FINAL REGISTRATION REPORT

Part B

Section 3

Efficacy Data and Information

Concise summary

Product code: CHR/H/IMA

Product name(s): Zemax 40 SL and Mazzam 40 SL

Chemical active substance(s):

Imazamox 40 g/L

Central Zone

Zonal Rapporteur Member State: Poland

CORE ASSESSMENT

(authorization)

Applicant: Innvigo Sp. z o.o.

Submission date: October 2022

MS Finalisation date: 12/07/2024

Version history

When	What
January 2023	Dossier sent for evaluation
April 2024	zRMS evaluation of dRR
July 2024	Final version prepared by zRMS after Commenting period

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

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

The process chosen by the zRMS to transform the dRR into a RR involves creating commenting boxes.

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

Abstract

The presented dRR is prepared in accordance with the Regulation (EC) No 1107/2009, article 33 and concerns a herbicide CHR/H/IMA, product name(s): Zemax 40 SL/Mazzam 40 SL, chemical active substance: imazamoks applies in the Poland for the registration in pea cultivation for dry seeds. The herbicide CHR/H/IMA is recommended to be used once a season at BBCH 12-16 growth stage of peas at the maximum rate of 36 g a.s./ha imazamox per application for the control of dicotyledonous weeds, and in Central Registration Zone for the registration 48,0 g a.s./ha for the control of monocot. and dicotyledonous weeds in soybean.

Trials were located in the North-Eastern EPPO zone: in Poland (8 trials) and in the South- East EPPO zone (5 trials) in Hungary – within the Central registration zone to evaluate the efficacy of tested herbicide The localizations of the experiments were appropriate and produced representative results**.** The experiments were carried out in two growing seasons on important, troublesome weed species. 8 trials is a sufficient number for registration of a known active substance in Poland. Imazamox has been used in practice for many years and the experimental results of trials are consistent. This allows to confirm its appropriate effectiveness.

The CHR/H/IMA in dose 0,9l/ha showed a high control efficiency in pea cultivation for burdensome species of e.g. *Chenopodium album* 91,97%, *Polygonum convolvulus* 88,44 % (Susceptible*)* and *Viola arvensis* 60,83% (Moderately tolerant). The obtained results indicate the high effectiveness of CHR/H/IMA in controlling dicotyledonous weeds in pea.
The average efficiency of CHR/H/IMA against troublesome weeds in soybean, dose CHR/H/IMA 1,0 l/ha and 1,2 l/ha is : e.g. *Amaranthus retroflexus* 95,50-95,38 %, *Chenopodium album* 92,50-94,38 %, *Ambrosia artemisiifolia* 93,06-95,58 %, *Echinochloa crus-galli* 88,02-88,78 % (Susceptible), *Hibiscus trionum*: Moderately Tolerant in dose 1,0 l/ha; 61,25 %, susceptible in dose 1,2 l/ha; 87,50 %. The obtained results indicate the high effectiveness of CHR/H/IMA in controlling monocot and dicotyledonous weeds in soybean cultivation.

Most of the noxious weed species controlled in pea cultivation were sensitive to CHR/H/IMA, only *Viola arvensis* (VIOAR) was moderately tolerant.

Most of the noxious weed species controlled in soybean cultivation were sensitive to CHR/H/IMA, only *Hibiscus trionum* (HIBTR) was dose-dependent and moderately tolerant, and at higher doses – sensitive.

The effectiveness of the studied herbicide obtained in the experiments confirms the correctness of the information in the label. It is appropriate to divide the weeds into susceptible or moderately tolerant weeds to the CHR/H/IMA.
The label contains rules for the use of the herbicide Zemax 40 SL/Mazzam 40 SL in the cultivation of peas. These principles are in line with the policy of reducing the risk of weed resistance to a.s. imazamox in pea cultivation in Poland. Weak, transient symptoms of phytotoxicity (chlorosis) and permanent shortening of pea shoots were observed, but none of these symptoms affected the reduction of pea yield. The influence

of the tested product on quantity of yield was evaluated in 8 field experiments in pea in Poland in 2019 and 2020. There weren't difference between the treatment objects and standard.

It is justified to claim the registration CHR/H/IMA, product names: Zemax 40 SL/Mazzam 40 SL for 1 applications at BBCH 12-16 in dose 0,9 l/ha (36 g a.s./ha imazamox) for dicotyledonous weeds control in peas in Poland. The results obtained in the experiments justify the needed for registration of the studied agent in Poland. The data provided in dRR confirm the above applications and authorize the registration of Zemax 40 SL/Mazzam 40 SL in Poland. The presented data complies with the GAP table and the label and uniform principles. The dRR is drafted correctly and contains appropriate and sufficient data on the performance of the herbicide tested. These data provide the basis for registration of the studied agent in Poland.

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

GAP rev. , date: 2022-10-17

PPP (product name/code):	Mazzam 40 SL, Zemax 40 SL / CHR/H/IMA 40 SL	Formulation type:	SL [a, b]
Active substance 1:	imazamox	Conc. of as 1:	40 g/L [c]
Active substance 2:	N/D	Conc. of as 2:	N/D
Safener:	N/D	Conc. of safener:	N/D [c]
Synergist:	N/D	Conc. of synergist:	N/D
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	10	11	12	13	14	15
Use-No. *	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	**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			Groundwater
Zonal uses (field or outdoor uses, certain types of protected crops)														
1	PL	pea	F	~~Mono and~~ Dicot. weeds, *Chenopodium album*, *Polygonum convolvulus*, and others	Spray	BBCH 12-16	1	N/A	a) 0,9	b) 0,036	200-400	N/A		A
2	HU, RO,	Soy	F	Mono. *Echinochloa crus-*	Spray	Early	1	N/A	a) 1,0 - 1,2	b) 0,040 - 0,048	200-300	N/A		~~A~~ C

	SK			*galli* and dicot. weeds		postemer-gence BBCH 12-16								
3														
4														
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)														
Minor uses according to Article 51 (zonal uses)														
5	PL*, HU, RO, SK	Beans	F	Mono and di-cots weeds	Spray	Spring BBCH 10-16, weeds BBCH 10-13	a) 1	N/A	c) 0,6 – 0,9	d) 0,024 - 0,036	200-400		*only for dry seeds use	A-PL C-cMS
6	PL*, HU, RO, SK	Broad bean	F	Mono and di-cots weeds	Spray	Spring BBCH 10-16, weeds BBCH 10-13	b) 1	N/A	e) 0,6 - 0,9	f) 0,024 - 0,036	200-400		*only for dry seeds use	A-PL C-cMS
7	PL*, HU, RO, SK	Lentils	F	Mono and di-cots weeds	Spray	Spring BBCH 10-16, weeds BBCH 10-13	c) 1	N/A	g) 0,6 - 0,9	h) 0,024 - 0,036	200-400		*only for dry seeds use	A-PL C-cMS
8	PL*, HU, RO, SK	Lupine	F	Mono and di-cots weeds	Spray	Spring BBCH 10-16, weeds BBCH 10-13	d) 1	N/A	i) 0,6 - 0,9	j) 0,024 - 0,036	200-400		*only for dry seeds use	A-PL C-cMS
9	PL*, HU, RO, SK	Linseeds	F	Mono and di-cots weeds	Spray	BBCH 10-18	1	N/A	k) 0,6 - 0,9	l) 0,024 - 0,036	200-400		*only for seeds use	A-PL C-cMS
10	PL*, HU, RO,	Spring oil-seed rape	F	Mono and di-cots weeds	Spray	BBCH 10-18	1	N/A	m) 0,6 - 0,9	n) 0,024 - 0,036	200-400		*only for seeds use	A-PL C-cMS

	SK													
11	PL*, HU, RO, SK	Breadseed poppy	F	Mono and di-cots weeds	Spray	BBCH 10-18	1	N/A	o) 0,6 - 0,9	p) 0,024 - 0,036	200-400		*only for seeds use	A-PL C-cMS
12	PL*, HU, RO, SK	Sesame	F	Mono and di-cots weeds	Spray	BBCH 10-18	1	N/A	q) 0,6 - 0,9	r) 0,024 - 0,036	200-400		*only for seeds use	A-PL C-cMS
13	PL*, HU, RO, SK	Mustard	F	Mono and di-cots weeds	Spray	BBCH 10-18	1	N/A	s) 0,6 - 0,9	t) 0,024 - 0,036	200-400		*only for seeds use	A-PL C-cMS
14	PL*, HU, RO, SK	Sunflower	F	Mono and di-cots weeds	Spray	BBCH 10-18	1	N/A	u) 0,6 - 0,9	v) 0,024 - 0,036	200-400		*only for seeds use	A-PL C-cMS
15	PL*, HU, RO, SK	Soy	F	Mono and di-cots weeds	Spray	BBCH 10-18	1	N/A	w) 0,6 - 0,9	x) 0,024 - 0,036	200-400		*only for seeds use	A-PL C-cMS
16	PL*, HU, RO, SK	Safflower	F	Mono and di-cots weeds	Spray	BBCH 10-18	1	N/A	y) 0,6 - 0,9	z) 0,024 - 0,036	200-400		*only for seeds use	A-PL C-cMS
17	PL*, HU, RO, SK	Borage	F	Mono and di-cots weeds	Spray	BBCH 10-18	1	N/A	aa) 0,6 - 0,9	bb) 0,024 - 0,036	200-400		*only for seeds use	A-PL C-cMS
18	PL*, HU, RO, SK	Pumpkin	F	Mono and di-cots weeds	Spray	BBCH 10-18	1	N/A	cc) 0,6 - 0,9	dd) 0,024 - 0,036	200-400		*only for seeds use	A-PL C-cMS

19	PL*, HU, RO, SK	Hemp	F	Mono and di-cots weeds	Spray	BBCH 10-18	1	N/A	ee) 0,6 - 0,9	ff) 0,024 - 0,036	200-400		*only for seeds use	A-PL C-cMS
20	PL*, HU, RO, SK	Castor beans	F	Mono and di-cots weeds	Spray	BBCH 10-18	1	N/A	gg) 0,6 - 0,9	hh) 0,024 - 0,036	200-400		*only for seeds use	A-PL C-cMS
21	PL*, HU, RO, SK	Cotton	F	Mono and di-cots weeds	Spray	BBCH 10-18	1	N/A	ii) 0,6 - 0,9	jj) 0,024 - 0,036	200-400		*only for seeds use	A-PL C-cMS
22	PL*, HU, RO, SK	Tobacco *Nicotiana tabacum* (NIOTA)	F	Mono and di-cots weeds	Spray	Spring BBCH 10-89	1	N/A	kk) 0,38-0,9	ll) 0,015 - 0,036	200-300			A-PL C-cMS
23	PL*, HU, RO, SK	Coniferous / deciduous forest nurseries, Ornamental shrubs	F	Mono and di-cots weeds	Spray	Spring BBCH 10-89, the risk of infection, warning	1	N/A	mm) 0,38-0,9	nn) 0,015 - 0,036	200-300			A-PL C-cMS
24	PL*, HU, RO, SK	*Salix viminalis* (SAXVI) Wicker (1SAXG)	F	Mono and di-cots weeds	Spray	BBCH 10-89, the risk of infection, warning	1	N/A	oo) 0,38-0,9	pp) 0,015 - 0,036	200-300			A-PL C-cMS
25	PL*, HU, RO, SK	*Ornamental*	F	Mono and di-cots weeds	Spray	BBCH 10-89, the risk of infection, warning	1	N/A	qq) 0,38-0,9	ww) 0,015 - 0,036	200-300			A-PL C-cMS

Minor uses according to Article 51 (interzonal uses)														

* Note :PL only dicotyledonous weeds

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

Comment on Labels and GAP table

The labels of Zemax 40SL/Mazzam 40 SL should state that CHR/H/IMA is intended for the control of dicotyledonous weeds in the cultivation of dry peas. The applicant in the label did not represent any monocot. species of weed. The information about the control of monocotyledonous weeds should be removed. This is due to the data contained in the dRR.
Applying the anti-resistance use recommendations, development of resistance can be considerably decreased or avoided. The restriction as proposed by FRAC recommendations and limitations should be put on the label.
It is worth considering placing information on the label that the herbicide may cause stunting of pea plants, which does not adversely affect yield.

3.2 Efficacy data (KCP 6)

Introduction

This document summarizes the information related to the efficacy of the product CHR/H/IMA containing active substance imazamox. Imazamox is currently included in Annex VI of Regulation (EC) No 1272/2008 with Index No 613-208-00-7
CHR/H/IMA applies in the Central Registration Zone for the registration of in pea at BBCH 12-16 and soybean at BBCH 12-16, use once per season at the maximum rate of 36 g a.s./ha imazamox per application for the control of ~~mono and~~ dicotyledonous weeds in pea and 48,0 g a.s./ha for the control of monocot. and dicotyledonous weeds in soybean.

General information:

Description of the plant protection product

Marketing name:
product submitted to registration under two different marketing names: Zemax 40 SL and Mazzam 40 SL
Formulants content:
The information concerning ingredients of product CHR/H/IMA are included in the confidential part of the registration dossier: Registration Report – Part C.

Formulation of use:
SL – Soluble concentrate

General information on the plant protection product:
North-East Zone
CHR/H/IMA is to be applied in spring:
PEA:
BBCH: 12-16,
The suggested dose of the product:
Used solo:
0,9 L/ha once a season in pea which are corresponding to 36 g a.s./ha of imazamox.
South-East Zone
CHR/H/IMA is to be applied in spring:
SOYBEAN:
BBCH: 12-16
The suggested dose of the product:
Used solo:
1,0-1,2 L/ha once a season in pea which are corresponding to 40-48 g a.s./ha of imazamox.

CHR/H/IMA containing imazamox as the active substance is prepared for the use in agricultural practice as a herbicide in the form SL – Soluble concentrate.

Description of active substances
Mode of action
Active substance:
Imazamox 40 g/l
Chemical name (IUPAC): is 2-[(RS)-4-isopropyl-4-methyl-5-oxo-2-imidazolin-2-yl]-5-methoxymethyl-nicotinic acid
CIPAC No.: 619
CAS No.: 114311-32-9

According to Imazamox_RAR_05_Volume_3CA_B-3_2015_03
Effects on harmful organisms
Imazamox can be absorbed by roots and foliage, and then translocated throughout the plant to the meristematic tissues. Growth of susceptible plants is inhibited soon after application while visual symptoms appear two to three weeks after application. Imazamox causes an almost immediate growth block followed by a gradual decolouration mainly on the youngest leafs and subsequent death of weeds. Imazamox shows moderate acropetal and basipetal translocation.
Harmful organisms controlled
As already mentioned, imazamox controls solo or in product combination monocotyledonous weeds such as SETVI, ECHCG, PANMI, SORHA, DIGSA, APESV and ALOMY. Also it is able to control volunteers of HORVW, HORVS, TRZAW, TRZAS and other cereal crop volunteers in broad-leafed crops.
Also a broad range of dicotyledonous weeds such as AMARE, AMBEL,CHEAL, DATST, MATCH, MATIN, ANTAR, GALAP, STEME, LAMPU, RAPRA, SSYOF, DESSO,SINAR, XANST, PAPRH, GERRT, GERPU, GERRTI, CAPBP, THLAR, VERPE, VERAR are controlled

Table 3.2-1: Details of the active substances

Active substance	Imazamox	Active substance 2	Active substance 3
Concentration (Unit: g/kg or g/L...)	40 g/L	n/a	n/a
Chemical group	Imidazolinones class, group 2, B	n/a	n/a
Mode of action	Imazamox is an organonitrogenous heterocyclic molecule belonging to the imidazolinones subgroup. The mode of action is described as the inhibition of the activity of the enzyme acetohydroxyacid synthase (AHAS) also known as acetolactate synthase (ALS).	n/a	n/a
Biological action	ALS is the first enzyme in the pathway for the biosynthesis of the essential branched-chain amino acids valine, leucine and isoleucine. The inhibition of ALS activity leads to amino acid starvation and the accumulation of toxic precursors. The primary effect following treatment of susceptible weeds with the	n/a	n/a

Active substance	Imazamox	Active substance 2	Active substance 3
	herbicide is the restraint of new growth and cell development. Imazamox has systemic properties. Imazamox can be absorbed by roots and foliage, and then translocated throughout the plant to the meristematic tissues. Growth of susceptible plants is inhibited soon after application while visual symptoms appear two to three weeks after application. Imazamox causes an almost immediate growth block followed by a gradual decolouration mainly on the youngest leafs and subsequent death of weeds. Imazamox shows moderate acropetal and basipetal translocation		

Description of the plant protection product

Formulation of use:
CHR/H/IMA containing Imazamox as the active substance is prepared for the use in agricultural practice as a herbicide in the form SL – Soluble concentrate.

CHR/H/ETO is to be applied in spring:
North-East Zone
PEA:
BBCH: 12-16,
South-East Zone
Soybean
BBCH: 12-16

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

Uses		Member State	Currently registered rate(s)		Requested rate(s)		Comments / Other relevant 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	
Pea	~~Dicotyledones~~ dicotyledonous weeds	PL			0,9 L/ha	0,9 l/ha	36g a.s.
Soybean	~~dicotyledones~~ dicotyledonous weeds	HU, RO			0,8-1,2 L/ha	1,0-1,2 l/ha	48g a.s.

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

Comments of zRMS:	**The table (3.2-2) above** contains information on the planned use of CHR/H/IMA in the control of dicotyledonous weeds in the cultivation of peas and soybeans, while in the GAP table in dRR B- Section 0 and dRR Part B- Section 3 it is intended for application in the control of monocotyledonous and dicotyledonous weeds. The contradictory information is provided in these points.

Comments of zRMS:	**This study (dRR)** is based on proper documentation and contains a comprehensive description of the presented product: Product code: CHR/H/IMA, product names: Zemax 40 SL and Mazzam 40 SL, chemical active substance: Imazamox 40 g/L.

Description of the target pests

North-east Zone

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

Pea

EPPO code	Scientific name	Common name*
VIOAR	Viola arvensis	field violet
POLCO	Fallopia convolvulus	wild buckwheat
ANTAR	Anthemis arvensis	field chamomile
BRSNW	Brasica napus	winnter oil seed rape
CAPBP	Capsella bursa-pastoris	shepherd's purse
PAPRH	Papaver rhoeas	corn poppy
SINAR	Sinapis arvensis	wild mustard
LYCAR	Anchusa arvensis	bugloss
CENCY	Centaurea cyanus	bachelor's- button
GERPU	Geranium pusillum	small-flowered cranesbill
GALAP	Galium aparine	catchweed bedstraw
STEME	Stellaria media	chickweed
LAMPU	Lamium purpureum	purple deadnettle
GASPA	Galinsoga parviflora	gallant soldier
ECHCG	Echinochloa crus-galli	common barnyard grass
CHEAL	Chenopodium album	common lambsquarters
CIRAR	Cirsium arvense	californian thistle
VERHE	Veronica hederifolia	ivyleaf speedwell

* optional

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

Pea

Crop and/or situation	Crop status		Pests or group of pests controlled	Pest status	
	Major	minor		Major	minor
Pea	PL,	-	Viola arvensis	PL	-
			Fallopia convolvulus	PL	-
			Anthemis arvensis	PL	-
			Brasica napus	PL	-
			Capsella bursa-pastoris	PL	-
			Papaver rhoeas	-	PL
			Sinapis arvensis	-	PL
			Anchusa arvensis	PL	-
			Centaurea cyanus	PL	-
			Geranium pusillum	PL	-
			Galium aparine	PL	-
			Stellaria media	PL	-
			Lamium purpureum	-	PL
			Galinsoga parviflora	PL	-
			Echinochloa crus-galli	PL	-
			Chenopodium album	PL	-
			Cirsium arvense	PL	-
			Veronica hederifolia	PL	-

Comments of zRMS:	**Status of weeds** According to the list of the Polish Ministry of Agriculture and Rural Development, weeds of high harmfulness in pea cultivation include: *Chenopodium album, Polygonum convolvulus, volunteer cereals, Avena fatua, Elymus repens.*

South-East Zone

Table 3.2-5.1: Glossary of pests mentioned in the dossier.

Soybean

EPPO code	Scientific name	Common name*
ABUTH	Abutilon theophrasti	Butter print
DATST	Datura stramonium	Common thorn apple

MERAN	Mercurialis annua	Annual mercury
SOLNI	Solanum nigrum	Hound berry
AMARE	Amaranthus retroflexus	Amarello cherry
AMBEL	Ambrosia artemisiifolia	Common ragweed
CHEAL	Chenopodium album	Common lambsquarters
ECHCG	Echinochloa crus-galli	Common barnyard grass
HIBTR	Hibiscus trionum	Flower-of-an-hour
POLPE	Persicaria maculosa	Ladysthumb

* optional

Table 3.2-6.1: Major / minor status of intended uses (for all cMS and zRMS).

Soybean

Crop and/or situation	Crop status		Pests or group of pests controlled	Pest status	
	Major	minor		Major	minor
Soybean	HU, RO	-	Abutilon theophrasti	-	X
			Datura stramonium	X	-
			Mercurialis annua	-	X
			Solanum nigrum	-	X
			Amaranthus retroflexus	-	X
			Ambrosia artemisiifolia	X	
			Chenopodium album	X	
			Echinochloa crus-galli	-	X
			Hibiscus trionum	-	X
			Persicaria maculosa	-	X

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.

Comments of zRMS:	**Compliance with the Uniform Principles**: All trials were conducted according to appropriate EPPO guidelines and GEP requirements and Uniform Principles. The status of crops and weeds in the countries where the test product is to be registered was correctly defined. Note: *Echinochloa crus-galli* - this monocotyledonous species is not included in the product label.

Information on trials submitted (3.1 Efficacy data)

North-East Zone

The 8 trials have been carried out in 2019 and 2020 in the North-East EPPO zone within the Central registration zone to evaluate the efficacy of applied at the proposed label rate of 36 g a.s./ha for the weed

control in pea (Table 3.2-5). Trials were conducted in pea growing areas in the Central ~~EPPO~~ registration zone and North-East EPPO zone in Poland.

Table 3.2-7: Presentation of trials efficacy trials

Pea

Crop(s) *	Target(s)*	Country	Years	Type of trial**	Number of trials (number of valid trials)		GEP, non-GEP, offi-cial***	Comments (any other relevant in-formation)
					North-East zone	-		
Pea post-emergence BBCH 12-16	Viola arvensis	Poland	2019	E	2 (8)	-	GEP	-
		Poland	2020	E	1(8)	-	GEP	
	TOTAL	-	-	-	3 (8)	-	-	-
Pea post-emergence BBCH 12-16	Fallopia convolvulus	Poland	2019	E	3(8)	-	GEP	-
		Poland	2020	E	3(8)	-	GEP	
	TOTAL	-	-	-	6 (8)	-	-	-
Pea post-emergence BBCH 12-16	Anthemis arven-sis	Poland	2019	E	4 (8)	-	GEP	-
		Poland	2020	E	2 (8)	-	GEP	-
	TOTAL	-	-	-	6 (8)	-	-	-
Pea post-emergence BBCH 12-16	Brasica napus	Poland	2019	E	3 (8)	-	GEP	-
		Poland	2020	E	3 (8)	-	GEP	-
	TOTAL	-	-	-	6 (8)	-	-	-
Pea post-emergence BBCH 12-16	Capsella bursa-pastoris	Poland	2019	E	3 (8)	-	GEP	-
		Poland	2020	E	3 (8)	-	GEP	-
	TOTAL	-	-	-	6 (8)	-	-	-
Pea post-emergence BBCH 12-16	Papaver rhoeas	Poland	2019	E	1 (8)	-	GEP	-
		Poland	2020	E	2(8)	-	GEP	
	TOTAL	-	-	-	3 (8)	-	-	-
Pea post-emergence BBCH 12-16	Sinapis arvensis	Poland	2019	E	1 (8)	-	GEP	-
		Poland	2020	E	3(8)	-	GEP	
	TOTAL	-	-	-	4 (8)	-	-	-
	Anchusa arvensis	Poland	2019	E	2 (8)	-	GEP	-

Pea post-emergence BBCH 12-16		Poland	2020	E	4 (8)	-	GEP	-
	TOTAL	-	-	-	6 (8)	-	-	-
Pea post-emergence BBCH 12-16	Centaurea cyanus	Poland	2019	E	3 (8)	-	GEP	-
		Poland	2020	E	3(8)	-	GEP	-
	TOTAL	-	-	-	6 (8)	-	-	-
Pea post-emergence BBCH 12-16	Geranium pusil-lum	Poland	2019	E	4 (8)	-	GEP	-
		Poland	2020	E	2 (8)	-	GEP	-
	TOTAL	-	-	-	6 (8)	-	-	-
Pea post-emergence BBCH 12-16	Galium aparine	Poland	2019	E	4 (8)	-	GEP	-
		Poland	2020	E	2 (8)	-	GEP	
	TOTAL	-	-	-	6 (8)	-	-	-
Pea post-emergence BBCH 12-16	Stellaria media	Poland	2019	E	3 (8)	-	GEP	-
		Poland	2020	E	3 (8)	-	GEP	
	TOTAL	-	-	-	6 (8)	-	-	-
Pea post-emergence BBCH 12-16	Lamium purpu-reum	Poland	2019	E	2 (8)	-	GEP	-
		Poland	2020	E	3 (8)	-	GEP	-
	TOTAL	-	-	-	5 (8)	-	-	-
Pea post-emergence BBCH 12-16	Galinsoga parvi-flora	Poland	2019	E	0 (8)	-	GEP	-
		Poland	2020	E	1 (8)	-	GEP	-
	TOTAL	-	-	-	1 (8)	-	-	-
Pea post-emergence BBCH 12-16	Echinochloa crus-galli	Poland	2019	E	1 (8)	-	GEP	-
		Poland	2020	E	1(8)	-	GEP	-
	TOTAL	-	-	-	2 (8)	-	-	-
Pea post-emergence BBCH 12-16	Chenopodium al-bum	Poland	2019	E	3 (8)	-	GEP	-
		Poland	2020	E	3 (8)	-	GEP	
	TOTAL	-	-	-	6 (8)	-	-	-
Pea post-emergence BBCH 12-16	Cirsium arvense	Poland	2019	E	1 (8)	-	GEP	-
		Poland	2020	E	1 (8)	-	GEP	
	TOTAL	-	-	-	2 (8)	-	-	-

Pea post-emergence BBCH 12-16	Veronica hederifolia	Poland	2019	E	0 (8)	-	GEP	-
		Poland	2020	E	2 (8)	-	GEP	-
	TOTAL	-	-	-	2 (8)	-	-	-

* 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 3.2-8: Presentation of reference standards used in trials efficacy 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)	
Pea	Corum 502,4 SL	Poland	R-70/2014; 2N:R-44/2019b	Bentazone Imazamox	SL	480 g/l 22,4g/l	1,0 l/ha	1,0 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:	**Methodology** Experiments included standard products which were appropriately selected from among the products registered in Poland against weeds in pea

South-East Zone

The 5 trials have been carried out in 2019 and 2022 in the South-East EPPO zone to evaluate the efficacy of applied at the proposed label rate of 40-48 g a.s./ha for the weed control in soybean (Table 3.2-5.1). Trials were conducted in soybean growing areas in the Central registration ~~EPPO~~ zone and South-East EPPO zone in Hungary.

Table 3.2-9.1: Presentation of trials efficacy trials

Soybean

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)
					South- East zone	-		
Soybean post-emergence BBCH 10-16	Abutilon theophrasti	Hungary	2019	E	1 (5)	-	GEP	-
	TOTAL	-	-	-	1 (5)	-	-	-
Soybean post-emergence BBCH 10-16	Datura stramonium	Hungary	2019	E	1(5)	-	GEP	-

		Hungary	2022	E	1(5)	-	GEP	
	TOTAL	-	-	-	2 (5)	-	-	-
Soybean post-emergence BBCH 10-16	Mercurialis annua	Hungary	2022	E	2 (5)	-	GEP	-
	TOTAL	-	-	-	2 (5)	-	-	-
Soybean post-emergence BBCH 10-16	Solanum nigrum	Hungary	2022	E	2 (5)	-	GEP	-
	TOTAL	-	-	-	2 (5)	-	-	-
Soybean post-emergence BBCH 12-18	Amaranthus retroflexus	Hungary	2019	E	2 (5)	-	GEP	-
	TOTAL	-	-	-	2 (5)	-	-	-
Soybean post-emergence BBCH 10-16	Ambrosia artemisiifolia	Hungary	2019	E	2 (5)	-	GEP	-
		Hungary	2022	E	2 (5)	-	GEP	-
	TOTAL	-	-	-	4 (5)	-	-	-
Soybean post-emergence BBCH 10-16	Chenopodium album	Hungary	2019	E	2 (5)	-	GEP	-
	TOTAL	-	-	-	2 (5)	-	-	-
Soybean post-emergence BBCH 10-16	Echinochloa crus-galli	Hungary	2019	E	1 (5)	-	GEP	-
		Hungary	2022	E	2 (5)	-	GEP	-
	TOTAL	-	-	-	3 (5)	-	-	-
Soybean post-emergence BBCH 10-16	Hibiscus trionum	Hungary	2019	E	1 (5)	-	GEP	-
	TOTAL	-	-	-	1 (5)	-	-	-
Soybean post-emergence BBCH 10-16	Persicaria maculosa	Hungary	2019	E	1 (5)	-	GEP	-
	TOTAL	-	-	-	1 (5)	-	-	-

* 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.

Comments of zRMS:	**Trials submitted** In total, 8 experiments are presented to evaluate the effectiveness of CHR/H/IMA, product names: Zemax 40 SL/ Mazzam 40 SL, active substance: Imazamox 40 g/L for the weed control in pea. The trials have been carried out in 2019 and 2020 in the North-East EPPO zone within the Central registration zone to evaluate the efficacy of CHR/H/IMA applied at the proposed label rate of 36 g a.s./ha for the weed control in pea. Trials were conducted in pea growing areas and present the effectiveness of CHR/H/IMA action in the control of various species of dicotyledonous weeds. The 5 trials have been carried out in 2019 and 2022 in the South-East EPPO zone to evaluate the efficacy of CHR/H/IMA product names: Zemax 40 SL/Mazzam 40 SL applied at the proposed label rate of 40-48 g a.s./ha for the weed control in soybean. Trials were conducted in soybean growing areas in the Central registration

	zone and South-East EPPO zone in Hungary. The trials present the effectiveness of CHR/H/IMA action in the control of various species of dicot. and monocotyledonous weeds in soybean. The required number of 6 experiments on pea were carried out to evaluate the one application of tested herbicide. However, only 5 trials were carried out in soybean cultivation in the South-East EPPO zone. The minimum number of trials is 6 but 5 trials have been performed. The experiments were performed in the two vegetation seasons which is sufficient and justified. **The required number of experiments on pea were carried out and a reduced but sufficient number of experiments in soybean to evaluate the effectiveness of CHR/H/IMA, product names: Zemax 40 SL/Mazzam 40 SL for dicotyledonous weeds control.** **The trials are appropriate and representative for weeds control in pea for registration in Poland, and in soybean in Central registration zone. The trials are consistent with table GAP, GEP requirements, Label and uniform principles.**

Table 3.2-10.1: Presentation of reference standards used in ~~trials~~ efficacy 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)	
Soybean	Pulsar 40 SL	Hungary	6300/2241-1/2020 NÉBIH	Imazamox	SL	40 g/l	1,0 l/ha	1,0 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:	**Methodology** Experiments included standard products which were appropriately selected from among the products, which however was registered in Hungary until 2020.

3.2.1 Preliminary tests (KCP 6.1)

Preliminary studies on product CHR/H/IMA were not carried out because this herbicide contains Imazamox which is a well-known active substance that has been used for many years in agricultural practice.
No specific studies were conducted to fill this data point.

Comments of zRMS:	Preliminary tests were carried out for the first registration of the a.s. imazamox

Table 3.2-11: Efficacy of active substance components in test product – not applicable

Not applicable

Table 3.2-12: 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
Minimum effective dose tests (KCP 6.2)

North-East Zone

According to EPPO PP1/225(2) lower doses have been tested in the efficacy studies, therefore no specific studies were conducted to fill this data point.
Over view on minimum effective dose field tests conducted in 2019 and 2020 show table 6.1.2.1 - 2

Table 6.1.2.1-2

Testing facility	Country	Crop
		Pea
		2019, 2020
		Central EPPO zone/ North-East Zone
SynTech Research Poland Sp. z o.o;	PL	2
AT Sp. z o.o.	PL	2
SynTech Research Poland Sp. z o.o;	PL	2
AT Sp. z o.o.	PL	2
Total		**8**

6.1.2.1 Minimum effective dose of CHR/H/IMA in pea

When evaluating the overall mean level of control obtained in plots treated one application with 0,3 and 0,6 l/ha and comparing with results obtained with 0,9l/ha, a dose response was observed especially for all weeds species. To achieve 85% control CHR/H/IMA has to be applied in the spring at 0,9 l/ha. Thus it can be conducted that for dicots weeds treated at the recommended growth stages in pea, the intended use rate 0,9 l/ha is required.

Table 6.1.2.1 – North-East Zone – Efficacy of CHR/H/IMA applied in the spring against frequently occurring weeds in pea.

Target	**CHR/H/IMA at rate**	**Number**	**% control**		
		of trials	**Product at rate**		
			Mean	**Min**	**Max**
Viola arvensis	0,3 l/ha	3	40,00	20,00	50,00
	0,6 l/ha		45,83	30,00	55,00
	0,9 l/ha		60,83	45,00	70,00

Polygonum convolvulus	0,3 l/ha	6	68,43	51,80	77,50
	0,6 l/ha		77,22	70,00	83,80
	0,9 l/ha		88,44	78,75	97,00
Anthemis arvensis	0,3 l/ha	6	61,68	52,50	67,50
	0,6 l/ha		75,43	71,25	83,75
	0,9 l/ha		87,09	77,50	93,80
Brasica napus	0,3 l/ha	6	70,83	52,50	90,00
	0,6 l/ha		83,35	76,25	90,00
	0,9 l/ha		90,71	83,75	99,00
Capsella bursa-pastoris	0,3 l/ha	6	73,40	65,00	87,80
	0,6 l/ha		83,76	77,50	92,50
	0,9 l/ha		91,72	85,00	99,00
Papaver rhoeas	0,3 l/ha	3	63,37	56,30	72,50
	0,6 l/ha		80,80	71,30	88,80
	0,9 l/ha		88,37	81,30	97,50
Sinapis arvensis	0,3 l/ha	4	82,85	57,50	99,80
	0,6 l/ha		94,06	87,50	100,00
	0,9 l/ha		97,58	91,30	100,00
Anchusa arvensis	0,3 l/ha	6	71,03	50,00	77,30
	0,6 l/ha		81,47	76,30	85,00
	0,9 l/ha		90,40	86,30	97,30
Centaurea cyanus	0,3 l/ha	6	53,90	33,30	75,00
	0,6 l/ha		70,01	65,00	83,75
	0,9 l/ha		85,18	80,30	95,75
Geranium pusillum	0,3 l/ha	6	70,77	67,00	76,30
	0,6 l/ha		78,85	75,00	86,30
	0,9 l/ha		90,05	85,00	95,00
Galium aparine	0,3 l/ha	6	62,71	56,25	67,50
	0,6 l/ha		81,85	77,50	85,50

	0,9 l/ha		90,72	88,80	92,50
Stellaria media	0,3 l/ha	6	77,42	60,00	97,00
	0,6 l/ha		87,34	76,25	99,00
	0,9 l/ha		91,13	81,25	99,00
Lamium purpureum	0,3 l/ha	5	70,90	59,50	77,50
	0,6 l/ha		82,56	77,80	88,75
	0,9 l/ha		91,11	85,00	99,00
Chenopodium album	0,3 l/ha	6	68,14	58,80	76,30
	0,6 l/ha		82,43	77,50	88,75
	0,9 l/ha		91,97	86,25	99,00

South-East Zone
According to EPPO PP1/225(2) lower doses have been tested in the efficacy studies, therefore no specific studies were conducted to fill this data point.

Ov~~w~~erview on minimum effective dose field tests conducted in 2019 and 2022 show table 6.1.2.1 - 3
Table 6.1.2.1-3

Testing facility	Country	Crop	
		Soybean	
		2019	2022
		Central EPPO zone/ South-East Zone	
Government Office of Csongrád County	Hungary	1	
Government Office of VAS County	Hungary	1	
Government Office of Komarom-Esztergom County	Hungary	1	
CPR Europe Kft	Hungary		2
Total		**3**	**2**

6.1.2.1 Minimum effective dose of CHR/H/IMA in soybean

When evaluating the overall mean level of control obtained in plots treated one application with 0,6 and 0,8 l/ha and comparing with results obtained with 1,0l/ha and 1,2l/ha, a dose response was observed especially for ABUTH, MERAN, SOLNI, AMBEL, ECHCG and POLPE. To achieve 85% control CHR/H/IMA has to be applied in the spring at 1,0-1,2 l/ha. Thus it can be conducted that for dicots weeds treated at the recommended growth stages in soybean, the minimum intended use rate 1,0 l/ha is required.

Table 6.1.2.2.1 – South-East Zone – Efficacy of CHR/H/IMA applied in the spring against frequently occurring weeds in soybean.

Target	CHR/H/IMA at rate	Number	% control		
		of trials	Product at rate		
			Mean	Min	Max
ABUTH	0,6 l/ha	1	50,00	50,00	50,00
	0,8 l/ha		81,25	81,25	81,25
	1,0 l/ha		90,00	90,00	90,00
	1,2 l/ha		93,75	93,75	93,75
DATST	0,6 l/ha	2	80,38	70,00	90,75
	0,8 l/ha		87,15	81,30	93,00
	1,0 l/ha		95,53	94,75	96,30
	1,2 l/ha		96,00	95,00	97,00
MERAN	0,6 l/ha	2	73,80	71,30	76,30
	0,8 l/ha		81,30	81,30	81,30
	1,0 l/ha		97,30	96,30	98,30
	1,2 l/ha		98,90	98,30	99,50
SOLNI	0,6 l/ha	2	74,40	71,30	77,50
	0,8 l/ha		80,65	80,00	81,30
	1,0 l/ha		96,30	93,80	98,80
	1,2 l/ha		98,00	96,50	99,50
AMARE	0,6 l/ha	2	85,75	81,25	90,25
	0,8 l/ha		94,75	90,50	99,00
	1,0 l/ha		95,50	91,00	100,00
	1,2 l/ha		95,38	90,75	100,00
AMBEL	0,6 l/ha	4	74,94	62,50	92,25
	0,8 l/ha		82,94	77,50	94,25
	1,0 l/ha		93,06	85,00	97,50
	1,2 l/ha		95,58	91,75	98,30
CHEAL	0,6 l/ha	2	79,50	67,50	91,50
	0,8 l/ha		85,00	75,00	95,00
	1,0 l/ha		92,50	90,00	95,00
	1,2 l/ha		94,38	93,75	95,00
ECHCG	0,6 l/ha	3	44,60	30,00	53,80
	0,8 l/ha		70,87	63,80	76,30
	1,0 l/ha		88,02	83,30	90,75
	1,2 l/ha		88,78	83,80	91,30
HIBTR	0,6 l/ha	1	0,00	0,00	0,00
	0,8 l/ha		32,50	32,50	32,50
	1,0 l/ha		61,25	61,25	61,25
	1,2 l/ha		87,50	87,50	87,50
POLPE	0,6 l/ha	1	61,25	61,25	61,25
	0,8 l/ha		77,50	77,50	77,50

	1,0 l/ha		85,00	85,00	85,00
	1,2 l/ha		86,25	86,25	86,25

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

Not applicable

Table 3.2-13: 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

North-East Zone
On the basis of information included in KCP point 3.2.3 the assessment of efficacy and phytotoxicity trials in KCP point 3.2.3 of herbicide CHR/H/IMA in pea the minimum effective dose of product CHR/H/IMA used is:
0,9 L/ha once a season which are corresponding to 36 g a.s./ha of Imazamox.
South-East Zone
On the basis of information included in KCP point 3.2.3 the assessment of efficacy and phytotoxicity trials in KCP point 3.2.3 of herbicide CHR/H/IMA in soybean the minimum effective dose of product CHR/H/IMA used is:
1,0 L/ha once a season which are corresponding to 40 g a.s./ha of Imazamox.

Comments of zRMS:	**Minimum effective dose** For the purpose to justify the minimum effective dose, the same set of trials as for efficacy was used. CHR/H/IMA product names: Zemax 40 SL/Mazzam 40 SL was applied at full rate (0,9l/ha)and at a lower dose rate (0,3l/ha and 0,6 l/ha) in pea crop. It was found that in the cultivation of peas, the dose of 0.9 l/ha clearly shows the best, at the required level, effectiveness in controlling weeds. However, against some troublesome weed species such as VIOAR, the effect of CHR/H/IMA at the highest tested dose is 60.83% effective. The minimum effective dose of the CHR/H/IMA agent also determined for weed control in soybean cultivation. Full (1,2l/ha) and lower doses (0,8 l/ha. 1,0 l/ha) were used. It was found that in soya, doses of 1,0 l/ha and 1,2 l/ha have similar effectiveness, but in relation to some troublesome species of weeds, the higher dose is more effective(HIBTR, CHEAL, SOLNI). Experimental data support the well-defined minimum effective rates of CHR/H/IMA for weed control in pea and soybean crops. The applicant presents the number of trials carried out in accordance with the reports: total of 8 trials investigating the effectiveness of CHR/H/IMA against weeds in pea and 5 in soybean. The trials were implemented in 2019- 2020 and 2019-2022. Trials were located in the North-Eastern EPPO zone: in Poland (8 trials) and in the South-East EPPO zone (5 trials) in Hungary – within the Central registration zone to evaluate the efficacy of tested herbicide.

	The herbicide was applied at one application in crop growth stage BBCH 12- 16 for the weed control in pea or soybean. These experiments were performed in the two vegetation seasons which is sufficient and justified. **Experimental data support the well-defined minimum effective rates of CHR/H/IMA, product names: Zemax 40 SL/Mazzam 40 SL for dicotyledonous weeds control in pea and for mono and dicotyledonous weeds control in soybean crops.** **The trials were appropriate to GEP and uniform principles.**

3.2.2 Efficacy tests (KCP 6.2)

North-East Zone
Efficacy
Materials and methods
The applicant submitted 8 reports (in total) showing the results in research into product efficacy carried out in 2019 and 2020 in pea. List of these reports is contained in Appendix 1

Site
Trials were conducted in different regions in Poland where pea is 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/IMA were performed in 2019 and 2020 by:
- SynTech Research Poland Sp. z o.o., ul. Jagiellońska 69/1, 85-027 Bydgoszcz, Poland
- AT Sp. zo.o., ul.Przemysłowa 3, 88-300 Mogilno, Poland

Experimental details
The efficacy trials were designed, conducted and reported according to the following EPPO guidelines:
- PP 1/135 (4) Phytotoxicity assessment
- PP 1/152 (4) Design and analysis of efficacy evaluation trials
- PP 1/181 (4) 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 1/91 (3) Weeds in phaseolus and pisum

Assessment methods
Statistical Analysis
In case of statistical analysis, data were analysed using a two way analysis of variance (ANOVA). The probability of no significant differences occurring between treatment means is calculated as the F probability value (Prob(F)). Student-Newman-Keuls test was then applied to separate any treatment differences that may be implied by the ANOVA TEST (Prob(F)<0.05) and these are indicated by the LSD-value and by a letter-test. Statistical analysis was carried out with the use of statistic pack of ARM 9.0. The trial results were statistically analyzed using Student&Newman&Keuls Test (p=0,05).

Statistical preparation of the results was based on the analysis of variance for the randomized block experiment design. Differences significance was tested using Tukey's semi-interval confidence, while the least significant difference was given at the significance level LSDα=0.05. Experimental data were calculated using the statistical program AWAR, version 2.0. Data from the statistical analyses were placed into result tables.

Assessment of efficacy

The assessment of efficacy in the treated plots was made in relation to the untreated plot on an overall plot basis (scale 0-100 %, 0 % =no efficacy). The assessment date was determined by the speed of action and period of efficacy of the test items. The number of weeds/m² was counted in 5 x 0,1 m² quadrats with the measuring scale 'Göttinger Zähl- und Schätzrahmen'. The coverage level (ground cover) of the weed population by species was assessed by visual estimation using a scale 0-100 % (100 %=total ground cover).
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.
The effectiveness of weed control were evaluated visually by comparing the state of individual weed species on plots treated by herbicides and untreated plots. The results are shown as a percentage of destruction. Before application and at each assessment were determined also the number of weeds, on the surface of $1m^2$.

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 selectivity was assessed by a visual estimation of an intensity of chlorosis, necrosis, leave curling etc. found on overall areas of treated plots, with references to untreated plots. Results were described in percent of destruction injury of plant for herbicides treatment compared in comparison to plant from untreated, where 0% means no phytotoxicity and 100% - complete crop destruction.
Phytotoxicity (F) of tested herbicides was evaluated in %, by determination crop state and comparison to untreated plots and standard product activity.
phytotoxicity - susceptibility of plants to herbicides in % where:
0 - no reaction of crop
100 - crop damaged

Applications methods and rates

The applications were carried out by a T-BOOM – BACCAI, plot sprayer – BACSPR,

Tested herbicide was applied at the growth stage:

BBCH 12-16

The product CHR/H/IMA has been used at the following rates:
0,3l/ha; 0,6l/ha; 0,9l/ha once per season

Corum 502,4 SL with Olbras 88 EC was used as a reference product in pea.
The experiment was established on a set of complete randomized blocks in 4 replications.

Experiment pattern:

Pea

No.	Name	Rate (l/ha)	other rate (g a.s./ha)	Appl code	Growth Stage BBCH
1	Untreated Check				
2	CHR/H/IMA 40 SL	0,3	12	A	BBCH 12-16
3	CHR/H/IMA 40 SL	0,6	24	A	BBCH 12-16
4	CHR/H/IMA 40 SL	0,9	36	A	BBCH 12-16
5	Corum 502,4 SL	1	502,4	A	BBCH 12-16
6	Olbras 88 EC	1			

Details of experiments

Pea

Report code	A.T/2020/028/ GK	A.T/2020/078/ GK	A.T/2019/024/ GP	A.T/2019/025/ GP	CHR_H_IMA_EFF2019_PL01	CHR_H_IMA_EFF2019_PL02	CHR_H_IMA_EFF2020_PL01	CHR_H_IMA_EFF2020_PL02
					SRPL19-108-336HE	SRPL19-109-336HE	SRPL20-401-336HE	SRPL20-402-336HE
Location	Kopaszyn / Poland	Skowarnki / Poland	Nowe Gronowo / Poland	Wilcze / Poland	Szydłowo /Poland	Tersin / Poland	Jabłowo Pałuckie / Poland	Kłoda / Poland
Plant/cultivar	Pisum sativum / Mentor	Pisum sativum / Batuta	Pisum sativum / La Mancha	Pisum sativum / Akord	Pisum sativum / Batuta	Pisum sativum / Batuta	Pisum sativum / Salamanca	Pisum sativum / Akord
Seeding date	16.03.2020	15.03.2020	20.03.2019	29.03.2019	19.03.2019	16.04.2019	04.05.2020	20.03.2020
Seeding rate	230 kg/ha	300 kg/ha	220 kg/ha	250 kg/ha	290 kg/ha	280 kg/ha	215 kg/ha	295 kg/ha
Fore-crop	Sinapis alba	winter wheat / TRZAW	winter wheat / TRZAW	winter wheat / TRZAW	rye / SECCW	winter oilseed rape / BRSNW	winter wheat / TRZAW	winter triticale / TTLWI
Type of sprayer	BACCAI	BACCAI	BACCAI	BACCAI	BACSPR	BACCAI	BACCAI	BACSPR
Date of treatment	07.05.2020	07.05.2020	07.05.2019	06.05.2019	17.05.2019	30.05.2019	04.06.2020	11.05.2020
Plant development phase	BBCH 14-16	BBCH 12-14	BBCH 13-14	BBCH 14-15	BBCH 14-16	BBCH 12-14	BBCH 13-14	BBCH 14
Soil type	sandy loam	sandy loam	loamy sand	sandy loam	sandy loam	sandy clay loam	clayey sand	sandy clay loam
pH	7,4	6,8	5,4	5	6,3	6,34	6,1	6
Water (l/ha)	200 L/ha	200 L/ha	200 L/ha	201 L/ha	200 L/ha	300 L/ha	300 L/ha	200 L/ha
Plot size	2,5x5,5=13,75	2,5x7=17,5m2	2,5x5=12,5m2	3x4=12m2	3x5=15m2	3x7=18m2	3x5=15m2	3x5=15m2

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 8 trials in total were carried out in pea in 2019 and 2020 in Poland. The herbicide CHR/H/IMA was applied once per season at the following rates:
twice 0,3, 0,6, 0,9 L/ha
Tested herbicide was applied at the growth stage:
BBCH 12-16

Table 3.2-14: Details on trial methodology

Guidelines	General guidelines	PP 1/152 (4) Design and analysis of efficacy evaluation trials
		PP 1/181 (4) Conduct and reporting of efficacy evaluation trials including good experimental practice
		PP 1/135 (4) Phytotoxicity assessment
	Specific guidelines	PP 1/91 (3) Weeds in phaseolus and pisum
Experimental design	Plot design	Randomized Complete Block (RCB) – (8)
	Plot size	12 - 18 m^2
	Number of replications	4 (8)
Crop	Trials per crop	Pea 8
	Varieties per crop	Mentor, Batuta, La Mancha, Akord, Salamanca,
	Sowing period	20.03.2019-16.04.2019 15.03.2020-04.05.2020
Application	Crop stage (BBCH)* at application	A: BBCH 12-16
	Timing Pest stage at application (1)	The data available in Appendix 4
	Number of applications Intervals between applications	1(8 trials)
	Spray volumes	A: 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 …)	pH: 5,0 - 7,4 soil type: sandy loam, loamy sand, sandy clay loam, clayey sand
	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 8 trials were carried out to evaluate the efficacy of product CHR/H/IMA for the control of dicotyledonous weeds in pea.

Efficacy data for dicotyledonous weeds are presented from 8 efficacy trials assessed. Eight trials have been conducted in two seasons 2019 and 2020 in Poland.

South-East Zone
Efficacy
Materials and methods
The applicant submitted 5 reports (in total) showing the results in research into product efficacy carried out in 2019 and 2022 in soybean. List of these reports is contained in Appendix 1

Site
Trials were conducted in different regions in Hungary where soybean is 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/IMA were performed in 2019 and 2022 by:
- CPR Europe Kft, Szombathely, Török Ignác u. 30, Hungary
- Government Office of Csongrád County, Budapest Budaörsi út 141, Hungary
- Government Office of Vas County, Budapest Budaörsi út 141, Hungary
- Government Office of Komarom-Esztergom County, 17.Uj street Tata 2890, Hungary

Experimental details
The efficacy trials were designed, conducted and reported according to the following EPPO guidelines:
- PP 1/135 (4) Phytotoxicity assessment
- PP 1/152 (4) Design and analysis of efficacy evaluation trials
- PP 1/181 (5) 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 1/305 (1) Weeds in soybean

Assessment methods
Statistical Analysis
In case of statistical analysis, data were analysed using a two way analysis of variance (ANOVA). The probability of no significant differences occurring between treatment means is calculated as the F probability value (Prob(F)). Student-Newman-Keuls test was then applied to separate any treatment differences that may be implied by the ANOVA TEST (Prob(F)<0.05) and these are indicated by the LSD-value and by a letter-test. Statistical analysis was carried out with the use of statistic pack of ARM 9.0. The trial results were statistically analyzed using Student&Newman&Keuls Test (p=0,05).

Statistical preparation of the results was based on the analysis of variance for the randomized block experiment design. Differences significance was tested using Tukey's semi-interval confidence, while the least significant difference was given at the significance level LSDα=0.05. Experimental data were calculated

using the statistical program AWAR, version 2.0. Data from the statistical analyses were placed into result tables.

Assessment of efficacy

The assessment of efficacy in the treated plots was made in relation to the untreated plot on an overall plot basis (scale 0-100 %, 0 % =no efficacy). The assessment date was determined by the speed of action and period of efficacy of the test items. The number of weeds/m² was counted in 5 x 0,1 m² quadrats with the measuring scale 'Göttinger Zähl- und Schätzrahmen‘. The coverage level (ground cover) of the weed population by species was assessed by visual estimation using a scale 0-100 % (100 %=total ground cover).
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.
The effectiveness of weed control were evaluated visually by comparing the state of individual weed species on plots treated by herbicides and untreated plots. The results are shown as a percentage of destruction. Before application and at each assessment were determined also the number of weeds, on the surface of $1m^2$.

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 selectivity was assessed by a visual estimation of an intensity of chlorosis, necrosis, leave curling etc. found on overall areas of treated plots, with references to untreated plots. Results were described in percent of destruction injury of plant for herbicides treatment compared in comparison to plant from untreated, where 0% means no phytotoxicity and 100% - complete crop destruction.
Phytotoxicity (F) of tested herbicides was evaluated in %, by determination crop state and comparison to untreated plots and standard product activity.
phytotoxicity - susceptibility of plants to herbicides in % where:
0 - no reaction of crop
100 - crop damaged

Applications methods and rates

The applications were carried out by Kertitox, MDM Oxford, BICSPR, BACCAI

Tested herbicide was applied at the growth stage:

BBCH 12-16

The product CHR/H/IMA has been used at the following rates:
0,6l/ha; 0,8l/ha; 1,0l/ha; 1,2l/ha: once per season

Pulsar 40 SL was used as a reference product in soybean.
The experiment was established on a set of complete randomized blocks in 4 replications.

Experiment pattern:

Soybean

No.	Name	Rate (l/ha)	other rate (g a.s./ha)	Appl code	Growth Stage BBCH
1	Untreated Check				
2	CHR/H/IMA 40 SL	0,6	24	A	BBCH 12-16
3	CHR/H/IMA 40 SL	0,8	32	A	BBCH 12-16

4	CHR/H/IMA 40 SL	1,0	40	A	BBCH 12-16
5	Corum 502,4 SL	1,2	48	A	BBCH 12-16
6	Pulsar 40 SL	1,0	40	A	BBCH 12-16

Details of experiments

Soybean

Report code	201945/2H	201945/1	201945/3H	CPRHU22-523-025HE	CPRHU22-522-025HE
Location	Kocs telepules / Hungary	Balogunyom / Hungary	Algyo-Nagyfa / Hungary	Dunarmete / Hungary	Hédervár / Hungary
Plant/cultivar	Soybean / Bahia	Soybean / Bahia	Soybean / Bahia	Soybean / Angelica	Soybean / Stumpa
Seeding date	26.05.2019	27.04.2019	24.04.2019	04.05.2022	04.05.2022
Seeding rate	500000 s/ha	400000 s/ha	450000 s/ha	100kg/ha	100 kg/ha
Forecrop	Wheat	winter wheat	n/d	Winter oilseed rape	maize
Type of sprayer	Kertitox	MDM Oxford	BICSPR	BACCAI	
Date of treatment	17.06.2019	05.06.2019	21.05.2019	25.05.2022	25.05.2022
Plant development phase	BBCH 10-12	BBCH 13-15	BBCH 11-13	BBCH 13-15	BBCH 13-15
Soil type	Eutric Cambisol	Haplic Cambisol	Fina silty clay loam	Clay	Clay loam
pH	7,4	6,4	7	7,1	6,8
Water (l/ha)	250	250	300	250	250
Plot size	2x10=20m2	2x10=20m2	3x10=30m2	3x6=18m2	3x6=18m2

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 5 trials in total were carried out in soybean in 2019 and 2022 in Hungary. The herbicide CHR/H/IMA was applied once per season at the following rates:
twice 0,6, 0,8, 1,0, 1,2 L/ha
Tested herbicide was applied at the growth stage:
BBCH 12-16

Table 3.2-15: Details on trial methodology

Guidelines	General guidelines	PP 1/152 (4) Design and analysis of efficacy evaluation trials
		PP 1/181 (4) Conduct and reporting of efficacy evaluation trials including good experimental practice
		PP 1/135 (4) Phytotoxicity assessment
	Specific guidelines	PP 1/305 (13) Weeds in soybean
Experimental design	Plot design	Randomized Complete Block (RCB) – (5)
	Plot size	18-30 m^2
	Number of replications	4 (5)
Crop	Trials per crop	Soybean 5
	Varieties per crop	Angelica, Stumpa
	Sowing period	21.05.2019-17.06.2019 25.05.2022
Application	Crop stage (BBCH)* at application	A: BBCH 12-16
	Timing Pest stage at application (1)	The data available in Appendix 4
	Number of applications Intervals between applications	1(5 trials)
	Spray volumes	A: 250 - 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 …)	pH: 6,4 - 7,4 soil type: Eutric Cambisol, Haplic Cambisol, Fina silty clay loam, clay, clay loam
	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 5 trials were carried out to evaluate the efficacy of product CHR/H/IMA for the control of dicotyledonous weeds in soybean.

Efficacy data for dicotyledonous weeds are presented from 5 efficacy trials assessed. Five trials have been conducted in two seasons 2019 and 2022 in Hungary.

3.2.3-1 Efficacy tests of CHR/H/IMA
NORTH-EAST ZONE
Pea

The eight trials were carried out in pea in 2019 and 2020. The herbicide CHR/H/IMA was applied once per season at the following rates 0,3, 0,6, 0,9 L/ha. Tested herbicide was applied at the growth stage: BBCH: 12-16;

3.2.3-1.1 The efficacy of CHR/H/IMA in control of GALAP Galium aparine

The efficiency of CHR/H/IMA in control of GALAP Galium aparine were investigated in 6 trials. The tested product used at rates: 0,3 l/ha, 0,6 l/ha, controlled this species of weed on mid level of efficacy and dose 0,9 l/ha controlled this species of weed at high level of efficacy DA-A 22-28. For dose 0,3l/ha the effectiveness fluctuated from 56,30% - 67,50% (22-28DA-A). For dose 0,6l/ha the effective-ness fluctuated from 77,50% - 85,50% (22-28DA-A). For dose 0,9l/ha the effectiveness fluctuated from 88,80% - 92,50% (22-28DA-A).
Standard product was at the same level like dose 0,9l/ha. (Appendix 5 tab. 1).

3.2.3-1.2 The efficacy of CHR/H/IMA in control of CHEAL Chenopodium album

The efficiency of CHR/H/IMA in control of CHEAL Chenopodium album were investigated in 6 trials. The tested product used at rates: 0,3 l/ha, 0,6 l/ha, and 0,9 l/ha controlled this species of weed at high level of efficacy DA-A 22-28. For dose 0,3l/ha the effectiveness fluctuated from 58,80% - 76,30% (22-28DA-A). For dose 0,6l/ha the effectiveness fluctuated from 77,50% - 88,75% (22-28DA-A). For dose 0,9l/ha the effectiveness fluctuated from 86,25% - 99,00% (22-28DA-A).
Standard product was at the same level like dose 0,9l/ha. (Appendix 5 tab. 2).

3.2.3-1.3 The efficacy of CHR/H/IMA in control of STEME Stellaria media

The efficiency of CHR/H/IMA in control of STEME Stellaria media were investigated in 6 trials. The tested product used at rates: 0,3 l/ha, controlled this species of weed on mid level of efficacy and dose 0,6 l/ha and 0,9 l/ha controlled this species of weed at high level of efficacy DA-A 27-28. For dose 0,3l/ha the effectiveness fluctuated from 60,00% - 97,00% (27-28DA-A). For dose

0,6l/ha the effectiveness fluctuated from 76,30% - 99,00% (27-28DA-A). For dose 0,9l/ha the effectiveness fluctuated from 81,30% - 99,00% (22-28DA-A).
Standard product was at the same level like dose 0,9l/ha. (Appendix 5 tab. 3).

3.2.3-1.4 The efficacy of CHR/H/IMA in control of CENCY Centaurea cyanus

The efficiency of CHR/H/IMA in control of CENCY Centaurea cyanus were investigated in 6 trials. The tested product used at rates: 0,3 l/ha, 0,6 l/ha, controlled this species of weed on mid level of efficacy and dose 0,9 l/ha controlled this species of weed at high level of efficacy DA-A 22-28. For dose 0,3l/ha the effectiveness fluctuated from 33,30% - 75,00% (22-28DA-A). For dose 0,6l/ha the effectiveness fluctuated from 65,00% - 83,80% (22-28DA-A). For dose 0,9l/ha the effectiveness fluctuated from 80,30% - 95,80% (22-28DA-A).
Standard product was at the same level like dose 0,9l/ha. (Appendix 5 tab. 4).

3.2.3-1.5 The efficacy of CHR/H/IMA in control of POLCO Polygonum convolvulus

The efficiency of CHR/H/IMA in control of POLCO Polygonum convolvulus were investigated in 6 trials. The tested product used at rates: 0,3 l/ha, 0,6 l/ha, controlled this species of weed on mid level of efficacy and dose 0,9 l/ha controlled this species of weed at high level of efficacy DA-A 22-28. For dose 0,3l/ha the effectiveness fluctuated from 51,80% - 77,50% (22-28DA-A). For dose 0,6l/ha the effectiveness fluctuated from 70,00% - 83,80% (22-28DA-A). For dose 0,9l/ha the effectiveness fluctuated from 78,75% - 97,00% (22-28DA-A).
Standard product was at the same level like dose 0,9l/ha. (Appendix 5 tab. 5).

3.2.3-1.6 The efficacy of CHR/H/IMA in control of VIOAR Viola arvensis

The efficiency of CHR/H/IMA in control of VIOAR Viola arvensis were investigated in 3 trials. The tested product used at rates: 0,3 l/ha, 0,6 l/ha, and 0,9 l/ha controlled this species of weed at the low level of efficacy DA-A 27-28. For dose 0,3l/ha the effectiveness fluctuated from 20,00% - 50,00% (27-28DA-A). For dose 0,6l/ha the effectiveness fluctuated from 30,00% - 55,00% (27-28DA-A). For dose 0,9l/ha the effectiveness fluctuated from 45,00% - 70,00% (27-28DA-A).
Standard product was at the same level like dose 0,9l/ha. (Appendix 5 tab. 6).

3.2.3-1.7 The efficacy of CHR/H/IMA in control of ANTAR Anthemis arvensis

The efficiency of CHR/H/IMA in control of ANTAR Anthemis arvensis were investigated in 6 trials. The tested product used at rates: 0,3 l/ha, 0,6 l/ha controlled this species of weed at mid level of efficacy and 0,9 l/ha controlled this species of weed at high level of efficacy DA-A 27-28. For dose 0,3l/ha the effectiveness fluctuated from 52,50% - 67,50% (27-28DA-A). For dose 0,6l/ha the effectiveness fluctuated from 71,30% - 83,80% (27-28DA-A). For dose 0,9l/ha the effectiveness fluctuated from 77,50% - 93,80% (27-28DA-A).
Standard product was at the same level like dose 0,9l/ha. (Appendix 5 tab. 7).

3.2.3-1.8 The efficacy of CHR/H/IMA in control of BRSNW Brasica napus

The efficiency of CHR/H/IMA in control of BRSNW Brasica napus were investigated in 6 trials. The tested product used at rates: 0,3 l/ha, 0,6 l/ha controlled this species of weed at mid level of efficacy and 0,9 l/ha controlled this species of weed at high level of efficacy DA-A 27-28. For dose 0,3l/ha the effectiveness fluctuated from 52,50% - 90,00% (27-28DA-A). For dose 0,6l/ha the effectiveness fluctuated from 76,25% - 90,00% (27-28DA-A). For dose 0,9l/ha the effectiveness fluctuated from 83,75% - 99,00% (27-28DA-A).
Standard product was at the same level like dose 0,9l/ha. (Appendix 5 tab. 8).

3.2.3-1.9 The efficacy of CHR/H/IMA in control of CAPBP Capsella Bursa pastoris

The efficiency of CHR/H/IMA in control of CAPBP Capsella Bursa pastoris was investigated in 6 trials. The tested product used at rates: 0,3 l/ha, 0,6 l/ha controlled this species of weed at mid level of efficacy and 0,9 l/ha controlled this species of weed at high level of efficacy DA-A 27-28. For dose 0,3l/ha the effectiveness fluctuated from 65,00% - 87,80% (27-28DA-A). For dose 0,6l/ha the effectiveness fluctuated from 77,50% - 92,50% (27-28DA-A). For dose 0,9l/ha the effectiveness fluctuated from 85,00% - 99,00% (27-28DA-A).
Standard product was at the same level like dose 0,9l/ha. (Appendix 5 tab. 9).

3.2.3-1.10 The efficacy of CHR/H/IMA in control of PAPRH Papaver rhoeas

The efficiency of CHR/H/IMA in control of PAPRH Papaver rhoeas was investigated in 3 trials. It is no important weed for pea. The tested product used at rates: 0,3 l/ha, 0,6 l/ha controlled this species of weed at mid level of efficacy and 0,9 l/ha controlled this species of weed at high level of efficacy DA-A 22-28. For dose 0,3l/ha the effectiveness fluctuated from 56,30% - 72,50% (22-28DA-A). For dose 0,6l/ha the effectiveness fluctuated from 71,30% - 88,80% (22-28DA-A). For dose 0,9l/ha the effectiveness fluctuated from 81,30% - 97,50% (22-28DA-A).
Standard product was at the same level like product dose 0,6l/ha and on lower level than CHR/H/IMA dose 0,9l/ha. (Appendix 5 tab. 10).

3.2.3-1.11 The efficacy of CHR/H/IMA in control of SINAR Sinapis arvensis

The efficiency of CHR/H/IMA in control of SINAR Sinapis arvensis was investigated in 4 trials. It is no important weed for pea. The tested product used at rates: 0,3 l/ha, 0,6 l/ha and 0,9 l/ha controlled this species of weed at high level of efficacy DA-A 22-28. For dose 0,3l/ha the effectiveness fluctuated from 57,50% - 99,80% (22-28DA-A). For dose 0,6l/ha the effectiveness fluctuated from 87,50% - 100,00% (22-28DA-A). For dose 0,9l/ha the effectiveness fluctuated from 91,30% - 100,00% (22-28DA-A).
Standard product was at the same level like product dose 0,9l/ha. (Appendix 5 tab. 11).

3.2.3-1.12 The efficacy of CHR/H/IMA in control of LYCAR Anchusa arvensis

The efficiency of CHR/H/IMA in control of LYCAR Anchusa arvensis was investigated in 6 trials. The tested product used at rates: 0,3 l/ha, 0,6 l/ha controlled this species of weed at mid level of efficacy and 0,9 l/ha controlled this spe-cies of weed at high level of efficacy DA-A 22-28. For

dose 0,3l/ha the effectiveness fluctuated from 50,00% - 77,30% (22-28DA-A). For dose 0,6l/ha the effectiveness fluctuated from 76,30% - 85,00% (22-28DA-A). For dose 0,9l/ha the effectiveness fluctuated from 86,30% - 97,30% (22-28DA-A).
Standard product was at the same level like product dose 0,9l/ha. (Appendix 5 tab. 12).

3.2.3-1.13 The efficacy of CHR/H/IMA in control of GERPU Geranium pusillum

The efficiency of CHR/H/IMA in control of GERPU Geranium pusillum was investigated in 6 trials. The tested product used at rates: 0,3 l/ha, 0,6 l/ha controlled this species of weed at mid level of efficacy and 0,9 l/ha controlled this spe-cies of weed at high level of efficacy DA-A 22-28. For dose 0,3l/ha the effectiveness fluctuated from 67,00% - 76,30% (22-28DA-A). For dose 0,6l/ha the effectiveness fluctuated from 75,00% - 86,30% (22-28DA-A). For dose 0,9l/ha the effectiveness fluctuated from 85,00% - 95,00% (22-28DA-A).
Standard product was at the same level like product dose 0,9l/ha. (Appendix 5 tab. 13).

3.2.3-1.14 The efficacy of CHR/H/IMA in control of LAMPU Lamium purpureum

The efficiency of CHR/H/IMA in control of LAMPU Lamium purpureum was investigated in 5 trials. It Is no important weed for pea. The tested product used at rates: 0,3 l/ha, 0,6 l/ha controlled this species of weed at mid level of efficacy and 0,9 l/ha controlled this spe-cies of weed at high level of efficacy DA-A 22-28. For dose 0,3l/ha the effectiveness fluctuated from 59,50% - 77,50% (22-28DA-A). For dose 0,6l/ha the effectiveness fluctuated from 77,80% - 88,80% (22-28DA-A). For dose 0,9l/ha the effectiveness fluctuated from 85,00% - 99,00% (22-28DA-A).
Standard product was at the same level like product dose 0,9l/ha. (Appendix 5 tab. 14).

Weeds GASPA, CIRAR, VERHE and ECHCH were not evaluated because of to less reports.

Conclusions on the biological efficacy

The obtained data in performed trials show CHR/H/IMA provides benefits against the most important weeds in pea. On the basis of submitted research, it is possible to state that CHR/H/IMA used at dose controlled:

Dose CHR/H/IMA 0,3 l/ha

Moderately Susceptible: *Brasica napus* (BRSNW), *Capsella bursa-pastoris* (CAPBP), *Sinapis arvensis* (SINAR), *Anchusa arvensis* (LYCAR), *Stellaria media* (STEME), *Lamium purpureum* (LAMPU)
Moderately Tolerant: *Galium aparine* (GALAP), *Chenopodium album* (CHEAL), *Polygonum convolvulus* (POLCO), *Anthemis arvensis* (ANTAR), *Papaver rhoeas* (PAPRH), *Centaurea cyanus* (CENCY), *Geranium pusillum* (GERPU)
Tolerant: *Viola arvensis* (VIOAR),

Dose CHR/H/IMA 0,6 l/ha

Susceptible: *Sinapis arvensis* (SINAR), *Stellaria media* (STEME)
Moderately Susceptible: *Brasica napus* (BRSNW), *Capsella bursa-pastoris* (CAPBP), *Anchusa arvensis* (LYCAR), *Lamium purpureum* (LAMPU), *Galium aparine* (GALAP), *Chenopodium album* (CHEAL),

Polygonum convolvulus (POLCO), *Anthemis arvensis* (ANTAR), *Papaver rhoeas* (PAPRH), *Centaurea cyanus* (CENCY), *Geranium pusillum* (GERPU), *Viola arvensis* (VIOAR),
Tolerant: *Viola arvensis* (VIOAR),

Dose CHR/H/IMA 0,9 l/ha
Susceptible: *Sinapis arvensis* (SINAR), *Stellaria media* (STEME), *Brasica napus* (BRSNW), *Capsella bursa-pastoris* (CAPBP), *Anchusa arvensis* (LYCAR), *Lamium purpureum* (LAMPU), *Galium aparine* (GALAP), *Chenopodium album* (CHEAL), *Polygonum convolvulus* (POLCO), *Anthemis arvensis* (ANTAR), *Papaver rhoeas* (PAPRH), *Centaurea cyanus* (CENCY), *Geranium pusillum* (GERPU), *Viola arvensis* (VIOAR),
Moderately Tolerant: *Viola arvensis* (VIOAR),

Table 3.2-1: Efficacy of product CHR/H/IMA at the timing of assessment.

Target	CHR/H/IMA at rate	Number of trials	Infestation in the untreated control (unit)		% control					No of trials where product is >, <, = compared to standard(s)**
					Product at rate			Corum 502,4 SL rate 1,ol/ha + Olbras 88 EC 1,0l/ha		
			Mean	Min&Max	Mean	Min	Max	Mean	Min & Max	
Viola arvensis	0,3 l/ha	3	5,67	5,0-6,0	40,00	20,00	50,00	61,67	45,00-70,00	-
	0,6 l/ha				45,83	30,00	55,00	-	-	-
	0,9 l/ha				60,83	45,00	70,00	-	-	-
Polygonum convolvulus	0,3 l/ha	6	5,25	5,0-6,5	68,43	51,80	77,50	87,80	77,80-99,00	-
	0,6 l/ha				77,22	70,00	83,80			-
	0,9 l/ha				88,44	78,75	97,00			-
Anthemis arvensis	0,3 l/ha	6	7,21	4,75-11,0	61,68	52,50	67,50	87,68	75,00-96,00	-
	0,6 l/ha				75,43	71,25	83,75			-
	0,9 l/ha				87,09	77,50	93,80			-
Brasica napus	0,3 l/ha	6	6,33	4,5-10,0	70,83	52,50	90,00	91,96	82,50-99,00	-
	0,6 l/ha				83,35	76,25	90,00			-
	0,9 l/ha				90,71	83,75	99,00			-
Capsella bursa-pastoris	0,3 l/ha	6	14	5,0-55,0	73,40	65,00	87,80	91,73	86,25-99,00	-
	0,6 l/ha				83,76	77,50	92,50			-
	0,9 l/ha				91,72	85,00	99,00			-
Papaver rhoeas	0,3 l/ha	3	6,67	5,0-9,0	63,37	56,30	72,50	83,70	79,80-88,80	-
	0,6 l/ha				80,80	71,30	88,80			-
	0,9 l/ha				88,37	81,30	97,50		-	-
Sinapis arvensis	0,3 l/ha	4	6,25	5,0-9,0	82,85	57,50	99,80	97,60	91,30-100,00	-
	0,6 l/ha				94,06	87,50	100,00			-
	0,9 l/ha				97,58	91,30	100,00			-
Anchusa arvensis	0,3 l/ha	6	5,5	4,0-9,0	71,03	50,00	77,30	89,70	87,50-92,00	-

	0,6 l/ha				81,47	76,30	85,00			-
	0,9 l/ha				90,40	86,30	97,30			-
Centaurea cyanus	0,3 l/ha	6	6,25	5,0-7,0	53,90	33,30	75,00	87,80	85,00-96,50	-
	0,6 l/ha				70,01	65,00	83,75			-
	0,9 l/ha				85,18	80,30	95,75			-
Geranium pusillum	0,3 l/ha	6	4,95	4,0-6,0	70,77	67,00	76,30	91,10	90,00-95,00	-
	0,6 l/ha				78,85	75,00	86,30			-
	0,9 l/ha				90,05	85,00	95,00			-
Galium aparine	0,3 l/ha	6	13,71	5,0-55,0	62,71	56,25	67,50	88,20	78,30-92,50	-
	0,6 l/ha				81,85	77,50	85,50			-
	0,9 l/ha				90,72	88,80	92,50			-
Stellaria media	0,3 l/ha	6	5,42	4,5-7,0	77,42	60,00	97,00	92,20	82,50-99,00	-
	0,6 l/ha				87,34	76,25	99,00			-
	0,9 l/ha				91,13	81,25	99,00			-
Lamium purpureum	0,3 l/ha	5	5,75	5,0-7,0	70,90	59,50	77,50	89,90	76,50-99,00	-
	0,6 l/ha				82,56	77,80	88,75			-
	0,9 l/ha				91,11	85,00	99,00			-
Chenopo-dium album	0,3 l/ha	6	14,58	5,0-24,5	68,14	58,80	76,30	93,42	86,25-99,00	-
	0,6 l/ha				82,43	77,50	88,75			-
	0,9 l/ha				91,97	86,25	99,00			-

* 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

SOUTH-EAST ZONE

Soybean

The five trials were carried out in soybean in 2019 and 2022. The herbicide CHR/H/IMA was applied once per season at the following rates 0,6, 0,8, 1,0, 1,2 L/ha. Tested herbicide was applied at the growth stage: BBCH: 12-16;

3.2.3-1.15 The efficacy of CHR/H/IMA in control of ABUTH Abutilon theophrasti

The efficiency of CHR/H/IMA in control of ABUTH Abutilon theophrasti was investigated in 1 trial. The tested product used at rates: 0,6 l/ha, and 0,8 l/ha controlled this species of weed at mid level of efficacy and at doses 1,0 l/ha and 1,2l/ha controlled this species of weed at high level of efficacy DA-A 71. For dose 0,6l/ha the effectiveness was 50,00%(71DA-A). For dose 0,8l/ha the effectiveness was 81,25% (71DA-A). For dose 1,0l/ha the effectiveness was 90,00% (71DA-A). For dose 1,2l/ha the effectiveness was 93,75% (71DA-A).
Standard product was at the same level like product doses 1,0l/ha and 1,2l/ha. (Appendix 5 tab. 15).

3.2.3-1.16 The efficacy of CHR/H/IMA in control of DATST Datura stramonium

The efficiency of CHR/H/IMA in control of DATST Datura stramonium was investigated in 2 trials. The tested product used at rate: 0,6 l/ha, controlled this species of weed at mid level of efficacy and at doses 0,8 l/ha 1,0 l/ha and 1,2l/ha controlled this species of weed at high level of efficacy DA-A 42-49. For dose 0,6l/ha the effectiveness fluctuated from 70,00 – 90,75%(42-49DA-A). For dose 0,8l/ha the effectiveness fluctuated from 81,30 – 93,00% (42-49DA-A). For dose 1,0l/ha the effectiveness fluctuated from 94,75-96,30% (42-49DA-A). For dose 1,2l/ha the effectiveness fluctuated from 95,00-97,00% (42-49DA-A).
Standard product was at the same level like product doses 1,0l/ha and 1,2l/ha. (Appendix 5 tab. 16).

3.2.3-1.17 The efficacy of CHR/H/IMA in control of MERAN Mercurialis annua

The efficiency of CHR/H/IMA in control of MERAN Mercurialis annua was investigated in 2 trials. The tested product used at rates: 0,6 l/ha and 0,8l/ha, controlled this species of weed at mid level of efficacy and at doses 1,0 l/ha and 1,2l/ha controlled this species of weed at high level of efficacy DA-A 42. For dose 0,6l/ha the effectiveness fluctuated from 71,30 – 76,30%(42DA-A). For dose 0,8l/ha the effectiveness fluctuated from 81,30 – 81,30% (42DA-A). For dose 1,0l/ha the effectiveness fluctuated from 96,30-98,30% (42DA-A). For dose 1,2l/ha the effectiveness fluctuated from 98,30-99,50% (42DA-A).
Standard product was at the same level like product doses 1,0l/ha and 1,2l/ha. (Appendix 5 tab. 17).

3.2.3-1.18 The efficacy of CHR/H/IMA in control of SOLNI Solanum nigrum

The efficiency of CHR/H/IMA in control of SOLNI Solanum nigrum was investigated in 2 trials. The tested product used at rates: 0,6 l/ha and 0,8l/ha, controlled this species of weed at mid level of efficacy and at doses 1,0 l/ha and 1,2l/ha controlled this species of weed at high level of efficacy DA-A 42. For dose 0,6l/ha the effectiveness fluctuated from 71,30 – 77,50%(42DA-A). For dose 0,8l/ha the effectiveness fluctuated from 80,00 – 81,30% (42DA-A). For dose 1,0l/ha the effectiveness fluctuated from 93,80-98,80% (42DA-A). For dose 1,2l/ha the effectiveness fluctuated from 96,50-99,50% (42DA-A).
Standard product was at the same level like product doses 1,0l/ha and 1,2l/ha. (Appendix 5 tab. 18).

3.2.3-1.19 The efficacy of CHR/H/IMA in control of AMARE Amaranthus retroflexus

The efficiency of CHR/H/IMA in control of AMARE Amaranthus retroflexus was investigated in 2 trials. The tested product used at rate: 0,6l/ha, 0,8l/ha 0,l/ha, and 1,2l/ha controlled this species of weed at high level of efficacy DA-A 49-71. For dose 0,6l/ha the effectiveness fluctuated from 81,25-90,25%(49-71DA-A). For dose 0,8l/ha the effectiveness fluctuated from 90,50 – 99,00% (49-71DA-A). For dose 1,0l/ha the effectiveness fluctuated from 91,00-100,00% (49-100,00DA-A). For dose 1,2l/ha the effectiveness fluctuated from 90,75-100,00% (49-71DA-A).
Standard product was at the same level like product doses 0,8l/ha, 1,0l/ha and 1,2l/ha. (Appendix 5 tab. 19).

3.2.3-1.20 The efficacy of CHR/H/IMA in control of AMBEL Ambrosia artemisiifolia

The efficiency of CHR/H/IMA in control of AMBEL Ambrosia artemisiifolia was investigated in 4 trials. The tested product used at rates: 0,6 l/ha and 0,8l/ha, controlled this species of weed at mid level of efficacy and at doses 1,0 l/ha and 1,2l/ha controlled this species of weed at high level of efficacy DA-A 42-71. For dose 0,6l/ha the effectiveness fluctuated from 62,50 – 92,25%(42-71DA-A). For dose 0,8l/ha the effectiveness fluctuated from 77,50-94,25% (42-71DA-A). For dose 1,0l/ha the effectiveness fluctuated from 85,00-97,50% (42-71DA-A). For dose 1,2l/ha the effectiveness fluctuated from 91,75-98,30% (42-71DA-A).
Standard product was at the same level like product doses 1,0l/ha and 1,2l/ha. (Appendix 5 tab. 20).

3.2.3-1.21 The efficacy of CHR/H/IMA in control of CHEAL Chenopodium album

The efficiency of CHR/H/IMA in control of CHEAL Chenopodium album was investigated in 2 trials. The tested product used at rate: 0,6 l/ha, controlled this species of weed at mid level of efficacy and at doses 0,8 l/ha 1,0 l/ha and 1,2l/ha controlled this species of weed at high level of efficacy DA-A 49-71. For dose 0,6l/ha the effectiveness fluctuated from 67,50 – 91,50%(49-71DA-A). For dose 0,8l/ha the effectiveness fluctuated from 75,00-95,00% (49-71DA-A). For dose 1,0l/ha the effectiveness fluctuated from 90,00-95,00% (49-71DA-A). For dose 1,2l/ha the effectiveness fluctuated from 93,75-95,00% (49-71DA-A).
Standard product was at the same level like product doses 1,0l/ha and 1,2l/ha. (Appendix 5 tab. 21).

3.2.3-1.22 The efficacy of CHR/H/IMA in control of ECHCG Echinochloa crus-galli

The efficiency of CHR/H/IMA in control of ECHCG Echinochloa crus-galli was investigated in 3 trials. The tested product used at rate: 0,6 l/ha and 0,8l/ha, controlled this species of weed at low level of efficacy and at doses 1,0 l/ha and 1,2l/ha controlled this species of weed at high level of efficacy DA-A 34-42. For dose 0,6l/ha the effectiveness fluctuated from 30,00 – 53,80%(34-42DA-A). For dose 0,8l/ha the effectiveness fluctuated from 63,80-76,30% (34-42DA-A). For dose 1,0l/ha the effectiveness fluctuated from 83,30-90,75% (34-42DA-A). For dose 1,2l/ha the effectiveness fluctuated from 83,80-91,30% (34-42DA-A).
Standard product was at the same level like product doses 1,0l/ha and 1,2l/ha. (Appendix 5 tab. 22).

3.2.3-1.23 The efficacy of CHR/H/IMA in control of HIBTR Hibiscus trionum

The efficiency of CHR/H/IMA in control of HIBTR Hibiscus trionum was investigated in 1 trial. The tested product used at rates: 0,6 l/ha, 0,8l/ha and 1,0l/ha controlled this species of weed at low level of efficacy and at dose 1,2l/ha controlled this species of weed at high level of efficacy DA-A 34. For dose 0,6l/ha the effectiveness was 0,00%(34DA-A). For dose 0,8l/ha the effectiveness was 32,50% (34DA-A). For dose 1,0l/ha the effectiveness fluctuated from 61,25% (34DA-A). For dose 1,2l/ha the effectiveness fluctuated from 87,50 (34DA-A).
Standard product was at the same level like product dose 1,2l/ha. (Appendix 5 tab. 23).

3.2.3-1.24 The efficacy of CHR/H/IMA in control of POLPE Polygonum persicaria

The efficiency of CHR/H/IMA in control of POLPE Polygonum persicaria was investigated in 1 trial. The tested product used at rates: 0,6 l/ha, 0,8l/ha controlled this species of weed at mid level of efficacy and at doses 1,0l/ha and 1,2l/ha controlled this species of weed at high level of efficacy DA-A 34. For dose 0,6l/ha the effectiveness was 61,25%(34DA-A). For dose 0,8l/ha the effectiveness was 77,50% (34DA-A). For dose 1,0l/ha the effectiveness fluctuated from 85,00% (34DA-A). For dose 1,2l/ha the effectiveness fluctuated from 86,25 (34DA-A).
Standard product was at the same level like product dose 1,2l/ha. (Appendix 5 tab. 24).

Conclusions on the biological efficacy

The obtained data in performed trials show CHR/H/IMA provides benefits against the most important weeds in soybean. On the basis of submitted research, it is possible to state that CHR/H/IMA used at dose controlled:

Dose CHR/H/IMA 0,6 l/ha

Susceptible: *Amaranthus retroflexus* (AMARE),
Moderately Susceptible: *Datura stramonium* (DATST), *Mercurialis annua* (MERAN), *Solanum nigrum* (SOLNI), *Ambrosia artemisiifolia* (AMBEL), *Chenopodium album* (CHEAL),
Moderately Tolerant: *Polygonum persicaria* (POLPE)
Tolerant: *Abutilon theophrasti* (ABUTH), *Echinochloa crus-galli* (ECHCG), *Hibiscus trionum* (HIBTR)

Dose CHR/H/IMA 0,8 l/ha

Susceptible: *Amaranthus retroflexus* (AMARE), Datura stramonium (DATST), Chenopodium album (CHEAL),
Moderately Susceptible: *Mercurialis annua* (MERAN), *Solanum nigrum* (SOLNI), *Ambrosia artemisiifolia* (AMBEL), Abutilon theophrasti (ABUTH), Echinochloa crus-galli (ECHCG), *Polygonum persicaria* (POLPE),
Tolerant: *Hibiscus trionum* (HIBTR),

Dose CHR/H/IMA 1,0 l/ha
Susceptible: *Amaranthus retroflexus* (AMARE), Datura stramonium (DATST), Chenopodium album (CHEAL), *Mercurialis annua* (MERAN), *Solanum nigrum* (SOLNI), *Ambrosia artemisiifolia* (AMBEL), Abutilon theophrasti (ABUTH), Echinochloa crus-galli (ECHCG), *Polygonum persicaria* (POLPE),
Moderately Tolerant: *Hibiscus trionum* (HIBTR),

Dose CHR/H/IMA 1,2 l/ha
Susceptible: *Amaranthus retroflexus* (AMARE), Datura stramonium (DATST), Chenopodium album (CHEAL), *Mercurialis annua* (MERAN), *Solanum nigrum* (SOLNI), *Ambrosia artemisiifolia* (AMBEL), Abutilon theophrasti (ABUTH), Echinochloa crus-galli (ECHCG), *Polygonum persicaria* (POLPE), *Hibiscus trionum* (HIBTR),

Table 3.2-1: Efficacy of product CHR/H/IMA at the timing of assessment.

Target	CHR/H/IMA at rate	Number of trials	Infestation in the un-treated control (unit)		% control					No of trials where product is >, <, = compared to stand-ard(s)**
					Product at rate			Pulsar 40 SL		
			Mean	Min&Max	Mean	Min	Max	Mean	Min & Max	
ABUTH	0,6 l/ha	1	.6,0-10,0	.6,0-10,0	50,00	50,00	50,00	91,25	91,25-91,25	-
	0,8 l/ha				81,25	81,25	81,25	-	-	-
	1,0 l/ha				90,00	90,00	90,00	-	-	-
	1,2 l/ha				93,75	93,75	93,75	-	-	-
DATST	0,6 l/ha	2	8,67	8,00-10,00	80,38	70,00	90,75	96,25	95,50-97,00	-
	0,8 l/ha				87,15	81,30	93,00	-	-	-
	1,0 l/ha				95,53	94,75	96,30	-	-	-
	1,2 l/ha				96,00	95,00	97,00	-	-	-
MERAN	0,6 l/ha	2	15,50	12,00-19,00	73,80	71,30	76,30	96,25	95,50-97,00	-
	0,8 l/ha				81,30	81,30	81,30	-	-	-
	1,0 l/ha				97,30	96,30	98,30	-	-	-
	1,2 l/ha				98,90	98,30	99,50	-	-	-
SOLNI	0,6 l/ha	2	11,00	9,00-13,00	74,40	71,30	77,50	96,05	93,30-98,80	-
	0,8 l/ha				80,65	80,00	81,30	-	-	-
	1,0 l/ha				96,30	93,80	98,80	-	-	-
	1,2 l/ha				98,00	96,50	99,50	-	-	-
AMARE	0,6 l/ha	2	12,25	8,00-19,00	85,75	81,25	90,25	95,38	90,75-100,00	-

	0,8 l/ha				94,75	90,50	99,00	-	-	-
	1,0 l/ha				95,50	91,00	100,00	-	-	-
	1,2 l/ha				95,38	90,75	100,00	-	-	-
AMBEL	0,6 l/ha	4	10,8	5,00-21,00	74,94	62,50	92,25	94,83	91,25-98,30	-
	0,8 l/ha				82,94	77,50	94,25	-	-	-
	1,0 l/ha				93,06	85,00	97,50	-	-	-
	1,2 l/ha				95,58	91,75	98,30	-	-	-
CHEAL	0,6 l/ha	2	14,75	12,00-21,00	79,50	67,50	91,50	92,75	90,50-95,00	-
	0,8 l/ha				85,00	75,00	95,00	-	-	
	1,0 l/ha				92,50	90,00	95,00	-	-	-
	1,2 l/ha				94,38	93,75	95,00	-	-	-
ECHCG	0,6 l/ha	3	13,67	12,00-16,00	44,60	30,00	53,80	87,08	82,50-90,00	-
	0,8 l/ha				70,87	63,80	76,30	-	-	
	1,0 l/ha				88,02	83,30	90,75	-	-	-
	1,2 l/ha				88,78	83,80	91,30	-	-	-
HIBTR	0,6 l/ha	1	7,00	7,00-7,00	0,00	0,00	0,00	87,50	87,50-87,50	-
	0,8 l/ha				32,50	32,50	32,50	-	-	
	1,0 l/ha				61,25	61,25	61,25	-	-	-
	1,2 l/ha				87,50	87,50	87,50	-	-	-
POLPE	0,6 l/ha	1	6,00	6,00-6,00	61,25	61,25	61,25	87,00	87,00-87,00	-
	0,8 l/ha				77,50	77,50	77,50	-	-	
	1,0 l/ha				85,00	85,00	85,00	-	-	-
	1,2 l/ha				86,25	86,25	86,25	-	-	-

* 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 **SOUTH-EAST ZONE**

Not applicable

Comments of zRMS:	**Methods** All trials were conducted in the field conditions that took into account a variety of environmental and agrotechnical conditions. The crop safety and efficacy of CHR/H/IMA, product names: Zemax 40 SL/Mazzam 40 SL have been tested on a different varieties of pea or soybean. The experiments on the effectiveness of the agent were carried out in accordance with EPPO methodologies. The localizations of the experiments were appropriate and produced representative results**.** Trials were located in the North-Eastern EPPO zone: in Poland (8 trials, 2019-2020) and in the South- East EPPO zone (5 trials, 2019-2022) in Hungary – within the Central registration zone to evaluate the efficacy of tested herbicide. CHR/H/IMA applies in the Central Registration Zone for the registration in pea at BBCH 12-16 and soybean at BBCH 12-16, use once per season at the maximum rate of 36 g a.s./ha imazamox per application for the control of dicotyledonous weeds in pea and 48,0 g a.s./ha for the control of mono and dicotyledonous weeds in soybean. **Efficacy** The required number of experiments - 8, on pea were carried out to evaluate the one application of tested herbicide. The number of experiments carried out in soybeans is 5. The minimum number of trials is 6. However, the number of experiments for individual weed species is sufficient and the density of the analysed weed species was in accordance with the requirements. The tests were carried out on weed species the most important for soybean cultivation and the obtained effectiveness of the tested agent is very consistent, which allows us to conclude that the number of 5 experiments can be accepted as sufficient for its evaluation. These experiments are sufficiently representative. The obtained results indicate the high effectiveness of CHR/H/IMA in controlling dicotyledonous weeds in pea and monocot and dicotyledonous weeds in soybean cultivation. **North-East Zone** Efficacy of **CHR/H/IMA in dose 0,9l/ha** against troublesome weeds in pea, Susceptible: *Chenopodium album* 91,97 % *Gallium aparine* 90,72 % *Centaurea cyanus* 85,18 % *Polygonum convolvulus* 88,44 % *Brassica napus* 99,71% Other susceptible: *Anthemis arvensis* 87,09% *Capsella bursa-pastoris* 91,72% *Papaver rhoeas* 88,37% *Sinapis arvensis* 97,58% *Anchusa arvensis* 90,40% *Stellaria media* 91,13%

	Lamium purpureum 91,11% Moderately Tolerant: *Viola arvensis* 60,83% **South-East Zone** Average efficiency of CHR/H/IMA against troublesome weeds in soybean, **dose CHR/H/IMA 1,0 l/ha and 1,2 l/ha** Susceptible: *Amaranthus retroflexus* (AMARE), 95,50-95,38 % *Datura stramonium* (DATST), 95,53 -96,00 % *Chenopodium album* (CHEAL), 92,50-94,38 % *Mercurialis annua* (MERAN), 97,30-98,90 % *Solanum nigrum* (SOLNI), 96,30-98,00 % *Ambrosia artemisiifolia* (AMBEL), 93,06-95,58 % *Abutilon theophrasti* (ABUTH), 90,00-93,75% *Echinochloa crus-galli* (ECHCG), 88,02-88,78 % *Polygonum persicaria* (POLPE), 85,00-86,25 % *Hibiscus trionum* (HIBTR): Moderately Tolerant in dose 1,0 l/ha; 61,25 %: Susceptible in dose 1,2 l/ha; 87,50 %. Most of the noxious weed species controlled in pea cultivation were sensitive to CHR/H/IMA, only *Viola arvensis* (VIOAR) was moderately tolerant- Poland. Most of the noxious weed species controlled in soybean cultivation were sensitive to CHR/H/IMA, only *Hibiscus trionum* (HIBTR) was dose-dependent and moderately tolerant, and at higher doses – sensitive- Hungary. **The methods used in the trials were appropriate and trials submitted for evaluation are satisfactorily representative. Experiments complied with GEP requirements, while the efficacy evaluation methods agreed with specific EPPO guidelines and uniform principles.** **The required number of experiments on pea and slightly lower on soybean were carried out to evaluate the effectiveness of CHR/H/IMA, product names: Zemax 40 SL/Mazzam 40 SL for dicotyledonous weeds control in pea and monocot. and dicotyledonous weeds in soybean.** **High effectiveness of the CHR/H/IMA agent was obtained, amounting to 85-99 % in the control of troublesome weeds in peas and in soybean.** **The trials were appropriate and are representative for weeds control in peas grown for dry seed, for registration in Poland, according to GEP, table GAP, Label and uniform principles.** **It is justified to claim the registration CHR/H/IMA, product names: Zemax 40 SL/Mazzam 40 SL for 1 applications at BBCH 12-16 in dose 0,9 l/ha (36 g a.s./ha imazamox) for dicotyledonous weeds control in peas in Poland.** **It is justified to claim the registration CHR/H/IMA, product names: Zemax 40 SL/Mazzam 40 SL for 1 applications at BBCH 12-16 in dose 1,0-1,2 l/ha (48 g a.s./ha imazamox) for the control monocot. and dicotyledonous weeds in**

	soybean in Central registration zone.

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

CHR/H/IMA 40 SL is a herbicide containing active substance: imazamox, which belong to HRAC group 2(B). Imazamox is an organonitrogenous heterocyclic molecule belonging to the imidazolinones subgroup. The mode of action is described as the inhibition of the activity of the enzyme acetohydroxyacid synthase (AHAS) also known as acetolactate synthase (ALS). It can be absorbed by roots and foliage, and then translocated throughout the plant to the meristematic tissues. Growth of susceptible plants is inhibited soon after application while visual symptoms appear two to three weeks after application. Imazamox causes an almost immediate growth block followed by a gradual decolouration mainly on the youngest leafs and subsequent death of weeds. Imazamox shows moderate acropetal and basipetal translocation. ALS is the first enzyme in the pathway for the biosynthesis of the essential branched-chain amino acids valine, leucine and isoleucine. The inhibition of ALS activity leads to amino acid starvation and the accumulation of toxic precursors. The primary effect following treatment of susceptible weeds with the herbicide is the restraint of new growth and cell development. Imazamox has systemic properties. Imazamox can be absorbed by roots and foliage, and then translocated throughout the plant to the meristematictissues. Growth of susceptible plants is inhibited soon after application while visual symptoms appear two to three weeks after application. Imazamox causes an almost immediate growth block followed by a gradual decolouration mainly on the youngest leafs and subsequent death of weeds. Imazamox shows moderate acropetal and basipetal translocation.

1.1 Mechanism of resistance

CHR/H/IMA 40 SL is a herbicide containing active substance: imazamox which belong to HRAC group 2. The mode of action involving a 1 mode of action may indicate a high 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.

1.2 Evidence of resistance

Imazamox

Imazamox is grouped into the Imidazolinones chemical group. The mode of action is described as the inhibition of the activity of the enzyme acetohydroxyacid synthase (AHAS) also known as acetolactate synthase (ALS). (HRAC group: 2, legacy B). 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 two species which have been reported as resistant to HRAC group: 2, legacy B: *Ambrosia artemisiifolia* and *Amaranthus retroflexus* in soybean. There aren't any information about weeds resistance in peas (Table 1).

According to https://weedscience.org/ :

Table 1. Herbicide resistance cases

Year	Species	Country	Actives	Crops
2009	Helianthus annuus	France	tribenuron-methyl, imazamox	Sunflower
2009	Senecio vulgaris	France	tribenuron-methyl, prosulfuron, metsulfuron-methyl, flazasulfuron, imazamox, florasulam, iodosulfuron-methyl-Na, mesosulfuron-methyl, thiencarbazone-methyl	Grapes, Wheat
2013	Ambrosia artemisiifolia	France	tribenuron-methyl, metsulfuron-methyl, imazamox	Soybean, Sunflower, Chickpea
2011	Stellaria media	Germany	thifensulfuron-methyl, amidosulfuron, triflusulfuron-methyl, tribenuron-methyl, nicosulfuron, imazamox, florasulam, iodosulfuron-methyl-Na, tritosulfuron, mesosulfuron-methyl, pyroxsulam	Spring Barley, Wheat, Rapeseed
2012	Papaver rhoeas	Germany	imazamox, florasulam	Cereals, Rapeseed
1998	Papaver rhoeas	Greece	pyrithiobac-sodium, thifensulfuron-methyl, chlorsulfuron, tribenuron-methyl, triasulfuron, imazamox, florasulam	Winter wheat
2009	Echinochloa phyllopogon (=E. oryzicola)	Greece	bispyribac-sodium, nicosulfuron, rimsulfuron, imazamox, foramsulfuron, penoxsulam	Rice
2013	Oryza sativa var. sylvatica	Greece	imazethapyr, imazamox	Rice
2003	Amaranthus retroflexus	Italy	imazethapyr, thifensulfuron-methyl, nicosulfuron, oxasulfuron, imazamox	Soybean
2005	Echinochloa crus-galli var. crus-galli	Italy	bispyribac-sodium, azimsulfuron, nicosulfuron, imazamox, penoxsulam	Corn (maize), Rice
2009	Echinochloa crus-galli var. crus-galli	Italy	cyhalofop-butyl, bispyribac-sodium, azimsulfuron, imazamox, penoxsulam, profoxydim	Rice
2010	Oryza sativa var. sylvatica	Italy	imazamox	Rice
2017	Echinochloa crus-galli var. crus-galli	Ukraine	imazapyr, nicosulfuron, imazamox, penoxsulam	Rice
2020	Amaranthus retroflexus	Ukraine	imazethapyr, thifensulfuron-methyl, tribenuron-methyl, flumetsulam, imazamox, florasulam, iodosulfuron-methyl-Na, foramsulfuron, thiencarbazone-methyl	Corn (maize), Sunflower
2016	Sonchus asper	United Kingdom	thifensulfuron-methyl, metsulfuron-methyl, imazamox	Wheat

1.3 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.
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.
To study the basis of herbicide resistance, all the mechanisms should be considered. These mechanisms can be classified as target-site resistance (TSR) and non-target-site resistance (NTSR) mechanisms, depending on whether the target protein is involved or not, respectively. Currently, imazamox resistance is explained by the appearance of point mutations in the ALS gene (TSR mechanism), the lack of herbicide absorption and translocation and the herbicide metabolism (all these have NTSR mechanisms) in different grass and broadleaf weeds with resistance to ALS-inhibiting herbicides.
Several point mutations are the most frequent mechanisms of resistance to imazamox found in the cases studied across weed species. Eight point mutations (Ala122, Pro197, Ala205, Asp 376, Arg377, Trp574, Ser653 and Asn654) have been well described, and these mutations show differential cross-resistance patterns to the different chemical families of ALS-inhibiting herbicides. Although TSR mechanisms usually provide high levels of herbicide resistance, some NTSR mechanisms can also provide high levels1. In fact, several NTSR mechanisms (alone or together with TSR mechanisms) can influence the resistance level within a single plant. These NTSR mechanisms can differ depending on the species and MOA. Studies of herbicides with different MOAs revealed that variations in the pattern of herbicide absorption and translocation can also provide high resistance levels because they can reduce the herbicide concentration in meristematic tissues to non-toxic levels. Differential herbicide translocation may be caused by different factors, such as the herbicide being retained/sequestered, herbicide metabolism and its metabolites translocating inside the plant, or large amounts of herbicide being translocated and quickly exuded via the root system, as postulated in the only known case for MCPA in a Raphanus raphanistrum L. biotype. (A.M.Rojano-Delgado et al, 2019)

1.4 Sensitivity data

Applicant didn't conduct separately trials for sensitivity data, this data was evaluated in efficacy trials. The 13 field trials (8 in Poland and 5 in Hungary) postemergence use were established in order to determine the sensitivity of weeds in the pea and soybean. The CHR/H/IMA was tested in pea at doses: 0.3 to 0.9l/ha (12-36 g of active substances), and in soybean ta doses 0,6-1,2l/ha (24 - 48 g of active substances), for the control of mono and dicot weeds. None of the tested weeds showed high tolerance to the product CHR/H/IMA. Detailed studies on the weeds sensitivity are submitted and summarised in 3.2 Efficacy data (KCP 6).

1.5 Use pattern

Herbicide CHR/H/IMA has demonstrated good crop tolerance to pea and soybean. Therefore concluded that CHR/H/IMA is safe usage at proposed rate and this support the label claim for the use in pea and soybean.
Undesirable effects are not expected on succeeding crops, adjacent crop, part of plants used for propagating purposes and beneficial organisms.

Based on submitted data the following regulation on the label is proposed:
North-East Zone
Pea:
Recommended dose at:
CHR/H/IMA 0,9 L/ha
CHR/H/IMA is to be applied in spring:
BBCH 12-16
Recommended volume of water 200-300 L/ha
Recommended medium droplet spraying
South-East Zone
Soybean
Recommended dose at:
CHR/H/IMA 1,0-1,2 L/ha
CHR/H/IMA is to be applied in spring:
BBCH 12-16
Recommended volume of water 200-300 L/ha
Recommended medium droplet spraying

The product CHR/H/IMA 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.

Use of CHR/H/IMA 40 SL according to the proposed GAP does not represent a hazard to rotational crops. CHR/H/IMA is not persistent in soil nor is it taken up by succeeding crops.
To avoid resistance, products contain active substance with the same group shouldn't be used year after year on the same field. Product CHR/H/IMA 40 SL need a specific labelig with management strategy to avoid resistance.

1.6 Resistance risk assessment of unrestricted usepattern

Product CHR/H/IMA 40 SL can not be applayed without any limitations as a unrestricted use. To minimize the risk of practical resistance avoid use products contain active substance with the same group year after year on the same field. Herbicide programmes must deliver effective disease management. Apply CHR/H/IMA 40 SL product at effective rates and intervals according to manufacturers' recommendations. Use crop rotation and good field practice to avoid resistance on field. The number of applications of CHR/H/IMA 40 SL based product within a total weeds management program must be limited whether applied solo or in mixtures with other herbicides.
On the label is proposed:
North-East Zone
Pea:
Recommended dose at:
CHR/H/IMA 0,9 L/ha
CHR/H/IMA is to be applied in spring:
BBCH 12-16
Recommended volume of water 200-300 L/ha

Recommended medium droplet spraying
South-East Zone
Soybean
Recommended dose at:
CHR/H/IMA 1,0-1,2 L/ha
CHR/H/IMA is to be applied in spring:
BBCH 12-16
Recommended volume of water 200-300 L/ha
Recommended medium droplet spraying

1.7 Test methods

Not applicable

1.8 Acceptability of the resistance risk

CHR/H/IMA 40 SL is a herbicide containing active substance: imazamox. It is grouped into the inhibition of the activity of the enzyme acetohydroxyacid synthase (AHAS) also known as acetolactate synthase (ALS), (HRAC group 2, legacy B). This group of herbicides is quite well known and has been applied commercially for decades. The weed resistance to imazamox occured only in few weed species: *Helianthus annuus, Senecio vulgaris, Ambrosia artemisiifolia, Stellaria media, Papaver rhoeas, Echinochloa crus-galli and Amaranthus retroflexus.* All cases of weed resistance to imazamox have been reported in the cereals, corn, rice, sunflower and soybean.
According to submitted efficacy data none of the tested weeds showed high tolerance to the product CHR/H/IMA 40 SL.
CHR/H/IMA 40 SL is a herbicide containing one active substance and may indicate a high 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 when menagment strategy is abide by.

1.9 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.

1.10 Implementation of the management strategy

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

1.11 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** CHR/H/IMA, a.s. imazamox in the FRAC classification belongs to the chemical group: HRAC group: 2, legacy B, posted into the Imidazolinones chemical group. The mode of action is known as acetolactate synthase (ALS). The inhibition of ALS activity leads to amino acid starvation and the accumulation of toxic precursors. Imazamox causes an almost immediate growth block of susceptible weeds. This group of herbicides is quite well known and has been applied commercially for decades. Information on the occurrence of weed species resistant to imazamox also in Poland in various agricultural crops is known (Adamczewski K. 2014. Resistance of weeds to herbicides). Therefore, it is very important to include information on the label on the need to apply the principles of an anti-immune strategy, e.g. indicated by the EPPO. The table quoted by the applicant from the website (http://www.weedscience.org) indicates weed species in soybean cultivation that are resistant to imazamox: *Ambrosia artemisiifolia, Amaranthus retroflexus.* In Poland, weed species resistant to imazamox were not found in the cultivation of pea. The applicant included in the label for Zemax40 SL/Mazzam 40SL information about the need to comply with the rules of use included in the label. By following the user's label, weed resistance to imazmox in pea crops is prevented. However, in line with EPPO recommendations, information should be provided on the label that it is necessary to apply the anti-resistance principle. **Applying the anti-resistance use recommendations, development of resistance can be considerably decreased or avoided. The restriction as proposed by FRAC recommendations and limitations should be put on the national label.** Since the agronomic factors influencing the risk of resistance development tend to vary between the member states, the individual and detailed assessment of the resistance risk has to be finalized on national level.

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		Years	GEP, non-GEP, official***	Comments (any other relevant information)
			North-East Zone	South East Zone			
Pea	Poland	S + Y + Q	3	-	Spring 2019	GEP	-
Pea	Poland	S + Y + Q	5	-	Spring 2020	GEP	-

Soybean	Hungary	S + Y + Q	-	3	Spring 2019	GEP	-
TOTAL	-	-	**8**	**3**	-	-	-

* According to the GAP table
** S = selectivity trial, Y = trial with yield assessment, Q = trial with quality assessment, T = trial on the basis of the study of impact on transformation process (TP: Physical transformation, TF: transformation involving microbial fermentation), P = trial with assessment of impact on propagation
*** Official: carried out by a national official organisation

Table 3.4-2: 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)	
Pea	Corum 502,4 SL	Poland	R-70/2014; 2N:R-44/2019b	Bentazone Imazamox	SL	480 g/l 22,4g/l	1,0 l/ha	1,0 l/ha	-
Soybean	Pulsar 40 SL	Hungary	6300/2241-1/2020 NÉBIH	Imazamox	SL	40g/l	1,0 l/ha	1,0 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)

NORTH-EAST ZONE
Materials and methods
The applicant submitted 8 selectivity reports (in total) showing the results in research into product selectivity carried out in 2019 and 2020 in pea. List of these reports is contained in Appendix 1

Site
Trials were conducted in different regions in Poland where pea is 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
Selectivity studies on herbicide CHR/H/IMA were performed in 2019 and 2020 by:
- SynTech Research Poland Sp. z o.o., ul. Jagiellońska 69/1, 85-027 Bydgoszcz, Poland
- AT Sp. z o.o., ul. Przemysłowa 3, 88-300 Mogilno, Poland

Experimental details
The efficacy trials were designed, conducted and reported according to the following EPPO guidelines:
- PP 1/135 (~~3~~ 4) Phytotoxicity assessment
- PP 1/152 (~~3~~ 4) Design and analysis of efficacy evaluation trials
- PP 1/181 (~~3~~ 4) Conduct and reporting of efficacy evaluation trials including good experimental practice
Assessment methods

Comments of zRMS:	In the documentation provided, the applicant referred to outdated versions of the

	EPPO. The correct EPPO versions were present in all reports. It can therefore be concluded that the experiments were carried out in accordance with the applicable EPPO methodologies.

Statistical Analysis
In case of statistical analysis, data were analysed using a two way analysis of variance (ANOVA). The probability of no significant differences occurring between treatment means is calculated as the F probability value (Prob(F)). Student-Newman-Keuls test was then applied to separate any treatment differences that may be implied by the ANOVA TEST (Prob(F)<0.05) and these are indicated by the LSD-value and by a letter-test.

Statistical analysis was carried out with the use of statistic pack of ARM 9.0. The trial results were statistically analyzed using Student&Newman&Keuls Test (p=0,05).

Results were analyzed by the means of Student and Newman & Keuls (p=0.05). Results were calculated statistically according to ARM 9.0.

Statistical preparation of the results was based on the analysis of variance for the randomized block experiment design. Differences significance was tested using Tukey's semi-interval confidence, while the least significant difference was given at the significance level LSDα=0.05. Experimental data were calculated using the statistical program AWAR, version 2.0. Data from the statistical analyses were placed into result tables.

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 selectivity was assessed by a visual estimation of an intensity of chlorosis, necrosis, leave curling etc. found on overall areas of treated plots, with references to untreated plots. Results were described in percent of destruction injury of plant for herbicides treatment compared in comparison to plant from untreated, where 0% means no phytotoxicity and 100% - complete crop destruction.

Phytotoxicity assessments of tested preparations were done by a visual estimation of an intensity of chlorosis, necrosis, leave curling, reduction in turgor of plants etc. found on overall areas of treated plots and by comparison of each treated plot with untreated plot. Assessments were done directly on plantation. Results were shown using 0-100 scale, where: 0 – lack of phytotoxicity, 100 – total plant destruction.

Phytotoxicity (F) of tested herbicides was evaluated in %, by determination crop state and comparison to untreated plots and standard product activity.
phytotoxicity - susceptibility of plants to herbicides in % where:
0 - no reaction of crop
100 - crop damaged

Harvest
A plot combine for intermixing-free 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,
Tested herbicide was applied at the growth stage in pea:
A: BBCH 12-16,

The product CHR/H/IMA has been used:
in pea at the following rates: 0,9 L/ha; 1,8L/ha;
Corum 502,4 SL was used as a reference product in pea;

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

Experiment pattern:

No.	**Name**	**Rate (l/ha)**	**other rate (g a.s./ha)**	**Appl code**	**Growth Stage BBCH**
1	Untreated Check				
2	CHR/H/IMA 40 SL	0,9	12	A	BBCH 12-16
3	CHR/H/IMA 40 SL	1,8	24	A	BBCH 12-16
5	Corum 502,4 SL	1	502,4	A	BBCH 12-16
6	Olbras 88 EC	1			
7	Corum 502,4 SL	2	1004,8	A	BBCH 12-16
8	Olbras 88 EC	2			

Details of experiments

Report code	A.T/2020/080 /GK	A.T/2020/079 /GK	A.T/2019/027 /GP	A.T/2019/026 /GP	CHR_H_IMA_SEL2019 _PL01	CHR_H_IMA_SEL2019 _PL02	CHR_H_IMA_SEL2020 _PL01	CHR_H_IMA_SEL2020 _PL02
Location	Poland / Kamień Krajeński	Poland / Tarnowo Podgórne	Poland / Gołańcz	Poland / Chojnice	Poland / Kłoda	Poland / Tyszowice	Poland / Jablowo Pałuckie	Poland / Kłoda
Plant/cultivar	Pisum sativum / Santana	Pisum sativum / Batuta	Pisum sativum / Arwena	Pisum sativum / Santana	Pisum sativum / Salamanca	Pisum sativum / Tarchalska	Pisum sativum / Salamanca	Pisum sativum / Tarchalska
Seeding date	04.04.02020	25.03.2020	06.04.2019	05.04.2019	22.03.2020	03.04.2019	04.05.2020	20.03.2020
Seeding rate	200 kg/ha	280 kg/ha	240 kg/ha	220 kg/ha	280 kg/ha	280 kg/ha	215 kg/ha	295kg/ha
Forecrop	winter wheat	sugar beet	maize	winter wheat	winter triticale	spring barley	winter wheat	winter triticale
Type of sprayer	BACCAI	BACCAI	BACCAI	BACCAI	BACCAI	BACCAI	BACCAI	BACSPR
Date of treatment	20.05.2020	28.04.2020	06.05.2019	01.05.2019	16.05.2019	23.05.2019	04.06.2020	11.05.2020
Plant development phase	15-18	.12-13	.12-15	.12-13	.12-15	.12-16	14-15	14
Soil type	sandy loam	loamy sand	sandy loam	loamy sand	sandy clay loam	Sandy clay	clayey sand	sandy clay loam
pH	5,1	6,4	7,3	6,5	6,3	6,14	6,1	6

Water (l/ha)	200	200	200	200	200	400	300	200
Plot size	2,5x9=22,5m2	2,5x8=20m2	3x8=24m2	2,5x10=25m2	3x8=24m2	3x8=24m2	3x7=21m2	3x8=24m2

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

SOUTH-EAST ZONE

Materials and methods

The applicant submitted 3 selectivity reports (in total) showing the results in research into product selectivity carried out in 2019 in soybean . List of these reports is contained in Appendix 1

Site

Trials were conducted in different regions in Hungary where soybean is 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

Selectivity studies on herbicide CHR/H/IMA were performed in 2019:
- Government Office of Csongrád County, Hungary
- Government Office of Somogy County, Hungary
- Government Office of Fejer County, Hungary

Experimental details

The efficacy trials were designed, conducted and reported according to the following EPPO guidelines:
- PP 1/135 (~~3~~ 4) Phytotoxicity assessment
- PP 1/152 (~~3~~ 4) Design and analysis of efficacy evaluation trials
- PP 1/181 (~~3~~ 4) Conduct and reporting of efficacy evaluation trials including good experimental practice

Comments of zRMS:	In the documentation provided, the applicant referred to outdated versions of the EPPO. The correct EPPO versions were present in all reports. It can therefore be concluded that the experiments were carried out in accordance with the applicable EPPO methodologies.

Assessment methods

Statistical Analysis

In case of statistical analysis, data were analysed using a two way analysis of variance (ANOVA). The probability of no significant differences occurring between treatment means is calculated as the F probability value (Prob(F)). Student-Newman-Keuls test was then applied to separate any treatment differences that may be implied by the ANOVA TEST (Prob(F)<0.05) and these are indicated by the LSD-value and by a letter-test.

Statistical analysis was carried out with the use of statistic pack of ARM 9.0. The trial results were statistically analyzed using Student&Newman&Keuls Test (p=0,05).

Results were analyzed by the means of Student and Newman & Keuls (p=0.05). Results were calculated statistically according to ARM 9.0.

Statistical preparation of the results was based on the analysis of variance for the randomized block experiment design. Differences significance was tested using Tukey's semi-interval confidence, while the least significant difference was given at the significance level LSDα=0.05. Experimental data were calculated using the statistical program AWAR, version 2.0. Data from the statistical analyses were placed into result tables.

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 selectivity was assessed by a visual estimation of an intensity of chlorosis, necrosis, leave curling etc. found on overall areas of treated plots, with references to untreated plots. Results were described in percent of destruction injury of plant for herbicides treatment compared in comparison to plant from untreated, where 0% means no phytotoxicity and 100% - complete crop destruction.

Phytotoxicity assessments of tested preparations were done by a visual estimation of an intensity of chlorosis, necrosis, leave curling, reduction in turgor of plants etc. found on overall areas of treated plots and by comparison of each treated plot with untreated plot. Assessments were done directly on plantation. Results were shown using 0-100 scale, where: 0 – lack of phytotoxicity, 100 – total plant destruction.

Phytotoxicity (F) of tested herbicides was evaluated in %, by determination crop state and comparison to untreated plots and standard product activity.
phytotoxicity - susceptibility of plants to herbicides in % where:
0 - no reaction of crop
100 - crop damaged

Harvest
A plot combine for intermixing-free 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: XR Tee-Jet 8003 VS, TeeJet 11004 DG VS, BICSPR
Tested herbicide was applied at the growth stage in soybean:
A: BBCH 12-16,

The product CHR/H/IMA has been used:
In soybean at the following rates: 1,2 L/ha; 2,4L/ha;
Pulsar 40 SL was used as a reference product in soybean;

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

Experiment pattern:

No.	Name	Rate (l/ha)	other rate (g a.s./ha)	Appl code	Growth Stage BBCH
1	Untreated Check				
2	CHR/H/IMA 40 SL	1,2	48	A	BBCH 12-16
3	CHR/H/IMA 40 SL	2,4	96	A	BBCH 12-16
5	Pulsar 40 SL	1	40	A	BBCH 12-16
6	Pulsar 40 SL	2	80	A	BBCH 12-16

Details of experiments

Report code	201946/1 H	201946/2H	1946/3H
Location		Fejer County / Hungary	Algyő-Nagyfa / Hungary
Plant/cultivar	Soybean / Bomatir	Soybean / Pannonia kincse	Soybean / Bahia
Seeding date	02.05.2019	21.05.2019	24.04.2019
Seeding rate	440000 s/ha	100 kg/ha	450000 s/ha
Forecrop	winter whet	sunflower	
Type of sprayer	XR Tee-Jet 8003 VS	TeeJet 11004 DG VS	BICSPR
Date of treatment	12.06.2019	19.06.2019	21.05.2019
Plant development phase		BBCH 14	BBCH 11-13
Soil type	haplic cambisol	Calcic chernozem	chernozem soil
pH	6,48	7,29	7
Water (l/ha)	330	250	300
Plot size	3x10=30m2	3x10=30m2	3x10=30m2

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

NORTH-EAST ZONE

Pea, post emergence application 8 trials were carried out in Poland in 2019 and 2020 on a wide range of commercially grown varieties. There were observed any phytotoxicity symptoms on tested product and standard in trials.

Number of trials with		**Selectivity trials (8)**				**Efficacy trials (8)**	
		CHR/H/IMA		**Corum 502,4 SL + Olbras 88 EC**		**CHR/H/IMA**	**'Corum 502,4 SL + Olbras 88 EC**
		N	**2N (or other)**	**N**	**2N (or other)**	**N**	**N**
Maximum of phytotoxicity recorded during the trials	0% to 5%	5,0	n/a	n/a	5,0	7	8
	>5% to 10%	7,5	n/a	n/a	7,5	1	n/a
	>10% to 15%	n/a	n/a	n/a	n/a	n/a	n/a
	>15 %	n/a	25,0	n/a	n/a	n/a	n/a
	0% to 5%	1,0	n/a	n/a	0,5	0	0

Level of symptoms at the last assessments	>5% to 10%	7,5	n/a	n/a	7,5	n/a	n/a
	>10% to 15%	n/a	n/a	n/a	n/a	n/a	n/a
	>15 %	n/a	25,0	n/a	n/a	n/a	n/a

Comments of zRMS:	The required number of experiments in pea were carried out to evaluate sectivity (8 trials). The experiments were carried out on 5 different varieties of peas. In all experiments, the tested herbicide and the reference herbicide were used at the recommended dose (1N) and in a double dose (2N), which is in accordance with EPPO guidelines. The plot size was at least 20 m^2, which is in line with the EPPO PP 1/91 (3) "Weeds in *Phaseolus* and *Pisum*" for a selectivity trials. Crop safety trials covered the range of proposed growth stages on the label The experiments were performed in two vegetation seasons (2019 and 2020) which is sufficient and justified. In two experiments (A.T/2020/079/GK and A.T/2020/080/GK) at a dose of 1N, symptoms of phytotoxicity were observed. These were transient chloroses and persistent stunting. In these experiments, the reference product used at a dose of 1N did not show signs of phytotoxicity. In one experiment (A.T/2019/027/GP) at the 2N dose, stunting of plants was noted at a similar level as in the case of the 2N dose of the reference product. In five out of eight experiments, no phytotoxicity symptoms were found after application of either the test or the reference herbicide. In addition, in all eight efficacy experiments, no negative effect of the herbicide CHR/H/IMA 40 SL applied at a dose of 1N was found on pea plants. **In this situation, it can be assumed that the herbicide CHR/H/IMA 40 SL is safe for plants, and the occurring stunting of plants will be accepted by agricultural practice.** **It is worth considering placing information on the label that the herbicide may cause stunting of pea plants, which does not adversely affect yield.**

SOUTH-EAST ZONE

Soybean, post emergence application 3 trials were carried out in Hungary in 2019 on a wide range of commercially grown varieties. There were not observed any phytotoxicity symptoms on tested product and standard in trials.

Number of trials with		**Selectivity trials (3)**				**Efficacy trials (5)**	
		CHR/H/IMA		**Pulsar 40 SL**		**CHR/H/IMA**	**Pulsar 40 SL**
		N	**2N (or other)**	**N**	**2N (or other)**	**N**	**N**
Maximum of phytotoxicity recorded during the trials	0% to 5%	n/a	n/a	n/a	n/a	n/a	n/a
	>5% to 10%	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
	>15 %	n/a	n/a	n/a	n/a	n/a	n/a
Level of symptoms at the last assessments	0% to 5%	n/a	n/a	n/a	n/a	n/a	n/a
	>5% to 10%	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
	>15 %	n/a	n/a	n/a	n/a	n/a	n/a

Comments of zRMS:	In order to evaluate the selectivity, 3 experiments were carried out in which both the herbicide CHR/H/IMA 40 SL and the product references were applied at a dose of 1N and 2N. In addition, phytotoxicity was assessed in five efficacy trials. In accordance with the guidelines contained in EPPO PP 1/226 (3) "Number of efficacy trials" - Typically, at least eight trials per major crop are required. Due to the fact that none of the three selectivity tests and none of the five efficacy tests showed symptoms of phytotoxicity according to EPPO PP 1/226 (3), the number of trials may be reduced. In addition, given that Imazamox is a well-known and widely used active substance, it can be assumed that the tested herbicide CHR/H/IMA 40 SL is safe for the soybean plants.

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

NORTH-EAST ZONE

Influence of CHR/H/IMA on the yield was evaluated in selectivity research. The yield was evaluated on the basis of harvested quantity from one hectare (t/ha). The influence of the tested product on quantity of yield was evaluated in 8 field experiments in pea in Poland in 2019 and 2020. There weren't difference between the treatment objects and standard. Table table 3.4.2.1-1

Comments of zRMS:	Although transient chlorosis and persistent stunting of pea plants were noted in two experiments, none of the eight studies found that the herbicide CHR/H/IMA 40 SL would adversely affect yield. These results confirm that CHR/H/IMA 40 SL is safe for pea plants.

SOUTH-EAST ZONE

Influence of CHR/H/IMA on the yield was evaluated in selectivity research. The yield was evaluated on the basis of harvested quantity from one hectare (t/ha). The influence of the tested product on quantity of yield was evaluated in 3 field experiments in soybean in Hungary in 2019. There weren't difference between the treatment objects and standard. Table table 3.4.2.1-1.1

Comments of zRMS:	The lack of negative impact on the yield, combined with the lack of phytotoxicity symptoms, fully confirms that the product CHR/H/IMA 40 SL is safe for the soybean plants.

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

Crop code			**pea yield t/ha**										
Report code			A.T/2020/080/GK	A.T/2020/079/GK	A.T/2019/027/GP	A.T/2019/026/GP	CHR_H_IMA_SEL2019_PL01	CHR_H_IMA_SEL2019_PL02	CHR_H_IMA_SEL2020_PL01	CHR_H_IMA_SEL2020_PL02			
No.	Name	Rate (L, kg/ha)									mean	min	max
1	Untreated Check	-	3,70	2,79	1,86	4,44	12,20	4,49	4,45	3,40	4,67	1,86	12,20
2	CHR/H/IMA 40 SL	0,9	3,91	3,21	2,14	4,55	12,60	4,48	4,53	3,40	4,85	2,14	12,60
3	CHR/H/IMA 40 SL	1,8	3,30	2,58	2,03	4,20	12,40	4,39	4,58	3,30	4,60	2,03	12,40
4	Corum 502,4 SL + Olbras 88 EC	1 + 1	3,82	3,39	2,33	4,43	12,40	4,49	4,48	3,50	4,86	2,33	12,40
5	Corum 502,4 SL + Olbras 88 EC	2+2	3,60	2,71	2,31	4,51	12,40	4,41	4,40	3,40	4,72	2,31	12,40
LSD(P=.05)			0,378	0,42	0,272	0,377	0,270	0,230	0,231	0,140			

table 3.4.2.1-1.1 The influence of the CHR/H/IMA on yield quantity [t/ha]

Crop code			**soybean yield t/ha**					
Report code			1946/3H	201946/1 H	201946/2H			
No.	Name	Rate (L/ha)				mean	min	max
1	Untreated Check	-	3,30	5,19	2,90	3,80	2,90	5,19
2	CHR/H/IMA 40 SL	1,2	3,43	4,92	2,89	3,75	2,89	4,92
3	CHR/H/IMA 40 SL	2,4	3,45	4,74	3,08	3,76	3,08	4,74
4	Pulsar 40 SL	1	3,43	4,89	2,87	3,73	2,87	4,89
5	Pulsar 40 SL	2	3,41	5,07	2,89	3,79	2,89	5,07
LSD(P=.05)			180,906					

Table 3.4-4: Relationship between phytotoxicity and yield.

NORTH-EAST ZONE
There were observed phytotoxicity symptoms on tested product and standard in trials. This effects didn't have negative effect on the yield of pea in 1N dose.

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 untreated	
		Test product	Standard 1	Test product	Standard 1	Absolute figures t/ha (%)	Test product	Standard 1	Test product	Standard 1
A.T/2020/079/GK	Batuta	3,30	0,00	23,30	3,50	2,79	115,05	121,51	92,47	97,13
A.T/2020/080/GK	Santana	7,50	0,00	25,00	7,50	3,70	105,68	103,24	89,19	97,30
A.T/2019/027/GP	Arwena	0,00	0,00	20,00	0,00	1,86	115,05	125,27	109,14	124,19

SOUTH-EAST ZONE
There were not observed phytotoxicity symptoms on tested product and standard in trials.

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 untreated	
		Test product	Standard 1	Test product	Standard 1	Absolute figures t/ha (%)	Test product	Standard 1	Test product	Standard 1
n/a	n/a	n.a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

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

NORTH-EAST ZONE
8 studies were conducted in 2019 and 2020 in Poland. There was no negative impact of CHR/H/IMA on quality of plants.
Influence of CHR/H/IMA on the yield quality was evaluated in selectivity research. The influence of the tested product on quantity was evaluated in 8 field experiments in Poland in 2019 and 2020. There weren't difference between the treatment objects and standard. Details of the data shows tables below.

Comments of zRMS:	The lack of negative impact on the weight of thousand grain weigh in all 8 trials, combined with the lack of negative effect on yield, fully confirms that the product CHR/H/IMA 40 SL is safe for pea plants.

table 3.4.3.1-1 The influence of the CHR/H/IMA on quality of yield
Pea TGW [g]

Crop code			**pea TGW 1000g**										
Report code			A.T/2020/080/GK	A.T/2020/079/GK	A.T/2019/027/GP	A.T/2019/026/GP	CHR_H_IMA_SEL2019_PL01	CHR_H_IMA_SEL2019_PL02	CHR_H_IMA_SEL2020_PL01	CHR_H_IMA_SEL2020_PL02			
No.	Name	Rate (L, kg/ha)									mean	min	max
1	Untreated Check	-	312,60	276,35	183,90	172,60	256,00	250,50	259,58	235,50	243,38	172,60	312,60
2	CHR/H/IMA 40 SL	0,9	312,73	302,60	181,00	179,40	256,50	249,25	255,65	243,30	247,55	179,40	312,73
3	CHR/H/IMA 40 SL	1,8	273,85	301,65	175,80	175,00	260,00	252,00	262,65	239,50	242,56	175,00	301,65
4	Corum 502,4 SL + Olbras 88 EC	1 + 1	320,30	279,50	182,80	180,00	258,50	253,00	258,13	235,50	245,97	180,00	320,30
5	Corum 502,4 SL + Olbras 88 EC	2+2	322,00	287,20	184,70	174,40	256,50	249,50	257,00	243,50	246,85	174,40	322,00
LSD(P=.05)			10,483	23,287	9,590	10,050	9,299	8,870	10,789	15,900			

table 3.4.3.1-2 The influence of the CHR/H/IMA on quality of yield
Pea PROCON [%]

Crop code			**pea TGW 1000g**										
Report code			A.T/2020/080/GK	A.T/2020/079/GK	A.T/2019/027/GP	A.T/2019/026/GP	CHR_H_IMA_SEL2019_PL01	CHR_H_IMA_SEL2019_PL02	CHR_H_IMA_SEL2020_PL01	CHR_H_IMA_SEL2020_PL02			
No.	Name	Rate (L, kg/ha)									mean	min	max
1	Untreated Check	-	22,65	25,08	25,60	24,70	24,85	20,80	23,78	21,50	23,62	20,80	25,60
2	CHR/H/IMA 40 SL	0,9	22,73	25,38	25,30	24,70	25,30	20,75	23,85	21,60	23,70	20,75	25,38
3	CHR/H/IMA 40 SL	1,8	22,73	25,85	25,50	24,80	25,35	20,80	23,98	21,60	23,83	20,80	25,85
4	Corum 502,4 SL + Olbras 88 EC	1 + 1	22,30	25,65	25,40	24,70	25,15	20,75	24,05	21,60	23,70	20,75	25,65
5	Corum 502,4 SL + Olbras 88 EC	2+2	22,60	25,58	25,50	24,80	25,40	20,73	24,08	21,20	23,74	20,73	25,58
LSD(P=.05)			0,845	0,564	0,520	0,600	0,872	0,478	0,656	0,650			

SOUTH-EAST ZONE

3 studies were conducted in 2019 in Hungary . There was no negative impact of CHR/H/IMA on quality of plants.

Influence of CHR/H/IMA on the yield quality was evaluated in selectivity research. The influence of the tested product on quantity was evaluated in 2 field experiments in Hungary in 2019. There weren't difference between the treatment objects and standard. Details of the data shows tables below.

table 3.4.3.1-2 The influence of the CHR/H/IMA on quality of yield
Soybean TGW [g]

Crop code			~~**pea**~~ **soybean TGW 1000g**				
Report code			1946/3H	201946/2H			
No.	Name	Rate (L/ha)			mean	min	max
1	Untreated Check	-	174,50	169,40	171,95	169,40	174,50
2	CHR/H/IMA 40 SL	1,2	175,30	170,00	172,65	170,00	175,30
3	CHR/H/IMA 40 SL	2,4	176,80	170,10	173,45	170,10	176,80
4	Pulsar 40 SL	1	175,80	170,20	173,00	170,20	175,80
5	Pulsar 40 SL	2	176,30	169,90	173,10	169,90	176,30
LSD(P=.05)			11,720				

Comments of zRMS:	The lack of negative impact on the weight of thousand grain weigh in all 3 selectivity trials, combined with the lack of negative effect on yield and lack of phytotoxicity symptoms, fully confirms that the product CHR/H/IMA 40 SL is safe for soybean plants.

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 Imazamox many years, not only in Poland but also in the other countries of Europe.
Imazamox_RAR_09_Volume 3CA_B7
The recovery of applied radioactivity was 98.3-103.5% (see Table B 7.5.1-1) after incubation compared to the theoretical radioactivity before incubation. At the end of the incubation periods, no breakdown of the parent into any degradation products was observed. In the first sterilisation test (pH 6, 120°C) an unknown peak with 5.8%of Total Applied Radioactivity (TAR) occurred at a retention time of about 15 min. However, when repeating the test twice, the unknown peak was detected below 5% TAR with a mean value of 4.7%. Furthermore, by fractionation of the peak and further analysis using HPLC, the peak was split into at least two peaks with a ratio about 1:1. Hence, it could be demonstrated that no unknown peaks with more than 5% TAR occurred in the test system. Imazamox was found to be stable during incubation under pasteurisation, baking/brewing/boiling and sterilisation conditions, respectively.

Table B 7.5.1-1: Recovery after processing simulation tests with 14C-Imazamox

Table B 7.5.1-1: Recovery after processing simulation tests with 14C-Imazamox

Process represented	Test conditions	Recovery %		
		Total	Imazamox	Unknown
Pasteurisation	pH 4, 90°C, 20 minutes	102.2	102.2	-
Baking/brewing/boiling	pH 5, 100°C, 60 minutes	103.5	103.5	-
Sterilisation*	pH 6, 120°C, 20 minutes	99.9*	95.2*	4.7*

* Means of three tests (Unknown Test 1: 5.8% TAR, Test 2: 3.8% TAR, Test 3: 4.6% TAR)

Conclusion
Imazamox was demonstrated to be stable under conditions representing pasteurisation, baking/brewing/boiling and sterilisation. No degradation/hydrolysis products >5% TAR were detected.

Imazamox
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 therefore processing studies are not required. No further studies have been performed. Therefore, no impact for effects on yeasts or lactic bacteria are predicted.

Comments of zRMS:	The results presented by the applicant indicate that imazamox does not affect the transformation processes (pasteurisation, baking/brewing/boiling and sterilisation).

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/IMA in seed

crops of pea.
In the course of studies carried out in Poland and Hungary in the season of 2019 and 2020 on product CHR/H/IMA the herbicide has not been observed to have any significant influence on yield.
The product may be used in seed crops of pea and soybean.

Summary and conclusion

NORTH-EAST ZONE
The submitted efficacy data (reports from 8 field trials) and additional information fulfill requirements and conditions determined in the following EPPO guidelines:
- PP 1/135 (~~3~~ 4) Phytotoxicity assessment
- PP 1/152 (~~3~~ 4) Design and analysis of efficacy evaluation trials
- PP 1/181 (~~3~~ 4) 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 1/91 (3) Weeds in phaseolus and pisum

CHR/H/IMA applies in the Central Registration Zone for the registration of in pea at BBCH 12-16 once per season at the maximum rate of 36 g a.s./ha Imazamox per application for the control of dicotyledonous weeds.

The obtained data in performed trials show that CHR/H/IMA provides benefits against the most important weeds in pea 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 pea:

Target	**CHR/H/IMA at rate**	**% control**				
		Product at rate			**Corum 502,4 SL rate 1,ol/ha + Olbras 88 EC 1,0l/ha**	
		Mean	**Min**	**Max**	**Mean**	**Min & Max**
Viola arvensis	0,3 l/ha	40,00	20,00	50,00	61,67	45,00-70,00
	0,6 l/ha	45,83	30,00	55,00	-	-
	0,9 l/ha	60,83	45,00	70,00	-	-
Polygonum convolvulus	0,3 l/ha	68,43	51,80	77,50	87,80	77,80-99,00
	0,6 l/ha	77,22	70,00	83,80		
	0,9 l/ha	88,44	78,75	97,00		
Anthemis arvensis	0,3 l/ha	61,68	52,50	67,50	87,68	75,00-96,00

	0,6 l/ha	75,43	71,25	83,75		
	0,9 l/ha	87,09	77,50	93,80		
Brasica napus	0,3 l/ha	70,83	52,50	90,00	91,96	82,50-99,00
	0,6 l/ha	83,35	76,25	90,00		
	0,9 l/ha	90,71	83,75	99,00		
Capsella bursa-pastoris	0,3 l/ha	73,40	65,00	87,80	91,73	86,25-99,00
	0,6 l/ha	83,76	77,50	92,50		
	0,9 l/ha	91,72	85,00	99,00		
Papaver rhoeas	0,3 l/ha	63,37	56,30	72,50	83,70	79,80-88,80
	0,6 l/ha	80,80	71,30	88,80		
	0,9 l/ha	88,37	81,30	97,50		-
Sinapis arvensis	0,3 l/ha	82,85	57,50	99,80	97,60	91,30-100,00
	0,6 l/ha	94,06	87,50	100,00		
	0,9 l/ha	97,58	91,30	100,00		
Anchusa arvensis	0,3 l/ha	71,03	50,00	77,30	89,70	87,50-92,00
	0,6 l/ha	81,47	76,30	85,00		
	0,9 l/ha	90,40	86,30	97,30		
Centaurea cyanus	0,3 l/ha	53,90	33,30	75,00	87,80	85,00-96,50
	0,6 l/ha	70,01	65,00	83,75		
	0,9 l/ha	85,18	80,30	95,75		
Geranium pusillum	0,3 l/ha	70,77	67,00	76,30	91,10	90,00-95,00
	0,6 l/ha	78,85	75,00	86,30		
	0,9 l/ha	90,05	85,00	95,00		
Galium aparine	0,3 l/ha	62,71	56,25	67,50	88,20	78,30-92,50
	0,6 l/ha	81,85	77,50	85,50		
	0,9 l/ha	90,72	88,80	92,50		

Stellaria media	0,3 l/ha	77,42	60,00	97,00	92,20	82,50-99,00
	0,6 l/ha	87,34	76,25	99,00		
	0,9 l/ha	91,13	81,25	99,00		
Lamium purpureum	0,3 l/ha	70,90	59,50	77,50	89,90	76,50-99,00
	0,6 l/ha	82,56	77,80	88,75		
	0,9 l/ha	91,11	85,00	99,00		
Chenopodium album	0,3 l/ha	68,14	58,80	76,30	93,42	86,25-99,00
	0,6 l/ha	82,43	77,50	88,75		
	0,9 l/ha	91,97	86,25	99,00		

The obtained data in performed trials show CHR/H/IMA provides benefits against the most important weeds in pea. On the basis of submitted research, it is possible to state that CHR/H/IMA used at dose controlled:

Dose CHR/H/IMA 0,3 l/ha

Moderately Susceptible: *Brasica napus* (BRSNW), *Capsella bursa-pastoris* (CAPBP), *Sinapis arvensis* (SINAR), *Anchusa arvensis* (LYCAR), *Stellaria media* (STEME), *Lamium purpureum* (LAMPU)
Moderately Tolerant: *Galium aparine* (GALAP), *Chenopodium album* (CHEAL), *Polygonum convolvulus* (POLCO), *Anthemis arvensis* (ANTAR), *Papaver rhoeas* (PAPRH), *Centaurea cyanus* (CENCY), *Geranium pusillum* (GERPU)
Tolerant: *Viola arvensis* (VIOAR),

Dose CHR/H/IMA 0,6 l/ha

Susceptible: *Sinapis arvensis* (SINAR), *Stellaria media* (STEME)
Moderately Susceptible: *Brasica napus* (BRSNW), *Capsella bursa-pastoris* (CAPBP), *Anchusa arvensis* (LYCAR), *Lamium purpureum* (LAMPU), *Galium aparine* (GALAP), *Chenopodium album* (CHEAL), *Polygonum convolvulus* (POLCO), *Anthemis arvensis* (ANTAR), *Papaver rhoeas* (PAPRH), *Centaurea cyanus* (CENCY), *Geranium pusillum* (GERPU), *Viola arvensis* (VIOAR),
Tolerant: *Viola arvensis* (VIOAR),

Dose CHR/H/IMA 0,9 l/ha

Susceptible: *Sinapis arvensis* (SINAR), *Stellaria media* (STEME), *Brasica napus* (BRSNW), *Capsella bursa-pastoris* (CAPBP), *Anchusa arvensis* (LYCAR), *Lamium purpureum* (LAMPU), *Galium aparine* (GALAP), *Chenopodium album* (CHEAL), *Polygonum convolvulus* (POLCO), *Anthemis arvensis* (ANTAR), *Papaver rhoeas* (PAPRH), *Centaurea cyanus* (CENCY), *Geranium pusillum* (GERPU), *Viola arvensis* (VIOAR),
Moderately Tolerant: *Viola arvensis* (VIOAR),

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/IMA 40 SL 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,
Pea:
Recommended dose at:
CHR/H/IMA 0,9 l/ha
BBCH 12-16
Recommended volume of water 200-300 l/ha
Recommended medium droplet spraying
To avoid resistance, products contain active substance with the same group shouldn't be used year after year on the same field.

Use of CHR/H/IMA according to the proposed GAP does not represent a hazard to rotational crops and need a specific labelling for resistance.

SOUTH-EAST ZONE

The applicant submitted 5 reports (in total) showing the results in research into product efficacy carried out in 2019 and 2022 in soybean and additional information fulfill requirements and conditions determined in the following EPPO guidelines:
- PP 1/135 (4) Phytotoxicity assessment
- PP 1/152 (4) Design and analysis of efficacy evaluation trials
- PP 1/181 (5) 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 1/305 (1) Weeds in soybean

CHR/H/IMA applies in the South-east Zone for the registration of in soybean at BBCH 12-16 once per season at the maximum rate of 48 g a.s./ha Imazamox per application for the control of dicotyledonous weeds.

The obtained data in performed trials show that CHR/H/IMA provides benefits against the most important weeds in soybean as shown in the table below.

The following SANCO table describes the effectiveness of weeds

HS (High Susceptible)	> 95%
S (Susceptible)	85-95%
MS (Moderately Susceptible)	70 – 85%
MT (Moderately Tolerant)	60 – 70%
T (Tolerant)	< 60%

The following table shows the average sensitivity of weeds in soybean:

Target	CHR/H/IMA at rate	Number	Infestation in the untreated control (unit)	% control

		of trials			Product at rate		
			Mean	Min&Max	Mean	Min	Max
ABUTH	0,6 l/ha	1	.6,0-10,0	.6,0-10,0	50,00	50,00	50,00
	0,8 l/ha				81,25	81,25	81,25
	1,0 l/ha				90,00	90,00	90,00
	1,2 l/ha				93,75	93,75	93,75
DATST	0,6 l/ha	2	8,67	8,00-10,00	80,38	70,00	90,75
	0,8 l/ha				87,15	81,30	93,00
	1,0 l/ha				95,53	94,75	96,30
	1,2 l/ha				96,00	95,00	97,00
MERAN	0,6 l/ha	2	15,50	12,00-19,00	73,80	71,30	76,30
	0,8 l/ha				81,30	81,30	81,30
	1,0 l/ha				97,30	96,30	98,30
	1,2 l/ha				98,90	98,30	99,50
SOLNI	0,6 l/ha	2	11,00	9,00-13,00	74,40	71,30	77,50
	0,8 l/ha				80,65	80,00	81,30
	1,0 l/ha				96,30	93,80	98,80
	1,2 l/ha				98,00	96,50	99,50
AMARE	0,6 l/ha	2	12,25	8,00-19,00	85,75	81,25	90,25
	0,8 l/ha				94,75	90,50	99,00
	1,0 l/ha				95,50	91,00	100,00
	1,2 l/ha				95,38	90,75	100,00
AMBEL	0,6 l/ha	4	10,8	5,00-21,00	74,94	62,50	92,25
	0,8 l/ha				82,94	77,50	94,25
	1,0 l/ha				93,06	85,00	97,50
	1,2 l/ha				95,58	91,75	98,30
CHEAL	0,6 l/ha	2	14,75	12,00-21,00	79,50	67,50	91,50
	0,8 l/ha				85,00	75,00	95,00
	1,0 l/ha				92,50	90,00	95,00
	1,2 l/ha				94,38	93,75	95,00
ECHCG	0,6 l/ha	3	13,67	12,00-16,00	44,60	30,00	53,80
	0,8 l/ha				70,87	63,80	76,30
	1,0 l/ha				88,02	83,30	90,75
	1,2 l/ha				88,78	83,80	91,30
HIBTR	0,6 l/ha	1	7,00	7,00-7,00	0,00	0,00	0,00
	0,8 l/ha				32,50	32,50	32,50
	1,0 l/ha				61,25	61,25	61,25
	1,2 l/ha				87,50	87,50	87,50
POLPE	0,6 l/ha	1	6,00	6,00-6,00	61,25	61,25	61,25
	0,8 l/ha				77,50	77,50	77,50
	1,0 l/ha				85,00	85,00	85,00
	1,2 l/ha				86,25	86,25	86,25

The obtained data in performed trials show CHR/H/IMA provides benefits against the most important weeds in soybean. On the basis of submitted research, it is possible to state that CHR/H/IMA used at dose controlled:

Dose CHR/H/IMA 0,6 l/ha

Susceptible: *Amaranthus retroflexus* (AMARE),
Moderately Susceptible: *Datura stramonium* (DATST), *Mercurialis annua* (MERAN), *Solanum nigrum* (SOLNI), *Ambrosia artemisiifolia* (AMBEL), *Chenopodium album* (CHEAL),
Moderately Tolerant: *Polygonum persicaria* (POLPE)
Tolerant: *Abutilon theophrasti* (ABUTH), *Echinochloa crus-galli* (ECHCG), *Hibiscus trionum* (HIBTR)

Dose CHR/H/IMA 0,8 l/ha

Susceptible: *Amaranthus retroflexus* (AMARE), Datura stramonium (DATST), Chenopodium album (CHEAL),
Moderately Susceptible: *Mercurialis annua* (MERAN), *Solanum nigrum* (SOLNI), *Ambrosia artemisiifolia* (AMBEL), Abutilon theophrasti (ABUTH), Echinochloa crus-galli (ECHCG), *Polygonum persicaria* (POLPE),
Tolerant: *Hibiscus trionum* (HIBTR),

Dose CHR/H/IMA 1,0 l/ha

High Susceptible: *Datura stramonium* (DATST), *Mercurialis annua* (MERAN), *Amaranthus retroflexus* (AMARE), *Solanum nigrum* (SOLNI),
Susceptible: Chenopodium album (CHEAL), *Ambrosia artemisiifolia* (AMBEL), Abutilon theophrasti (ABUTH), Echinochloa crus-galli (ECHCG), *Polygonum persicaria* (POLPE),
Moderately Tolerant: *Hibiscus trionum* (HIBTR),

Dose CHR/H/IMA 1,2 l/ha

High Susceptible: *Datura stramonium* (DATST), *Mercurialis annua* (MERAN), *Amaranthus retroflexus* (AMARE), *Solanum nigrum* (SOLNI), *Ambrosia artemisiifolia* (AMBEL),
Susceptible: Chenopodium album (CHEAL), Abutilon theophrasti (ABUTH), Echinochloa crus-galli (ECHCG), *Polygonum persicaria* (POLPE), *Hibiscus trionum* (HIBTR),

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/IMA 40 SL can be approved to the market and use in SOUTH-EAST ZONE according to proposed range of use – GAP
Based on submitted data the following regulation on the label is proposed:
Soybean:
Recommended dose at:
CHR/H/IMA 1,0-1,2 l/ha
BBCH 12-16
Recommended volume of water 200-300 l/ha
Recommended medium droplet spraying
To avoid resistance, products contain active substance with the same group shouldn't be used year after year on the same field.

Use of CHR/H/IMA according to the proposed GAP does not represent a hazard to rotational crops and

need a specific labelling for resistance.

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

3.5.1 Impact on succeeding crops (KCP 6.5.1)

According to EPPO guidance PP 1/207 worst case NOER from Seedling Emergence study (Wołany M., 2019, study code: G/191/18):

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 = 1.075 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)
Linum usitatissimum	46,5	49,99	0,0667
Trifolium pratense	139,6	150,07	0,2001
Pisum sativum	418,8	450,21	0,6003
Daucus carota	139,6	150,07	0,2001
Lolium perenne	15,5	16,66	0,0222
Avena sativa	129,6	139,32	0,1858

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 prod/ha), fint = fraction intercepted by crop cover (20% for worst case in Table GAP), d = depth of soil layer (cm) and bd = bulk density of soil.
DT50 = 16.7 days – field value of DT50 in soil for imazamox

Table 3.5-1.1: 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
Linum usitatissimum	1	0.0667	1,3760	0,6880	0,3440	0,2293	0,04844	0,09688	0,19375	0,29063
	50		0,1727	0,0864	0,0432	0,0288	0,38589	0,77179	1,54358	-
	60		0,1140	0,0570	0,0285	0,190	0,58442	1,16884	-	-
	70		0,0753	0,0377	0,0188	0,0126	0,88508	1,77017	-	-
	80		0,0497	0,0249	0,0124	0,0083	1,34042	-	-	-

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
Trifolium pratense	1	0.2001	1,3760	0,6880	0,3440	0,2293	0,14542	0,29083	0,58167	0,87250
	10		0,9086	0,4543	0,2271	0,1514	0,22023	0,44046	0,88091	1,32137
	20		0,5999	0,3000	0,1500	0,1000	0,33353	0,66705	1,33410	-
	30		0,3961	0,1981	0,0990	0,660	0,50511	1,01022	-	-
	40		0,2616	0,1308	0,0654	0,436	0,76497	1,52994	-	-
	50		0,1727	0,0864	0,0432	0,0288	1,15851	-	-	-
Pisum sativum	1	0.6003	1,3760	0,6880	0,3440	0,2293	0,43625	0,87250	1,75500	-
	10		0,9086	0,4543	0,2271	0,1514	0,66068	1,32137	-	-
	20		0,5999	0,3000	0,1500	0,1000	1,00058	-	-	-
	30		0,3961	0,1981	0,0990	0,660	1,51533	-	-	-
Daucus carota	1	0.2001	1,3760	0,6880	0,3440	0,2293	0,14542	0,29083	0,58167	0,87250
	10		0,9086	0,4543	0,2271	0,1514	0,22023	0,44046	0,88091	1,32137
	20		0,5999	0,3000	0,1500	0,1000	0,33353	0,66705	1,33410	-
	30		0,3961	0,1981	0,0990	0,660	0,50511	1,01022	-	-
	40		0,2616	0,1308	0,0654	0,436	0,76497	1,52994		-
	50		0,1727	0,0864	0,0432	0,0288	1,15851	-	-	-
Lolium perenne	1	0.0222	1,3760	0,6880	0,3440	0,2293	0,01615	0,03229	0,06458	0,09688
	40		0,2616	0,1308	0,0654	0,436	0,08494	0,16987	0,33974	0,50961
	50		0,1727	0,0864	0,0432	0,0288	0,12863	0,25725	0,51453	0,77179
	60		0,1140	0,0570	0,0285	0,190	0,19481	0,38961	0,77923	1,16884
	70		0,0753	0,0377	0,0188	0,0126	0,29503	0,59006	1,18011	-
	80		0,0497	0,0249	0,0124	0,0083	0,44681	0,89361	1,78723	-
	90		0,0328	0,164	0,0082	0,005	0,67667	1,35334	-	-
	100		0,0217	0,0108	0,0054	0,0036	1,02479	-	-	-
Avena sativa	1	0.1858	1,3760	0,6880	0,3440	0,2293	0,13500	0,27000	0,54000	0,81000
	10		0,9086	0,4543	0,2271	0,1514	0,20445	0,40890	0,81781	1,22671
	20		0,5999	0,3000	0,1500	0,1000	0,30963	0,61927	1,23854	-
	30		0,3961	0,1981	0,0990	0,660	0,46893	3,03066	1,87571	-
	40		0,2616	0,1308	0,0654	0,436	0,71017	1,42034	-	-
	50		0,1727	0,0864	0,0432	0,0288	1,07553	-	-	-

(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/IMA 40 SL do exceed a trigger value 1 , then no further trials are required when:

	Date of sowing	Crop rotation
		DT50= 16.7
Crop		
Linum usitatissimum	April	Normal crop roation after plowing on 20 cm depth before sowing
Trifolium pratense	May	Normal crop roation after plowing on 10 cm depth before sowing
Pisum sativum	April	Normal crop roation after plowing on 10 cm depth before sowing
Daucus carota	April	Normal crop roation after plowing on 10 cm depth before sowing
Lolium perenne	April	Normal crop roation after plowing on 10 cm depth before sowing
Avena sativa	March/April	Normal crop roation after plowing on 10 cm depth before sowing

Labeling in Succeding crop sections:
- after plowing 10 cm before sowing, you can sow legumes (peas, etc.), bulbs (onions, etc.), roots (carrot, etc), cereals.
- after plowing 20 cm before sowing, you can sow oilseeds (flax, etc.),

In case of crop failure as a succeeding crop you can sow legumes (peas, etc.), bulbs (onions, etc.), roots (carrot, etc), cereals (with plowing 10 cm before sowing) and with plowing 20 cm before sowing oilseeds (flax, etc.).

Comments of zRMS:	The guidance in this document and on the label regarding herbicide effects CHR/H/IMA 40 SL on succeeding crops is sufficient.

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

According to Wołany M., 2019, study code: G/191/18 and Wołany M., 2019, study code: G/190/18please find results for seedling emergence and vegetative vigour below. For details for those two studies please refer to Section B9, Apendix 2.

Assessment of the risk for non-target plants due to the use of CHR/H/IMA 40 SL in oilseeds, pulses, cotton, tobacco (BBCH 10-19) and ornamentals < 50 cm (BBCH 10-89)

Intended use	Oilseeds/Pulses/Cotton/Tobacco (BBCH 10-19), Ornamentals <50 cm (BBCH 10-89)
Active substance/product	CHR/H/IMA 40 SL
Application rate (g/ha)	1 × 1290
MAF	1.0

Test species	**ER_{50} (g/ha)**	**Drift rate**	**$PER_{off\text{-}field}$ (g/ha)**	**TER criterion: TER ≥ 5**
Seedling emergence test, 14 d				
Linum usitatissimum	>1256.5	0.0277	35.733	35.164
Trifolium pratense	1222.5	0.0277	35.733	34.212
Pisum sativum	>1256.5	0.0277	35.733	35.164
Daucus carota	986.8	0.0277	35.733	27.616
Lolium perenne	62.3	0.0277	35.733	**1.7435**

Avena sativa	545.6	0.0277	35.733	15.269
Vegetative vigour test, 21 d				
Linum usitatissimum	1256.5	0.0277	35.733	35.164
Trifolium pratense	1256.5	0.0277	35.733	35.164
Pisum sativum	1256.5	0.0277	35.733	35.164
Daucus carota	195.1	0.0277	35.733	5.4599
Lolium perenne	388.8	0.0277	35.733	10.881
Avena sativa	126.3	0.0277	35.733	**3.5345**

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

Assessment of the risk for non-target plants due to the use of CHR/H/IMA 40 SL in ornamentals > 50 cm (BBCH 10-89)

Intended use	Ornamentals >50 cm (BBCH 10-89)
Active substance/product	CHR/H/IMA 40 SL
Application rate (g/ha)	1 × 1290
MAF	1.0

Test species	**ER_{50} (g/ha)**	**Drift rate**	**$PER_{off\text{-}field}$ (g/ha)**	**TER criterion: TER ≥ 5**
Seedling emergence test, 14 d				
Linum usitatissimum	>1256.5	0.0802	103.458	12.14502503
Trifolium pratense	1222.5	0.0802	103.458	11.81638926
Pisum sativum	>1256.5	0.0802	103.458	12.14502503
Daucus carota	986.8	0.0802	103.458	9.538170079
Lolium perenne	62.3	0.0802	103.458	0.602176729
Avena sativa	545.6	0.0802	103.458	5.273637611
Vegetative vigour test, 21 d				
Linum usitatissimum	1256.5	0.0802	103.458	12.14502503
Trifolium pratense	1256.5	0.0802	103.458	12.14502503
Pisum sativum	1256.5	0.0802	103.458	12.14502503
Daucus carota	195.1	0.0802	103.458	**1.885789402**
Lolium perenne	388.8	0.0802	103.458	**3.758046744**
Avena sativa	126.3	0.0802	103.458	**1.220785246**

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/IMA 40 SL in oilseeds, pulses, cotton, tobacco (BBCH 10-19) and ornamentals < 50 cm (BBCH 10-89) considering risk mitigation (in-field no-spray buffer zones, and drift-reducing nozzles)

Intended use		Oilseeds/Pulses/Cotton/Tobacco (BBCH 10-19), Ornamentals <50 cm (BBCH 10-89)			
Active substance/product		CHR/H/IMA 40 SL			
Application rate (g/ha)		1 × 1290			
MAF		1.0			
Buffer strip (m)	**Drift rate (%)**	**$PER_{off\text{-}field}$ (g/ha)**	**$PER_{off\text{-}field}$ 50 % drift red. (g/ha)**	**$PER_{off\text{-}field}$ 75 % drift red. (g/ha)**	**$PER_{off\text{-}field}$ 90 % drift red. (g/ha)**
1	2.77	35.733	17.866	8.933	3.573
5	0.57	7.353	3.676	1.838	0.735
10	0.29	3.741	1.870	0.935	0.374
Toxicity value ER_{50} = 62.3 g/ha (*Lolium perenne*)		**TER** **criterion: TER ≥ 5**			
1		**1.7435**	**3.487**	6.974	17.435
5		8.473	16.945	33.891	84.73

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

Risk assessment for non-target terrestrial plants due to the use of CHR/H/IMA 40 SL in ornamentals >50 cm (BBCH 10-89) considering risk mitigation (in-field no-spray buffer zones, and drift-reducing nozzles)

Intended use		Ornamentals >50 cm (BBCH 10-89)			
Active substance/product		CHR/H/IMA 40 SL			
Application rate (g/ha)		1 × 1290			
MAF		1.0			
Buffer strip (m)	**Drift rate (%)**	**$PER_{off\text{-}field}$ (g/ha)**	**$PER_{off\text{-}field}$ 50 % drift red. (g/ha)**	**$PER_{off\text{-}field}$ 75 % drift red. (g/ha)**	**$PER_{off\text{-}field}$ 90 % drift red. (g/ha)**
3	8.02	103.458	51.729	25.8645	10.3458
5	3.62	46.698	23.349	11.6745	4.6698
10	1.23	15.867	7.9335	3.96675	1.5867
15	0.65	8.385	4.1925	2.09625	0.8385
Toxicity value ER_{50} = 62.3 g/ha (*Lolium perenne*)		**TER** **criterion: TER ≥ 5**			

3	**0.602177**	**1.204353**	**2.408707**	6.021767
5	**1.334104**	**2.668208**	5.336417	13.34104
10	**3.926388**	7.852776	15.70555	39.26388
15	7.429934	14.85987	29.71974	74.29934

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/IMA 40 SL in off-field areas, the TER values describing the risk for non-target plants following exposure to CHR/H/IMA 40 SL according to the GAP of the formulation CHR/H/IMA 40 SL achieve the acceptability criteria TER ≥ 5, with applying:

- For ornamentals <50 cm and other plants listed in GAP:
  - 5 m without use of drift reducing nozzles
  - 1 m and the use of 75% drift reducing nozzles

- For ornamentals >50 cm:
  - 15 m without use of drift reducing nozzles
  - 10 m and the use of 50% drift reducing nozzles
  - 5 m and the use of 75% drift reducing nozzles
  - 3 m and the use of 90% drift reducing nozzles

Comments of zRMS:	The CHR/H/IMA 40 SL is effective against many dicotyledonous weeds. In this situation, this measure may also cause discoloration and damage to nontarget foliage other plants, including adjacent crops. The information in this registration report and label to warn against overlapping and drift of the spray liquid is sufficient.

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/IMA 40 SL is non-corrosive to equipment, non-flammable and non-volatile.

According to Report Al Amin I., 2019, Study code: BF – 62/18 the effectiveness of cleaning was done regardts to Efficacy Guideline 305:

Water used	Initial imazamox content	Imazamox content after rinsing	Cleaning effectiveness	Average[mL]
[mL]	[mg]	[mg]	[%]	[%]
10	24.8	0.0052	99.98	99.99
2 x 10	24.8	0.0010	100.00	
3 x 10	24.8	< LOQ	100.00	

Comments of zRMS:	The information regarding the tank cleaning contained in registration report and in the label is quite sufficient.

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).

Compatibility with current management practices including IPM

Not applicable

Summary and conclusion

Not applicable

3.6 Other/special studies

Not performed

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, Poland	Yes
AT Sp. z o.o.	Ul. Przemysłowa 3, 88-300 Mogilno	Yes
CPR Europe Kft, Szombathely,	Török Ignác u. 30, Hungary	Yes
Government Office of Csongrád County	Rárósi utca 110, 6800 Hódmezővásárhely, Hungary	Yes

Test facility	Address	Certificate (Yes or No)
Government Office of Vas County	Budapest Budaörsi út 141, Hungary	Yes
Government Office of Komarom-Esztergom County	17.Uj street Tata 2890, Hungary	Yes
Government Office of Somogy County	Budapest Budaörsi út 141, Hungary	Yes
Government Office of Fejer County	Budapest Budaörsi út 141, Hungary	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 KCP 6.2	Mateusz Ćwiek	2021	The efficacy of CHR/H/IMA applied post-emergence aganist monocott and dicot weeds in Garden pea SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1, 85-027 Bydgoszcz, Poland Report no.: CHR_H_IMA_EFF2020_PL02 GEP - yes Unpublished	N	Chemirol
KCP 6 KCP 6.2	Mateusz Światkowski	2021	The efficacy of CHR/H/IMA applied post-emergence aganist monocott and dicot weeds in Garden pea SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1, 85-027 Bydgoszcz, Poland Report no.: CHR_H_IMA_EFF2020_PL01 GEP - yes Unpublished	N	Chemirol
KCP 6 KCP 6.2	Mateusz Ćwiek	2021	The efficacy of CHR/H/IMA applied post-emergence aganist monocott and dicot weeds in Garden pea. SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1, 85-027 Bydgoszcz, Poland Report no.: CHR_H_IMA_EFF2019_PL01 GEP - yes Unpublished	N	Chemirol
KCP 6 KCP 6.2	Maciej Kasperek	2021	The efficacy of CHR/H/IMA applied post-emergence aganist monocott and dicot weeds in Garden pea. SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1, 85-027 Bydgoszcz, Poland Report no.: CHR_H_IMA_EFF2019_PL2 GEP - yes Unpublished	N	Chemirol
KCP 6 KCP 6.2	Joanna Guzińska	2019	Efficacy evaluation of CHR/H/IMA 40 SL when applied into peas to control of weeds, Poland, 2019. A.T. Sp. z o.o. Ul.Przemysłowa 3	N	Chemirol

Data point	Author(s)	Year	**Title** **Company Report No.** **Source (where different from company)** **GLP or GEP status** **Published or not**	**Data Vertebrate study Y/N**	**Owner**
			88-300 Mogilno Poland Report no.: A.T/2019/025/GP GEP - yes Unpublished		
KCP 6 KCP 6.2	Joanna Guzińska	2020	Efficacy evaluation of herbicide CHR/H/IMA 40 SL when applied into peas to control of weeds,Poland, 2020. A.T. Sp. z o.o. Ul.Przemysłowa 3 88-300 Mogilno Poland Report no.: A.T/2020/028/GK GEP - yes Unpublished	N	Chemirol
KCP 6 KCP 6.2	Joanna Guzińska	2019	Efficacy evaluation of CHR/H/IMA 40 SL when applied into peas to control of weeds, Poland, 2019. A.T. Sp. z o.o. Ul.Przemysłowa 3 88-300 Mogilno Poland Report no.: A.T/2019/024/GP GEP - yes Unpublished	N	Chemirol
KCP 6 KCP 6.2	Joanna Guzińska	2020	Efficacy evaluation of herbicide CHR/H/IMA 40 SL when applied into peas to control of weeds, Poland, 2020. A.T. Sp. z o.o. Ul.Przemysłowa 3 88-300 Mogilno Poland Report no.: A.T/2020/078/GK GEP - yes Unpublished	N	Chemirol
KCP 6 KCP 6.2	Mateusz Ćwiek	2021	The selectivity of CHR/H/IMA applied post-emergence aganist weeds in pisum sativum. SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1, 85-027 Bydgoszcz, Poland Report no.: CHR_H_IMA_SEL2019_PL01 GEP - yes Unpublished	N	Chemirol
KCP 6 KCP 6.2	Maciej Kasperek	2021	The selectivity of CHR/H/IMA applied post-emergence aganist weeds in pisum sativum. SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1, 85-027 Bydgoszcz,	N	Chemirol

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**
			Poland Report no.: CHR_H_IMA_SEL2019_PL02 GEP - yes Unpublished		
KCP 6 KCP 6.2	Mateusz Świtkowski	2021	THE SELECTIVITY OF CHR/H/IMA APPLIED POST-EMERGENCE AGAINST WEEDS IN PISUM SATIVUM. SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1, 85-027 Bydgoszcz, Poland Report no.: CHR_H_IMA_SEL2020_PL01/ SRPL20-403-336HE GEP - yes Unpublished	N	Chemirol
KCP 6 KCP 6.2	Mateusz Ćwiek	2021	THE SELECTIVITY OF CHR/H/IMA APPLIED POST-EMERGENCE AGAINST WEEDS IN PISUM SATIVUM. SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1, 85-027 Bydgoszcz, Poland Report no.: CHR_H_IMA_SEL2020_PL02/ SRPL20-404-336HE GEP - yes Unpublished	N	Chemirol
KCP 6 KCP 6.2	Joanna Guzińska	2019	Field study to evaluate the crop safety of CHR/H/IMA 40 SL when applied post-emergence to peas, Poland 2019 A.T. Sp. z o.o. Ul.Przemysłowa 3 88-300 Mogilno Poland Report no.: A.T/2019/027/GP GEP - yes Unpublished	N	Chemirol
KCP 6 KCP 6.2	Joanna Guzińska	2020	Selectivity evaluation of herbicide CHR/H/IMA 40 SL when applied into peas, Poland, 2020. A.T. Sp. z o.o. Ul.Przemysłowa 3 88-300 Mogilno Poland Report no.: A.T/2020/079/GK GEP - yes Unpublished	N	Chemirol
KCP 6 KCP 6.2	Joanna Guzińska	2020	Selectivity evaluation of herbicide CHR/H/IMA 40 SL when applied into peas, Poland, 2020.	N	Chemirol

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 Poland Report no.: A.T/2020/080/GK GEP - yes Unpublished		
KCP 6 KCP 6.2	Joanna Guzińska	2019	Field study to evaluate the crop safety of CHR/H/IMA 40 SL when applied post-emergence to peas, Poland 2019. A.T. Sp. z o.o. Ul.Przemysłowa 3 88-300 Mogilno Poland Report no.: A.T/2019/026/GP GEP - yes Unpublished	N	Chemirol
KCP 6 KCP 6.2	Laszlo Toth	2019	Postemergence weed control in soy bean – selectivity test Government Office of Fejer County Budapest Budaörsi út 141, Hungary Report no.: Chemirol 201946/2H GEP - yes Unpublished	N	Chemirol
KCP 6 KCP 6.2	Kadaravek Balazs	2019	Report on herbicide trial 2019 Government Office of Somogy County Budapest Budaörsi út 141, Hungary Report no.: Chemirol 201946/1 H GEP - yes Unpublished	N	Chemirol
KCP 6 KCP 6.2	Ilona Buzas	2019	Report on herbicide trial 2019 Government Office of Csongrád County Rárósi utca 110, 6800 Hódmezővásárhely, Hungary Report no.: Chemirol 201946/3 H GEP - yes Unpublished	N	Chemirol
KCP 6 KCP 6.2	Ilona Buzas	2019	Report on herbicide trial 2019 Government Office of Csongrád County Rárósi utca 110, 6800 Hódmezővásárhely, Hungary Report no.: Chemirol 201945/3 H GEP - yes Unpublished	N	Chemirol
KCP 6	Ughy Peter	2019	Report on herbicide trial 2019	N	Chemirol

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			Government Office of VAS County Budapest Budaörsi út 141, Hungary Report no.: Chemirol 201945/1 GEP - yes Unpublished		
KCP 6 KCP 6.2	Fanni Vajda	2019	Report on herbicide trial 2019 Government Office of Komarom-Esztergom County 17.Uj street Tata 2890, Hungary Report no.: Chemirol 201945/2 H GEP - yes Unpublished	N	Chemirol
KCP 6 KCP 6.2	Tibor Barasits	2022	Investigation of crop safety and efficacy of CHR/H/IMA (imazamox 40 SL) product against mono- and dicotyledonous weeds in soybean. Hungary, 2022 CPR Europe Kft, Szombathely, Török Ignác u. 30, Hungary Report no.: CPRHU22-522-025HE GEP - yes Unpublished	N	Chemirol
KCP 6 KCP 6.2	Tibor Barasits	2022	Investigation of crop safety and efficacy of CHR/H/IMA (imazamox 40 SL) product against mono- and dicotyledonous weeds in soybean. Hungary, 2022 CPR Europe Kft, Szombathely, Török Ignác u. 30, Hungary Report no.: CPRHU22-523-025HE GEP - yes 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

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/IMA 40 SL

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, pea herbicide CHR/H/IMA 40 SL in the Czech Republic.

2. Plant protection products under consideration

2.1. General

The efficacy and phytotoxicity studies were conducted in Poland in 2019 in pea on the plant protection product CHR/H/IMA 40 SL and a standard herbicide Corum 502,4 SL+Olbras 88 EC containing two active substances Imazamox and bentazon. Total of 8 efficacy and 8 phytotoxicity 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/IMA 40 SL**	**Corum 502,4 SL + Olbras 88 EC**
active substance content	40g/l (Imazamox)	22,4g/l (Imazamox) 480 g/l (bentazon)
formulation	SL – Soluble concentrate	SL – Soluble concentrate

Table 2. Properties of imazamox

active substance common name	**Imazamox**
active substance chemical name	2-[(RS)-4-isopropyl-4-methyl-5-oxo-2-imidazolin-2-yl]-5-methoxymethylnicotinic acid
function	Imazamox is an organonitrogenous heterocyclic molecule belonging to the imidazolinones subgroup. The mode of action is described as the inhibition of the activity of the enzyme acetohydroxyacid synthase (AHAS) also known as acetolactate synthase (ALS).
mode of action	ALS is the first enzyme in the pathway for the biosynthesis of the essential branched-chain amino acids valine, leucine and isoleucine. The inhibition of ALS activity leads to amino acid starvation and the accumulation of toxic precursors. The primary effect following treatment of susceptible weeds with the herbicide is the restraint of new growth and cell development. Imazamox has systemic properties. Imazamox can be absorbed by roots and foliage, and then translocated throughout the plant to the meristematic tissues. Growth of susceptible plants is inhibited soon after application while visual symptoms appear two to three weeks after application. Imazamox causes an almost immediate growth block followed by a gradual decolouration mainly on the youngest leafs and subsequent death of weeds. Imazamox shows moderate acropetal and basipetal translocation
application	Pea: apply from the phase, between growth stage BBCH 12-16

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

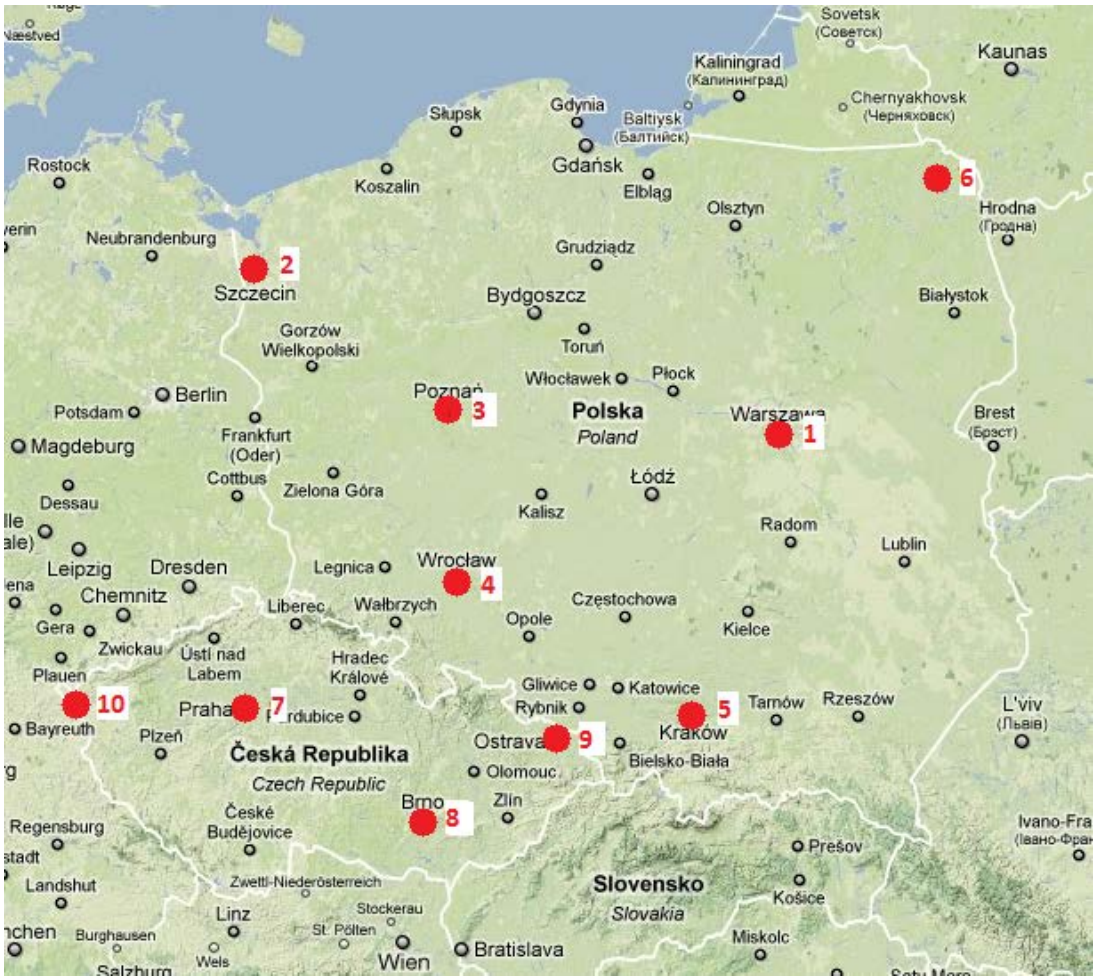


Table 3. Parameters of climate stations

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.

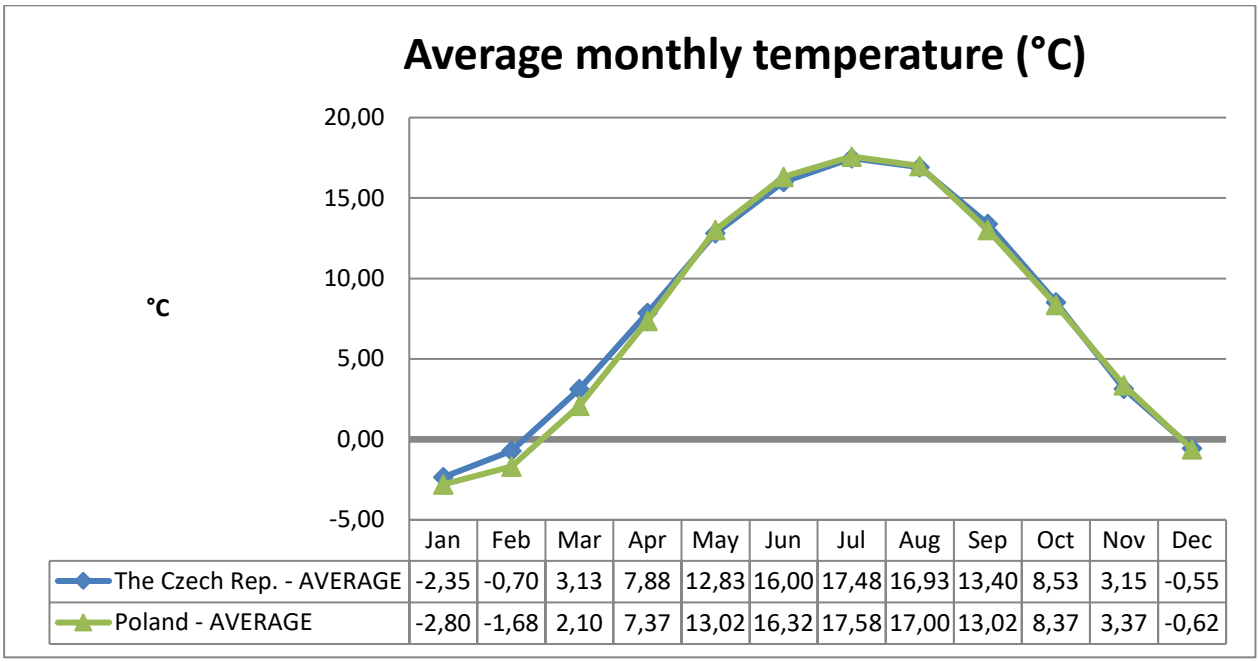
3.1. Average monthly temperature

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



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/IMA is spring. It is so because product CHR/H/IMA 40 SL is to be applied in the spring in pea at BBCH 12-16. In the months of April through May there is a close correlation between average temperatures in Poland and in the Czech Republic.

3.2. Average maximum monthly temperature

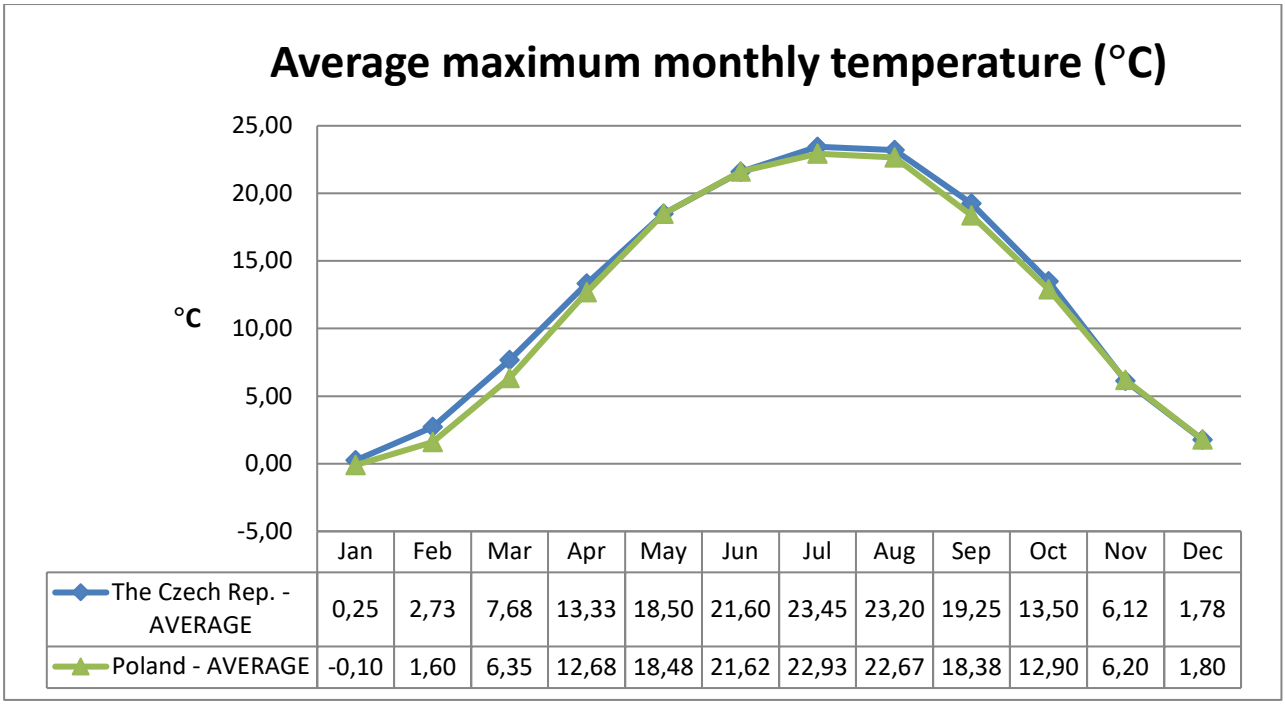
Table 5. Average maximum monthly temperature data

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 the spring months that are crucial to the application of product CHR/H/IMA 40 SL average maximum temperature in both countries differs by no more than 0,65°C. The time which is of most importance to the application of product CHR/H/IMA is spring. It is so because product CHR/H/IMA 40 SL is to be applied in the spring in pea at BBCH 12-16. In the months of April through May there is a close correlation between average tempera-tures in Poland and in the Czech Republic.

3.3. Average minimum monthly temperatures

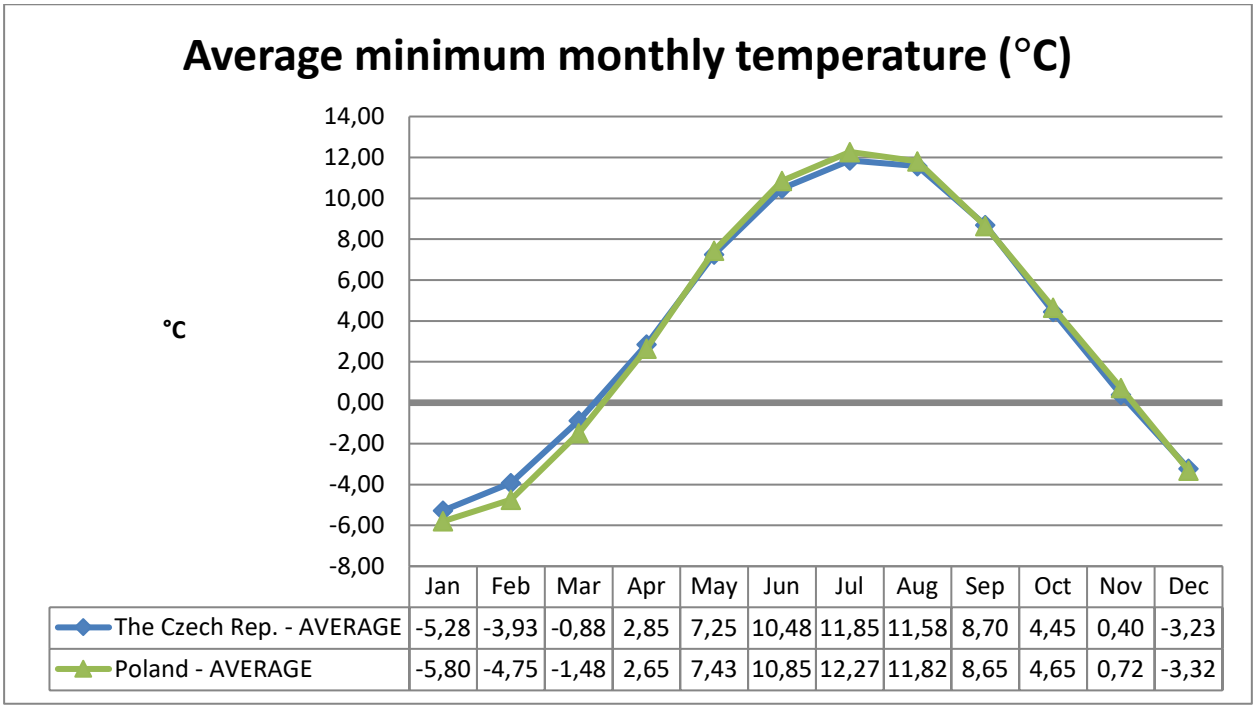
Table 6. Average minimum monthly temperature data

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



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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 - 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

Average minimum monthly temperature in Poland and in the Czech Republic follows almost the same pattern, therefore, it is comparable. The time which is of most importance to the application of product CHR/H/IMA is spring. It is so because product CHR/H/IMA 40 SL is to be applied in the spring in pea at BBCH 12-16. In the months of April through May there is a close correlation between average temperatures in Poland and in the Czech Republic.

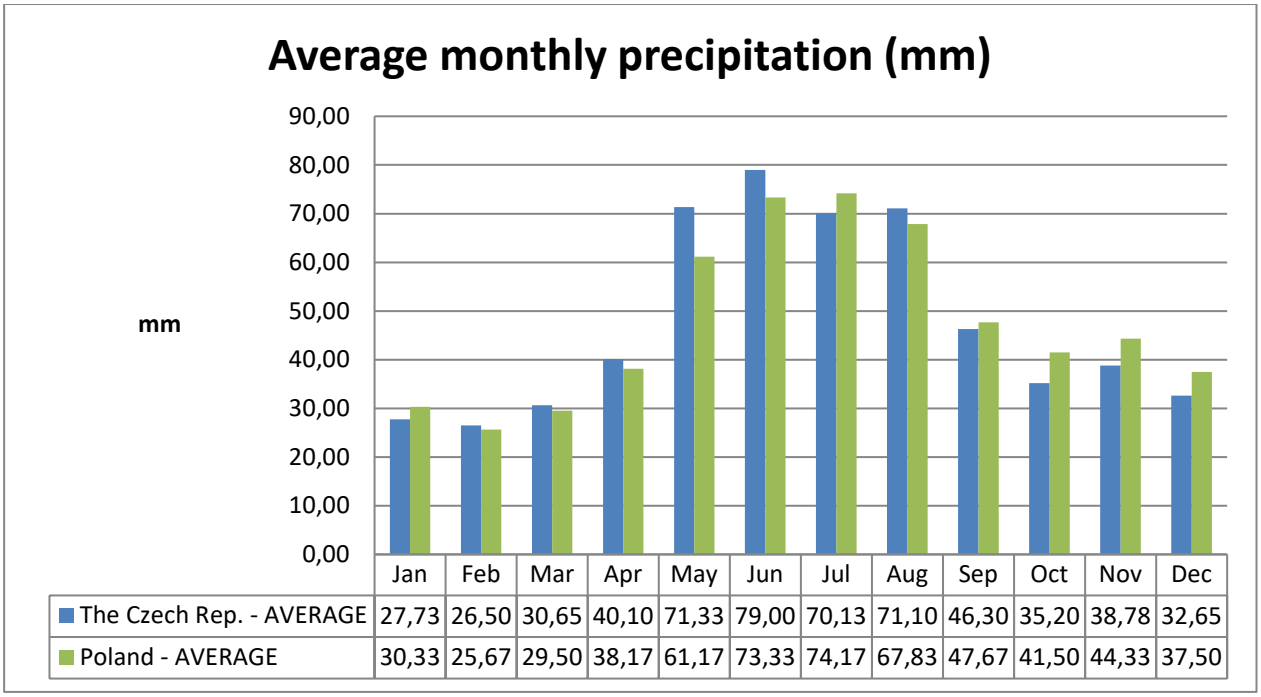
Average monthly precipitation sum

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	21	26	33	58	71	69	62	43	37	41	32
Poland: Poznan	30	24	27	36	53	60	69	57	43	39	39	38
Poland: Wroclaw	28	26	26	39	64	80	84	78	48	40	43	34
Poland: Krakow	34	32	34	48	83	97	85	87	54	46	45	41
Poland: Szczecin	36	27	32	38	52	57	61	55	44	38	46	41
Poland: Suwalki	32	24	32	35	57	75	77	68	54	49	52	39
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



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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 - 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

Average monthly precipitation sum in Poland and in the Czech Republic is similar. The graph above shows that there is slightly more precipitation in the Czech Republic in the first half of the year while the situation is reversed in the second half of the year. The greatest difference in average precipitation sum is noted in the month of May – 10,16 mm. As mentioned above, April is the month of expected application of the product CHR/H/IMA 40 SL while May is when the product exhibits its full activity. Therefore, possible heavier rainfall in May would not influence the product's efficacy since it would have been absorbed by leaves shortly after application in April.

4. Soil conditions

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

As has been mentioned above in Table 2. Imazamox acts 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. Pea sowing timing

According to the MOCA study in Poland sowing of pea takes place usually between 1st of April to 30th of April depending on the region. In Czech Republic sugar beet the recommended time of sowing is from 1th April to 25th April.

5.2. Pea growth and development

Poland

Plant height ranges from 78-94 cm. Flowering starts in 60-68 days from sieving, whilst technological maturity is achieved after 105 to 112 days. During flowering, leaf area is the largest. Length of main root reached the depth of 110 cm, and side roots are placed in a radius of 25-38 cm. Roots growth is very rapid till flowering. From flowering, roots start to decay. The coexistence with Rhizobium leguminosarum starts in 10-15 days after emergence .

Sowing-Emergence- starts at the temperature from 2-3 ° C with optimal 8 ° C

3 leaves- optimal temperature from this phase till the growth end is at the level 13-18 ° C. At phases of 3 and 5-6 leaves can survive at temperature of -5 ° C
Flowering- ability of pollen to pollinate flowers is decreased in temperature above 24 ° C. During flowering plants can survive temperature drop to -2 ° C.

Czech Republic
Sowing: for proper swelling process sufficient soil water content is required while the soil temperature 1-2°C is sufficient to start the process
Emergence: The minimum required air temperature for proper emergence is 3-5°C with the usual duration of the germination period (sowing-emergence) between 7-28 days (7-10 day providing optimum conditions). After emergence pea is capable to tolerate frosts up to -4 to -6°C.
5-6 leaves: Low temperatures in combination with higher precipitation inhibits development but stimulates growth which is mostly beneficial. Optimum temperatures are 21°C during day and 16°C during night. Temperatures above 25°C negatively influence yield of pea.
Flowering: it is the second critical stage of pea growth and the correlation between yield and temperature is highly negative (r =-0,86). The optimum temperature in this period is 16°C during day and 10°C during night. High temperatures (over 25°C) lead to flower shedding. Lack of water in this stage leads to inhibition of leaves development and reduced assimilation with negative influence on yield. In the same time high precipitation is one of the causes of the intensive growth that usually results in lodging.
Grain filling: Drier weather in this stage is preferred as over supply of precipitation usually results in prolonging of the vegetation, low seed quality and higher risk of fungi diseases.
Harvest: Warm weather with precipitation is the main cause of higher pod opening rate. The loses during harvest are mainly cause due to late harvesting rather than due to unfavorable weather. Rainy weather could in this stage leads to lodging which than significantly increases harvest loses.

In both countries climatic conditions are comparable so the development of pea follows a similar pattern. In general, it may be stated that pea develops in a similar way in Poland and in the Czech Republic.

5.3. Timing of application

CHR/H/IMA 40 SL is applied up to maximum rate of 40 g a.s./ha, between growth stage BBCH 12-16 of the pea once per season, in 200-300 l water/ha.

5.4. Target weeds

Weed species controlled by Imazamox

The following table lists weeds that were included in efficacy studies of product CHR/H/IMA 40 SL. These weeds were present in experimental plots and their sensitivity depended on the dose of the product applied.

The following table shows the average sensitivity of weeds in pea:

Target	CHR/H/IMA at rate	Number of trials	Infestation in the untreated control (unit)		% control	
			Mean	Min&Max	Mean	
Viola arvensis	0,3 l/ha	3	5,67	5,0-6,0	40,00	T
	0,6 l/ha				45,83	T
	0,9 l/ha				60,83	MT
Polygonum convolvulus	0,3 l/ha	6	5,25	5,0-6,5	68,43	MT
	0,6 l/ha				77,22	MS
	0,9 l/ha				88,44	S

Anthemis arvensis	0,3 l/ha	6	7,21	4,75-11,0	61,68	MT
	0,6 l/ha				75,43	MS
	0,9 l/ha				87,09	S
Brasica napus	0,3 l/ha	6	6,33	4,5-10,0	70,83	MS
	0,6 l/ha				83,35	MS
	0,9 l/ha				90,71	S
Capsella bursa-pastoris	0,3 l/ha	6	14	5,0-55,0	73,40	MS
	0,6 l/ha				83,76	MS
	0,9 l/ha				91,72	S
Papaver rhoeas	0,3 l/ha	3	6,67	5,0-9,0	63,37	MT
	0,6 l/ha				80,80	MS
	0,9 l/ha				88,37	S
Sinapis arvensis	0,3 l/ha	4	6,25	5,0-9,0	82,85	MS
	0,6 l/ha				94,06	S
	0,9 l/ha				97,58	HS
Anchusa arvensis	0,3 l/ha	6	5,5	4,0-9,0	71,03	MS
	0,6 l/ha				81,47	MS
	0,9 l/ha				90,40	S
Centaurea cyanus	0,3 l/ha	6	6,25	5,0-7,0	53,90	T
	0,6 l/ha				70,01	MS
	0,9 l/ha				85,18	S
Geranium pusillum	0,3 l/ha	6	4,95	4,0-6,0	70,77	MS
	0,6 l/ha				78,85	MS
	0,9 l/ha				90,05	S
Galium aparine	0,3 l/ha	6	13,71	5,0-55,0	62,71	MT
	0,6 l/ha				81,85	MS
	0,9 l/ha				90,72	S
Stellaria media	0,3 l/ha	6	5,42	4,5-7,0	77,42	MS
	0,6 l/ha				87,34	S

	0,9 l/ha				91,13	S
Lamium purpureum	0,3 l/ha	5	5,75	5,0-7,0	70,90	MT
	0,6 l/ha				82,56	MS
	0,9 l/ha				91,11	S
Chenopo-dium album	0,3 l/ha	6	14,58	5,0-24,5	68,14	MT
	0,6 l/ha				82,43	MS
	0,9 l/ha				91,97	S

In summary, it may be stated that the most problematic weeds species in pea in Poland and in the Czech Republic are comparable and they are almost all controlled by Imazamox. Therefore product CHR/H/IMA 40 SL is expected to be equally highly efficient in both Poland and in the Czech Republic.

1. 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. Pea which is 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 imazamox which is the active substance of product CHR/H/IMA 40 SL.

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, pea herbicide CHR/H/IMA 40 SL in the Czech Republic.

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

North-East Zone

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)	**Interval**	**Total number**	**Spray volume (L/ha)**

A.T/2020/028/GK	Kopaszyn / Poland F N	A.T. Sp. z o.o. ul.Przemysłowa 3, 88-300 Mogilno, Poland	EPPO PP 1/135 (4) 2,5x5,5=13,75m2	BBCH 14-16	n/a	1	A:200;
A.T/2020/078/GK	Skowarnki / Poland F N	A.T. Sp. z o.o. ul.Przemysłowa 3, 88-300 Mogilno, Poland	EPPO PP 1/135 (4) 2,5x7=17,5m2	BBCH 12-14	n/a	1	A:200;
A.T/2019/024/GP	Nowe Gronowo / Poland F N	A.T. Sp. z o.o. ul.Przemysłowa 3, 88-300 Mogilno, Poland	EPPO PP 1/135 (4) 2,5x5=12,5	BBCH 13-14	n/a	1	A:200;
A.T/2019/025/GP	Wilcze / Poland F N	A.T. Sp. z o.o. ul.Przemysłowa 3, 88-300 Mogilno, Poland	EPPO PP 1/135 (4) 3x4=12m2	BBCH 14-15	n/a	1	A:200;
CHR_H_IMA_EFF2019_PL01	Szydłowo /Poland F N	SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1 85-027 Bydgoszcz Poland	EPPO PP 1/135 (4) 3x5=15m2	BBCH 14-16	n/a	1	A:200;
CHR_H_IMA_EFF2019_PL02	Tersin / Poland F N	SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1 85-027 Bydgoszcz Poland	EPPO PP 1/135 (4) 3x7=18m2	BBCH 12-14	n/a	1	A:300
CHR_H_IMA_EFF2020_PL01	Jabłowo Pałuckie / Poland F N	SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1 85-027 Bydgoszcz Poland	EPPO PP 1/135 (4) 3x5=15m2	BBCH 13-14	n/a	1	A:300
CHR_H_IMA_EFF2020_PL02	Kłoda / Poland F N	SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1 85-027 Bydgoszcz Poland	EPPO PP 1/135 (4) 3x5=15m2	BBCH 14	n/a	1	A:200;

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

South-East Zone

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)	Interval	Total number	Spray volume (L/ha)
201945/2H	Kocs telepules / Hungary F N	Government Office of Komarom-Esztergom County, 17.Uj street Tata 2890, Hungary	EPPO PP 1/135 (4) 2x10=20m2	BBCH 10-12	n/a	1	250
201945/1	Balogunyom / Hungary F N	Government Office of Vas County, Budapest Budaörsi út 141, Hungary	EPPO PP 1/135 (4) 2x10=20m2	BBCH 13-15	n/a	1	250
201945/3H	Algyo-Nagyfa / Hungary F N	Government Office of Csongrád County, Rárósi utca 110, 6800 Hódmezővásárhely, Hungary	EPPO PP 1/135 (4) 3x10=30m2	BBCH 11-13	n/a	1	300
CPRHU22-523-025HE	Dunarmete / Hungary F N	CPR Europe Kft, Szombathely, Török Ignác u. 30, Hungary	EPPO PP 1/135 (4) 3x6=18m2	BBCH 13-15	n/a	1	250
CPRHU22-522-025HE	Hédervár / Hungary F N	CPR Europe Kft, Szombathely, Török Ignác u. 30, Hungary	EPPO PP 1/135 (4) 3x6=18m2	BBCH 13-15	n/a	1	250

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

North-East Zone

Test report (1)	Crop/ cultivar Harmful organism/ weed species or intended use	Assessed part and variable (2) no / m²	Untreated BBCH (during application)	Efficacy treatments (3)				Remarks (4)
				Product		Standard (s)		
				name	Dose [l,kg//ha]	name	dose [l /ha]	
A.T/2020/028/GK	PEA		BBCH 14-16	CHR/H/IMA	0,3	Corum 502,4 + Olbras 88 EC	1+1	Application date: 07.05.2020 Assessment date: 19.05.2020 29.05.2020 11.06.2020 07.07.2020
				CHR/H/IMA	0,6			
	CHEAL	CHEAL 12	CHEAL 12-16	CHR/H/IMA	0,9			
	CENCY	CENCY 5	CENCY 13-30					
	PAPRH	PAPRH 9	PAPRH 12-21					
	GALAP	GALAP 5	GALAP 11-13					
	SINAR	SINAR 5	SINAR 13-18					
	POLCO	POLCO 5	POLCO 11-14					
	LYCAR	LYCAR 5	LYCAR 12-14					
	CIRAR	CIRAR 5	CIRAR 12-16					
	GERPU	GERPU 5	GERPU 12-16					
	LAMPU	LAMPU 5	LAMPU 12-15					
	VERHE	VERHE 5	VERHE 13-16					
	CAPBP	CAPBP 5	CAPBP 13-16					
	ECHCG	ECHCG 5	ECHCG 12-14					
	GASPA	GASPA 5	GASPA 12-14					
	AVEFA	AVEFA 8	AVEFA 11-13					
A.T/2020/078/GK	PEA		BBCH 12-14	CHR/H/IMA	0,3	Corum 502,4 + Olbras 88 EC	1+1	Application date: 07.05.2020 Assessment date: 21.05.2020 03.06.2020 15.06.2020 10.07.2020
	CENCY	CENCY 7	CENCY 12-14	CHR/H/IMA	0,6			
	PAPRH	PAPRH 5	PAPRH 12-14	CHR/H/IMA	0,9			
	BRSNW	BRSNW 5	BRSNW 12-16					
	STEME	STEME 5	STEME 12-16					
	VERHE	VERHE 10	VERHE 12-16					
	POLCO	POLCO 5	POLCO 12-14					

	CAPBP	CAPBP 7	CAPBP 14-16					
	VIOAR	VIOAR 6	VIOAR 14-16					
	LYCAR	LYCAR 5	LYCAR 12-14					
	ANTAR	ANTAR 7	ANTAR 14-16					
A.T/2019/024/GP	PEA		BBCH 13-14	CHR/H/IMA	0,3	Corum 502,4 + Olbras 88 EC	1+1	Application date:
	VIOAR	VIOAR 6	VIOAR 12-13	CHR/H/IMA	0,6			07.05.2019
	GALAP	GALAP 5	GALAP 11-14	CHR/H/IMA	0,9			Assessment date:
	POLCO	POLCO 5	POLCO 12-14					21.05.2019
	ANTAR	ANTAR 10	ANTAR 11-13					04.06.2019
	CIRAR	CIRAR 6	CIRAR 12-14					11.06.2019
	CAPBP	CAPBP 6	CAPBP 12-13					08.07.2019
	PAPRH	PAPRH 6	PAPRH 12-14					
	SINAR	SINAR 5	SINAR 12-13					
	LYCAR	LYCAR 5	LYCAR 11-12					
	CENCY	CENCY 7	CENCY 12-14					
	GERPU	GERPU 5	GERPU 11-12					
A.T/2019/025/GP	PEA		BBCH 14-15	CHR/H/IMA	0,3	Corum 502,4 + Olbras 88 EC	1+1	Application date:
	GERPU	GERPU 4	GERPU 12-13	CHR/H/IMA	0,6			06.05.2019
	LYCAR	LYCAR 4	LYCAR 12-13	CHR/H/IMA	0,9			Assessment date:
	CHEAL	CHEAL 5	CHEAL 12-13					20.05.2019
	POLCO	POLCO 5	POLCO 12-14					03.06.2019
	ANTAR	ANTAR 5	ANTAR 11-13					10.06.2019
	BRSNW	BRSNW 6	BRSNW 12-13					08.07.2019
	CENCY	CENCY 7	CENCY 12-13					
	VIOAR	VIOAR 5	VIOAR 12-14					
	GALAP	GALAP 5	GALAP 12-14					
	STEME	STEME 5	STEME 11-12					
	CAPBP	CAPBP 5	CAPBP 12-13					
CHR_H_IMA_EFF2019_PL01	PEA		BBCH 14-16	CHR/H/IMA	0,3	Corum 502,4 + Olbras 88 EC	1+1	Application date:
	CAPBP	CAPBP 6	CAPBP 12-14	CHR/H/IMA	0,6			17.05.2019
	POLCO	POLCO 6,5	POLCO 12-16	CHR/H/IMA	0,9			Assessment date:
	ANTAR	ANTAR 5,5	ANTAR 12-14					31.05.2019
	CHEAL	CHEAL 12	CHEAL 12-14					14.06.2019
	BRSNW	BRSNW 5,5	BRSNW 12-14					

	STEME GERPU LAMPU GALAP	STEME 6 GERPU 6 LAMPU 6,25 GALAP 6,25	STEME 12-14 GERPU 14-16 LAMPU 12-14 GALAP 12-16					
CHR_H_IMA_EFF2019_PL02	PEA GERPU ANTAR LAMPU CHEAL STEME BRSNW CENCY GALAP	 GERPU 5 ANTAR 9 LAMPU 5,5 CHEAL 24,5 STEME 5 BRSNW 5 CENCY 6 GALAP 6	BBCH 12-14 GERPU 12-14 ANTAR 12-14 LAMPU 12-18 CHEAL 11-17 STEME 11-15 BRSNW 12-14 CENCY 12-14 GALAP 12-16	CHR/H/IMA CHR/H/IMA CHR/H/IMA	0,3 0,6 0,9	Corum 502,4 + Olbras 88 EC	1+1	Application date: 30.05.2019 Assessment date: 13.06.2019 27.06.2019
CHR_H_IMA_EFF2020_PL01	PEA CHEAL CAPBP LAMPU STEME SINAR BRSNW GALAP LYCAR ANTAR	 CHEAL - 22 CAPBP 5,5 LAMPU 5 STEME 5 SINAR 6 BRSNW 7 GALAP 5 LYCAR 9 ANTAR 11	BBCH 13-14 CHEAL 11-12 CAPBP 10-12 LAMPU 12 STEME 11-12 SINAR 10-12 BRSNW 12-13 GALAP 11 LYCAR 12 ANTAR 10-12	CHR/H/IMA CHR/H/IMA CHR/H/IMA	0,3 0,6 0,9	Corum 502,4 + Olbras 88 EC	1+1	Application date: 04.06.2020 Assessment date: 18.06.2020 02.07.2020 30.07.2020
CHR_H_IMA_EFF2020_PL02	PEA SINAR STEME LAMPU CHEAL POLCO BRSNW LYCAR CENCY GERPU	 SINAR 9 STEME 7 LAMPU 7 CHEAL 12 POLCO 5 BRSNW 10 LYCAR 5 CENCY 5,5 GERPU 6	BBCH 14 SINAR 12-13 STEME 12-15 LAMPU 12-15 CHEAL 12-14 POLCO 12-14 BRSNW 12-14 LYCAR 12-14 CENCY 12-13 GERPU 12-13	CHR/H/IMA CHR/H/IMA CHR/H/IMA	0,3 0,6 0,9	Corum 502,4 + Olbras 88 EC	1+1	Application date: 11.05.2020 Assessment date: 25.05.2020 08.06.2020 22.06.2020

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

South East Zone

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]	
201945/2H	soybean			CHR/H/IMA	0,6	Pulsar 40 SL	1	Application date:
	DATST	DATST	DATST 10-12	CHR/H/IMA	0,8			17.06.2019
	AMARE	AMARE	AMARE 10-12	CHR/H/IMA	1,0			Assessment date:
	CHEAL	CHEAL	CHEAL 12-14	CHR/H/IMA	1,2			01.07.2019
	AMBEL	AMBEL	AMBEL 8-12					15.07.2019
								05.08.2019
201945/1	soybean			CHR/H/IMA	0,6	Pulsar 40 SL	1	Application date:
				CHR/H/IMA	0,8			05.06.2019
	ABUTH	ABUTH 6-10	ABUTH 10-14	CHR/H/IMA	1,0			Assessment date:
	AMARE	AMARE 8-19	AMARE 10-14	CHR/H/IMA	1,2			12.06.2019
	AMBEL	AMBEL 5-8	AMBEL 10-14					19,06.2019
	CHEAL	CHEAL 12-21	CHEAL 10-14					03.07.2019
								15.08.2019
201945/3H	soybean			CHR/H/IMA	0,6	Pulsar 40 SL	1	Application date:
				CHR/H/IMA	0,8			21.05.2019
	ECHCG	ECHCG 16	ECHCG 12-14	CHR/H/IMA	1,0			Assessment date:
	HIBTR	HIBTR 7	HIBTR 11-13	CHR/H/IMA	1,2			03.06.2019
	POLPE	POLPE 6	POLPE 13-15					10.06.2019
								24.06.2019
CPRHU22-523-025HE	soybean			CHR/H/IMA	0,6	Pulsar 40 SL	1	Application date:
				CHR/H/IMA	0,8			25.05.2022

	MERAN	MERAN 12	MERAN 11-13	CHR/H/IMA	1,0			Assessment date:
	SOLNI	SOLNI 13	SOLNI 12-14	CHR/H/IMA	1,2			08.06.2020
	AMBEL	AMBEL 13	AMBEL 12-14					21.06.2020
	ECHCG	ECHCG 13	ECHCG 12-14					10.06.2019
								06.07.2020
CPRHU22-522-025HE	soybean			CHR/H/IMA	0,6	Pulsar 40 SL	1	Application date:
				CHR/H/IMA	0,8			25.05.2022
	MERAN	MERAN 19	MERAN 11-13	CHR/H/IMA	1,0			Assessment date:
	SOLNI	SOLNI 9	SOLNI 12-14	CHR/H/IMA	1,2			08.06.2020
	DATST	DATST 8	DATST 12-14					21.06.2020
	ECHCG	ECHCG 12	ECHCG 12-14					06.07.2020
	AMBEL	AMBEL 21	AMBEL 12-14					

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/IMA in control of GALAP

		AT.2019.025.GP		AT.2020.028.GK		CHR_H_IMA_EFF2020_PL01		AT.2019.024.GP		CHR_H_IMA_EFF2019_PL02		CHR_H_IMA_EFF2019_PL01				
Weeds pcs/m2		5,00		5,00		55,00		5,00		6,00		6,25		MEAN	MIN	MAX
Weeds BBCH		BBCH 12-14		BBCH 11-13		BBCH 10-12		BBCH 11-14		BBCH 12-14		BBCH 12-14				
Crop BBCH		BBCH 14-15		BBCH 14-16		BBCH 13-14		BBCH 13-14		BBCH 12-14		BBCH 14-16				
Days after application DA-A		28DAA		22DAA		28DAA		28DAA								
Product	Dose l/ha															
Untreated																
CHR/H/IMA 40 SL	0,30	62,50	c	64,80	c	56,25	c	67,50	c	63.75	c	62,50	c	62,71	56,25	67,50
CHR/H/IMA 40 SL	0,60	82,50	b	85,50	a	82,50	b	77,50	b	76.25	b	81,25	b	81,85	77,50	85,50
CHR/H/IMA 40 SL	0,90	92,50	a	89,80	a	90,00	a	88,80	a	90.00	a	92,50	a	90,72	88,80	92,50
Corum 502,4 SL	1,00	90,00	a	78,30	b	91,25	a	88,80	a	90.00	a	92,50	a	88,17	78,30	92,50
Olbras 88 EC	1,00															
LSD		5,500		5,280		6,329		4,420		2,332		4,665				

Table 2. The efficacy of CHR/H/IMA in control of CHEAL

Report code	AT.2019.025.GP	AT.2020.028.GK	CHR_H_IMA_EFF2020_PL02	CHR_H_IMA_EFF2020_PL01	CHR_H_IMA_EFF2019_PL02	CHR_H_IMA_EFF2019_PL01			
Weeds pcs/m2	5	12	12	22	24,5	12			
Weeds BBCH	BBCH 12-13	BBCH 12-16	BBXH 12-14	BBCH 11-12	BBCH 11-17	BBCH 12-14	mean	min	max
Crop BBCH	BBCH 14-15	BBCH 14-16	BBCH 14	BBCH 13-14	BBCH 12-14	BBCH 14-16			

Days after application DA-A		28DAA		22DAA		28DAA		28DAA		28DAA		28DAA				
Product	Dose l/ha															
Untreated																
CHR/H/IMA 40 SL	0,3	70,00	c	58,80	c	76,30	c	60,00	c	72,50	d	71,25	c	68,14	58,80	76,30
CHR/H/IMA 40 SL	0,6	77,50	b	83,30	b	82,50	b	88,75	b	81,25	c	81,25	b	82,43	77,50	88,75
CHR/H/IMA 40 SL	0,9	97,00	a	92,00	a	91,30	a	99,00	a	86,25	b	86,25	a	91,97	86,25	99,00
Corum 502,4 SL	1	99,00	a	95,00	a	90,00	a	99,00	a	91,25	a	86,25	a	93,42	86,25	99,00
Olbras 88 EC	1															
LSD		2,960		5,390		3,790		3,852		4,821		3,298				

Table 3. The efficacy of CHR/H/IMA in control of STEME

		AT.2019.025.GP		AT.2020.078.GP		CHR_H_IMA_EFF2020_PL02		CHR_H_IMA_EFF2020_PL01		CHR_H_IMA_EFF2019_PL01		CHR_H_IMA_EFF2019_PL02		mean		
Weeds pcs/m2		5,00		5,00		7,00		5,00		6,00		4,50		5,42	min	max
Weeds BBCH		BBCH 11-12		BBCH 12-16		BBXH 12-15		BBCH 11-12		BBCH 12-14		BBCH 11-15				
Crop BBCH		BBCH 14-15		BBCH 12-14		BBCH 14		BBCH 13-14		BBCH 14-16		BBCH 12-14				
Days after application DA-A		28DAA		27DAA		28DAA		28DAA		28DAA		28DAA				
Product	Dose l/ha															
Untreated																
CHR/H/IMA 40 SL	0,30	97,00	a	90,00	a	75,00	c	70,00	c	72,50	c	60,00	b	77,42	60,00	97,00
CHR/H/IMA 40 SL	0,60	99,00	a	95,00	a	81,30	b	92,50	b	80,00	b	76,25	a	87,34	76,25	99,00
CHR/H/IMA 40 SL	0,90	99,00	a	95,00	a	87,50	a	99,00	a	85,00	ab	81,25	a	91,13	81,25	99,00

Corum 502,4 SL	1,00	99,00	a	95,00	a	90,00	a	99,00	a	87,50	a	82,50	a	92,17	82,50	99,00
Olbras 88 EC	1,00															
LSD		1,850		.-		4,870		3,721		5,262		7,342				

Table 4. The efficacy of CHR/H/IMA in control of CENCY

Report code		AT.2019.024.GP		AT.2019.025.GP		AT.2020.028.GK		AT.2020.078.GP		CHR_H_IMA_EFF2020_PL02		CHR_H_IMA_EFF2019_PL02		MEAN	MIN	MAX
Weeds pcs/m2		7,00		7,00		5,00		7,00		5,50		6,00				
Weeds BBCH		BBCH 12-14		BBCH 12-13		BBCH 13-30		BBCH 12-14		BBCH 12-13		BBCH 12-14				
Crop BBCH		BBCH 13-14		BBCH 14-15		BBCH 14-16		BBCH 12-14		BBCH 14		BBCH 12-14				
Days after application DA-A		28DAA		28DAA		22DAA		27DAA		28DAA		28DAA				
Product	Dose l/ha															
Untreated																
CHR/H/IMA 40 SL	0,30	50,00	c	50,00	c	33,30	c	53,80	c	61,30	c	75,00	c	53,90	33,30	75,00
CHR/H/IMA 40 SL	0,60	65,00	b	65,00	b	65,00	b	67,50	b	73,80	b	83,75	b	70,01	65,00	83,75
CHR/H/IMA 40 SL	0,90	82,50	a	82,50	a	80,30	a	82,50	a	87,50	a	95,75	a	85,18	80,30	95,75
Corum 502,4 SL	1,00	86,30	a	86,30	a	86,50	a	85,00	a	86,30	a	96,50	a	87,82	85,00	96,50
Olbras 88 EC	1,00															
LSD		7,080		7,080		8,660		6,000		4,160		3,307				

Table 5. The efficacy of CHR/H/IMA in control of POLCO

Report code		AT.2019.024.GP		AT.2019.025.GP		AT.2020.028.GK		AT.2020.078.GP		CHR_H_IMA_EFF2019_PL01		CHR_H_IMA_EFF2020_PL02		mean	min	max
Weeds pcs/m2		5		5		5		5		6,5		5				
Weeds BBCH		BBCH12-14		BBCH 12-14		BBCH 11-14		BBCH 12-14		BBCH 12-16		BBXH 12-14				
Crop BBCH		BBCH 13-14		BBCH 14-15		BBCH 14-16		BBCH 12-14		BBCH 14-16		BBCH 14				
Days after application DA-A		28DAA		28DAA		22DAA		27DAA		28DAA		28DAA				
Product	Dose l/ha															
Untreated																
CHR/H/IMA 40 SL	0,3	73,80	c	70,00	d	51,80	d	77,50	c	60,00	c	77,5	c	68,43	51,80	77,50
CHR/H/IMA 40 SL	0,6	80,00	b	75,00	c	72,00	c	82,50	b	70,00	b	83,8	b	77,22	70,00	83,80
CHR/H/IMA 40 SL	0,9	88,80	a	97,00	b	86,00	a	91,30	a	78,75	a	88,8	a	88,44	78,75	97,00
Corum 502,4 SL	1	90,00	a	99,00	a	77,80	b	90,00	a	80,00	a	90	a	87,80	77,80	99,00
Olbras 88 EC	1															
LSD		4,810		1,850		2,400		4,270		7,102		4,280				

Table 6. The efficacy of CHR/H/IMA in control of VIOAR

Report code		AT.2019.024.GP		AT.2019.025.GP		AT.2020.078.GP		mean	min	max
Weeds pcs/m2		6		5		6				
Weeds BBCH		BBCH 12-13		BBCH 12-14		BBCHC 14-16				
Crop BBCH		BBCH 13-14		BBCH 14-15		BBCH 12-14				
Days after application DA-A		28DAA		28DAA		27DAA				
Product	Dose l/ha									

Untreated										
CHR/H/IMA 40 SL	0,3	20,00	c	50,00	b	50,00	b	40,00	20,00	50,00
CHR/H/IMA 40 SL	0,6	30,00	b	52,50	b	55,00	b	45,83	30,00	55,00
CHR/H/IMA 40 SL	0,9	45,00	a	70,00	a	67,50	a	60,83	45,00	70,00
Corum 502,4 SL	1	45,00	a	70,00	a	70,00	a	61,67	45,00	70,00
Olbras 88 EC	1									
LSD		6,530		4,000		5,160				

Table 7. The efficacy of CHR/H/IMA in control of ANTAR

Report code		AT.2019.024.GP		AT.2019.025.GP		AT.2020.078.GP		CHR_H_IMA_EFF2019_PL01		CHR_H_IMA_EFF2019_PL02		CHR_H_IMA_EFF2020_PL01		MEAN	MIN	MAX
Weeds pcs/m2		10		5		7		5,5		4,75		11				
Weeds BBCH		BBCH 11-13		BBCH 11-13		BBCH 14-16		BBCH 12-14		BBCH 12-14		BBCH 10-12				
Crop BBCH		BBCH 13-14		BBCH 14-15		BBCH 12-14		BBCH 14-16		BBCH 12-14		BBCH 13-14				
Days after application DA-A		28DAA		28DAA		27DAA		28DAA		28DAA		28DAA				
Product	Dose l/ha															
Untreated																
CHR/H/IMA 40 SL	0,3	52,50	c	67,50	c	66,30	c	65,00	c	57,5	b	61,25	c	61,68	52,5	67,5
CHR/H/IMA 40 SL	0,6	72,50	b	76,30	b	75,00	b	71,25	b	73,8	a	83,75	b	75,43	71,3	83,8
CHR/H/IMA 40 SL	0,9	90,00	a	93,80	a	90,00	a	77,50	a	78,8	a	92,5	a	87,09	77,5	93,8
Corum 502,4 SL	1	90,00	a	96,00	a	93,80	a	80,00	a	75,0	a	91,25	a	87,68	75,0	96,0
Olbras 88 EC	1															
LSD		4,220		5,200		4,620		5,071		5,309		6,560				

Table 8. The efficacy of CHR/H/IMA in control of BRSNW

		AT.2019.025.GP		AT.2020.078.GP		CHR_H_IMA_EFF2020_PL02		CHR_H_IMA_EFF2019_PL02		CHR_H_IMA_EFF2019_PL01		CHR_H_IMA_EFF2020_PL01		mean	min	max
Weeds pcs/m2		6		5		10		4,5		5,5		7				
Weeds BBCH		BBCH 12-13		BBCH 12-16		BBXH 12-14		BBCH 12-14		BBCH 12-14		BBCH 12-13				
Crop BBCH		BBCH 14-15		BBCH 12-14		BBCH 14		BBCH 12-14		BBCH 14-16		BBCH 13-14				
Days after application DA-A		28DAA		27DAA		28DAA		28DAA		28DAA		28DAA				
Product	Dose l/ha															
Untreated																
CHR/H/IMA 40 SL	0,3	90,00	a	77,50	c	67,50	c	67,50	c	70,00	c	52,50	c	70,83	52,50	90,00
CHR/H/IMA 40 SL	0,6	90,00	a	88,80	b	78,80	b	76,25	b	80,00	b	86,25	b	83,35	76,25	90,00
CHR/H/IMA 40 SL	0,9	99,00	a	92,50	ab	85,00	a	83,75	a	85,00	a	99,00	a	90,71	83,75	99,00
Corum 502,4 SL	1	99,00	a	95,00	a	82,50	ab	90,00	a	86,25	a	99,00	a	91,96	82,50	99,00
Olbras 88 EC	1															
LSD		.-		3,830		4,770		6,407		4,972		2,436				

Table 9. The efficacy of CHR/H/IMA in control of CAPBP

	AT.2019.024.GP	AT.2019.025.GP	AT.2020.028.GK	AT.2020.078.GP	CHR_H_IMA_EFF2019_PL01	CHR_H_IMA_EFF2020_PL01	MEAN	MIN	MAX
Weeds pcs/m2	6	5	5	7	6	55			
Weeds BBCH	BBCH 12-13	BBCH 12-13	BBCH 13-16	BBCH 14-16	BBCH 12-14	BBCH 10-12			

Crop BBCH		BBCH 13-14		BBCH 14-15		BBCH 14-16		BBCH 12-14		BBCH 14-16		BBCH13-14				
Days after application DA-A		28DAA		28DAA		22DAA		27DAA		28DAA		28DAA				
Product	Dose l/ha															
Untreated																
CHR/H/IMA 40 SL	0,3	71,30	c	75,00	c	87,80	b	73,80	c	67,50	c	65	c	73,40	65,00	87,8
CHR/H/IMA 40 SL	0,6	81,30	b	77,50	b	92,50	a	82,50	b	78,75	b	90	b	83,76	77,50	92,5
CHR/H/IMA 40 SL	0,9	90,00	a	90,00	a	96,30	a	90,00	a	85,00	a	99	a	91,72	85,00	99,0
Corum 502,4 SL	1	90,00	a	90,00	a	93,80	a	91,30	a	86,25	a	99	a	91,73	86,25	99,0
Olbras 88 EC	1															
LSD		2,980		2,310		4,730		4,000		5,401		2,813				

Table 10. The efficacy of CHR/H/IMA in control of PAPRH

		AT.2019.024.GP		AT.2020.028.GK		AT.2020.078.GP		mean	min	max
Weeds pcs/m2		6		9		5				
Weeds BBCH		BBCH 12-14		BBCH 12-21		BBCH 12-14				
Crop BBCH		BBCH 13-14		BBCH 14-16		BBCH 12-14				
Days after application DA-A		28DAA		22DAA		27DAA				
Product	Dose l/ha									
Untreated										
CHR/H/IMA 40 SL	0,3	72,50	c	61,30	c	56,30	c	63,37	56,30	72,50
CHR/H/IMA 40 SL	0,6	88,80	b	82,30	ab	71,30	b	80,80	71,30	88,80
CHR/H/IMA 40 SL	0,9	97,50	a	86,30	a	81,30	a	88,37	81,30	97,50
Corum 502,4 SL	1	88,80	b	79,80	b	82,50	a	83,70	79,80	88,80
Olbras 88 EC	1									

LSD	2,980		4,700		4,670						

Table 11. The efficacy of CHR/H/IMA in control of SINAR

Report code		AT.2019.024.GP		AT.2020.028.GK		CHR_H_IMA_EFF2020_PL02		CHR_H_IMA_EFF2020_PL01		MEAN	MIN	MAX
Weeds pcs/m2		5,00		5,00		9,00		6,00				
Weeds BBCH		BBCH 12-13		BBCH 13-18		BBXH 12-13		BBCH 10-12				
Crop BBCH		BBCH 13-14		BBCH 14-16		BBCH 14		BBCH 13-14				
Days after application DA-A		28DAA		22DAA		28DAA		28DAA				
Product	Dose l/ha											
Untreated												
CHR/H/IMA 40 SL	0,30	92,80	b	99,80	a	81,30	b	57,50	c	82,85	57,50	99,80
CHR/H/IMA 40 SL	0,60	100,00	a	100,00	a	87,50	a	88,75	b	94,06	87,50	100,00
CHR/H/IMA 40 SL	0,90	100,00	a	100,00	a	91,30	a	99,00	a	97,58	91,30	100,00
Corum 502,4 SL	1,00	100,00	a	100,00	a	91,30	a	99,00	a	97,58	91,30	100,00
Olbras 88 EC	1,00											
LSD		1,650		0,400		4,820		3,445				

Table 12. The efficacy of CHR/H/IMA in control of LYCAR

Report code	AT.2019.024.GP	AT.2019.025.GP	AT.2020.078.GP	AT.2020.028.GK	CHR_H_IMA_EFF2020_PL01	CHR_H_IMA_EFF2020_PL02	mean	min	max
Weeds pcs/m2	5,00	4,00	5,00	5,00	9,00	5,00			

Weeds BBCH		BBCH 11-12		BBCH 12-13		BBCH 12-14		BBCH 12-14		BBCH 12		BBCH 12-14				
Crop BBCH		BBCH 13-14		BBCH 14-15		BBCH 12-14		BBCH 14-16		BBCH 13-14		BBCH 14				
Days after application DA-A		28DAA		28DAA		27DAA		22DAA		28DAA						
Product	Dose l/ha															
Untreated																
CHR/H/IMA 40 SL	0,30	76,30	c	76,30	c	72,50	b	77,30	d	50,00	b	73,80	b	71,03	50,00	77,30
CHR/H/IMA 40 SL	0,60	80,00	b	80,00	b	76,30	b	82,50	c	85,00	a	85,00	a	81,47	76,30	85,00
CHR/H/IMA 40 SL	0,90	90,00	a	90,00	a	86,30	a	97,30	a	90,00	a	88,80	a	90,40	86,30	97,30
Corum 502,4 SL	1,00	90,00	a	90,00	a	87,50	a	92,00	b	90,00	a	88,80	a	89,72	87,50	92,00
Olbras 88 EC	1,00															
LSD		2,000		2,000		4,000		2,820		5,799		3,830				

Table 13. The efficacy of CHR/H/IMA in control of GERPU

	AT.2019.025.GP	AT.2020.028.GK	CHR_H_IMA_EFF2019_PL02	AT.2019.024.GP	CHR_H_IMA_EFF2020_PL02	CHR_H_IMA_EFF2019_PL02	mean	min	max
Weeds pcs/m2	4,00	5,00	4,75	5,00	6,00	5,00			
Weeds BBCH	BBCH 12-13	BBCH 14-16	BBCH 12-14	BBCH 11-12	BBCH 12-13	BBCH 12-14			
Crop BBCH	BBCH 14-15	BBCH 14-16	BBCH 12-14	BBCH 13-14	BBCH 14	BBCH 12-14			
Days after application DA-A	28DAA	22DAA	28DAA	28DAA					
Product / Dose l/ha									
Untreated									
CHR/H/IMA 40 SL 0,30	70,00 a	67,00 c	70,00 d	71,30 c	76,30 c	70,00 d	70,77	67,00	76,30

CHR/H/IMA 40 SL	0,60	75,00	a	78,00	b	78,75	c	76,30	b	86,30	b	78,75	c	78,85	75,00	86,30
CHR/H/IMA 40 SL	0,90	95,00	a	94,00	a	85,00	b	90,00	a	91,30	a	85,00	b	90,05	85,00	95,00
Corum 502,4 SL	1,00	95,00	a	90,00	a	90,00	a	90,00	a	91,30	a	90,00	a	91,05	90,00	95,00
Olbras 88 EC	1,00															
LSD		.-		5,410		3,852		2,980		1,720		3,852				

Table 14. The efficacy of CHR/H/IMA in control of LAMPU

		CHR_H_IMA_EFF2020_PL02		CHR_H_IMA_EFF2020_PL01		AT.2020.028.GK		CHR_H_IMA_EFF2019_PL02		CHR_H_IMA_EFF2019_PL01		Mean	Min	Max
Weeds pcs/m2		7,00		5,00		5,00		5,50		6,25				
Weeds BBCH		BBXH 12-15		BBCH 12		BBCH 12-15		BBCH 12-14		BBCH 12-14				
Crop BBCH		BBCH 14		BBCH 13-14		BBCH 14-16		BBCH 12-14		BBCH 14-16				
Days after application DA-A		28DAA		28DAA		22DAA		28DAA						
Product	Dose l/ha													
Untreated														
CHR/H/IMA 40 SL	0,30	77,50	c	67,50	c	59,50	c	76,25	c	73,75	c	70,90	59,50	77,50
CHR/H/IMA 40 SL	0,60	85,00	b	88,75	b	77,80	b	81,25	bc	80,00	b	82,56	77,80	88,75
CHR/H/IMA 40 SL	0,90	91,30	a	99,00	a	89,00	a	85,00	ab	91,25	a	91,11	85,00	99,00
Corum 502,4 SL	1,00	92,50	a	99,00	a	76,50	b	90,00	a	91,25	a	89,85	76,50	99,00
Olbras 88 EC	1,00													
LSD		5,360		2,436		7,760		6,008		5,373				

Table 15. The efficacy of CHR/H/IMA in control of ABUTH

		201945/1	mean	min	max
		71DAA			
	weed BBCH	BBCH 10-14			
	crop BBCH	BBCH 13-15			
	weed pcs/m2	.6-10			
untreated	l/ha				
CHR/H/IMA	0,6	50,00	50,00	50,00	50,00
CHR/H/IMA	0,8	81,25	81,25	81,25	81,25
CHR/H/IMA	1	90,00	90,00	90,00	90,00
CHR/H/IMA	1,2	93,75	93,75	93,75	93,75
Pulsar	1	91,25	91,25	91,25	91,25
LSD		2,400			

Table 16. The efficacy of CHR/H/IMA in control of DAST

		201945/2H	CPRHU22-522-025HE	mean	min	max
		49DAA	42DAA			

	weed BBCH	BBCH 8-10	BBCH 12-14			
	crop BBCH	BBCH 10-12	BBCH 13-15			
	weed pcs/m2	.8-10	8			
untreated	l/ha					
CHR/H/IMA	0,6	90,75	70,00	80,38	70,00	90,75
CHR/H/IMA	0,8	93,00	81,30	87,15	81,30	93,00
CHR/H/IMA	1	94,75	96,30	95,53	94,75	96,30
CHR/H/IMA	1,2	95,00	97,00	96,00	95,00	97,00
Pulsar	1	95,50	97,00	96,25	95,50	97,00
LSD			3,390			

Table 17. The efficacy of CHR/H/IMA in control of MERAN

		CPRHU22-523-025HE	CPRHU22-522-025HE			
		42DAA	42DAA			
	weed BBCH	BBCH 11-13	BBCH 12-14	mean	min	max
	crop BBCH	BBCH 13-15	BBCH 13-15			
	weed pcs/m2	12	19			

untreated	l/ha					
CHR/H/IMA	0,6	71,30	76,30	73,80	71,30	76,30
CHR/H/IMA	0,8	81,30	81,30	81,30	81,30	81,30
CHR/H/IMA	1	96,30	98,30	97,30	96,30	98,30
CHR/H/IMA	1,2	98,30	99,50	98,90	98,30	99,50
Pulsar	1	95,00	97,50	96,25	95,00	97,50
LSD		4,520	5,490			

Table 18. The efficacy of CHR/H/IMA in control of SOLNI

		CPRHU22-523-025HE	CPRHU22-522-025HE	mean	min	max
		42DAA	42DAA			
	weed BBCH	BBCH 12-14	BBCH 12-14			
	crop BBCH	BBCH 13-15	BBCH 13-15			
	weed pcs/m2	13	9			
untreated	l/ha					
CHR/H/IMA	0,6	71,30	77,50	74,40	71,30	77,50
CHR/H/IMA	0,8	80,00	81,30	80,65	80,00	81,30
CHR/H/IMA	1	93,80	98,80	96,30	93,80	98,80

CHR/H/IMA	1,2	96,50	99,50	98,00	96,50	99,50
Pulsar	1	93,30	98,80	96,05	93,30	98,80
LSD		4,960	4,930			

Table 19. The efficacy of CHR/H/IMA in control of AMARE

		201945/1	201945/2H	mean	min	max
		71DAA	49DAA			
	weed BBCH	BBCH 10-14	BBCH 10-12			
	crop BBCH	BBCH 13-15	BBCH 10-12			
	weed pcs/m2	.8-19	.10-12			
untreated	l/ha					
CHR/H/IMA	0,60	81,25	90,25	85,75	81,25	90,25
CHR/H/IMA	0,80	99,00	90,50	94,75	90,50	99,00
CHR/H/IMA	1,00	100,00	91,00	95,50	91,00	100,00
CHR/H/IMA	1,20	100,00	90,75	95,38	90,75	100,00
Pulsar	1,00	100,00	90,75	95,38	90,75	100,00

LSD		1,53				

Table 20. The efficacy of CHR/H/IMA in control of AMBEL

		201945/1	201945/2H	CPRHU22-522-025HE	CPRHU22-523-025HE	mean	min	max
		71DAA	49DAA	42DAA	42DAA			
	weed BBCH	BBCH 10-14	BBCH 8-12	BBCH 12-14	BBCH 12-14			
	crop BBCH	BBCH 13-15	BBCH 10-12	BBCH 13-15	BBCH 13-15			
	weed pcs/m2	.5-8	.8-12	21,00	13,00			
untreated	l/ha							
CHR/H/IMA	0,60	62,50	92,25	75,00	70,00	74,94	62,50	92,25
CHR/H/IMA	0,80	77,50	94,25	82,50	77,50	82,94	77,50	94,25
CHR/H/IMA	1,00	85,00	94,75	97,50	95,00	93,06	85,00	97,50
CHR/H/IMA	1,20	91,75	94,75	98,30	97,50	95,58	91,75	98,30
Pulsar	1,00	91,25	94,75	98,30	95,00	94,83	91,25	98,30
		5,408		5,590	2,810			

Table 21. The efficacy of CHR/H/IMA in control of CHEAL

		201945/1	201945/2H	mean	min	max
		71DAA	49DAA			
	weed BBCH	BBCH 10-14	BBCH 12-14			

	crop BBCH	BBCH 13-15	BBCH 10-12			
	weed pcs/m2	.12-21	.12-14			
untreated	l/ha					
CHR/H/IMA	0,60	67,50	91,50	79,50	67,50	91,50
CHR/H/IMA	0,80	75,00	95,00	85,00	75,00	95,00
CHR/H/IMA	1,00	90,00	95,00	92,50	90,00	95,00
CHR/H/IMA	1,20	93,75	95,00	94,38	93,75	95,00
Pulsar	1,00	90,50	95,00	92,75	90,50	95,00
LSD		4,49				

Table 22. The efficacy of CHR/H/IMA in control of ECHCG

		201945/3 H	CPRHU22-522-025HE	CPRHU22-523-025HE	mean	min	max
untreated	l/ha	34DAA	42DAA	42DAA			
	weed BBCH	BBCH 12-14	BBCH 12-14	BBCH 12-14			
	crop BBCH	BBCH 11-13	BBCH 13-15	BBCH 13-15			
	weed pcs/m2	16,00	12	13,00			
CHR/H/IMA	0,60	30,00	50,00	53,80	44,60	30,00	53,80
CHR/H/IMA	0,80	72,50	63,80	76,30	70,87	63,80	76,30
CHR/H/IMA	1,00	90,75	83,30	90,00	88,02	83,30	90,75
CHR/H/IMA	1,20	91,25	83,80	91,30	88,78	83,80	91,30

Pulsar	1,00	88,75	82,50	90,00	87,08	82,50	90,00
LSD		4,404	2,430	3,790			

Table 23. The efficacy of CHR/H/IMA in control of HIBTR

		201945/3 H	mean	min	max
		34DAA			
	weed BBCH	BBCH 11-13			
	crop BBCH	BBCH 11-13			
	weed pcs/m2	7,00			
untreated	l/ha				
CHR/H/IMA	0,60	0,00	0,00	0,00	0,00
CHR/H/IMA	0,80	32,50	32,50	32,50	32,50
CHR/H/IMA	1,00	61,25	61,25	61,25	61,25
CHR/H/IMA	1,20	87,50	87,50	87,50	87,50
Pulsar	1,00	87,50	87,50	87,50	87,50
LSD		3,346			

Table 24. The efficacy of CHR/H/IMA in control of POLPE

		201945/3 H	mean	min	max
		34DAA			
	weed BBCH	BBCH 13-15			
	crop BBCH	BBCH 11-13			
	weed pcs/m2	6,00			
untreated	l/ha				
CHR/H/IMA	0,60	61,25	61,25	61,25	61,25
CHR/H/IMA	0,80	77,50	77,50	77,50	77,50
CHR/H/IMA	1,00	85,00	85,00	85,00	85,00
CHR/H/IMA	1,20	86,25	86,25	86,25	86,25
Pulsar	1,00	87,00	87,00	87,00	87,00
LSD		4,247			

Appendix 6 Summary of phytotoxicity trials data in summary form

Table 1 – data from phytotoxicity trials – (selectivity trials)
North-East Zone

Report code	Treatment	Dose [L/ha]	Phytotoxicity in %			
A.T/2020/080/GK	Timing of assessment	DA-A	9 DA-A	21 DA-A	33 DA-A	68 DA-A
	Untreated Check	-	0,00	0,00	0,00	0,00
	CHR/H/IMA 40 SL	0,9	5,00	5,00	6,00	7,50
	CHR/H/IMA 40 SL	1,8	17,50	20,00	21,30	25,00
	Corum 502,4 SL + Olbras 88 EC	1 + 1	0,00	0,00	0,00	0,00
	Corum 502,4 SL + Olbras 88 EC	2 + 2	5,50	5,00	5,00	7,50
A.T/2020/079/GK	Timing of assessment	DA-A	10 DA-A	14 DA-A	24 DA-A	45 DA-A
	Untreated Check	-	0,00	0,00	0,00	0,00
	CHR/H/IMA 40 SL	0,9	3,30	3,30	3,30	1,00
	CHR/H/IMA 40 SL	1,8	20,80	23,00	23,30	18,80
	Corum 502,4 SL + Olbras 88 EC	1 + 1	0,00	0,00	0,00	0,00
	Corum 502,4 SL + Olbras 88 EC	2 + 2	3,50	2,50	2,80	0,50
A.T/2019/027/GP	Timing of assessment	DA-A	14 DA-A	28 DA-A	38 DA-A	

	Untreated Check	-	0,00	0,00	0,00	
	CHR/H/IMA 40 SL	0,9	0,00	0,00	0,00	
	CHR/H/IMA 40 SL	1,8	5,00	20,00	20,00	
	Corum 502,4 SL + Olbras 88 EC	1 + 1	0,00	0,00	0,00	
	Corum 502,4 SL + Olbras 88 EC	2 + 2	0,00	0,00	0,00	
A.T/2019/026/GP	Timing of assessment	DA-A	13 DA-A	26 DA-A	47 DA-A	
	Untreated Check	-	0,00	0,00	0,00	
	CHR/H/IMA 40 SL	0,9	0,00	0,00	0,00	
	CHR/H/IMA 40 SL	1,8	0,00	0,00	0,00	
	Corum 502,4 SL + Olbras 88 EC	1 + 1	0,00	0,00	0,00	
	Corum 502,4 SL + Olbras 88 EC	2 + 2	0,00	0,00	0,00	-
CHR_H_IMA_SEL2019_PL01	Timing of assessment	DA-A	14 DA-A	28 DA-A	60 DA-A	
	Untreated Check	-	0,00	0,00	0,00	
	CHR/H/IMA 40 SL	0,9	0,00	0,00	0,00	
	CHR/H/IMA 40 SL	1,8	0,00	0,00	0,00	
	Corum 502,4 SL + Olbras 88 EC	1 + 1	0,00	0,00	0,00	
	Corum 502,4 SL + Olbras 88 EC	2 + 2	0,00	0,00	0,00	
CHR_H_IMA_SEL2019_PL02	Timing of assessment	DA-A	14 DA-A	28 DA-A	56 DA-A	
	Untreated Check	-	0,00	0,00	0,00	
	CHR/H/IMA 40 SL	0,9	0,00	0,00	0,00	
	CHR/H/IMA 40 SL	1,8	0,00	0,00	0,00	
	Corum 502,4 SL + Olbras 88 EC	1 + 1	0,00	0,00	0,00	
	Corum 502,4 SL + Olbras 88 EC	2 + 2	0,00	0,00	0,00	

CHR_H_IMA_SEL2020_PL01	Timing of assessment	DA-A	14 DA-A	28 DA-A	35 DA-A	
	CHR/H/IMA 40 SL	0,9	0,00	0,00	0,00	
	CHR/H/IMA 40 SL	1,8	0,00	0,00	0,00	
	Corum 502,4 SL + Olbras 88 EC	1 + 1	0,00	0,00	0,00	
	Corum 502,4 SL + Olbras 88 EC	2 + 2	0,00	0,00	0,00	
CHR_H_IMA_SEL2020_PL02	Timing of assessment	DA-A	14 DA-A	28 DA-A	35 DA-A	
	Untreated Check	-	0,00	0,00	0,00	
	CHR/H/IMA 40 SL	0,9	0,00	0,00	0,00	
	CHR/H/IMA 40 SL	1,8	0,00	0,00	0,00	
	Corum 502,4 SL + Olbras 88 EC	1 + 1	0,00	0,00	0,00	
	Corum 502,4 SL + Olbras 88 EC	2 + 2	0,00	0,00	0,00	

South-East Zone

Report code	**Treatment**	**Dose [L/ha]**	**Phytotoxicity in %**			
201946/1H	Timing of assessment	DA-A	8 DA-A	20 DA-A	48 DA-A	65 DA-A
	Untreated Check	-	0,00	0,00	0,00	0,00
	CHR/H/IMA 40 SL	1,2	0,00	0,00	0,00	0,00
	CHR/H/IMA 40 SL	2,4	0,00	0,00	0,00	0,00
	Pulsar 40 SL	1	0,00	0,00	0,00	0,00
	Pulsar 40 SL	2	0,00	0,00	0,00	0,00
201946/2H	Timing of assessment	DA-A	7 DA-A	14 DA-A	21 DA-A	28 DA-A
	Untreated Check	-	0,00	0,00	0,00	0,00
	CHR/H/IMA 40 SL	1,2	0,00	0,00	0,00	0,00
	CHR/H/IMA 40 SL	2,4	0,00	0,00	0,00	0,00

	Pulsar 40 SL	1	0,00	0,00	0,00	0,00
	Pulsar 40 SL	2	0,00	0,00	0,00	0,00
1946/3H	Timing of assessment	DA-A	13 DA-A	20 DA-A	34 DA-A	86 DA-A
	Untreated Check	-	0,00	0,00	0,00	0,00
	CHR/H/IMA 40 SL	1,2	0,00	0,00	0,00	0,00
	CHR/H/IMA 40 SL	2,4	0,00	0,00	0,00	0,00
	Pulsar 40 SL	1	0,00	0,00	0,00	0,00
	Pulsar 40 SL	2	0,00	0,00	0,00	0,00

Table 2 – data from phytotoxicity trials
North East Zone

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/2020/080/GK	AT Sp. z o.o. ul. P:rzemysłowa 3 883-Mogilno Poland	Poland / Kamień Krajeński	20.05.2020 BBCH 15-18	Pisum sativum / Santana F N	Randomized blocks EPPO PP 1/135 (4)	soil type: sandy loam pH: 5,1
A.T/2020/079/GK	AT Sp. z o.o. ul. P:rzemysłowa 3 883-Mogilno Poland	Poland / Tarnowo Pod-górne	28.04.2020 BBCH 12-13	Pisum sativum / Batuta F N	Randomized blocks EPPO PP 1/135 (4)	soil type: loamy sand pH: 6,4

A.T/2019/027/GP	AT Sp. z o.o. ul. P:rzemysłowa 3 883-Mogilno Poland	Poland / Gołańcz	28.04.2020 BBCH 12-15	Pisum sativum / Arwena F N	Randomized blocks EPPO PP 1/135 (4)	soil type: sandy loam pH: 7,3
A.T/2019/026/GP	AT Sp. z o.o. ul. P:rzemysłowa 3 883-Mogilno Poland	Poland / Chojnice	01.05.2019 BBCH 12-13	Pisum sativum / Batuta F N	Randomized blocks EPPO PP 1/135 (4)	soil type: loamy sand pH: 6,5
CHR_H_IMA_SEL2019_PL01	SynTech Research Poland Ul. Jagiellonska 69/1 Bydgoszcz	Poland / Kłoda	16.05.2019 BBCH 12-15	Pisum sativum / Sala-manca F N	Randomized blocks EPPO PP 1/135 (4)	soil type: sandy clay pH: 6,14
CHR_H_IMA_SEL2019_PL02	SynTech Research Poland Ul. Jagiellonska 69/1 Bydgoszcz	Poland / Tyszowice	23.05.2019 BBCH 12-16	Pisum sativum / Tarchal-ska F N	Randomized blocks EPPO PP 1/135 (4)	soil type: clayey sand pH: 6,1

CHR_H_IMA_SEL2020_PL01	SynTech Research Poland Ul. Jagiellonska 69/1 Bydgoszcz	Poland / Jablowo Pałuckie	04.06.2020 BBCH 14-15	Pisum sativum / Sala-manca F N	Randomized blocks EPPO PP 1/135 (4)	soil type: silty clay loam pH: 6,9
CHR_H_IMA_SEL2020_PL02	SynTech Research Poland Ul. Jagiellonska 69/1 Bydgoszcz	Poland / Kłoda	04.06.2020 BBCH 14	Pisum sativum / Tarchal-ska F N	Randomized blocks EPPO PP 1/135 (4)	soil type: sandy clay loam pH: 6

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

South East Zone

Test re-port (1)	**Testing Unit GEP (2)**	**Country Region (3)**	**Dates of trials and GS (4)**	**Cultivar F/G (5)**	**Experimental design Test method (7)**	**Remarks**

				N/A (6)	**Replicates**	
201946/1 H	Goverment Office of Somogy County Hungary	Somogyvár / Hungary	12.06.2019	Soybean / Bomatir F N	Randomized blocks EPPO PP 1/135 (4)	soil type: haplic cambisol pH: 6,48
201946/2H	Goverment Office of Fejer County Hungary	Fejer County / Hungary	19.06.2019 BBCH 14	Soybean / Pannonia kincse F N	Randomized blocks EPPO PP 1/135 (4)	soil type: Calcic chernozem pH: 7,29
1946/3H	Goverment Office of Csongrad County Hungary	Algyő-Nagyfa / Hungary	21.05.2019 BBCH 11-13	Soybean / Bahia F N	Randomized blocks EPPO PP 1/135 (4)	soil type: chernozem soil pH: 7,0

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

None

Appendix 8 Summary of data on succeeding crop

None