.T/2021/033/PO	Timing of assessment	DA-A	11 DA-A	24 DA-A	47 DA-A	66 DA-A	-
	date		22.04.2021	05.05.2021	28.05.2021	16.06.2021	-
	Untreated Check	-	0.00	0.00	0.00	0.00	-
	CHR/H/CFF 250 EC	0.3	0.00	0.00	0.00	0.00	-
	CHR/H/CFF 250 EC	0.4	0.00	0.00	0.00	0.00	-
	CHR/H/CFF 250 EC	0.5	0.00	0.00	0.00	0.00	-
	CHR/H/CFF 250 EC	0.6	0.00	0.00	0.00	0.00	-
	Major 300 SL	0.40	0.00	0.00	0.00	0.00	-
	Starane 333 EC	0.54	0.00	0.00	0.00	0.00	-
	Rassel 100 SC	0.05	0.00	0.00	0.00	0.00	-
	LSD (P=0.05)		-	-	-	-	-
AH/20/PO/2/Pr/CFF	Timing of assessment	DA-A	22 DA-A	48 DA-A	-	-	-
	date		29.04.2020	25.05.2020	-	-	-
	Untreated Check	-	0.00	0.00	-	-	-
	CHR/H/CFF 250 EC	0.3	0.00	0.00	-	-	-
	CHR/H/CFF 250 EC	0.4	0.00	0.00	-	-	-

	CHR/H/CFF 250 EC	0.5	0.00	0.00	-	-	-
	CHR/H/CFF 250 EC	0.6	0.00	0.00	-	-	-
	Major 300 SL	0.40	0.00	0.00	-	-	-
	Starane 333 EC	0.54	0.00	0.00	-	-	-
	Rassel 100 SC	0.05	0.00	0.00	-	-	-
	LSD (P=0.05)		-	-	-	-	-
AH/21/PO/5/Pr/1	Timing of assessment date	DA-A	21 DA-A	42 DA-A	87 DA-A	-	-
			04.05.2021	25.05.2021	09.07.2021	-	-
	Untreated Check	-	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.3	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.4	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.5	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.6	0.00	0.00	0.00	-	-
	Major 300 SL	0.40	0.00	0.00	0.00	-	-
	Starane 333 EC	0.54	0.00	0.00	0.00	-	-
	Rassel 100 SC	0.05	0.00	0.00	0.00	-	-
	LSD (P=0.05)		-	-	-	-	-
AH/21/PO/5/Ra/2	Timing of assessment date	DA-A	23 DA-A	43 DA-A	85 DA-A	-	-
			04.05.2021	24.05.2021	05.07.2021	-	-
	Untreated Check	-	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.3	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.4	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.5	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.6	0.00	0.00	0.00	-	-
	Major 300 SL	0.40	0.00	0.00	0.00	-	-
	Starane 333 EC	0.54	0.00	0.00	0.00	-	-
	Rassel 100 SC	0.05	0.00	0.00	0.00	-	-
	LSD (P=0.05)		-	-	-	-	-
SRPL21-414-336HE	Timing of assessment date	DA-A	7 DA-A	14 DA-A	28 DA-A	56 DA-A	-
			29.04.2021	06.05.2021	20.05.2021	17.06.2021	-
	Untreated Check	-	0.00	0.00	0.00	0.00	-
	CHR/H/CFF 250 EC	0.3	0.00	0.00	0.00	0.00	-
	CHR/H/CFF 250 EC	0.4	0.00	0.00	0.00	0.00	-
	CHR/H/CFF 250 EC	0.5	0.00	0.00	0.00	0.00	-
	CHR/H/CFF 250 EC	0.6	0.00	0.00	0.00	0.00	-
	Major 300 SL	0.40	0.00	0.00	0.00	0.00	-
	Starane 333 EC	0.54	0.00	0.00	0.00	0.00	-

	Rassel 100 SC	0.05	0.00	0.00	0.00	0.00	-
	LSD (P=0.05)		-	-	-	-	-
SRPL21-415-336HE	Timing of assessment	DA-A	7 DA-A	14 DA-A	21 DA-A	28 DA-A	56 DA-A
	date		16.04.2021	23.04.2021	30.04.2021	07.05.2021	04.06.2021
	Untreated Check	-	0.00	0.00	0.00	0.00	0.00
	CHR/H/CFF 250 EC	0.3	0.00	0.00	0.00	0.00	0.00
	CHR/H/CFF 250 EC	0.4	0.00	0.00	0.00	0.00	0.00
	CHR/H/CFF 250 EC	0.5	0.00	0.00	0.00	0.00	0.00
	CHR/H/CFF 250 EC	0.6	0.00	0.00	0.00	0.00	0.00
	Major 300 SL	0.40	0.00	0.00	0.00	0.00	0.00
	Starane 333 EC	0.54	0.00	0.00	0.00	0.00	0.00
	Rassel 100 SC	0.05	0.00	0.00	0.00	0.00	0.00
	LSD (P=0.05)		-	-	-	-	-

Table 3 – data from phytotoxicity trials – winter triticale (selectivity trials)

Report code	Treatment	Dose [L/ha]	Phytotoxicity in %					
A.T/2020/048/PŻO	Timing of assessment	DA-A	13 DA-A	22 DA-A	50 DA-A	-	-	-
	date		01.04.2020	10.04.2020	08.05.2020	-	-	-
	Untreated Check	-	0.00	0.00	0.00	-	-	-
	CHR/H/CFF 250 EC	0.60	0.00	0.00	0.00	-	-	-
	CHR/H/CFF 250 EC	1.20	0.00	0.00	0.00	-	-	-
	Starane 333 EC	0.54	0.00	0.00	0.00	-	-	-
	Starane 333 EC	1.08	0.00	0.00	0.00	-	-	-
	Rassel 100 SC	0.05	0.00	0.00	0.00	-	-	-
	Rassel 100 SC	0.10	0.00	0.00	0.00	-	-	-
	LSD (P=0.05)		-	-	-	-	-	-
A.T/2020/049/PŻO	Timing of assessment	DA-A	14 DA-A	23 DA-A	35 DA-A	-	-	-
	date		20.04.2020	29.04.2020	11.05.2020	-	-	-
	Untreated Check	-	0.00	0.00	0.00	-	-	-
	CHR/H/CFF 250 EC	0.60	0.00	0.00	0.00	-	-	-
	CHR/H/CFF 250 EC	1.20	0.00	0.00	0.00	-	-	-
	Starane 333 EC	0.54	0.00	0.00	0.00	-	-	-
	Starane 333 EC	1.08	0.00	0.00	0.00	-	-	-
	Rassel 100 SC	0.05	0.00	0.00	0.00	-	-	-
	Rassel 100 SC	0.10	0.00	0.00	0.00	-	-	-
	LSD (P=0.05)		-	-	-	-	-	-
A.T/2020/050/PŻO	Timing of assessment	DA-A	12 DA-A	21 DA-A	33 DA-A	-	-	-
	date		20.04.2020	29.04.2020	11.05.2020	-	-	-
	Untreated Check	-	0.00	0.00	0.00	-	-	-
	CHR/H/CFF 250 EC	0.60	0.00	0.00	0.00	-	-	-
	CHR/H/CFF 250 EC	1.20	0.00	0.00	0.00	-	-	-
	Starane 333 EC	0.54	0.00	0.00	0.00	-	-	-
	Starane 333 EC	1.08	0.00	0.00	0.00	-	-	-
	Rassel 100 SC	0.05	0.00	0.00	0.00	-	-	-
	Rassel 100 SC	0.10	0.00	0.00	0.00	-	-	-
	LSD (P=0.05)		-	-	-	-	-	-
A.T/2021/032/PŻO	Timing of assessment	DA-A	10 DA-A	24 DA-A	47 DA-A	-	-	-
	date		21.04.2021	05.05.2021	28.05.2021	-	-	-
	Untreated Check	-	0.00	0.00	0.00	-	-	-

	CHR/H/CFF 250 EC	0.60	0.00	0.00	0.00	-	-	-
	CHR/H/CFF 250 EC	1.20	0.00	0.00	0.00	-	-	-
	Starane 333 EC	0.54	0.00	0.00	0.00	-	-	-
	Starane 333 EC	1.08	0.00	0.00	0.00	-	-	-
	Rassel 100 SC	0.05	0.00	0.00	0.00	-	-	-
	Rassel 100 SC	0.10	0.00	0.00	0.00	-	-	-
	LSD (P=0.05)		-	-	-	-	-	-
AH/21/PszO/5/Br/1	Timing of assessment	DA-A	3 DA-A	6 DA-A	10 DA-A	17 DA-A	24 DA-A	45 DA-A
	date		16.04.2021	19.04.2021	23.04.2021	30.04.2021	07.05.2021	28.05.2021
	Untreated Check	-	0.00	0.00	0.00	0.00	0.00	0.00
	CHR/H/CFF 250 EC	0.60	0.00	0.00	0.00	0.00	0.00	0.00
	CHR/H/CFF 250 EC	1.20	0.00	0.00	0.00	0.00	0.00	0.00
	Starane 333 EC	0.54	0.00	0.00	0.00	0.00	0.00	0.00
	Starane 333 EC	1.08	0.00	0.00	0.00	0.00	0.00	0.00
	Rassel 100 SC	0.05	0.00	0.00	0.00	0.00	0.00	0.00
	Rassel 100 SC	0.10	0.00	0.00	0.00	0.00	0.00	0.00
	LSD (P=0.05)		-	-	-	-	-	-
SRPL21-416-336HE	Timing of assessment	DA-A	7 DA-A	14 DA-A	21 DA-A	28 DA-A	56 DA-A	-
	date		28.04.2021	05.05.2021	12.05.2021	19.05.2021	16.06.2021	-
	Untreated Check	-	0.00	0.00	0.00	0.00	0.00	-
	CHR/H/CFF 250 EC	0.60	0.00	0.00	0.00	0.00	0.00	-
	CHR/H/CFF 250 EC	1.20	0.00	0.00	0.00	0.00	0.00	-
	Starane 333 EC	0.54	0.00	0.00	0.00	0.00	0.00	-
	Starane 333 EC	1.08	0.00	0.00	0.00	0.00	0.00	-
	Rassel 100 SC	0.05	0.00	0.00	0.00	0.00	0.00	-
	Rassel 100 SC	0.10	0.00	0.00	0.00	0.00	0.00	-
	LSD (P=0.05)		-	-	-	-	-	-

Table 4 – data from phytotoxicity trials – winter triticale (efficacy trials)

Report code	Treatment	Dose [L/ha]	Phytotoxicity in %				
A.T/2020/041/PŻO	Timing of assessment	DA-A	14 DA-A	28 DA-A	63 DA-A	-	-
	date		20.04.2020	04.05.2020	08.06.2020	-	-
	Untreated Check	-	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.30	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.40	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.50	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.60	0.00	0.00	0.00	-	-
	Starane 333 EC	0.54	0.00	0.00	0.00	-	-
	Rassel 100 SC	0.05	0.00	0.00	0.00	-	-
	LSD (P=0.05)		-	-	-	-	-
A.T/2020/042/PŻO	Timing of assessment	DA-A	14 DA-A	28 DA-A	57 DA-A	-	-
	date		20.04.2020	04.05.2020	02.06.2020	-	-
	Untreated Check	-	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.30	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.40	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.50	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.60	0.00	0.00	0.00	-	-
	Starane 333 EC	0.54	0.00	0.00	0.00	-	-
	Rassel 100 SC	0.05	0.00	0.00	0.00	-	-
	LSD (P=0.05)		-	-	-	-	-
A.T/2020/043/PŻO	Timing of assessment	DA-A	14 DA-A	28 DA-A	65 DA-A	-	-
	date		22.04.2020	06.05.2020	12.06.2020	-	-
	Untreated Check	-	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.30	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.40	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.50	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.60	0.00	0.00	0.00	-	-
	Starane 333 EC	0.54	0.00	0.00	0.00	-	-
	Rassel 100 SC	0.05	0.00	0.00	0.00	-	-
	LSD (P=0.05)		-	-	-	-	-
A.T/2021/030/PŻO	Timing of assessment	DA-A	13 DA-A	26 DA-A	49 DA-A	74 DA-A	-
	date		22.04.2021	05.05.2021	28.05.2021	22.06.2021	-
	Untreated Check	-	0.00	0.00	0.00	0.00	-
	CHR/H/CFF 250 EC	0.30	0.00	0.00	0.00	0.00	-

	CHR/H/CFF 250 EC	0.40	0.00	0.00	0.00	0.00	-
	CHR/H/CFF 250 EC	0.50	0.00	0.00	0.00	0.00	-
	CHR/H/CFF 250 EC	0.60	0.00	0.00	0.00	0.00	-
	Starane 333 EC	0.54	0.00	0.00	0.00	0.00	-
	Rassel 100 SC	0.05	0.00	0.00	0.00	0.00	-
	LSD (P=0.05)		-	-	-	-	-
AH/21/PszO/5/Bu/2	Timing of assessment	DA-A	23 DA-A	43 DA-A	85 DA-A	-	-
	date		04.05.2021	24.05.2021	05.07.2021	-	-
	Untreated Check	-	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.30	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.40	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.50	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.60	0.00	0.00	0.00	-	-
	Starane 333 EC	0.54	0.00	0.00	0.00	-	-
	Rassel 100 SC	0.05	0.00	0.00	0.00	-	-
	LSD (P=0.05)		-	-	-	-	-
AH/21/PszO/5/Ra/1	Timing of assessment	DA-A	23 DA-A	43 DA-A	85 DA-A	-	-
	date		04.05.2021	24.05.2021	05.07.2021	-	-
	Untreated Check	-	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.30	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.40	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.50	0.00	0.00	0.00	-	-
	CHR/H/CFF 250 EC	0.60	0.00	0.00	0.00	-	-
	Starane 333 EC	0.54	0.00	0.00	0.00	-	-
	Rassel 100 SC	0.05	0.00	0.00	0.00	-	-
	LSD (P=0.05)		-	-	-	-	-
SRPL21-413-336HE	Timing of assessment	DA-A	7 DA-A	14 DA-A	21 DA-A	28 DA-A	56 DA-A
	date		16.04.2021	23.04.2021	30.04.2021	07.05.2021	04.06.2021
	Untreated Check	-	0.00	0.00	0.00	0.00	0.00
	CHR/H/CFF 250 EC	0.30	0.00	0.00	0.00	0.00	0.00
	CHR/H/CFF 250 EC	0.40	0.00	0.00	0.00	0.00	0.00
	CHR/H/CFF 250 EC	0.50	0.00	0.00	0.00	0.00	0.00
	CHR/H/CFF 250 EC	0.60	0.00	0.00	0.00	0.00	0.00
	Starane 333 EC	0.54	0.00	0.00	0.00	0.00	0.00
	Rassel 100 SC	0.05	0.00	0.00	0.00	0.00	0.00
	LSD (P=0.05)		-	-	-		-

Table 5 – data from phytotoxicity trials

Test report (1)	Testing Unit GEP (2)	Country Region (3)	Dates of trials and GS (4)	Cultivar F/G (5) N/A (6)	Experimental design Test method (7) Replicates	Remarks
A.T/2020/037/PO	A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno	Kopaszyn /Poland	06.04.2020 BBCH 28-32	winter wheat/ Linus F N	Randomized blocks EPPO PP 1/135 (4) 4	Soil type: sandy loam pH 7.2
A.T/2020/038/PO	A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno	Angowice /Poland	06.04.2020 BBCH 30-31	winter wheat/ Etana F N	Randomized blocks EPPO PP 1/135 (4) 4	Soil type: sandy loam pH 5.2
A.T/2020/039/PO	A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno	Kocanowo /Poland	07.04.2020 BBCH 30-32	winter wheat/ Apostel F N	Randomized blocks EPPO PP 1/135 (4) 4	Soil type: loamy sand pH 5.5
A.T/2020/040/PO	A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno	Wilcze /Poland	06.04.2020 BBCH 30-31	winter wheat/ Arkadia F N	Randomized blocks EPPO PP 1/135 (4) 4	Soil type: loamy sand pH 5.7
A.T/2021/029/PO	A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno	Pacholewo /Poland	30.03.2021 BBCH 25-28	winter wheat/ Plejada F N	Randomized blocks EPPO PP 1/135 (4) 4	Soil type: sand pH 5.8
A.T/2021/033/PO	A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno	Kiełbowo /Poland	11.04.2021 BBCH 21-30	winter wheat/ Tonnage F N	Randomized blocks EPPO PP 1/135 (4) 4	Soil type: loamy sand pH 6.5
AH/20/PO/2/Pr/CFF	Poznań University of Life Sciences, Research and Education Center Gorzyń, Agronomy Department; ul. Wojska Polskiego 28, 60-637 Poz-nań	Wymysłowo /Poland	07.04.2020 BBCH 25-28	winter wheat/ Arkadia F N	Randomized blocks EPPO PP 1/135 (4) 4	Soil type: sandy loam pH 5.8
AH/21/PO/5/Pr/1	Poznań University of Life Sciences, Research and Education Center Gorzyń, Agronomy Department; ul. Wojska Polskiego 28, 60-637 Poz-nań	Przybroda /Poland	13.04.2021 BBCH 21	winter wheat/ Princeps F N	Randomized blocks EPPO PP 1/135 (4) 4	Soil type: loamy sand pH 6.0
AH/21/PO/5/Ra/2	Poznań University of Life Sciences, Research and Education Center Gorzyń, Agronomy Department; ul. Wojska Polskiego 28, 60-637 Poz-nań	Rataje /Poland	11.04.2021 BBCH 21	winter wheat/ Hondia F N	Randomized blocks EPPO PP 1/135 (4) 4	Soil type: loamy sand pH 6.7
SRPL21-414-336HE	SynTech Research Poland Sp. z o.o. 69/1 Jagiellonska	Owczary /Poland	22.04.2021 BBCH 21-23	Owczary /Poland winter wheat/ Hondia F	Randomized blocks EPPO PP 1/135 (4) 4	Soil type: sandy loam pH 6.6

	85-027 Bydgoszcz Poland			N		
SRPL21-415-336HE	SynTech Research Poland Sp. z o.o. 69/1 Jagiellonska 85-027 Bydgoszcz Poland	Leonów /Poland	09.04.2021 BBCH 21-23	winter wheat/ Hondia F N	Randomized blocks EPPO PP 1/135 (4) 4	Soil type: sandy loam pH 6.6
A.T/2020/044/PO	A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno	Szapsk /Poland	28.03.2020 BBCH 26-30	winter wheat/ Rotax F N	Randomized blocks EPPO PP 1/135 (4) 4	Soil type: loamy sand pH 5.2
A.T/2020/045/PO	A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno	Doręgowice /Poland	28.03.2020 BBCH 31-32	winter wheat/ Julius F N	Randomized blocks EPPO PP 1/135 (4) 4	Soil type: loamy sand pH 6.2
A.T/2020/046/PO	A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno	Góra /Poland	19.03.2020 BBCH 29-32	winter wheat/ Hondia F N	Randomized blocks EPPO PP 1/135 (4) 4	Soil type: loamy sand pH 5.9
A.T/2020/047/PO	A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno	Sitowiec /Poland	06.04.2020 BBCH 31-32	winter wheat/ Arkadia F N	Randomized blocks EPPO PP 1/135 (4) 4	Soil type: sandy loam pH 5.2
A.T/2021/031/PO	A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno	Modrze /Poland	31.03.2021 BBCH 23-28	winter wheat/ Linus F N	Randomized blocks EPPO PP 1/135 (4) 4	Soil type: sandy loam pH 6.2
AH/21/PO/5/Br/1	Poznań University of Life Sciences, Research and Education Center Gorzyń, Wojska Polskiego 28, 60-637 Poznań	Brody /Poland	13.04.2021 BBCH 21-23	winter wheat/ Tonacja F N	Randomized blocks EPPO PP 1/135 (4) 4	Soil type: sandy loam pH 5.6
AH/21/PO/5/Gr/2	Poznań University of Life Sciences, Research and Education Center Gorzyń, Wojska Polskiego 28, 60-637 Poznań	Gorzyń /Poland	13.04.2021 BBCH 23	winter wheat/ Jantarka F N	Randomized blocks EPPO PP 1/135 (4) 4	Soil type: sandy loam pH 6.4
SRPL21-417-336HE	SynTech Research Poland Sp. z o.o. 69/1 Jagiellonska 85-027 Bydgoszcz Poland	Tomaryny /Poland	12.04.2021 BBCH 21-23	winter wheat/ Findus F N	Randomized blocks EPPO PP 1/135 (4) 4	Soil type: silt loam pH 6.5
A.T/2020/041/PŻO	A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno	Wierzchucin Królewski /Poland	06.04.2020 BBCH 25-28	winter triticale/ Borwo F N	Randomized blocks EPPO PP 1/135 (4) 4	Soil type: sandy loam pH 5.6

A.T/2020/042/PŻO	A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno	Kopaszyn /Poland	06.04.2020 BBCH 30-32	winter triticale/ Trapero F N	Randomized blocks EPPO PP 1/135 (4) 4	Soil type: loamy sand pH 7.2
A.T/2020/043/PŻO	A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno	Zamarte /Poland	08.04.2020 BBCH 30-31	winter triticale/ Meloman F N	Randomized blocks EPPO PP 1/135 (4) 4	Soil type: loamy sand pH 5.0
A.T/2021/030/PŻO	A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno	Białe Błoto /Poland	09.04.2021 BBCH 21-24	winter triticale/ Borowik F N	Randomized blocks EPPO PP 1/135 (4) 4	Soil type: sand pH 6.0
AH/21/PszO/5/Bu/2	Poznań University of Life Sciences, Research and Education Center Gorzyń, Agronomy Department; ul. Wojska Polskiego 28, 60-637 Poznań	Budzyń /Poland	11.04.2021 BBCH 22	winter triticale/ Meloman F N	Randomized blocks EPPO PP 1/135 (4) 4	Soil type: loamy sand pH 6.5
AH/21/PszO/5/Ra/1	Poznań University of Life Sciences, Research and Education Center Gorzyń, Agronomy Department; ul. Wojska Polskiego 28, 60-637 Poznań	Rataje /Poland	11.04.2021 BBCH 22	winter triticale/ Porto F N	Randomized blocks EPPO PP 1/135 (4) 4	Soil type: loamy sand pH 6.7
SRPL21-413-336HE	SynTech Research Poland Sp. z o.o. 69/1 Jagiellonska 85-027 Bydgoszcz Poland	Leonów /Poland	09.04.2021 BBCH 21-23	winter triticale/ Kasyno F N	Randomized blocks EPPO PP 1/135 (4) 4	Soil type: sandy loam pH 6.3
A.T/2020/048/PŻO	A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno	Lusowo /Poland	19.03.2020 BBCH 27-30	winter triticale/ Kasyno F N	Randomized blocks EPPO PP 1/135 (4) 4	Soil type: sandy loam pH 6.8
A.T/2020/049/PŻO	A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno	Sławęcin /Poland	06.04.2020 BBCH 30-32	winter triticale/ Orinoko F N	Randomized blocks EPPO PP 1/135 (4) 4	Soil type: sandy loam pH 5.4
A.T/2020/050/PŻO	A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno	Wilkowo /Poland	08.04.2020 BBCH 30-31	winter triticale/ Porto F N	Randomized blocks EPPO PP 1/135 (4) 4	Soil type: loamy sand pH 5.2
A.T/2021/032/PŻO	A.T Sp. z o.o. ul. Przemysłowa 3 88-300 Mogilno	Stare Młodochowo /Poland	11.04.2021 BBCH 21-24	winter triticale/ Rotondo F N	Randomized blocks EPPO PP 1/135 (4) 4	Soil type: loamy sand pH 6.6
AH/21/PszO/5/Br/1	Poznań University of Life Sciences, Research and Education Center Gorzyń, Wojska Polskiego 28	Brody /Poland	13.04.2021 BBCH 21-24	winter triticale/ Twingo F N	Randomized blocks EPPO PP 1/135 (4) 4	Soil type: sandy loam pH 5.8

SRPL21-416-336HE	SynTech Research Poland Sp. z o.o. 69/1 Jagiellonska 85-027 Bydgoszcz Poland	Murczyn /Poland	21.04.2021 BBCH 22-23	winter triticale/ Toledo F N	Randomized blocks EPPO PP 1/135 (4) 4	Soil type: sandy clay loam pH 6.3

Notes:
(1): test report number
(2): Trial responsible entity/ officially recognized organization
(3): precise place of the trial followed by the country
(4): Crop growth stage at application timing
(5): F= field trial, G=protected crop, specify
(6): N=Natural infestation, A= Artificial inoculation
(7): Test guideline used

Appendix 7 Summary of available studies: Adverse effects on beneficial organisms

None

Appendix 8 Summary of data on succeeding crop

None