FINAL REGISTRATION REPORT

Part B

Section 3

Efficacy Data and Information

Concise summary

Product code: CHR/H/ETO

Product name(s): Bitt 500 SC, Betron 500 SC, Etonal 500 SC

Chemical active substance(s):

Ethofumesate 500 g/L

Central Zone

Zonal Rapporteur Member State: Poland

CORE ASSESSMENT

(authorization)

Applicant: Innvigo Sp. z o.o.

Submission date: June 2021

MS Finalisation date: 18/02/2022

Version history

When	What
06/2021	Dossier sent for evaluation to Merit Mark (PL)
11/2021	zRMS finalised evaluation
01/2022	Final version prepared by zRMS after Commenting period
02/2022	Additional comments and the final evaluation

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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

Comments of zRMS:	The commenting boxes are filled-in by the zRMS. They are usually placed at the end of each chapter. Commenting boxes are understandable alone and refer very precisely to the text commented. The main advantage of their use is to distinguish easily between the applicant and the zRMS text.

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

Abstract

The presented document is prepared in accordance with the Regulation (EC) No 1107/2009, article 33 and concerns a herbicide **CHR/H/ETO**, product name(s): Bitt 500 SC, Betron 500 SC, Etonal 500 SC, chemical active substances: Etofumesate 500g/l. This Report is based on proper documentation and contains comprehensive description of tested herbicide. **CHR/H/ETO** is intended to control the dicotyledonous weeds in sugar beet. 8 trials conducted in 2020 on a dozen weed species in 2 climate EPPO zones confirmed the effectiveness of this herbicide. Trials were conducted in the North-Eastern EPPO zone: Poland (5 trials) and the Maritime EPPO zone (3 trials) in the Czech Republic-within the Central registration zone. 8 trials is a sufficient number for registration of a known active substance in Poland. Ethofumesate has been used in practice for many years and the experimental results of 2020 are consistent. This allows to confirm its appropriate effectiveness. *Amaranthus retroflexus* is one of the most burdensome species in sugar beet cultivation in Poland. The **CHR/H/ETO** showed a high control efficiency for this species of 93%.

The herbicide was applied at the proposed label rate 1,0L/ha of twice applications per season and three applications at a dose 0,6l/ha at the growth stage of sugar beet BBCH 12-18 and next after 5-10 days.

The data obtained in the experiments confirm the proposed uses. **CHR/H/ETO** is effective in the controlling a cumbersome weed species: *Galium aparine* (GALAP) 95 %, *Amaranthus retroflexus (AMARE)* 93 %, *Stellaria media* (STEME) 99 % but less limited are *Thlaspi arvense* (THLAR) 60 % and *Chenopodium album* (CHEAL) 55-59 %.

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 not susceptible weeds to the **CHR/H/ETO.**

The applicant has presented in the label appropriate elements of the anti-immune policy.

CHR/H/ETO, product name(s): Bitt 500 SC, Betron 500 SC, Etonal 500 SC shows high selectivity towards sugar beet. No adverse plant symptoms or negative effects of the herbicide on sugar beet yield were observed. The data obtained in the experiments confirm these features.

The results obtained in the experiments justify the needed for registration of the studied agent for weed control in sugar beet in Poland. The data provided in RR confirm the above applications and authorize the registration of CHR/H/ETO, product name(s): Bitt 500 SC, Betron 500 SC, Etonal 500 SC(chemical active substance: Etofumesate 500g/l) 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)

PPP product name:		Formulation type:	SC [a, b]
product code:	CHR/H/ETO		
Active substance 1:	ethofumesate	Conc. of as 1:	500 g/l [c]
Active substance 2:	-	Conc. of as 2:	- [c]
Active substance 3:	-	Conc. of as 3:	-
Safener:	-	Conc. of safener:	- [c]
Synergist:	-	Conc. of synergist:	- [c]
Applicant:	Innvigo Sp. z o.o.	Professional use:	☒
Zone(s):	Central [d]	Non professional use:	☐
Verified by MS:	~~No~~ yes		

Field of use: herbicide

1	2	3	4	5	6	7	8	9	15	11	12	13	14	15
Use-No. [e]	**Member state(s)**	**Crop and/ or situation** **(crop destination / purpose of crop)**	**F, Fn, Fpn G, Gn, Gpn or I**	**Pests or Group of pests controlled** (additionally: developmental stages of the pest or pest group)	**Application**				**Application rate**			**PHI** (days)	**Remarks:** e.g. g safener/synergist per ha [f]	ZRMs Conclusion
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	kg or L product / ha a) max. rate per appl. b) max. total rate per crop/season	g or kg as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max			

Zonal uses (field or outdoor uses, certain types of protected crops)														
1	PL	Sugar beet *Beta vulgaris* subsp. *vulgaris* var. *altissima* (BEAVA)	F	~~Dicotylenous~~ Dicotyledonous weeds	Spray, medium sprayer	Spring BBCH 12-18	a) 2 b) 2	5	a) 1.0 l/ha b) 2.0 l/ha	a) 0.5 kg a.s./ha b) 1.0 kg a.s./ha	200 - 300			A
~~**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)**~~														
2	PL	Sugar beet *Beta vulgaris* subsp. *vulgaris* var. *altissima* (BEAVA)	F	~~Dicotylenous~~ Dicotyledonous weeds	Spray, medium sprayer	Spring BBCH 12-18	a) 3 b) 3	5	a) 0,6 l/ha b) 1,8 l/ha	a) 0,3 kg a.s/ha b) 0,9 kg a.s/ha	200 - 300			A
3														
Minor uses according to Article 51 (zonal uses)														
4														
5														
Minor uses according to Article 51 (interzonal uses)														
6														
7														

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

The text of the label states that the agent is effective on young, intensively growing dicotyledonous weeds, in the 2 to 4 leaf stages (BBCH 12-16) and should be (BBCH 12-14). Monocotyledon statement does not apply to the range of weed control shown in the labels of Bitt 500 SC, Betron 500 SC, Etonal 500 SC.

3.2 Efficacy data (KCP 6)

Introduction

This document summarizes the information related to the efficacy of the product CHR/H/ETO containing active substance ethofumesate. Ethofumesate is currently included in Annex VI of Regulation (EC) No 1272/2008 with Index No 607-314-00-2
CHR/H/ETO applies in the Central Registration Zone for the registration of in sugar beet at BBCH 12-18 twice and three times per season at the maximum rate of 1000 g a.s./ha ethofumesate per application for the control of dicotyledonous weeds.

In the following document, data for active substance ethofumesate was described during its renewal process in 2016. Were reference to active substance data in the current risk assessment has been made, it was based on the data presented by Bayer.
In June 14th, 2018r Kemiron Koncentrat 500SC product has been renewed in Poland thus according to the art. 59 reg. 1107/2009, data protection for mentioned data expired 30 months from date of first renewal of authorisation of product containing that active substance (in this case December, 14th 2020).
Considering analogous arguments (art. 59 reg 1107/2009) – data protection of studies presented by UPL for renewal of product Bettix Combi 500 SC (renewal of authorisation granted in Poland 14.02.2019 r.) expires August 14th, 2021.
Taking into account that some data was presented by others Notyfiers, Applicant would like to emphasise that unprotected Bayer's endpoints and input parameters accepted during renewal of active substance, should be treated as an equivalent matching data in cases where any of endpoints might be protected.

General information:

Description of the plant protection product

Marketing name:
product submitted to registration under three different marketing names: BITT 500 SC, Betron 500 SC, Etonal 500 SC
Formulants content:
The information concerning ingredients of product CHR/H/ETO are included in the confidential part of the registration dossier: Registration Report – Part C.

Formulation of use:
SC – Suspension concentrate

General information on the plant protection product:

CHR/H/ETO is to be applied in spring:
Sugar beet:
BBCH A: 12-18, B= A+5-10 days, C=B+5-10 days
BBCH A: 12-18, B= A+5-10 days,

The suggested dose of the product:
Used solo:
1,0 L/ha twice a season in sugar beet which are corresponding to 1000 g a.s./ha of ethofumesate.
0,6 L/ha three times a season in sugar beet which are corresponding to 900 g a.s./ha of ethofumesate.

CHR/H/ETO containing ethofumesate as the active substance is prepared for the use in agricultural practice as a herbicide in the form SC – Suspension concentrate.

Description of active substances

Mode of action

Active substance:
Ethofumesate 500 g/l
Chemical name (IUPAC): (RS)-2-ethoxy-2,3-dihydro-3,3-dimethylbenzofuran-5-yl methanesulfonate
CIPAC No.: 233
CAS No.: 26225-79-6

According to Ethofumesate_RAR_05_Volume_3CA_B-3_06-11-2015
Effects on harmful organisms
Ethofumesate is used primarily post-emergence to control a wide range of annual grasses including Alopecurus myosuroides, Poa annua, Avena fatua, Digitaria spp. and Setaria spp. and broad-leaved weeds including Amaranthus spp., Galium aparine, Portulaca oleracea, Stellaria media and Spergula arvensis. It is often used in tank-mixtures with other herbicides to provide broad-spectrum weed control. The treated crops are sugar-, fodder- and red beets.
Ethofumesate belongs to the benzofurane group of pesticides and is a potent inhibitor of lipid synthesis and cell division in susceptible weeds by a reduction of photosynthesis and respiration. It is absorbed by both shoots and roots. As ethofumesate is non-volatile, uptake always occurs from the aqueous solution. In post-emergence use ethofumesate will be active via the soil as well as by foliar uptake. Post-emergence treatments generally cause severe growth inhibition (particularly in the apical region) often resulting in a dark green coloration and leaf deformity in broad-leaved species.

Table 3.2-1: Details of the active substances

Active substance	Ethofumesate	Active substance 2	Active substance 3
Concentration (Unit: g/kg or g/L...)	500 g/L	n/a	n/a
Chemical group	Benzofurans group, group 15, K3	n/a	n/a
Mode of action	Inhibitor of cell division. Inhibition of mitosis plus reduced photosynthesis and respiration	n/a	n/a
Biological action	Ethofumesate belongs to the benzofurane group of pesticides and is a potent inhibitor of lipid synthesis and cell division in susceptible weeds by a reduction of photosynthesis and respiration. It is absorbed by both shoots and roots. As ethofumesate is non-volatile, uptake always occurs from the aqueous solution. In post-emergence use ethofumesate will be active via the soil as well as by foliar uptake. Post-emergence treatments generally cause severe growth inhibition (particularly in the apical region) often resulting in a dark green coloration and leaf deformity in	n/a	n/a

Active substance	Ethofumesate	Active substance 2	Active substance 3
	broad-leaved species.		

Comments of zRMS:	**This study (RR)** is based on proper documentation and contains a comprehensive description of the presented product: Product code: CHR/H/ETO, product name(s): Bitt 500SC, Betron 500SC, Etonal 500SC . Chemical active substance: Etofumesate 500g/l is a concentrated suspension to be diluted with water (SC).

Description of the plant protection product

Formulation of use:
CHR/H/ETO containing ethofumesate as the active substance is prepared for the use in agricultural practice as a herbicide in the form SC – Suspension concentrate.

CHR/H/ETO is to be applied in spring:
Sugar beet:
BBCH A: 12-18, B= A+5-10 days, C=B+5-10 days
BBCH A: 12-18, B= A+5-10 days

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	
Sugar beet	dicotyledones weeds	PL			1,0 L/ha	2,0 l/ha	1000g a.s
Sugar beet	dicotyledones weeds	PL			0,6 L/ha	1,8 l/ha	900g a.s

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

Description of the target pests

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

Sugar beet

EPPO code	Scientific name	Common name*
GALAP	Galium aparine	Catchweed bedstraw
AMARE	Amaranthus retroflexus	Pigweed, redroot
~~ECHCG~~	~~Echinochloa crus-galli~~	~~Common barnyard grass~~
CHEAL	Chenopodium album	Common lambsquarters
STEME	Stellaria media	Common chickweed
THLAR	Thlaspi arvense	Fanweed

* optional

Comments of zRMS:	In this dossier, a total of 5 weed species were presented, which were analyzed in terms of their sensitivity to the tested herbicide Product code:

	CHR/H/ETO, product name(s): Bitt 500SC, Betron 500SC, Etonal 500 SC . **These species were assessed in the experiments, according to EPPO guidelines and GEP requirements and uniform principles**. Note: The EPPO methodologies cited in the dRR have the correct edition (version) number.

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

Sugar beet

Crop and/or situation	Crop status		Pests or group of pests controlled	Pest status	
	Major	minor		Major	minor
Sugar beet	PL, CZ	-	Galium aparine	PL, CZ	-
			Amaranthus retroflexus	PL, CZ	-
			~~Echinochloa crus-galli~~	~~PL, CZ~~	-
			Chenopodium album	PL, CZ	-
			Stellaria media	PL, CZ	-
			Thlaspi arvense	PL, CZ	-

Comments of zRMS:	**Target pests status:** The experiments evaluated the effectiveness of product: CHR/H/ETO, product name(s): Bitt 500SC, Betron 500SC, Etonal 500SC against major broadleaf weeds in the crops of sugar beet that have major cultivation status in the Poland.

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.

Information on trials submitted (3.1 Efficacy data)

The 8 trials have been carried out in 2020 in the North-East EPPO zone within the Central registration zone to evaluate the efficacy of applied at the proposed label rate of twice applications 500 g a.s./ha and three applications 300g a.s./ha for the weed control in sugar beet (Table 3.2 6). Trials were conducted in sugar beet growing areas in the (Central EPPO zone) North-East EPPO zone in Poland and Maritime zone in Czech Republic.

Table 3.2-5: Presentation of trials efficacy trials

Sugar beet

Crop(s) *	Target(s)*	Country	Years	Type of trial**	Number of trials (number of valid trials)	GEP, non-GEP, official***	Comments (any other relevant information)

					North- East (PL)zone, Maritime(Cz)zone	-		
Sugar beet post-emergence BBCH 12-18	Galium aparine	Poland	2020	E	4 (4)	-	GEP	-
		Czech Republic	2020	E	3(3)	-	GEP	
	TOTAL	-	2020	-	7 (7)	-	-	-
Sugar beet post-emergence BBCH 12-18	Chenopodium album	Poland	2020	E	(5)	-	GEP	-
		Czech Republic	2020	E	2(2)	-	GEP	
	TOTAL	-	2020	-	7 (7)	-	-	-
Sugar beet post-emergence BBCH 12-18	Stellaria media	Poland	2020	E	5 (5)	-	GEP	-
		Czech Republic	2020	E	3(3)	-	GEP	-
	TOTAL	-	2020	-	8 (8)	-	-	-
Sugar beet post-emergence BBCH 12-18	Amaranthus retroflexus	Poland	2020	E	5 (5)	-	GEP	-
		Czech Republic	2020	E	3(3)	-	GEP	-
	TOTAL	-	2020	-	8 (8)	-	-	-
Sugar beet post-emergence BBCH 12-18	Thlaspi arvense	Poland	2020	E	3 (3)	-	GEP	-
		Czech Republic	2020	E	1(1)	-	GEP	-
	TOTAL	-	2020	-	4 (4)	-	-	-

* 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** The applicant presents the number of trials carried out in accordance with the reports: A total of 8 trials investigating the effectiveness of CHR/H/ETO, product names: Bitt 500SC, Betron 500SC, Etonal 500 SC against weeds were implemented in 2020. Those trials were undertaken in sugar beet. Trials were located in the North-Eastern EPPO zone: in Poland (5 trials) and in the Maritime EPPO zone (3 trials) in Czech Republic – within the Central registration zone to evaluate the efficacy of tested herbicide. The herbicide was applied at the proposed label rate of twice applications 500 g a.s./ha and three applications 300g a.s./ha for the weed control in sugar beet. The required number of experiments on sugr beet were carried out to evaluate the twice application and three application of tested herbicide. The minimum number of trials is 6 but 8 trials have been performed. These experiments were performed in the one vegetation seasons which is sufficient and justified if the number of trials is greater than the required 6. A total of 8 experiments were conducted in 2020 seasons are presented in the table.3.2.5**.**

	The required number of experiments on suger beet were carried out to evaluate the effectivenes of CHR/H/ETO, product names: Bitt 500SC, Betron 500SC, Etonal 500 SC for dicotyledonous weeds control. **The trials were appropriate and are representative for weeds control in sugar beet for registration in Poland, according to GEP, table GAP, Label and uniform principles.** **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/ETO, product names: Bitt 500SC, Betron 500SC, Etonal 500 SC has been tested on a different varieties of sugar beet. The localizationtions of the experiments were appropriate and produced representative results**.** **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.**

Table 3.2-6: 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)	
Sugar beet	Oblix MT 500 SC	Poland	MRiRW 15/2019d	Ethofumesate, Metamitron	SC	150 g/l 350g/l	3 x 2,0 l/ha	1,0 l/ha	-
	Ethofol	Czech Republic	4723-2	Ethofumesate	SC	500 g/l	2x 1,2 l/ha	1,2 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:	Experiments included standard herbicides which were appropriately selected from among the products registered in Poland and Czech Republic in 2020. **<u>Methods</u>** All trials were conducted in the field conditions and natural infestation of weeds.The crop safety and efficacy of CHR/H/ETO, has been tested on a different varieties of sugar beet. Experiments included standard herbicides which were appropriately selected. **The methods used in the trials were appropriate and trials submitted for nuisance dicotyledonous weeds control evaluation of** CHR/H/ETO, product names: Bitt 500SC, Betron 500SC, Etonal 500 SC**, product name are satisfactorily representative. Experiments complied with GEP requirements, while the efficacy evaluation methods agreed with specific EPPO guidelines and uniform principles**.

3.2.1 Preliminary tests (KCP 6.1)

Preliminary studies on product CHR/H/ETO were not carried out because this herbicide contains ethofumesate 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:	**Ethofumesate** is well known acive substance. registered and commercialised active substance for the use as a herbicide to control broadleaves weeds on sugar beet. 1969 first reported, 1974 first introduced. All the preliminary studies have been presented with the first registration documentation, for this reason further preliminary efficacy tests for Ethofumesate are not necessary.**This is comply with uniform principles.**

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

Not applicable

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

Not applicable

Summary and conclusions on the preliminary trials

Not applicable

3.2.2 Minimum effective dose tests (KCP 6.2)

Ovwerview on minimum effective dose field tests conducted in 2020 show table 6.1.2.1 - 2

Testing facility	Country	Crop
		Sugar beet
		2020
		Central EPPO zone
SynTech Research Poland Sp. z o.o;	PL	5
SynTech Research Poland Sp. z o.o;	CZ	3
Total		**8**

6.1.2.1 Minimum effective dose of CHR/H/ETO in sugar beet

When evaluating the overall mean level of control obtained in plots treated two applications with 0,6 and 0,8 l/ha and comparing with results obtained with 1,0l/ha, a dose response was observed especially for *Galium aparine*, *Stellaria media* , *Amaranthus retroflexus*. To achieve 85% control CHR/H/ETO has to be applied in the spring at 1,0 l/ha. Thus it can be conducted that for *Galium aparine, Stellaria media* , *Amaranthus retroflexus* treated at the recommended growth stages in sugar beet, the intended use rate 1,0 l/ha is required.

When evaluating the overall mean level of control obtained in plots treated three applications with 0,4 and 0,5 l/ha and comparing with results obtained with 0,6l/ha, a dose response was observed especially for *Galium aparine, Stellaria media , Amaranthus retroflexus*. To achieve 85% control CHR/H/ETO has to be applied in the spring at 0,6 l/ha. Thus it can be conducted that for *Galium aparine, Stellaria media , Amaranthus retroflexus* treated at the recommended growth stages in sugar beet, the intended use rate 0,6 l/ha is required.

Table 6.1.2.1 – Central EPPO zone – Efficacy of CHR/H/CPD applied in the spring against frequently occurring weeds in sugar beet.
Mean values [avg] and variation [min/max] across trials in %control

Target	**CHR/H/ETO at rate**	**Number**	**Infestation in the untreated control (unit)**		**CHR/H/ETO % control**	
		of trials			**Product at rate**	
			Mean	**Min & Max**	**Mean**	**Min & Max**
Galium aparine	0,6 l/ha	6	A: 5,96 B: 6,96 C: 7,21	A:3,75-15,0 B:4,25-15,5 C:5,0-15,5	77,33	58,75 & 77,50
	0,8 l/ha				89,88	78,00 & 100,0
	1,0 l/ha				94,68	82,75 & 100,0
Stellaria media	0,6 l/ha	8	A: 9,12 B: 0,07 C:0,85	A: 5,0-18,5 B:5,0-20,1 C:5,0-25,3	84,36	78,75 & 89,30
	0,8 l/ha				97,69	86,0 & 100,0
	1,0 l/ha				99,41	96,25 & 100,0
Chenopodium album	0,6 l/ha	7	A: 26,0 B:18,35 C:32,76	A: 5,5-52,0 B:6,0-60,0 C:7,0-60,0	34,11	18,80 & 57,5
	0,8 l/ha				48,76	35,00 & 73,75
	1,0 l/ha				59,08	45,25 & 80,50
Amaranthus retroflexus	0,6 l/ha	8	A: 11,63 B:12,15 C:13,01	A:3,75-18,5 B:3,75-20,1 C:5,75-25,2	76,89	58,75 & 88,8
	0,8 l/ha				89,38	76,25 & 100,0
	1,0 l/ha				93,03	86,00 & 100,0
Thlaspi arvense	0,6 l/ha	4	A: 6,37 B:7,0 C:7,0	A: 5,0-9,5 B:6,0-10,0 C:6,0-10,0	47,20	0,00 & 65,0
	0,8 l/ha				53,14	68,75 & 72,50
	1,0 l/ha				60,63	79,30 & 81,25

Target	**CHR/H/ETO at rate**	**Number**	**% control**			
		of trials	**Product at rate**		**Oblix MT at rate 2,0 l/ha / Ethofol X at rate 0,6 l/ha**	
			Mean	**Min & Max**	**Mean**	**Min & Max**
Galium aparine	~~0,03~~ l/ha 0,4	6	75,01	55,0 & 80,0	99,83 / 94,33	99,50 & 100,0 / 83,00-100,00
	~~0,04~~ l/ha 0,5		90,18	79,25 & 100,0	-	-
	~~0,05~~ l/ha 0,6		95,58	81,25& 100,0	-	-
Stellaria media	~~0,03 l/ha~~ 0,4	8	88,20	87,30 & 98,50	100,00	100,0 & 100,0
	~~0,04~~ l/ha 0,5		99,29	97,30 & 100,0	-	-
	~~0,05~~ l/ha 0,6		99,54	97,50 & 100,0	-	-

Chenopodium album	~~0,03~~ l/ha 0,4	7	36,44	17,50 & 62,50	96,40	90,0 & 100,0
	~~0,04~~ l/ha 0,5		49,30	26,30 & 78,75	-	-
	~~0,05~~ l/ha 0,6		55,69	21,30 & 81,25	-	-
Amaranthus retroflexus	~~0,03~~ l/ha 0,4	8	78,66	61,25 & 90,00	98,02 / 86,00	91,80 & 100,0 / 84,25 & 87,25
	~~0,04~~ l/ha 0,5		89,91	79,25 & 100,00		
	~~0,05~~ l/ha 0,6		93,03	86,00 & 100,00		
Thlaspi arvense	~~0,03~~ l/ha 0,4	4	48,44	0,00 & 70,0	99,33 / 0,00	99,5 & 100,0 / 0,00 & 0,00
	~~0,04~~ l/ha 0,5		54,69	0,00 & 71,25	-	-
	~~0,05~~ l/ha 0,6		61,89	0,00 & 83,75	-	-

Comments of zRMS:	Note to table**: the table shows the wrong doses of CHR / H / ETO, The correct doses should be 0.4 l / ha, 0.5 l / ha and 0.6 l / ha.**

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

Not applicable

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

No specific studies were conducted to fill this data point.

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

Not applicable

Summary and conclusions on the minimum effective dose

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/ETO in sugar beet the minimum effective dose of product CHR/H/ETO used is:
1,0 L/ha twice a season which are corresponding to 1000 g a.s./ha of ethofumesate.
0,6 L/ha three times a season which are corresponding to 900 g a.s./ha of ethofumesate

Comments of zRMS:	**Minimum effective dose** The identification of the minimum effective dose of CHR/H/ETO, product names: Bitt 500 SC, Betron 500 SC, Etonal 500 SC was conducted on two different group: 2 applications for sugar beet protection against the weeds-1,0 L/ha twice a season which are corresponding to 1000 g a.s./ha of ethofumesate per season. Doses were compared in the experiments: 0,6 l/ha, 0,8 l/ha, 1,0 l/ha. The minimum effective dose of CHR/H/ETO is 1,0 l/ha for two application 3 applications for suger beet protection against the weeds -0,6 L/ha three times a season which are corresponding to 900 g a.s./ha of ethofumesate per season. Doses were compared in the experiments: 0,4 l/ha, 0,5 l/ha, 0,6 l/ha. The minimum effective dose of CHR/H/ETO is 0,6 l/ha for three application Table 6.1.2.1

	The main weeds (5 species) were assessed at the right growth stages of development. In the North-Eastern carried out 5 experiments and 3 in Maritime EPPO zones This is Central Registration zone. The weed species are correctly listed in the table 3.2..3-1 -5 and are in line with Appendix 5. **The minimum effective doses of CHR/H/ETO, product names: Bitt 500 SC, Betron 500 SC, Etonal 500 SC are 1,0 L/ha (1000g, a.s of Ethofumesate) for 2 applications and 0,6 L/ha (900g a.s. of Ethofumesate) for 3 applications . The doses is the same regardless of the EPPO zone.** **The results indicate that doses appropriately selected for use, and these doses are consistent with the GAP table and proposed label and registration purposes in Poland.**

3.2.3 Efficacy tests (KCP 6.2)

Substantiation 1 year efficacy trials with CHR/H/ETO contain ethofumesate use in sugar beet

1. EPPO PP 1/223 Introduction to the efficacy evaluation of plant protection products allow the situation in which one year efficacy evaluation is acceptable and other submitted supporting evidence, such as published papers and reports relating to the product, and cases for extrapolation of evidence from other relevant is accepted.
2. According to COMMISSION REGULATION (EU) No 545/2011 of 10 June 2011 – there is possibility to reduce efficacy evaluation to one year – *"If to the opinion of the applicant the trials from the first season adequately confirm the validity of claims made on the basis of extrapolation of results from other crops, commodities or situations or from tests with closely similar preparations, a justification, which is acceptable to the competent authority for not carrying out a second season's work must be provided."*
3. There is a lot of publications confirming good efficacy ethofumesate against weeds in sugar beet:
    a. Peer review of the pesticide risk assessment of the active substance ethofumesate, PUBLISHED: 19 January 2016. The active substance and the formulated product - The representative uses evaluated comprise outdoor foliar or pre-emergence spraying against annual weeds and grasses in sugar beet, fodder beet and red beet. Full details of the GAP can be found in the list of end points in Appendix A. Number of ethofumesate application on season is 1 to 3.

Summary of representative uses evaluated, for which all risk assessments needed to be completed (*Ethofumesate*)

(Regulation (EU) N° 284/2013, Annex Part A, points 3, 4)

1) Task Force Ethofumesate

Crop and/or situation (a)	Member State	Product Name	F G I (b)	Pests or group of pests controlled (c)	Formulation		Application				Application rate per treatment			PHI (days) (l)	Remarks (m)
					Type (d-f)	Conc of a.i. g/kg (i)	Method kind (f-h)	Growth stage and season (j)	Number min max (k)	Interval between applications (minimum days)	Kg a.s./hl min max (g/hl)	Water l/ha min max	kg a.s./ha min max (*)		
Sugar beet, fodder beet, red beet	North and South EU	Ethofumesate SC 500	F	Annual dicot weeds and annual grasses	SC	500 g/l	Overall spray	Post-emergence BBCH16 to BBCH18	1-3	5	0.05-1	100-400	0.2-1.0	*	The maximum amount of active substance must not exceed 1.0 kg/ha every 3 years.

* PHI is covered by the normal vegetation period between last application and harvest

b. RAR_05_Volume_3CA_B-3_06-11-2015_public. B.3.1. Use of the active substance: Ethofumesate is used as pre- and post-emergence herbicide in sugar-, fodder- and red beet. It is a well-known standard herbicide, widely used for many years in nearly all sugar beet areas of the world. Ethofumesate should be used in post-emergence 1 – 3 times in a sequential spray programme. Application can be made from the time the smallest beets are at the cotyledon stage or when the weeds are at the cotyledon stage. A second treatment of Ethofumesate could be applied 5 - 14 days later when the next flush of weeds has reached the cotyledon stage. If further weed control is required, a third application can be made. The last application has to be made at the latest at a BBCH (crop growth stage) of 18.
c. RAR_01_Volume_1_06-11-2015_public. Point 1.5.1. Details of representative uses. Number of ethofumesate application on season is 1 to 3.

1.5. DETAILED USES OF THE PLANT PROTECTION PRODUCT

1.5.1. Details of representative uses

A) Task Force Ethofumesate

Crop and/or situation (a)	Member State	Product Name	F G I (b)	Pests or group of pests controlled (c)	Formulation		Application				Application rate per treatment			PHI (days) (l)	Remarks (m)
					Type (d-f)	Conc of a.i. g/kg (i)	Method kind (f-h)	Growth stage and season (j)	Number min max (k)	Interval between applications (min)	Kg a.s./hl min max (g/hl)	Water l/ha min max	kg a.s./ha min max (*) (g/ha)		
Sugar beet, fodder beet, red beet	North and South EU	Ethofumesate SC 500	F	Annual dicot weeds and annual grasses	SC	500 g/L	Overall spray	Post-emergence BBCH16 to BBCH18	1-3	5	0.05-1	100-400	0.2-1.0	*	The maximum amount of active substance must not exceed 1.0 kg/ha every 3 years. * PHI is covered by the normal vegetation period between last application and harvest

* For uses where the column „Remarks" in marked in grey further consideration is necessary. Uses should be crossed out when the notifier no longer supports this use(s).
(a) For crops, the EU and Codex classification (both) should be taken into account ; where relevant, the use situation should be described (e.g. fumigation of a structure)
(b) Outdoor or field use (F), greenhouse application (G) or indoor application (I)
(c) e.g. biting and suckling insects, soil born insects, foliar fungi, weeds
(d) e.g. wettable powder (WP), emulsifiable concentrate (EC), granule (GR)
(e) GCPF Codes – GIFAP Technical Monograph N° 2, 1989
(f) All abbreviations used must be explained
(g) Method, e.g. high volume spraying, low volume spraying, spreading, dusting, drench
(h) Kind, e.g. overall, broadcast, aerial spraying, row, individual plant, between the plant – type of equipment used must be indicated
(i) g/kg or g/L. Normally the rate should be given for the active substance (according to ISO) and not for the variant in order to compare the rate for same active substances used in different variants (e.g. fluoroxypyr). **In certain cases, where only one variant synthesised, it is more appropriate to give the rate for the variant (e.g. benthiavalicarb-isopropyl).**
(j) Growth stage at 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
(k) Indicate the minimum and maximum number of application possible under practical conditions of use
(l) The values should be given in g or kg whatever gives the more manageable number (e.g. 200 kg/ha instead of 200 000 g/ha or 12.5 g/ha instead of 0.0125 kg/ha
(m) PHI - minimum pre-harvest interval

d. According to information available on the website **www.weedscience.org**, which is the property of International Survey of Herbicide Resistant Weeds /HRAC/, ethofumesate is included in the of Benzofurans, group 15, K3.

4. Plant Protection Product registered in Europe contain ethofumesate:

Lp	**Product name**	**Country**	**Active substance**	**dose**	**crop**	**Number of applications**	**remarks**
1.	FUMESATE 500 SC	PL	ethofumesate (500g/l)	2,0l/ha	Sugar beet	1	BBCH 12
2.	ETHOSAT 500 SC	PL	ethofumesate (500g/l)	1,0l/ha	Sugar beet	2	BBCH A:12, B=A+7-10days
3.	OBLIX MT 500 SC	PL	ethofumesate (150g/l) + metamitron (350g/l)	1,5-2,0l/ha	Sugar beet	3	To BBCH 31
4.	BURAKO-SAT 500 SC	PL	ethofumesate (500g/l)	1,0l/ha	Sugar beet	2	BBCH A:12, B=A+7-10days
5.	BETOSAT 500 SC	PL	ethofumesate (500g/l)	0,2l/ha	Sugar beet	3	BBCH:11-18
6.	KEMIRON KONCEN-TRAT 500	PL	ethofumesate (500g/l)	0,2l/ha	Sugar beet	3	BBCH:11-18

	SC						
7.	ETOS 500 SC	PL	ethofumesate (500g/l)	0,2l/ha	Sugar beet	3	BBCH:11-18
8.	MURENA 500	DE	ethofumesate (500g/l)	0,66l/ha	Sugar beet	3	BBCH 12-18
9.	Oblix	DE	ethofumesate (500g/l)	0,6l/ha	Sugar beet	3	BBCH 12-19
10.	STEMAT	DE	ethofumesate (500g/l)	0,66l/ha	Sugar beet	3	BBCH 12-18
11.	Tramat 500	DE	ethofumesate (500g/l)	0,66l/ha	Sugar beet	3	BBCH 12-18
12.	Agro - Ethofumesat	CZ	ethofumesate (500g/l)	0,6l/ha	Sugar beet	2	BBCH 10-11
13.	Etho 500	CZ	ethofumesate (500g/l)	0,2l/ha	Sugar beet	3	Postemer-gence
14.	Ethofol X	Cz	ethofumesate (500g/l)	0,6l/ha	Sugar beet	2	BBCH 10-11
15.	Oblix 500 SC	CZ	ethofumesate (500g/l)	0,6l/ha	Sugar beet	2	BBCH 10-11

Summary – comparison GAP table with EPPO GAP and PPP registered in DE, CZ and PL

a) **EPPO GAP –** CHR/H/ETO covering max a.s. dose 1kg a.s for application on crop (CHR/H/ETO: two applications 1000g as/ha, three applications 900g as/ha) and number of application 1-3 (CHR/H/ETO 2 and 3 applications)

b) PPP registered in DE, CZ and PL

- 15 plant protection products contain ethofumesate solo registered in suger beet.
- 14 plant protection products registered in sugar beet in the same number of applications 2-3 like evaluated product.
- 9 plant protection products registered in sugar beet in the same BBCH like evaluated product

It may be stayted that ethofumesate is vell known active substance uses for many years in quantity a.s. and number of application like evaluted product CHR/H/ETO.

Efficacy

Materials and methods

The applicant submitted 8 reports (in total) showing the results in research into product efficacy carried out in 2020 in sugar beet. List of these reports is contained in Appendix 1

Site

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

Comments of zRMS:	**NOTE** Appendix 4 contains incorrect data: -The report numbers are for selectivity studies and the data are for efficacy studies. -The weed species shown are not consistent with the species reported in the reports.

Testing units
Efficacy studies on herbicide CHR/H/FLO were performed in 2020 by:
- SynTech Research Poland Sp. z o.o., ul. Jagiellońska 69/1, 85-027 Bydgoszcz, 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 1/52 (3) Weeds in in sugar and fodder beet and industrial chicory

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 and ARM 2019.4.

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 $1m^2$.

Comments of zRMS:	**NOTE** The applicant should present the deadlines (terms) for the assessment of weed infestation.(not only in App.4).

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:
BBCH A: 12-18
BBCH B=A+5-10 days (12-18)
BBCH C=B+5-10days (12-18)

The product CHR/H/ETO has been used at the following rates:
0,6l/ha; 0,8l/ha; 1,0l/ha twice per season
0,4l/ha; 0,5l/ha, 0,6l/ha three times per season

Oblix MT 500 SC and Ethofol X 500 SC were used as a reference product in sugar beets.
The experiment was established on a set of complete randomized blocks in 4 replications.

Experiment pattern:

Sugar beet

Poland

No.	Name	Rate (l/ha)	other rate (g a.s./ha)	Appl code	Growth Stage BBCH
1	Untreated Check				
2	CHR/H/ETO 500 SC	0,6	300	AB	BBCH 12-18, interval 5-10 days
3	CHR/H/ETO 500 SC	0,8	400	AB	BBCH 12-18, interval 5-10 days
4	CHR/H/ETO 500 SC	1,0	500	AB	BBCH 12-18, interval 5-10 days
5	CHR/H/ETO 500 SC	0,4	200	ABC	BBCH 12-18, interval 5-10 days
6	CHR/H/ETO 500 SC	0,5	250	ABC	BBCH 12-18, interval 5-10 days
7	CHR/H/ETO 500 SC	0,6	300	ABC	BBCH 12-18, interval 5-10 days
8	Oblix MT 500 SC	2,0	1000	AB	BBCH 12-18, interval 5-10 days
9	Oblix MT 500 SC	2,0	1000	ABC	BBCH 12-18, interval 5-10 days

Czech Republic

No.	Name	Rate (l/ha)	other rate (g a.s./ha)	Appl code	Growth Stage BBCH
1	Untreated Check				
2	CHR/H/ETO 500 SC	0,6	300	AB	BBCH 12-18, interval 5-10 days
3	CHR/H/ETO 500 SC	0,8	400	AB	BBCH 12-18, interval 5-10 days
4	CHR/H/ETO 500 SC	1,0	500	AB	BBCH 12-18, interval 5-10 days
5	CHR/H/ETO 500 SC	0,4	200	ABC	BBCH 12-18, interval 5-10 days
6	CHR/H/ETO 500 SC	0,5	250	ABC	BBCH 12-18, interval 5-10 days
7	CHR/H/ETO 500 SC	0,6	300	ABC	BBCH 12-18, interval 5-10 days
8	Ethofol X 500 SC	0,6	300	AB	BBCH 12-18, interval 5-10 days

Details of experiments

Sugar beet

Report code	CHR_H_ETO_EFF_PL01	CHR_H_ETO_EFF_PL02	CHR_H_ETO_EFF_PL03	CHR_H_ETO_EFF_PL04	CHR_H_ETO_EFF_PL05	CHR_H_ETO20_EFF_CZ01	CHR_H_ETO20_EFF_CZ02	CHR_H_ETO20_EFF_CZ03
	SRPL20-241-336HE	SRPL20-242-336HE	SRPL20-243-336HE	SRPL20-244-336HE	SRPL20-245-336HE	SRCZ20-093-301HE	SRCZ20-091-301HE	SRCZ20-092-301HE
Location	Tynwałd / Poland	Lipina Nowa / Poland	Borzęcin / Poland	Izdebno / Poland	Turze / Poland	Semcice / Czech Republic	Senorady / Czezch republic	Troubsko / Czech Republic
Plant/cultivar	sugar beet / Kujavia	sugar beet / Jagielon	sugar beet / Jagienka	sugar beet / Finezja	sugar beet / Sobieski	sugar beet / Gallert	sugar beet / Dalmatin	sugar beet / Honey
Seeding date	22.05.2020	18.05.2020	16.04.2020	22.05.2020	15.05.2020	07.05.2020	09.04.2020	27.05.2020
Seeding rate	100000 S/ha	90909 P/ha	125000S/ha	100000 S/ha	90TS/ha	135 KS/ha	120000S/ha	120 TS/ha
Forecrop	potatoes	winter wheat	winter wheat	maize	winter wheat	winter oilseed rape	winter wheat	spring barley
Type of sprayer	A:BACCAI; B:BACCAI; C:BACCAI;	A:BACCAI; B:BACCAI; C:BACCAI;	A:BACCAI; B:BACCAI; C:BACCAI;	A:BACCAI; B:BACCAI; C:BACCAI;	A:BACCAI; B:BACCAI; C:BACCAI;	A:BACSPR; B:BACSPR; C:BACSPR;	A:BACCAI; B:BACCAI; C:BACCAI;	A:BACCAI; B:BACCAI; C:BACCAI;
Date of treatment	A:19.06.2020; B:26.06.2020, C:03.07.2020	A:29.05.2020; B:04.06.2020, C:09.06.2020	A:04.05.2020; B:11.06.2020, C:18.06.2020	A:15.06.2020; B:22.06.2020, C:01.07.2020	A:06.06.2020; B:13.06.2020, C:19.06.2020	A:06.06.2020; B:25.06.2020, C:03.07.2020	A:22.05.2020; B:29.05.2020, C:08.06.2020	A:25.05.2020; B:02.06.2020, C:09.06.2020
Plant development phase	A:BBCH 12-14; B:BBCH 12-15; C:BBCH 14-16	A:BBCH:12-14; B:BBCH:14-16; C:BBCH:16-17	A:BBCH:12-16; B:BBCH:14-16; C:BBCH:16-17	A:BBCH:12-13; B:BBCH:13-14; C:BBCH:15-16	A:BBCH:12-13; B:BBCH:13-14; C:BBCH:15-16	A:BBCH:12; B:BBCH:12-13; C:BBCH:14-18	A:BBCH:11-13; B:BBCH:14-16; C:BBCH:16-18	A:BBCH:11-14; B:BBCH:16-17; C:BBCH:16-19
Soil type	loamy sand	silt loam	sandy loam	loamy sand	sandy loam	loam	loamy clay	loam
pH	5,1	6,5	6,8	6,5	6,1	7,2	6,8	6,5
Water (l/ha)	A:200; B:200; C:200	A:200; B:200; C:200	A:300; B:300; C:300	A:300; B:300; C:300	A:200; B:200; C:200	A:225; B:225; C:225	A:250; B:250; C:250	A:250; B:250; C:250
Plot size	3x7=21m2	2,5x5,8=14,5m2	3x5=15m2	3x7=21m2	3x5=15m2	3x4=12m2	3x5=15m2	2x8=16m2

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 sugar beet in 2020 in Poland and Czech Republic. The herbicide CHR/H/ETO was applied twice and three times per season at the following rates:
twice ~~0,5, 0,7~~, Should be 0,6 L/ha: 0,8 L/ha, 1,0 L/ha
three times 0,4, 0,5, 0,6 L/ha
Tested herbicide was applied at the growth stage:
BBCH A 12-18
BBCH B=A+5-10 days (12-18)
BBCH C=B+5-10 days (12-18)

Table 3.2-10: 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 1/52(3) Weeds in sugar and fodder beet and industrial chicory
Experimental design	Plot design	Randomized Complete Block (RCB) – (32)
	Plot size	12 - 21 m^2
	Number of replications	4 (8)
Crop	Trials per crop	Sugar beet 8
	Varieties per crop	Kujavia, Jagielon, Jagienka, Finezja, Sobieski, Gallert, Dalmatin, Honey
	Sowing period	09.04.2020-27.05.2020
Application	Crop stage (BBCH)* at application	A: BBCH 12-16 B: BBCH 12-17 C: BBCH 14-19
	Timing Pest stage at application (1)	The data available in Appendix 4
	Number of applications Intervals between applications	2 and 3 (8 trials), interval – 5-10 days
	Spray volumes	A: 200 - 300 L/ha B: 200 - 300 L/ha C: 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: 5,1 - 7,2 soil type: sandy loam, loamy sand, loam, loamy clay, silt 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 8 trials were carried out to evaluate the efficacy of product CHR/H/ETO for the control of di-cotyledonous weeds in sugar beet.

Efficacy data for dicotyledonous weeds are presented from 8 efficacy trials assessed. Eight trials have been conducted in one season 2020 in Poland and Czech Republic.

3.2.3-1 Efficacy tests of CHR/H/ETO

Sugar beet

The eight trials were carried out in sugar beet in 2020. The herbicide CHR/H/ETO was applied twice and three times per season at the following rates twice ~~0,5, 0,7~~ 0,6, 0,8, 1,0 L/ha, three times 0,4, 0,5, 0,6 L/ha. Tested herbicide was applied at the growth stage: BBCH A 12-18; BBCH B=A+5-10 days; BBCH C=B+5-10 days.

Taking into account the specificity of the active ingredient ethofumesate which is contained in the product CHR/H/ETO, the efficacy results are presented for the third/last assessment.

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

The efficiency of CHR/H/ETO in control of GALAP Galium aparine were investigated in 7 trials. The tested product used twice at rates: 0,6 l/ha, 0,8 l/ha, 1,0 l/ha controlled this species of weed at the high level of efficacy DA-A 28-35 and 46-56. The effectiveness fluctuated from 69,18 to 90,97% (28-35DA-A) and from 73,33 to 94,68 % (46-56 DA-A). The tested product used three times at rates: 0,4 l/ha, 0,5 l/ha, ~~0,5~~ 0,6l/ha controlled this species of weed at the high level of efficacy DA-A 28-35 and 46-56. The effectiveness fluctuated from 70,84 to 88,92% (28-35DA-A) and from 75,01 to 95,58 % (46-56 DA-A).
In trials the amount of weed on m^2 were at the application A 3,75-15, B 4,25-15,5, C 5-15,5. Standard products were comparable to the tested herbicide. (Appendix 5 tab. 1,2).

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

The efficiency of CHR/H/ETO in control of CHEAL Chenopodium album were investigated in 7 trials. The tested product used twice at rates: 0,6 l/ha, 0,8 l/ha, 1,0 l/ha controlled this species of weed at the low level of efficacy DA-A 28-33 and 46-56. The effectiveness fluctuated from 35,62 to 58,04% (28-33DA-A) and from 34,11 to 59,08 % (46-56 DA-A). The tested product used three times at rates: 0,4 l/ha, 0,5 l/ha, ~~0,5~~ 0,6l/ha controlled this species of weed at the low level of efficacy DA-A 28-33 and 46-56. The effectiveness fluctuated from 35,90 to 56,44% (28-33DA-A) and from 36,44 to 55,69 % (46-56 DA-A).
In trials the amount of weed on m2 were at the application A 5,5-52, B 6,0-60,0, C 7,0-60,0. Standard products were on a higher level to the tested herbicide. (Appendix 5 tab. 3,4).

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

The efficiency of CHR/H/ETO in control of STEME Stellaria media were investigated in 8 trials. The tested product used twice at rates: 0,6 l/ha, 0,8 l/ha, 1,0 l/ha controlled this species of weed at the high level of efficacy DA-A 28-35 and 46-56. The effectiveness fluctuated from 80,17 to 96,23% (28-35DAA) and from 84,36 to 99,41% (46-56 DA-A). The tested product used three times at rates: 0,4 l/ha, 0,5 l/ha, ~~0,5~~ 0,6 l/ha controlled this species of weed at the low level of efficacy DA-A 28-35 and 46-56. The effectiveness fluctuated from 82,51 to 96,04% (28-35DA-A) and from 88,20 to 99,54 % (46-56 DA-A).
In trials the amount of weed on m2 were at the application A 5,5-18,5, B 6,0-20,1, C 6,0-25,3. Standard products were comparable to the tested herbicide. (Appendix 5 tab. 5,6).

3.2.3-1.4 The efficacy of CHR/H/ETO in control of THLAR Thlaspi arvense

The efficiency of CHR/H/ETO in control of THLAR Thlaspi arvense were investigated in 4 trials. The tested product used twice at rates: 0,6 l/ha, 0,8 l/ha, 1,0 l/ha controlled this species of weed at the low level of efficacy DA-A 28-35 and 56. The effectiveness fluctuated from 46,25 to 60,14% (28-35DA-A) and from 47,20 to 60,63 % (56 DA-A). The tested product used three times at rates: 0,4 l/ha, 0,5 l/ha, ~~0,5~~ 0,6l/ha controlled this species of weed at the low level of efficacy DA-A 28-35 and 56. The effectiveness fluctuated from 48,13 to 59,38% (28-35DA-A) and from 48,44 to 61,89 % (56 DA-A).
In trials the amount of weed on m2 were at the application A 5,0-9,5, B 6,0-10,0, C 6,0-10,0. Standard products were comparable to the tested herbicide. (Appendix 5 tab. 7,8).

3.2.3-1.5 The efficacy of CHR/H/ETO in control of AMARE Amaranthus retroflexus

The efficiency of CHR/H/ETO in control of AMARE Amaranthus retroflexus were investigated in 8 trials. The tested product used twice at rates: 0,6 l/ha, 0,8 l/ha, 1,0 l/ha controlled this species of weed at the high level of efficacy DA-A 28-35 and 46-56. The effectiveness fluctuated from 75,80 to 92,82% (28-35DA-A) and from 76,89 to 93,03 % (46-56 DA-A). The tested product used three times at rates: 0,4 l/ha, 0,5 l/ha, ~~0,5~~ 0,6l/ha controlled this species of weed at the high level of efficacy DA-A 28-35 and 46-56. The effectiveness fluctuated from 77,81-91,94% (28-35DA-A) and from 78,66 to 93,03 % (56 DA-A).
In trials the amount of weed on m2 were at the application A 3,75-17,0, B 6,4-19,0, C 6,5-19,0. Standard products were on a higher level to the tested herbicide. (Appendix 5 tab. 9,10).

Conclusions on the biological efficacy 2020

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

Two application

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

Moderately Susceptible: *Stellaria media (STEME), Amaranthus retroflexus (AMARE)*
Moderately Tolerant: *Galium aparine (GALAP),*
Tolerant: *Chenopodium album (CHEAL), Thlaspi arvense (THLAR),*

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

Susceptible: Stellaria media (STEME), Amaranthus retroflexus (AMARE), Galium aparine (GALAP),
Tolerant: Chenopodium album (CHEAL), Thlaspi arvense (THLAR),

Dose CHR/H/ETO 1,0 l/ha
Susceptible: *Stellaria media (STEME), Amaranthus retroflexus (AMARE), Galium aparine (GALAP),*
Moderately Tolerant: Thlaspi arvense (THLAR),
Tolerant: *Chenopodium album (CHEAL),*

Three applications

Dose CHR/H/ETO 0,4 l/ha
Moderately Susceptible: *Galium aparine (GALAP), Stellaria media (STEME), Amaranthus retroflexus (AMARE)*
Tolerant: *Chenopodium album (CHEAL), Thlaspi arvense (THLAR),*

Dose CHR/H/ETO 0,5 l/ha
Susceptible: Stellaria media (STEME), Amaranthus retroflexus (AMARE),
Moderately Susceptible: *Galium aparine (GALAP),*
Tolerant: Chenopodium album (CHEAL), Thlaspi arvense (THLAR),

Dose CHR/H/ETO 0,6 l/ha
Susceptible: Stellaria media (STEME), Amaranthus retroflexus (AMARE), Galium aparine (GALAP),
Tolerant: Chenopodium album (CHEAL), Thlaspi arvense (THLAR),

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

Sugar beet – two applications

Target	CHR/H/ETO at rate	Number of trials	Infestation in the untreated control (unit)		% control				No of trials where product is >, <, = compared to stand-ard(s)**
					Product at rate		Oblix MT at rate 2,0 l/ha / Ethofol X at rate 0,6 l/ha		
			Mean	Min & Max	Mean	Min & Max	Mean	Min & Max	
Galium aparine	0,6 l/ha	6	A: 5,96 B: 6,96 C: 7,21	A:3,75-15,0 B:4,25-15,5 C:5,0-15,5	77,33	58,75 & 77,50	98,17 / 99,83	94,5 & 100,0 / 83,0 & 100,0	-
	0,8 l/ha				89,88	78,00 & 100,0	-	-	-
	1,0 l/ha				94,68	82,75 & 100,0	-	-	-
Stellaria media	0,6 l/ha	8	A: 9,12 B: 0,07 C:0,85	A: 5,0-18,5 B:5,0-20,1 C:5,0-25,3	84,36	78,75 & 89,30	99,95 / 100,00	99,75 & 100,0 / 100,00 & 100,00	-
	0,8 l/ha				97,69	86,0 & 100,0	-	-	-
	1,0 l/ha				99,41	96,25 & 100,0	-	-	-
Chenopodium album	0,6 l/ha	7	A: 26,0 B:18,35 C:32,76	A: 5,5-52,0 B:6,0-60,0 C:7,0-60,0	34,11	18,80 & 57,5	88,47 / 78,13	56,30 & 100,00 / 76,25 & 80,00	-
	0,8 l/ha				48,76	35,00 & 73,75	-	-	-
	1,0 l/ha				59,08	45,25 & 80,50	-	-	-
Amaranthus retroflexus	0,6 l/ha	8	A: 11,63 B:12,15 C:13,01	A:3,75-18,5 B:3,75-20,1 C:5,75-25,2	76,89	58,75 & 88,8	97,16 / 86,0	89,30 & 100,0 / 84,25 & 87,25	-
	0,8 l/ha				89,38	76,25 & 100,0	-	-	-
	1,0 l/ha				93,03	86,00 & 100,0	-	-	-
Thlaspi arvense	0,6 l/ha	4	A: 6,37 B:7,0 C:7,0	A: 5,0-9,5 B:6,0-10,0 C:6,0-10,0	47,20	0,00 & 65,0	70,75 / 0,00	0,00 & 99,0 / 0,00 & 0,00	-
	0,8 l/ha				53,14	68,75 & 72,50	-	-	-

	1,0 l/ha				60,63	79,30 & 81,25	-	-	-

Sugar beet – three applications

Target	CHR/H/ETO at rate	Number of trials	Infestation in the untreated control (unit)		% control				No of trials where product is >, <, = compared to stand-ard(s)**
					Product at rate		Oblix MT at rate 2,0 l/ha / Ethofol X at rate 0,6 l/ha		
			Mean	Min & Max	Mean	Min & Max	Mean	Min & Max	
Galium aparine	~~0,03 l/ha~~	6	A: 5,96 B: 6,96 C: 7,21	A:3,75-15,0 B:4,25-15,5 C:5,0-15,5	75,01	55,0 & 80,0	99,83 / 94,33	99,50 & 100,0 / 83,00-100,00	-
	~~0,04 l/ha~~				90,18	79,25 & 100,0	-	-	-
	~~0,05 l/ha~~				95,58	81,25& 100,0	-	-	-
Stellaria media	~~0,03 l/ha~~	8	A: 9,12 B: 0,07 C:0,85	A: 5,0-18,5 B:5,0-20,1 C:5,0-25,3	88,20	87,30 & 98,50	100,00	100,0 & 100,0	-
	~~0,04 l/ha~~				99,29	97,30 & 100,0	-	-	-
	~~0,05 l/ha~~				99,54	97,50 & 100,0	-	-	-
Chenopodium album	~~0,03 l/ha~~	7	A: 26,0 B:18,35 C:32,76	A: 5,5-52,0 B:6,0-60,0 C:7,0-60,0	36,44	17,50 & 62,50	96,40	90,0 & 100,0	-
	~~0,04 l/ha~~				49,30	26,30 & 78,75	-	-	-
	~~0,05 l/ha~~				55,69	21,30 & 81,25	-	-	-
Amaranthus retroflexus	~~0,03 l/ha~~	8	A: 11,63 B:12,15 C:13,01	A:3,75-18,5 B:3,75-20,1 C:5,75-25,2	78,66	61,25 & 90,00	98,02 / 86,00	91,80 & 100,0 / 84,25 & 87,25	-
	~~0,04 l/ha~~				89,91	79,25 & 100,00			-
	~~0,05 l/ha~~				93,03	86,00 & 100,00			-
Thlaspi arvense	~~0,03 l/ha~~	4	A: 6,37 B:7,0 C:7,0	A: 5,0-9,5 B:6,0-10,0 C:6,0-10,0	48,44	0,00 & 70,0	99,33 / 0,00	99,5 & 100,0 / 0,00 & 0,00	-
	~~0,04 l/ha~~				54,69	0,00 & 71,25	-	-	-
	~~0,05 l/ha~~				61,89	0,00 & 83,75	-	-	-

* 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

Comments of zRMS:	
	Note to table: The table shows the wrong doses of CHR / H / ETO, The correct doses should be 0.4 l / ha, 0.5 l / ha and 0.6 l / ha, according to the data contained in the reports. **Efficacy effects** The research presents the results of 8 efficacy experiments. The effectiveness of **CHR / H / ETO** against annual dicotyledonous weeds were conducted in 2020 vegetation season. Those trials were undertaken in sugar beet and located in the North-Eastern EPPO zone (Poland). and in the Maritime EPPO zone (Czech Republic). The results from Poland and Czech Republic are representative for the Central Registration EPPO zone.

The efficacy of **CHR / H / ETO** was investigated on a dozen species, but 5 species met the methodological requirements. These species are particularly troublesome in the cultivation of sugar beet.
The number of trials for important species was consistent to required for herbicide registrations in Poland.
This dRR presents results from trials :
*Stellaria media (*STEME*)* -8
*Amaranthus retroflexus (*AMARE*)*-8
*Galium aparine (*GALAP*)-6*
*Thlaspi arvense (*THLAR*)* -4
*Chenopodium album (*CHEAL*)*-7.

Experiments on the effectiveness of **CHR/H/ETO** were carried out in one growing season, but in a larger number than is required for registration in Poland. Consistent results were obtained and ethofumesate is well known a.s. in agricultural practice. The presented data are representative and sufficient to assess the effectiveness of **CHR/H/ETO** for registration purposes in Poland.

Effectiveness of two applications
Dose CHR/H/ETO 1,0 l/ha
Susceptible: *Stellaria media (*STEME*)*, **99,41%** ; standard Oblix MT 99,95%, Ethofol X 100%
*Amaranthus retroflexus (*AMARE*)*, **93,03%;** 97,16%
86,0 %
*Galium aparine (*GALAP*)*, **94,68** % 98,17%
99,83 %
Moderately Tolerant: *Thlaspi arvense* (THLAR), **60,63%** 70,75 %
-
Tolerant: *Chenopodium album (*CHEAL*)*, **59,08 %** 88,47%
78,13 %

Effectiveness of three applications
Dose CHR/H/ETO 0,6 l/ha
Susceptible: *Stellaria media* (STEME), **99,54%** 100%
-
Amaranthus retroflexus (AMARE), **93,03 %** 98,02%
86,00%
Galium aparine (GALAP), **95,58%** 99,83 %
94,33 %
Tolerant: *Chenopodium album* (CHEAL), **55,69 %** 96,40%
-
Thlaspi arvense (THLAR), **61,89%** 99,33%
-
The effectiveness of standard agents was several percent higher than that of the tested agent, especially in the control of *Thlaspi arvense* (THLAR) and *Chenopodium album* (CHEAL). The standard measures were more effective.
However, the species *Amaranthus retroflexus* (AMARE) was controlled by the tested **CHR/H/ETO** with a high level of efficacy of 93%, which is one of the most nuisance in beet cultivation.

	The evaluator carried out comparisons on the number of trials for each weed species, crop, and the fulfillment of the weed density requirements on a plot. Also carried out the comparison of the content and the number of experiments included in the reports and the experiments presented by the applicant. On this basis, the summary table 3.2-1: Efficacy evaluation of **CHR/H/ETO** at the timing of assesment, two application (1,0l/ha) and three application (0,6 l/ha) - summary –were found correct. Based on the data contained in the final summary Table 3.2-1, the weed species listed on the label were corrected. Experiments on the efficacies of **CHR/H/ETO** for weed control in sugar beet are representative in terms of spectrum and intensity of species and meet the planting requirements per plot. The location of the experiments (PL,CZ) in various agrotechnical conditions also positively influenced the representativeness of the obtained results. The methods used in the trials were appropriate and trials submitted for evaluation are satisfactorily representative for weeds control in sugar beet for registration of **CHR/H/ETO** applied in two application (1,0l/ha) and three application (0,6 l/ha) CHR/H/ETO in Poland. **The presented results of CHR/H/ETO performance applied in two or three application on sugar beet for the control of dicotyledonous weeds indicate compliance with the GAP table and with label of the measures tested and Uniform principles.** **It is justified to claim the registration of two application of CHR/H/ETO, product names: Bitt 500SC, Betron 500SC, Etonal 500 SC in dose 1,0 L/ha (1000g, a.s of Ethofumesate) for 2 applications and in dose 0,6 L/ha (900g a.s. of Ethofumesate) for 3 applications for the control of annual dicotyledonous weeds.**

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

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

According to the Ethofumesate_RAR_05_Volume3CA_B-3_06-11-2015_2013-11-25
There is no evidence of the development of resistance to ethofumesate by grass weeds or broad-leaved weeds in over 30 years of use. To avoid the development of resistance, repeated use of high rates is not recommended and the implementation of low-dose sequential applications, usually in co-formulations or tank-mixtures with other herbicides, has allowed the rates of use to be reduced progressively over the years. Since the active substance is generally used in mixtures and/or sequences with other herbicides in any one season, and due to crop rotational practices, it would not usually be re-applied on an annual basis to the same field.

Comments of zRMS:	**Resistance** No reports of weed resistance to ethofumesate have been found either in the scientific or professional literature. There were also no such reports from agricultural practice. **The rules for using Ethofumesate CHR/H/ETO, product names: Bitt 500SC, Betron 500SC, Etonal 500 SC (Ethofumesate 500g/L) contained in the label meet the conditions of the anti-resistant strategy**.

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			
Sugar beet	Poland	S + Y + Q	5	Spring 2020	GEP	-
Sugar beet	Czech Republic	S + Y + Q	3	Spring 2020	GEP	-
TOTAL	-	-	**8**	-	-	-

* 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)	

Sugar beet	Oblix MT 500 SC	Poland	MRiRW 15/2019d	Ethofumesate, Metamitron	SC	150 g/l 350g/l	3 x 2,0 l/ha	1,0 l/ha	-
	Ethofol	Czech Republic	4723-2	Ethofumesate	SC	500 g/l	2x 1,2 l/ha	1,2 l/ha	-

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

3.4.1 Phytotoxicity to host crop (KCP 6.4.1)

Materials and methods
The applicant submitted 8 selectivity reports (in total) showing the results in research into product selectivity carried out in 2020 in sugar beet. List of these reports is contained in Appendix 1

Site
Trials were conducted in different regions in Poland and Czech Republic where sugar beet are grown commercially. The experiment was established on a set of complete randomized blocks in 4 replications. Details on trial sites, applications and data on effectiveness are included in Appendix 4 and 5
Testing units
Selectivity studies on herbicide CHR/H/ETO were performed in 2020 by:
- SynTech Research Poland Sp. z o.o., ul. Jagiellońska 69/1, 85-027 Bydgoszcz, 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) Design and analysis of efficacy evaluation trials
- PP 1/181 (3) Conduct and reporting of efficacy evaluation trials including good experimental practice

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 a T-BOOM – BACCAI, plot sprayer – BACSPR,

Tested herbicide was applied at the growth stage in sugar beet:
A: BBCH 12-18,
B: BBCH 12-18
C: BBCH 14-18

The product CHR/H/ETO has been used:
in sugar beet at the following rates of two applications: 1,0 L/ha; 2,0L/ha; three applications 0,6L/ha; 1,2L/ha
Oblix MT 500 SC and Ethofol X were used as a reference product in sugar beet;

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

Experiment pattern:
Sugar beet Poland

No.	Name	Rate (l/ha)	other rate (g a.s./ha)	Appl code	Growth Stage BBCH
1	Untreated Check				
2	CHR/H/ETO 500 SC	1,0	500	AB	A:BBCH ~~11~~ 12-18; B. 5-10 after A
3	CHR/H/ETO 500 SC	2,0	1000	AB	A:BBCH ~~11~~ 12-18; B. 5-10 after A
4	CHR/H/ETO 500 SC	0,6	300	ABC	A:BBCH 11 12-18; B. 5-10 after A; C. 5-10 days after B
5	CHR/H/ETO 500 SC	1,2	600	ABC	A A:BBCH ~~11~~

					12-18; B. 5-10 after A; C. 5-10 days after B
6	Oblix MT 500 SC	2,0	600 + 1400	AB	A:BBCH ~~11~~ 12-18; B. 5-10 after A
7	Oblix MT 500 SC	4,0	1200 + 2800	AB	A:BBCH ~~11~~ 12-18; B. 5-10 after A
8	Oblix MT 500 SC	2,0	900 + 2100	ABC	A A:BBCH ~~11~~ 12-18; B. 5-10 after A; C. 5-10 days after B
9	Oblix MT 500 SC	4,0	1800 + 4200	ABC	A A:BBCH ~~11~~ 12-18; B. 5-10 after A; C. 5-10 days after B

Sugar beet Czech Republic

No.	Name	Rate (l/ha)	other rate (g a.s./ha)	Appl code	Growth Stage BBCH
1	Untreated Check				
2	CHR/H/ETO 500 SC	1,0	500	AB	A:BBCH ~~11~~ 12-18; B. 5-10 after A
3	CHR/H/ETO 500 SC	2,0	1000	AB	A:BBCH ~~11~~ 12-18; B. 5-10 after A
4	CHR/H/ETO 500 SC	0,6	300	ABC	A A:BBCH 11 12-18; B. 5-10 after A; C. 5-10 days after B
5	CHR/H/ETO 500 SC	1,2	600	ABC	A A:BBCH ~~11~~ 12-18; B. 5-10 after A; C. 5-10 days after B
6	Ethofol X	0,6	300	AB	A:BBCH ~~11~~ 12-18; B. 5-10 after A
7	Ethofol X	1,2	600	AB	A:BBCH ~~11~~ 12-18; B. 5-10 after A

Comments of zRMS:	PP 1/135 (4) "Phytotoxicity assessment" has been in force since 2014. All studies were carried in 2020 This dRR incorrectly refers to the 3rd edition of the EPPO PP 1/135 "Phytotoxicity assessment" , although according to the attached reports all studies were carried out in accordance with the 4th edition of the EPPO PP 1/135 "Phytotoxicity assessment".

Details of experiments

Sugar beet

Report code	CHR_H_ETO_SEL_PL01	CHR_H_ETO_SEL_PL02	CHR_H_ETO_SEL_PL03	CHR_H_ETO_SEL_PL04	CHR_H_ETO_SEL_PL05	CHR_H_ETO20_SEL_CZ01	CHR_H_ETO20_SEL_CZ02	CHR_H_ETO20_SEL_CZ03
	SRPL20-246-336HE	SRPL20-247-336HE	SRPL20-248-336HE	SRPL20-249-336HE	SRPL20-250-336HE	SRCZ20-094-301HE	SRCZ20-095-301HE	SRCZ20-096-301HE
Location	Tynwałd / Poland	Pliskow Kolonia / Poland	Podgorzela / Poland	Szczepankowo / Poland	Turze / Poland	Hoškovice / Czech Republic	Miletín / Czech Republic	Semcice / Czech Republic
Plant/cultivar	sugar beet / Kujavia	sugar beet / Jampol	sugar beet / Kujavia	sugar beet / Jaromir	sugar beet / Sobieski	sugar beet / Dalmatin	sugar beet / Jagger	sugar beet / Gallert
Seeding date	22.05.2020	11.05.2020	28.03.2020	08.04.2020	18.05.2020	03.04.2020	19.03.2020	29.03.2020
Seeding rate	100000 S/ha	125000 S/ha	125000S/ha	125000S/ha	90TS/ha	127 KS/ha	200 KS/ha	135 KS/ha
Forecrop	potatoes	winter wheat	winter wheat	maize	winter wheat	winter wheat	winter wheat	winter wheat
Type of sprayer	A:BACCAI; B:BACCAI; C:BACCAI;	A:BACCAI; B:BACCAI; C:BACCAI;	A:BACCAI; B:BACCAI; C:BACCAI;	A:BACCAI; B:BACCAI; C:BACCAI;	A:BACCAI; B:BACCAI; C:BACCAI;	A:BACSPR; B:BACSPR; C:BACSPR;	A:BACSPR; B:BACSPR; C:BACSPR;	A:BACSPR; B:BACSPR; C:BACSPR;
Date of treatment	A:19.06.2020; B:26.06.2020, C:03.07.2020	A:29.05.2020; B:04.06.2020, C:09.06.2020	A:26.05.2020; B:02.06.2020, C:09.06.2020	A:18.05.2020; B:26.05.2020, C:03.06.2020	A:28.05.2020; B:06.06.2020, C:13.06.2020	A:20.05.2020; B:28.05.2020, C:04.06.2021	A:21.05.2020; B:28.05.2020, C:07.06.2021	A:27.05.2020; B:05.06.2020, C:12.06.2020
Plant development phase	A:BBCH 12-14; B:BBCH 12-15; C:BBCH 14-16	A:BBCH:12-14; B:BBCH:14-16; C:BBCH:16-18	A:BBCH:12-13; B:BBCH:13-15; C:BBCH:16-17	A:BBCH:13-14; B:BBCH:15-16; C:BBCH:16-17	A:BBCH:12; B:BBCH:12; C:BBCH:14	A:BBCH:14-17; B:BBCH:16-18; C:BBCH:19-31	A:BBCH:15-18; B:BBCH:17-31; C:BBCH:18-31	A:BBCH:17-18; B:BBCH:19; C:BBCH:19
Soil type	loamy sand	clay loam	clay loam	loamy sand	sandy loam	loam	loamy clay	loam
pH	5,1	6,14	6,6	6,5	6,1	7,16	6,9	7,16
Water (l/ha)	A:200; B:200; C:200	A:200; B:200; C:200	A:300; B:300; C:300	A:300; B:300; C:300	A:200; B:200; C:200	A:220; B:220; C:220	A:200; B:200; C:200	A:200; B:200; C:200
Plot size	3x10=30m2	3x10=30m2	3x7=21m2	3x10=30m2	3x10=30m2	3x7=21m2	3x7=21m2	3x7=21m2

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

Sugar beet, post emergence application 5 trials were carried out in Poland and 3 in Czech Republic in 2020 on a wide range of commercially grown varieties. There were not observed any phytotoxicity symptoms on tested product and standard in trials.

Not applicable

Number of trials with		Selectivity trials (8)				Efficacy trials (8)	
		CHR/H/ETO		Standard I Oblix MT 500 S.C. Standard II Ethofol X 500 SC		CHR/H/ETO	Standard I Oblix MT 500 S.C. Standard II Ethofol X 500 SC
		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:	The applicant presented the results of 8 selectivity trials carried out in one year 2020: 5 in Poland and 3 Czech Republic. The number of trials is sufficient and their location is adequate to carry out the evaluation. The methods used in the presented trials were appropriate and trials submitted for evaluation are satisfactorily representative for sugar beet. There were not observed any phytotoxicity symptoms on tested product in all trials carried out in sugar beetin Poland and Czech Republic. **The results presented for evaluation were considered satisfactory, stating that herbicide CHR/H/ETO 500 SC applied applied twice and three times per season was selective for sugar beet.**

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

Influence of CHR/H/ETO 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 sugar beet in Poland and Czech Republic in 2020. There weren't difference between the treatment objects and standard.

Comments of zRMS:	The lack of a negative effect on the yield in all 8 experiments proves that the herbicide CHR/H/ETO 500 SC applied two or three times during the vegetation season is a safety for sugar beet.

Sugar beet

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

Report code				CHR_H_ETO_SEL_PL01	CHR_H_ETO_SEL_PL02	CHR_H_ETO_SEL_PL03	CHR_H_ETO_SEL_PL04	CHR_H_ETO_SEL_PL05
				SRPL20-246-336HE	SRPL20-247-336HE	SRPL20-248-336HE	SRPL20-249-336HE	SRPL20-250-336HE
Treatment	Do-se	Unit	Co-de					
Untreated Check				49,50	30,70	67,92	71,30	83,25
CHR/H/ETO 500 SC	1,00	l/ha	AB	49,20	29,90	68,15	69,96	83,06
CHR/H/ETO 500 SC	2,00	l/ha	AB	47,40	29,20	65,06	72,88	82,94
CHR/H/ETO 500 SC	0,60	l/ha	ABC	48,10	30,20	66,09	74,35	82,98
CHR/H/ETO 500 SC	1,20	l/ha	ABC	48,30	29,70	66,45	70,83	83,41
Oblix MT 500 SC	2,00	l/ha	AB	49,10	29,60	66,88	71,95	82,40
Oblix MT 500 SC	4,00	l/ha	AB	47,50	29,40	65,60	71,52	82,98
Oblix MT 500 SC	2,00	l/ha	ABC	49,30	29,00	68,19	75,18	82,22
Oblix MT 500 SC	4,00	l/ha	ABC	47,70	29,70	64,46	71,06	82,66
LSD				3,020	1,050	4,650	5,034	0,846

Report code				CHR_H_ETO20_SEL_CZ01	CHR_H_ETO20_SEL_CZ02	CHR_H_ETO20_SEL_CZ03
				SRCZ20-094-301HE	SRCZ20-095-301HE	SRCZ20-096-301HE
Treatment	Dose	Unit	Code			
Untreated Check				88,75	87,50	87,80
CHR/H/ETO 500 SC	1,00	l/ha	AB	93,07	90,90	88,50
CHR/H/ETO 500 SC	2,00	l/ha	AB	88,75	91,80	90,20
CHR/H/ETO 500 SC	0,60	l/ha	ABC	98,93	86,90	87,20
CHR/H/ETO 500 SC	1,20	l/ha	ABC	74,86	84,20	85,40
Ethofol X 500 SC	0,60	l/ha	AB	70,86	87,60	87,90
Ethofol X 500 SC	1,20	l/ha	AB	76,46	88,10	88,70
			LSD	27,980	7,800	4,460

Table 3.4-4: Relationship between phytotoxicity and yield.

Not applicable.

There were not observed any phytotoxicity symptoms on tested product and standard in trials. This effects didn't have any negative effect on the yield of sugar beet.

Comments of zRMS:	The lack of negative impact on the yield, combined with the lack of phytotoxicity symptoms, fully confirms that the herbicide CHR/H/ETO 500 SC is safe for sugar beet plants.

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

8 studies were conducted in 2020 in Poland and Czech Republic. There was no negative impact of CHR/H/ETO on quality of plants.
Influence of CHR/H/ETO 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 and Czech Republic in 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 sugar, sodium, potassium and nitrogen content, combined with the lack of phytotoxicity symptoms, fully confirms that the the herbicide CHR/H/ETO 500 SC is safe for sugar beet plants.

table 3.4.3.1-1 The influence of the CHR/H/ETO on quality of yield
Sugar beet N [mm/100g]

Report code				CHR_H_ETO_SEL_PL01	CHR_H_ETO_SEL_PL02	CHR_H_ETO_SEL_PL03	CHR_H_ETO_SEL_PL04	CHR_H_ETO_SEL_PL05
				SRPL20-246-336HE	SRPL20-247-336HE	SRPL20-248-336HE	SRPL20-249-336HE	SRPL20-250-336HE
Treatment	Dose	Unit	Code					
Untreated Check				4,91	2,68	2,72	3,51	2,49
CHR/H/ETO 500 SC	1,00	l/ha	AB	4,87	2,82	2,63	3,38	2,22
CHR/H/ETO 500 SC	2,00	l/ha	AB	4,58	2,50	2,42	3,65	2,13
CHR/H/ETO 500 SC	0,60	l/ha	ABC	4,77	2,68	2,33	3,54	2,56
CHR/H/ETO 500 SC	1,20	l/ha	ABC	5,42	2,58	2,90	3,61	2,41
Oblix MT 500 SC	2,00	l/ha	AB	4,90	2,80	2,85	3,45	2,04
Oblix MT 500 SC	4,00	l/ha	AB	4,61	2,44	2,86	3,6	2,30
Oblix MT 500 SC	2,00	l/ha	ABC	4,29	2,77	2,60	3,59	2,17
Oblix MT 500 SC	4,00	l/ha	ABC	4,60	2,57	2,57	3,53	2,51
			LSD	5,791	0,379	0,56	3,954	3,251

Report code				CHR_H_ETO20_SEL_CZ01	CHR_H_ETO20_SEL_CZ02	CHR_H_ETO20_SEL_CZ03
				SRCZ20-094-301HE	SRCZ20-095-301HE	SRCZ20-096-301HE
Treatment	Dose	Unit	Code			
Untreated Check				1,49	1,17	1,05
CHR/H/ETO 500 SC	1,00	l/ha	AB	1,62	1,21	1,17
CHR/H/ETO 500 SC	2,00	l/ha	AB	1,60	1,20	1,20
CHR/H/ETO 500 SC	0,60	l/ha	ABC	1,73	1,20	1,05
CHR/H/ETO 500 SC	1,20	l/ha	ABC	1,34	1,09	1,17
Ethofol X 500 SC	0,60	l/ha	AB	1,43	1,02	1,21
Ethofol X 500 SC	1,20	l/ha	AB	1,61	1,15	1,18
			LSD	0,434	0,214	0,187

table 3.4.3.1-2 The influence of the CHR/H/ETO on quality of yield
Sugar beet Na [mm/100g]

Report code				CHR_H_ETO_SEL_PL01	CHR_H_ETO_SEL_PL02	CHR_H_ETO_SEL_PL03	CHR_H_ETO_SEL_PL04	CHR_H_ETO_SEL_PL05
				SRPL20-246-336HE	SRPL20-247-336HE	SRPL20-248-336HE	SRPL20-249-336HE	SRPL20-250-336HE
Treatment	Dose	Unit	Code					
Untreated Check				0,68	0,93	0,87	0,68	0,62
CHR/H/ETO 500 SC	1,00	l/ha	AB	0,61	1,00	0,88	0,69	0,63
CHR/H/ETO 500 SC	2,00	l/ha	AB	0,59	0,88	0,84	0,73	0,60
CHR/H/ETO 500 SC	0,60	l/ha	ABC	0,54	0,91	0,77	0,71	0,65
CHR/H/ETO 500 SC	1,20	l/ha	ABC	0,62	0,94	0,91	0,67	0,64
Oblix MT 500 SC	2,00	l/ha	AB	0,57	0,93	0,83	0,71	0,71
Oblix MT 500 SC	4,00	l/ha	AB	0,66	1,01	0,85	0,7	0,56
Oblix MT 500 SC	2,00	l/ha	ABC	0,58	0,90	0,74	0,68	0,60
Oblix MT 500 SC	4,00	l/ha	ABC	0,61	0,96	0,73	0,67	0,67
			LSD	0,754	0,153	0,168	0,448	0,822

Report code				CHR_H_ETO20_SEL_CZ01	CHR_H_ETO20_SEL_CZ02	CHR_H_ETO20_SEL_CZ03
				SRCZ20-094-301HE	SRCZ20-095-301HE	SRCZ20-096-301HE
Treatment	Dose	Unit	Code			
Untreated Check				0,33	0,26	0,27
CHR/H/ETO 500 SC	1,00	l/ha	AB	0,36	0,26	0,28
CHR/H/ETO 500 SC	2,00	l/ha	AB	0,31	0,28	0,29
CHR/H/ETO 500 SC	0,60	l/ha	ABC	0,40	0,29	0,28
CHR/H/ETO 500 SC	1,20	l/ha	ABC	0,25	0,27	0,26
Ethofol X 500 SC	0,60	l/ha	AB	0,23	0,27	0,27
Ethofol X 500 SC	1,20	l/ha	AB	0,26	0,29	0,28
			LSD	0,114	0,023	0,026

table 3.4.3.1-3 The influence of the CHR/H/ETO on quality of yield
Sugar beet K [mm/100g]

Report code				CHR_H_ETO_SEL_PL01	CHR_H_ETO_SEL_PL02	CHR_H_ETO_SEL_PL03	CHR_H_ETO_SEL_PL04	CHR_H_ETO_SEL_PL05
				SRPL20-246-336HE	SRPL20-247-336HE	SRPL20-248-336HE	SRPL20-249-336HE	SRPL20-250-336HE
Treatment	Dose	Unit	Code					
Untreated Check				7,08	4,53	5,06	4,14	4,28
CHR/H/ETO 500 SC	1,00	l/ha	AB	7,58	4,71	4,97	4,15	4,05
CHR/H/ETO 500 SC	2,00	l/ha	AB	6,92	4,49	4,42	4,01	3,84
CHR/H/ETO 500 SC	0,60	l/ha	ABC	7,85	5,04	4,18	3,96	4,44
CHR/H/ETO 500 SC	1,20	l/ha	ABC	7,95	4,68	5,23	4,07	4,17
Oblix MT 500 SC	2,00	l/ha	AB	7,65	4,81	4,96	3,9	4,06
Oblix MT 500 SC	4,00	l/ha	AB	7,96	4,69	4,93	4,19	4,22
Oblix MT 500 SC	2,00	l/ha	ABC	6,84	4,53	4,73	4,09	4,04
Oblix MT 500 SC	4,00	l/ha	ABC	6,94	4,90	4,46	4,02	4,40
			LSD	6,395	0,510	0,739	5,032	4,577

Report code				CHR_H_ETO20_SEL_CZ01	CHR_H_ETO20_SEL_CZ02	CHR_H_ETO20_SEL_CZ03
				SRCZ20-094-301HE	SRCZ20-095-301HE	SRCZ20-096-301HE
Treatment	Dose	Unit	Code			
Untreated Check				3,59	3,30	3,22
CHR/H/ETO 500 SC	1,00	l/ha	AB	3,54	3,37	3,26
CHR/H/ETO 500 SC	2,00	l/ha	AB	3,74	3,30	3,52
CHR/H/ETO 500 SC	0,60	l/ha	ABC	3,51	3,20	3,30
CHR/H/ETO 500 SC	1,20	l/ha	ABC	3,64	3,29	3,20
Ethofol X 500 SC	0,60	l/ha	AB	3,53	3,32	3,30
Ethofol X 500 SC	1,20	l/ha	AB	3,50	3,29	3,29
			LSD	0,247	0,299	0,261

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 ethofumesatemany years, not only in Poland but also in the other countries of Europe.
Ethofumesate_RAR_01_Volume 1
The nature of ethofumesate residues under conditions representative for processing was investigated for pasteurisation, baking, brewing, boiling, sterilisation and industrial extraction and purification, due to the use of Ethofumesate in sugar beets. The additional hydrolysis experiment was performed at pH 11, 90°C for 30 min. This test is a simulation of the carbonation process used in the sugar production. The radiolabelled test compound [phenyl-UL-14C]-ethofumesate was used for the hydrolysis investigations.
One concentration (approx. 1.0 mg/L) of the analyte was prepared in sterilized buffered drinking water and incubated under three representative sets of hydrolysis conditions:
Pasteurisation: 90°C at pH 4 for 20 min
Baking, brewing, boiling: 100°C at pH 5 for 60 min
Sterilisation: 120°C at pH 6 for 20 min
Industrial extraction and purification: 90°C at pH 11 for 30 min
At test termination, the material balances in all tests were in the range of 99.9 to 100.6% of the applied radioactivity, indicating that no radioactivity and no volatile degradation products dissipated from the test system. The test compound amounted to ≥ 97.9% in all test solutions before and after hydrolysis. No significant hydrolysis products of ethofumesate (≤ 2.1%) were detected above an estimated LOD of 0.7% of the total radioactivity.
Several processing studies were submitted and evaluated during the Annex I inclusion process of ethofumesate.
These studies demonstrated that ethofumesate related residues were never present in refined sugar indicating that probable residues in the raw agricultural commodity are efficiently eliminated during processing. A concentration of the residue was detected in molasses (maximum and median processing factor was 24 and 12.7,respectively) and in thick juice (maximum and median processing factor was 6.5 and 4.7, respectively). The studies were considered acceptable. Therefore, no additional data was considered necessary.

Comments of zRMS:	The explanations provided by the applicant regarding the influence of the tested herbicide on pasteurisation, baking, brewing, boiling and sterilisationand the fact that ethofumesate is a known active substance allow to state that the tested herbicide CHR/H/ETO 500 SC does not affect the sugar beet transformation processes .

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/ETO in seed crops of sugar beet.
In the course of studies carried out in Poland and Czech Republic in the season of 2020 on product CHR/H/ETO the herbicide has not been observed to have any significant influence on yield.
The product may be used in seed crops of sugar beet.

Summary and conclusion

The submitted efficacy data (reports from 16 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) Design and analysis of efficacy evaluation trials
- PP 1/181 (3) Conduct and reporting of efficacy evaluation trials including good experimental practice
They were carried out on the field in the conditions of natural agrofag infestation. The efficacy trials were concluded according to the EPPO standards:

- PP 1/52(3) Weeds in sugar and fodder beet and industrial chicory

CHR/H/ETO applies in the Central Registration Zone for the registration of in sugar beet at BBCH 12-18 twice and three times per season at the maximum rate of 1000 g a.s./ha ethofumesate per application for the control of dicotyledonous weeds.
Used solo:
1,0 L/ha twice a season in sugar beet which are corresponding to 1000 g a.s./ha of ethofumesate.
0,6 L/ha three times a season in sugar beet which are corresponding to 900 g a.s./ha of ethofumesate.

CHR/H/ETO containing ethofumesate as the active substance is prepared for the use in agricultural practice as a herbicide in the form SC – Suspension concentrate.

The 8 trials have been carried out in 2020 in the North-East EPPO zone within the Central registration zone to evaluate the efficacy of applied at the proposed label rate of twice applications 500 g a.s./ha and three applications 300g a.s./ha for the weed control in sugar beet (Table 3.2 6). Trials were conducted in sugar beet growing areas in the Central EPPO zone and North-East EPPO zone in Poland and Czech Republic.

The obtained data in performed trials show that CHR/H/ETO provides benefits against the most important weeds in sugar beet 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 sugar beet:

Product dose l/ha	**EPPO code**	**Scientific name**	**DA-A/C**	**pest stage**	**Average**	**Efficacy**
CHR/H/ETO 0,6 l/ha AB	CHEAL	chenopodium album	46-56/31-45	A:10-31 B:11-34 C:12-59	**34,11**	**T**
	GALAP	Galium aparine	46-56/31-45	A:11-14 B:12-16 C:14-18	**73,33**	**MS**
	STEME	Stellaria media	46-56/31-45	A:10-16 B:12-21 C:12-59	**84,36**	**MS**
	AMARE	amaranthus retroflexus	46-56/31-45	A:10-51 B:10-90 C:12-65	**76,89**	**MS**
	THLAR	Thlaspi arvense	56/38-43	A:10-65 B:12-81 C:14-97	**47,2**	**T**
CHR/H/ETO 0,8 l/ha AB	CHEAL	chenopodium album	46-56/31-45	A:10-31 B:11-34 C:12-59	**48,76**	**T**

	GALAP	Galium aparine	46-56/31-45	A:11-14 B:12-16 C:14-18	**89,88**	**S**
	STEME	Stellaria media	46-56/31-45	A:10-16 B:12-21 C:12-59	**97,69**	**S**
	AMARE	amaranthus retroflexus	46-56/31-45	A:10-51 B:10-90 C:12-65	**89,38**	**S**
	THLAR	Thlaspi arvense	56/38-43	A:10-65 B:12-81 C:14-97	**53,14**	**T**
CHR/H/ETO 1,0 l/ha AB	CHEAL	chenopodium album	46-56/31-45	A:10-31 B:11-34 C:12-59	**59,08**	**T**
	GALAP	Galium aparine	46-56/31-45	A:11-14 B:12-16 C:14-18	**94,68**	**S**
	STEME	Stellaria media	46-56/31-45	A:10-16 B:12-21 C:12-59	**99,41**	**S**
	AMARE	amaranthus retroflexus	46-56/31-45	A:10-51 B:10-90 C:12-65	**93,03**	**S**
	THLAR	Thlaspi arvense	56/38-43	A:10-65 B:12-81 C:14-97	**60,63**	**MT**
CHR/H/ETO 0,4 l/ha ABC	CHEAL	chenopodium album	46-56/31-45	A:10-31 B:11-34 C:12-59	**36,44**	**T**
	GALAP	Galium aparine	46-56/31-45	A:11-14 B:12-16 C:14-18	**75,01**	**MS**
	STEME	Stellaria media	46-56/31-45	A:10-16 B:12-21 C:12-59	**88,2**	**S**
	AMARE	amaranthus retroflexus	46-56/31-45	A:10-51 B:10-90 C:12-65	**78,66**	**MS**
	THLAR	Thlaspi arvense	56/38-43	A:10-65 B:12-81 C:14-97	**48,44**	**T**
CHR/H/ETO 0,5 l/ha ABC	CHEAL	chenopodium album	46-56/31-45	A:10-31 B:11-34 C:12-59	**49,3**	**T**
	GALAP	Galium aparine	46-56/31-45	A:11-14 B:12-16 C:14-18	**90,18**	**S**
	STEME	Stellaria media	46-56/31-45	A:10-16 B:12-21 C:12-59	**99,29**	**S**
	AMARE	amaranthus retroflexus	46-56/31-45	A:10-51 B:10-90 C:12-65	**89,91**	**S**
	THLAR	Thlaspi arvense	56/38-43	A:10-65 B:12-81 C:14-97	**54,59**	**T**

CHR/H/ETO 0,6 l/ha ABC	CHEAL	chenopodium album	46-56/31-45	A:10-31 B:11-34 C:12-59	**55,69**	**T**
	GALAP	Galium aparine	46-56/31-45	A:11-14 B:12-16 C:14-18	**95,58**	**S**
	STEME	Stellaria media	46-56/31-45	A:10-16 B:12-21 C:12-59	**99,54**	**S**
	AMARE	amaranthus retroflexus	46-56/31-45	A:10-51 B:10-90 C:12-65	**93,03**	**S**
	THLAR	Thlaspi arvense	56/38-43	A:10-65 B:12-81 C:14-97	**61,89**	**MT**

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

Two application

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

Moderately Susceptible: *Stellaria media (STEME), Amaranthus retroflexus (AMARE)*
Moderately Tolerant: *Galium aparine (GALAP),*
Tolerant: *Chenopodium album (CHEAL), Thlaspi arvense (THLAR),*

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

Susceptible: Stellaria media (STEME), Amaranthus retroflexus (AMARE), Galium aparine (GALAP),
Tolerant: Chenopodium album (CHEAL), Thlaspi arvense (THLAR),

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

Susceptible: *Stellaria media (STEME), Amaranthus retroflexus (AMARE), Galium aparine (GALAP),*
Moderately Tolerant: Thlaspi arvense (THLAR),
Tolerant: *Chenopodium album (CHEAL),*

Three applications

Dose CHR/H/ETO 0,4 l/ha

Moderately Susceptible: *Galium aparine (GALAP), Stellaria media (STEME), Amaranthus retroflexus (AMARE)*
Tolerant: *Chenopodium album (CHEAL), Thlaspi arvense (THLAR),*

Dose CHR/H/ETO 0,5 l/ha

Susceptible: Stellaria media (STEME), Amaranthus retroflexus (AMARE),
Moderately Susceptible: *Galium aparine (GALAP),*
Tolerant: Chenopodium album (CHEAL), Thlaspi arvense (THLAR),

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

Susceptible: Stellaria media (STEME), Amaranthus retroflexus (AMARE), Galium aparine (GALAP),
Tolerant: Chenopodium album (CHEAL), Thlaspi arvense (THLAR),

Herbicide CHR/H/ETO has demonstrated good crop tolerance to sugar beet. Therefore concluded that CHR/H/ETO is safe usage at proposed rate and this support the label claim for the use in sugar beet.

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/ETO 500 SC can be approved to the market and use in Poland and Czech Republic according to proposed range of use – GAP
Based on submitted data the following regulation on the label is proposed:
Poland,
Sugar beet:
Recommended dose at:
CHR/H/ETO 1,0 l/ha – two applications at season
CHR/H/ETO 0,6 l/ha three applications at season
BBCH 12-18 Interval 5-10 days
Recommended volume of water 200-300 l/ha
Recommended medium droplet spraying
The product CHR/H/ETO should be use once in 3 years 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/ETO according to the proposed GAP does not represent a hazard to rotational crops and does not justify a specific labelling. CHR/H/ETO is not persistent in soil nor is it taken up by succeeding crops.

Comments of zRMS:	The applicant did not submit additional studies aimed at determining the impact on treated plants or plant products to be used for propagation. The results presented in point 3.4.5 are a repetition of the data from chapter 3.2. Efficacy data. Considering that neither the efficacy nor phytotoxicity studies showed any negative effects on sugar beet plants, and the fact that ethofumesate is a known active substance, it can be concluded that CHR/H/ETO 500 SC has no negative effect on parts of plants used for propagating purposes.

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

3.5.1 Impact on succeeding crops (KCP 6.5.1)

No separate studies have been carried out concerning the influence of product CHR/H/ETO on succeeding plants. The owner of the product CHR/H/ETO and of its registration documentation is referring to available sources in literature treating on herbicide ethofumesate.

Crop	PHI for CHR/H/ETO 500 SC proposed by applicant	PHI/ Withholding period* sufficiently supported for	PHI for CHR/H/ETO 500 SC proposed by zRMS	zRMS Comments (if different PHI proposed)
		Ethofumesate		
Sugarbeet	PHI covered by the vegetation period,	PHI covered by the vegetation period, max. 1 kg a.s./ha every three years	NR	

Crop	PHI for CHR/H/ETO 500 SC proposed by applicant	PHI/ Withholding period* sufficiently supported for	PHI for CHR/H/ETO 500 SC proposed by zRMS	zRMS Comments (if different PHI proposed)
		Ethofumesate		
	max. 1 kg a.s./ha every three years			

Species	Substance	Exposure System	Results	Reference
Pea Pisum sativum	CHR/H/ETO 500 SC	21 d Seedling emergence	ER50= 1207.5 g prod/ha	ETHOFUMESATE (CHR/H/ETO 500 SC) Terrestrial Plant Test: Seedling Emergence and Seedling Growth Test; P. Pieczka; Study code: G-32-20, 2020
Carrot Daucus carota	CHR/H/ETO 500 SC	21 d Seedling emergence	ER50 = 628.6 g prod/ha	
Flax Linum usitatissimum	CHR/H/ETO 500 SC	21 d Seedling emergence	ER50= 94.3 g prod /ha	
Red clover Trifolium pratense	CHR/H/ETO 500 SC	21 d Seedling emergence	ER50= 1229.3 g prod/ha	
Onion Allium cepa	CHR/H/ETO 500 SC	21 d Seedling emergence	ER50 > 2000 g prod/ha	
Corn Zea mays	CHR/H/ETO 500 SC	21 d Seedling vigour	ER50= 657.2 g prod/ha	
Pea Pisum sativum	CHR/H/ETO 500 SC	21 d Vegetative vigour	ER50 > 2000 g prod/ha	ETHOFUMESATE (CHR/H/ETO 500 SC) Terrestrial Plant Test: Vegetative Vigour Test; A. Wróbel; Study code: G-30-20, 2020
Carrot Daucus carota	CHR/H/ETO 500 SC	21 d Vegetative vigour	ER50 > 2000 g prod/ha	
Flax Linum usitatissimum	CHR/H/ETO 500 SC	21 d Vegetative vigour	ER50 > 2000 g prod/ha	
Red clover Trifolium pratense	CHR/H/ETO 500 SC	21 d Vegetative vigour	ER50 = 942.8 g prod/ha	
Onion Allium cepa	CHR/H/ETO 500 SC	21 d Vegetative vigour	ER50 > 2000 g prod/ha	
Corn Zea mays	CHR/H/ETO 500 SC	21 d Vegetative vigour	ER 50> 2000 g prod/ha	

Comments of zRMS:	According to the scientific data half dissipation time (DT_{50}) of ethofumesate in soil is 15- 250 days. So it can be assumed that the herbicide CHR/H/ETO is degraded in the soil during the growing season to a level that does not pose a risk to succeeding crops. The information in label regarding effects on succeeding crops is sufficient. References: 1. Praczyk T. Skrzypczak G.:Herbicydy. PWRiL, Poznań 2004 2. Grygiel K. Sadowski J. Snopczyński T., Wysocki A. Pozostałości herbicydów w płodach rolnych i glebie. JEcoHealth, vol. 16, nr 4, październik-grudzień 2012 3. Peer review of the pesticide risk assessment of the active substance ethofumesate. EFSA Journal 2016;14(1):4374

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

No specific studies were conducted to fill this data point.
No phytotoxic effects were observed in the commissioned trials. Tested herbicides did not influence on yield, sugar content, N, Na, K content of herbicide dose. it is expected the product is safe for plants of adjacent crops.
CHR/H/ETO effectively controlled dicotyledons plants therefore users must exercise caution to avoid drift or vapors which may cause discoloration and damage to non-target foliage.

Assessment of the risk for non-target plants due to the use of CHR/H/ETO 500 SC in winter cereals

Intended use	Sugar beets
Active substance/product	CHR/H/ETO 500 SC
Application rate (g/ha)	2 x 1132
MAF	1.7

Test species	**ER_{50} (g/ha)**	**Drift rate**	**$PER_{off\text{-}field}$ (g/ha)**	**TER criterion: TER ≥ 5**
Pea Pisum sativum	1207.5	0.0238	73.13	16.5
Carrot Daucus carota	628.6	0.0238	73.13	8.59
Flax Linum usitatissimum	94.3	0.0238	73.13	**1.28**
Red clover Trifolium pratense	1229.3	0.0238	73.13	16.81
Onion Allium cepa	2000	0.0238	73.13	27.35
Corn Zea mays	657.2	0.0238	73.13	8.99
Pea Pisum sativum	2000	0.0238	73.13	27.35
Carrot Daucus carota	2000	0.0238	73.13	27.35
Flax Linum usitatissimum	2000	0.0238	73.13	27.35
Red clover Trifolium pratense	942.8	0.0238	73.13	12.89
Onion Allium cepa	2000	0.0238	73.13	27.35
Corn Zea mays	2000	0.0238	73.13	27.35

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/ETO 500 SC in sugarbeet considering risk mitigation (in-field no-spray buffer zones, and drift-reducing nozzles)

Intended use		Sugar beets			
Active substance/product		CHR/H/ETO 500 SC			
Application rate (g/ha)		2 x 1132			
MAF		1			
Buffer strip (m)	**Drift rate (%)**	**$PER_{off-field}$ (g/ha)**	**$PER_{off-field}$ 50 % drift red. (g/ha)**	**$PER_{off-field}$ 75 % drift red. (g/ha)**	**$PER_{off-field}$ 90 % drift red. (g/ha)**
1	2.38	73.13	36.57	18.28	7.31
5	0.47	9.05	4.53	2.26	0.905
Toxicity value		**TER**			
ER_{50} = 94.3 g/ha		**criterion: TER ≥ 5**			
1		**1.28**	**2.58**	5.16	12.90
5		10.42	20.82	41.73	104.20

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/ETO 500 SC in off-field areas, the TER values describing the risk for non-target plants following exposure to CHR/H/ETO 500 SC according to the GAP of the formulation CHR/H/ETO 500 SC achieve the acceptability criteria TER ≥ 5 with applying:

- 5 m buffer zone
- 1 m and use of 75% drift reducing nozzles
- 1 m and use of 90% drift reducing nozzles

Comments of zRMS:	The CHR/H/ETO 500 SC is effective against some dicotyledonous weeds. In this situation, this measure may also cause discoloration and damage to non-target 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/ETO 500 SC is non-corrosive to equipment, non-flammable and non-volatile.

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

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	Z.Jaskólski	2021	The selectivity of CHR/H/ETO 500 SC applied post-emergence in sugar beet. SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1, 85-027 Bydgoszcz, Poland Report no.: CHR_H_ETO_SEL_PL01/ SRPL20-246-336HE GEP - yes Unpublished	N	Chemirol
KCP 6 KCP 6.2	P.Maluga	2021	THE SELECTIVITY OF CHR/H/ETO 500 SC APPLIED POST-EMERGENCE IN SUGAR BEET. SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1, 85-027 Bydgoszcz, Poland Report no.: CHR_H_ETO_SEL_PL02/ SRPL20-247-336HE GEP - yes Unpublished	N	Chemirol
KCP 6 KCP 6.2	J.Kozłowski	2021	THE SELECTIVITY OF CHR/H/ETO 500 SC APPLIED POST-EMERGENCE IN SUGAR BEET. SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1, 85-027 Bydgoszcz, Poland Report no.: CHR_H_ETO_SEL_PL03/ SRPL20-248-336HE GEP - yes Unpublished	N	Chemirol
KCP 6 KCP 6.2	M.Świtkowski	2021	THE SELECTIVITY OF CHR/H/ETO 500 SC APPLIED POST-EMERGENCE IN SUGAR BEET. SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1, 85-027 Bydgoszcz, Poland Report no.: CHR_H_ETO_SEL_PL04/ SRPL20-249-336HE GEP - yes Unpublished	N	Chemirol
KCP 6 KCP 6.2	M.Ćwiek	2021	THE SELECTIVITY OF CHR/H/ETO 500 SC APPLIED POST-EMERGENCE IN SUGAR BEET.	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**
			SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1, 85-027 Bydgoszcz, Poland Report no.: CHR_H_ETO_SEL_PL05/ SRPL20-250-336HE GEP - yes Unpublished		
KCP 6 KCP 6.2	Stanislav Křížek	2021	EVALUATION OF THE SELECTIVITY OF CHR/H/ETO 500 SC APPLIED POST-EMERGENCE IN SUGAR BEET, CZECH REPUBLIC, 2020 SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1, 85-027 Bydgoszcz, Poland Report no.: CHR_H_ETO20_SEL_CZ01/ SRCZ20-094-301HE GEP - yes Unpublished	N	Chemirol
KCP 6 KCP 6.2	Stanislav Křížek	2021	EVALUATION OF THE SELECTIVITY OF CHR/H/ETO 500 SC APPLIED POST-EMERGENCE IN SUGAR BEET, CZECH REPUBLIC, 2020 SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1, 85-027 Bydgoszcz, Poland Report no.: CHR_H_ETO20_SEL_CZ02/ SRCZ20-095-301HE GEP - yes Unpublished	N	Chemirol
KCP 6 KCP 6.2	Stanislav Křížek	2021	EVALUATION OF THE SELECTIVITY OF CHR/H/ETO 500 SC APPLIED POST-EMERGENCE IN SUGAR BEET, CZECH REPUBLIC, 2020 SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1, 85-027 Bydgoszcz, Poland Report no.: CHR_H_ETO20_SEL_CZ03/ SRCZ20-096-301HE GEP - yes Unpublished	N	Chemirol
KCP 6 KCP 6.2	Z.Jaskólski	2021	THE EFFICACY AND SELECTIVITY OF CHR/H/ETO 500 SC APPLIED POST-EMERGENCE IN SUGAR BEET. SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1, 85-027 Bydgoszcz, Poland Report no.: CHR_H_ETO_EFF_PL01/	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**
			SRPL20-241-336HE GEP - yes Unpublished		
KCP 6 KCP 6.2	P.Maluga	2021	THE EFFICACY AND SELECTIVITY OF CHR/H/ETO APPLIED POST-EMERGENCE IN SUGAR BEET SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1, 85-027 Bydgoszcz, Poland Report no.: CHR_H_ETO_EFF_PL02/ SRPL20-242-336HE GEP - yes Unpublished	N	Chemirol
KCP 6 KCP 6.2	J.Kozłowski	2021	THE EFFICACY AND SELECTIVITY OF CHR/H/ETO APPLIED POST-EMERGENCE IN SUGAR BEET SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1, 85-027 Bydgoszcz, Poland Report no.: CHR_H_ETO_EFF_PL03/ SRPL20-243-336HE GEP - yes Unpublished	N	Chemirol
KCP 6 KCP 6.2	M.Świtkowski	2021	THE EFFICACY AND SELECTIVITY OF CHR/H/ETO APPLIED POST-EMERGENCE IN SUGAR BEET SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1, 85-027 Bydgoszcz, Poland Report no.: CHR_H_ETO_EFF_PL04/ SRPL20-244-336HE GEP - yes Unpublished	N	Chemirol
KCP 6 KCP 6.2	M.Ćwiek	2021	THE EFFICACY AND SELECTIVITY OF CHR/H/ETO APPLIED POST-EMERGENCE IN SUGAR BEET SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1, 85-027 Bydgoszcz, Poland Report no.: CHR_H_ETO_EFF_PL05/ SRPL20-245-336HE GEP - yes Unpublished	N	Chemirol
KCP 6 KCP 6.2	Stanislav Křížek	2021	THE EFFICACY AND SELECTIVITY OF CHR/H/ETO 500 SC APPLIED POST-EMERGENCE IN SUGAR BEET, CZECH REPUBLIC, 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
			SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1, 85-027 Bydgoszcz, Poland Report no.: CHR_H_ETO20_EFF_CZ01/ SRCZ20-093-301HE GEP - yes Unpublished		
KCP 6 KCP 6.2	Petr Šmahel	2021	THE EFFICACY AND SELECTIVITY OF CHR/H/ETO 500 SC APPLIED POST-EMERGENCE IN SUGAR BEET, CZECH REPUBLIC, 2020 SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1, 85-027 Bydgoszcz, Poland Report no.: CHR_H_ETO20_EFF_CZ02/ SRCZ20-091-301HE GEP - yes Unpublished	N	Chemirol
KCP 6 KCP 6.2	Petr Šmahel	2021	THE EFFICACY AND SELECTIVITY OF CHR/H/ETO 500 SC APPLIED POST-EMERGENCE IN SUGAR BEET, CZECH REPUBLIC, 2020 SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1, 85-027 Bydgoszcz, Poland Report no.: CHR_H_ETO20_EFF_CZ03/ SRCZ20-092-301HE 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

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

List of data submitted by the applicant and not relied on

Not applicable

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

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

Not applicable

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

Appendix 2 Additional information provided by the applicant

COMPARISON OF CLIMATIC AND AGRICULTURAL CONDITIONS IN POLAND AND THE CZECH REPUBLIC IN REFERENCE TO REGISTRATION OF PLANT PROTECTION PRODUCT CHR/H/ETO 500 SC

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, sugar beet herbicide CHR/H/ETO 500 SC in the Czech Republic.

2. Plant protection products under consideration

2.1. General

The efficacy and phytotoxicity studies were conducted in Poland and Czech Republic in 2020 in sugar beet on the plant protection product CHR/H/ETO 500 SC and a standard herbicide Ethofol X and Oblix MT containing the one of active substance ethofumesate. 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/FLO 500 SC	Oblix MT 500 SC	Ethofol X 500 SC
active substance content	500g/l (ethofumesate)	150g/l (Ethofumesate) 350 g/l (Metamitron)	500g/l (ethofumesate)
formulation	SC – Suspension Concentrate	SC – Suspension Concentrate	SC – Suspension Concentrate

The following information originates from Ethofumesate_RAR

Table 2. Properties of florasulam

active substance common name	Ethofumesate
active substance chemical name	(RS)-2-ethoxy-2,3-dihydro-3,3-dimethylbenzofuran-5-yl methanesulfonate
function	Inhibitor of cell division. Inhibition of mitosis plus reduced photosynthesis and respiration
mode of action	Ethofumesate belongs to the benzofurane group of pesticides and is a potent inhibitor of lipid synthesis and cell division in susceptible weeds by a reduction of photosynthesis and respiration. It is absorbed by both shoots and roots. As ethofumesate is non-volatile, uptake always occurs from the aqueous solution. In post-emergence use ethofumesate will be active via the soil as well as by foliar uptake. Post-emergence treatments generally cause severe growth inhibition (particularly in the apical region) often resulting in a dark green coloration and leaf deformity in broad-leaved species.
application	Sugar beet: apply from the phase, between growth stage BBCH 12-18

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

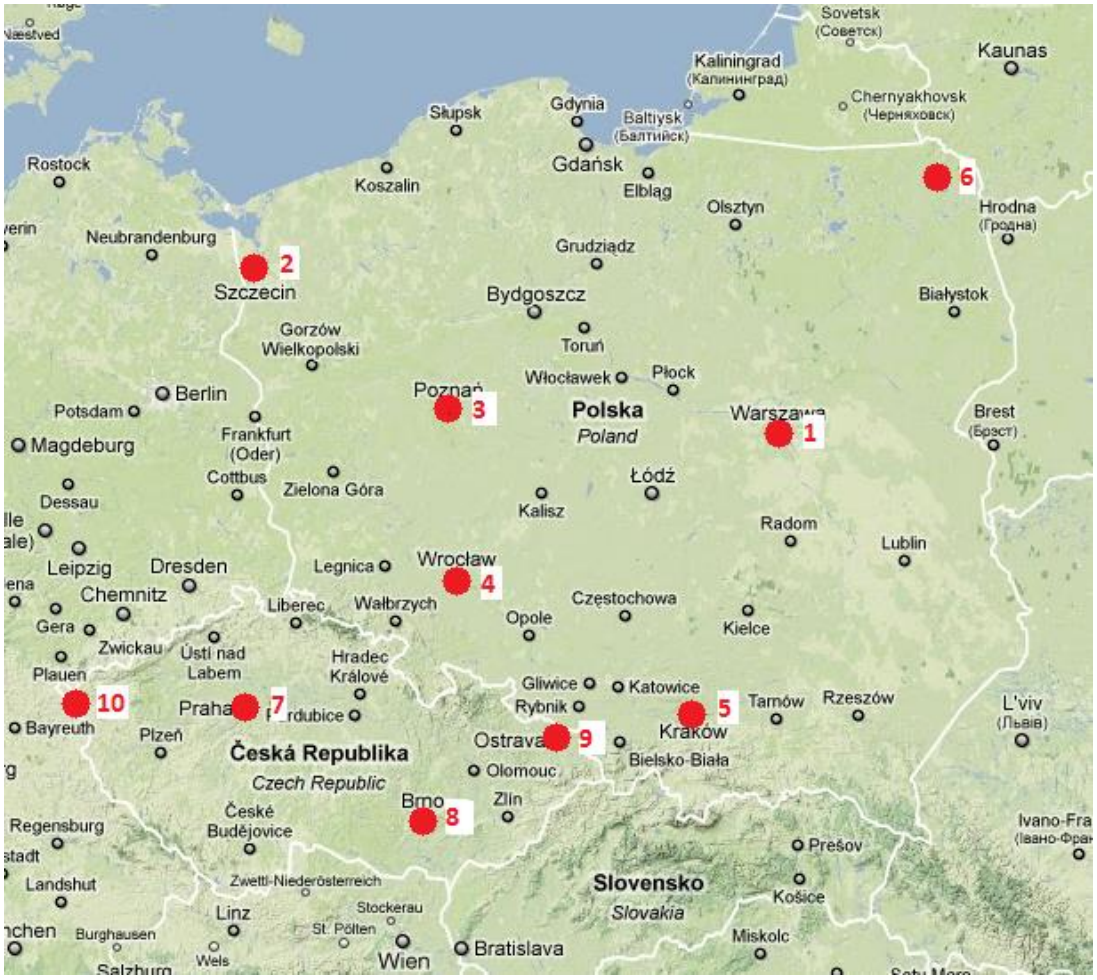


Table 3. Parameters of climate stations

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.

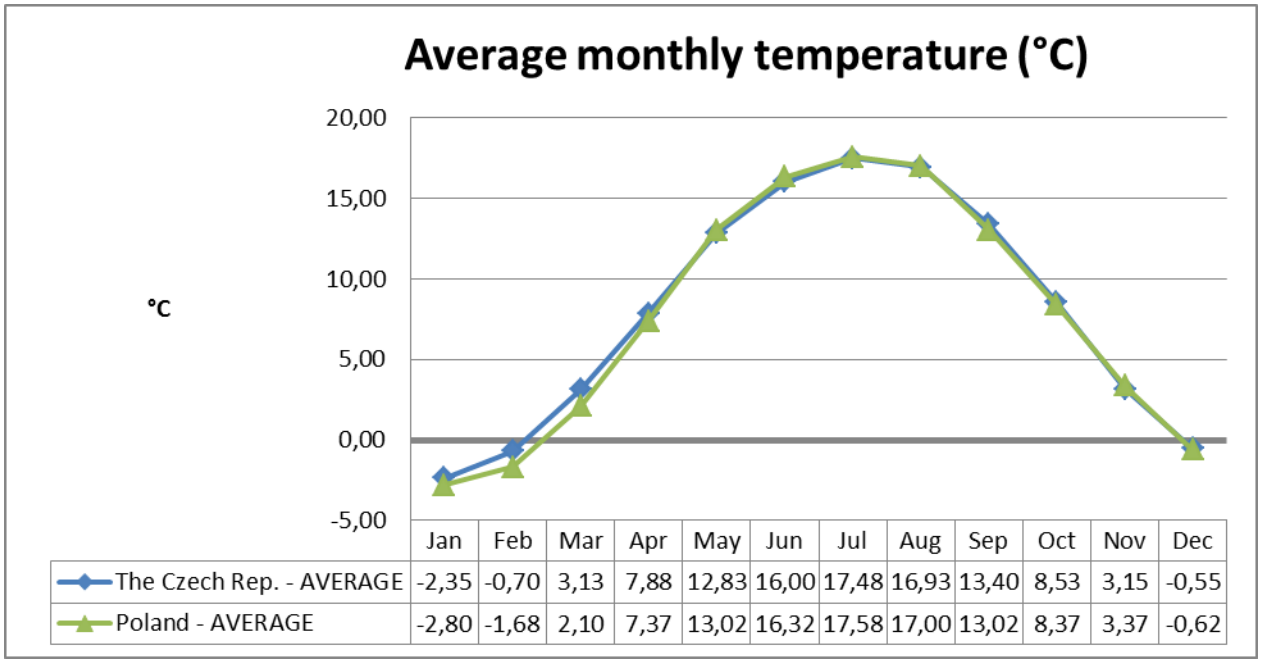
3.1. Average monthly temperature

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/ETO is spring. It is so because product CHR/H/ETO 500 SC is to be applied in the spring in sugar beet at BBCH 12-18. In the months of April through May there is a close correlation between average temperatures in Poland and in the Czech Republic.

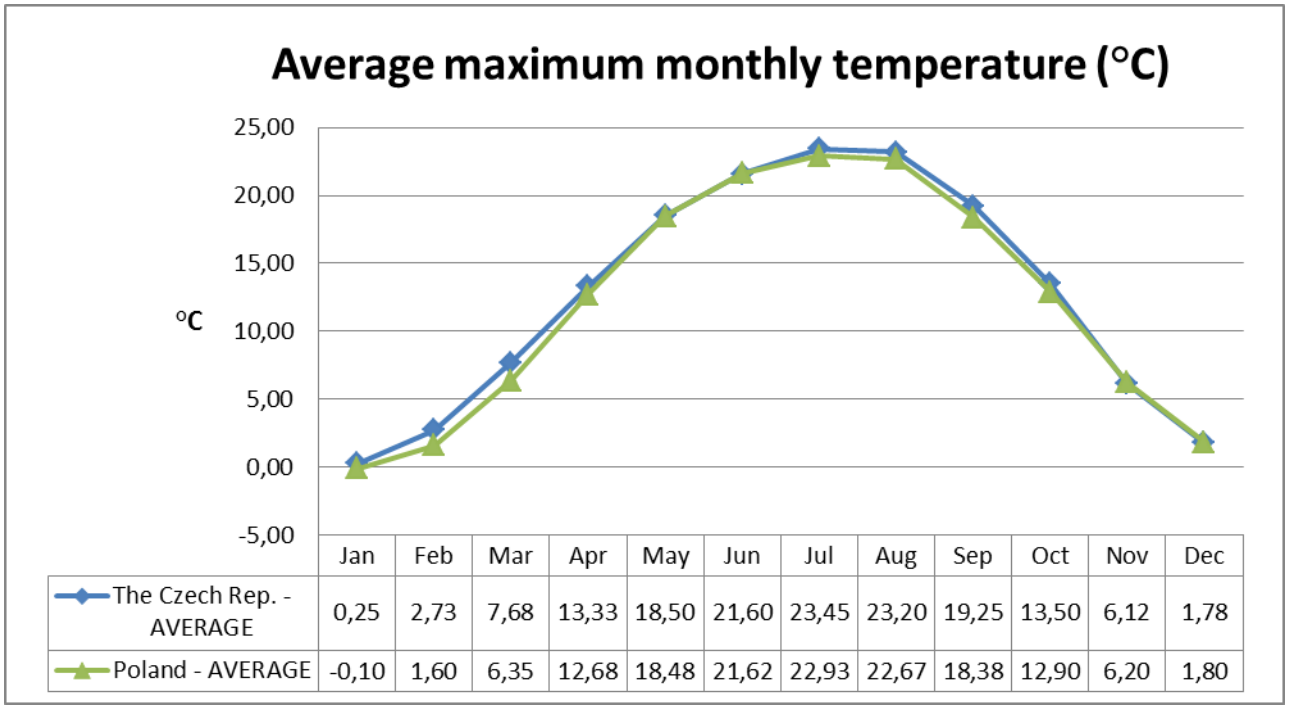
3.2. Average maximum monthly temperature

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/ETO 500 SC 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/ETO is spring. It is so because product CHR/H/ETO 500 SC is to be applied in the spring in sugar beet at BBCH 12-18. 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

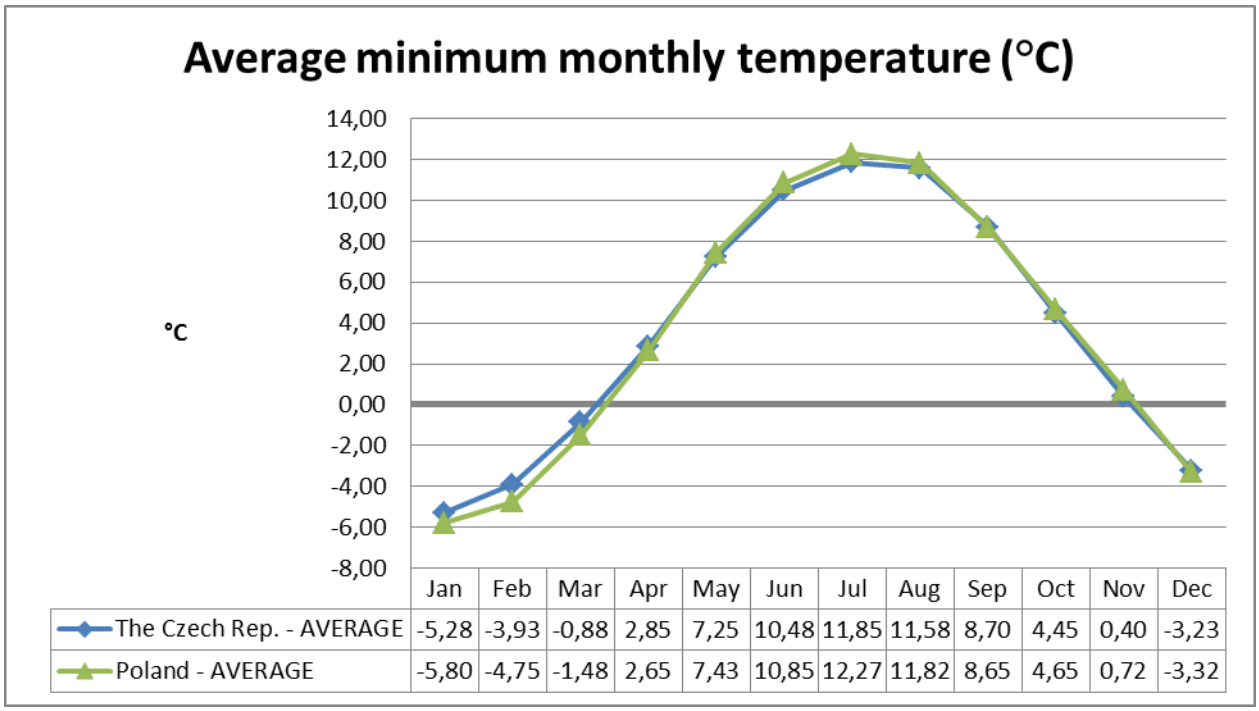
Table 6. Average minimum monthly temperature data

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/ETO is spring. It is so because product CHR/H/ETO 500 SC is to be applied in the spring in sugar beet at BBCH 12-18. In the months of April through May there is a close correlation between average temperatures in Poland and in the Czech Republic.

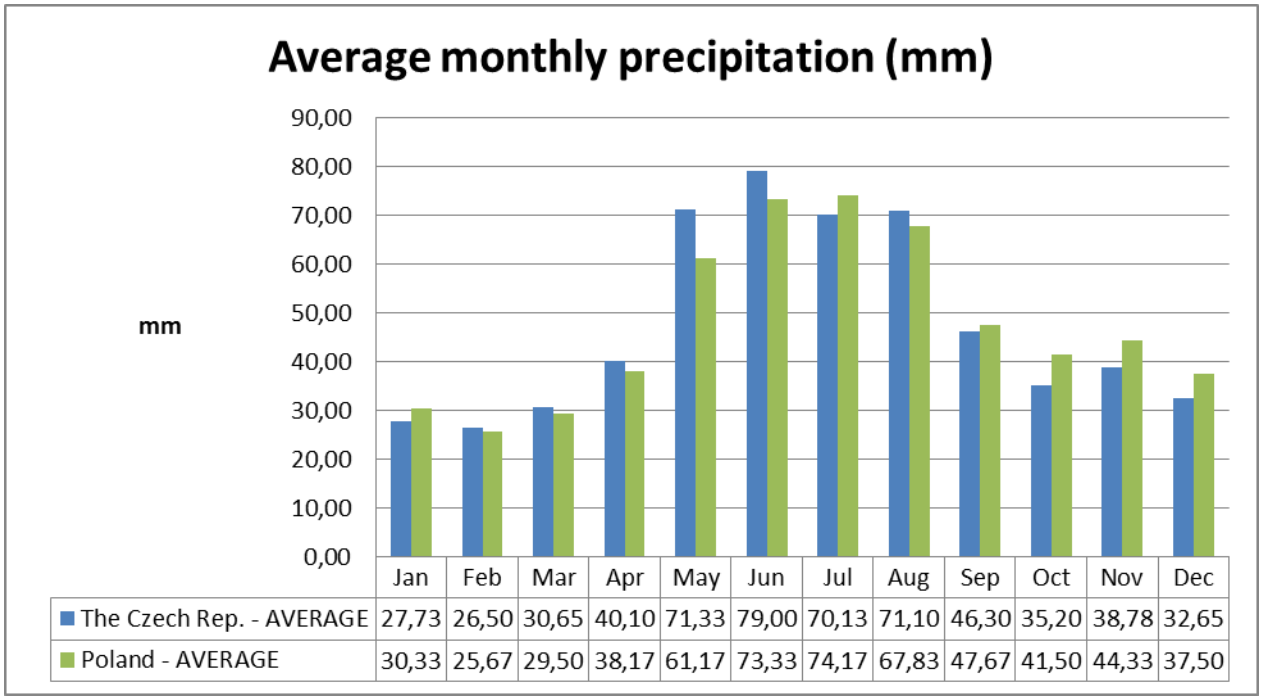
Average monthly precipitation sum

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/ETO 500 SC 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. ethofumesate 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. Sugar beet sowing timing

According to the MOCA study in Poland sowing of sugar beet 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 15th March to 25th April.

5.2. Sugar beet growth and development

A:BBCH phases 12-18, B=A+5-10 days, C=B+5-10 days that are most suitable for the application of ethofumesate encompass the development of sugar beet from 2 leaves unfolded to 8 leaves unfloted

Figure 1. Phenological crop calendar for sugar beet in Poland

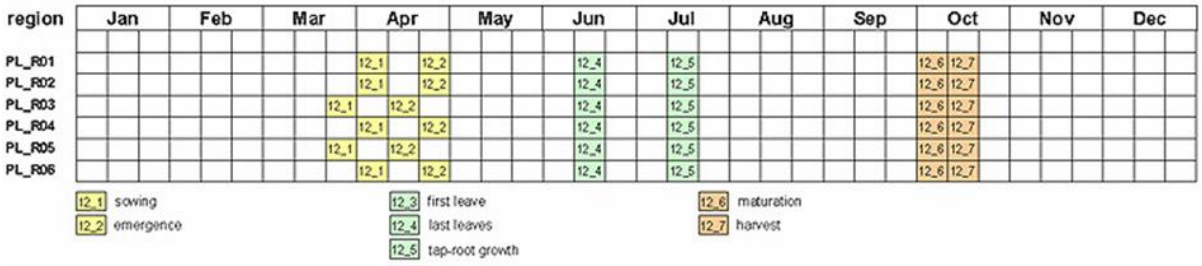
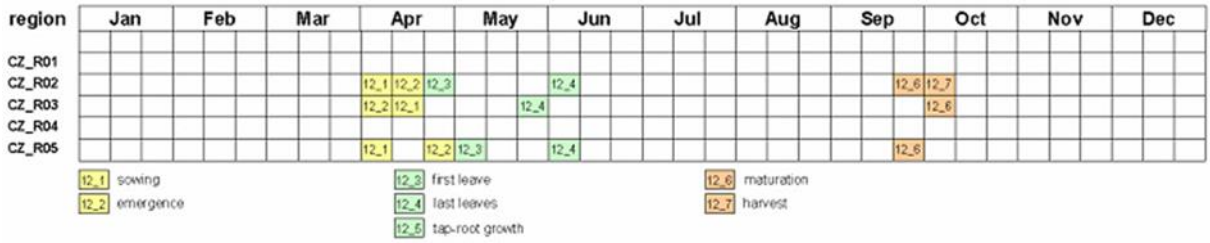


Figure 2. Phenological crop calendar for sugar beet in the Czech Republic



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

5.3. Timing of application

CHR/H/ETO is applied up to maximum rate of 1000 g a.s./ha, between growth stage BBCH 12-18 of the sugar beet usually twice and three times per season, in 200-400 l water/ha.

5.4. Target weeds

Weed species controlled by ethofumesate

The following table lists weeds that were included in efficacy studies of product CHR/H/ETO 500 SC. 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 sugar beet:

Product dose l/ha	EPPO code	Scientific name	DA-A/C	pest stage	Average	Efficacy
CHR/H/ETO 0,6 l/ha AB	CHEAL	chenopodium album	46-56/31-45	A:10-31 B:11-34 C:12-59	**34,11**	**T**
	GALAP	Galium aparine	46-56/31-45	A:11-14 B:12-16 C:14-18	**73,33**	**MS**
	STEME	Stellaria media	46-56/31-45	A:10-16 B:12-21 C:12-59	**84,36**	**MS**
	AMARE	amaranthus retroflexus	46-56/31-45	A:10-51 B:10-90 C:12-65	**76,89**	**MS**
	THLAR	Thlaspi arvense	56/38-43	A:10-65 B:12-81 C:14-97	**47,2**	**T**
CHR/H/ETO 0,8 l/ha AB	CHEAL	chenopodium album	46-56/31-45	A:10-31 B:11-34 C:12-59	**48,76**	**T**
	GALAP	Galium aparine	46-56/31-45	A:11-14 B:12-16 C:14-18	**89,88**	**S**
	STEME	Stellaria media	46-56/31-45	A:10-16 B:12-21 C:12-59	**97,69**	**S**
	AMARE	amaranthus retroflexus	46-56/31-45	A:10-51 B:10-90 C:12-65	**89,38**	**S**
	THLAR	Thlaspi arvense	56/38-43	A:10-65 B:12-81 C:14-97	**53,14**	**T**
CHR/H/ETO 1,0 l/ha AB	CHEAL	chenopodium album	46-56/31-45	A:10-31 B:11-34 C:12-59	**59,08**	**T**
	GALAP	Galium aparine	46-56/31-45	A:11-14 B:12-16 C:14-18	**94,68**	**S**
	STEME	Stellaria media	46-56/31-45	A:10-16 B:12-21 C:12-59	**99,41**	**S**
	AMARE	amaranthus retroflexus	46-56/31-45	A:10-51 B:10-90 C:12-65	**93,03**	**S**
	THLAR	Thlaspi arvense	56/38-43	A:10-65 B:12-81 C:14-97	**60,63**	**MT**
CHR/H/ETO 0,4 l/ha ABC	CHEAL	chenopodium album	46-56/31-45	A:10-31 B:11-34 C:12-59	**36,44**	**T**
	GALAP	Galium aparine	46-56/31-45	A:11-14 B:12-16 C:14-18	**75,01**	**MS**
	STEME	Stellaria media	46-56/31-45	A:10-16 B:12-21 C:12-59	**88,2**	**S**

	AMARE	amaranthus retroflexus	46-56/31-45	A:10-51 B:10-90 C:12-65	**78,66**	**MS**
	THLAR	Thlaspi arvense	56/38-43	A:10-65 B:12-81 C:14-97	**48,44**	**T**
CHR/H/ETO 0,5 l/ha ABC	CHEAL	chenopodium album	46-56/31-45	A:10-31 B:11-34 C:12-59	**49,3**	**T**
	GALAP	Galium aparine	46-56/31-45	A:11-14 B:12-16 C:14-18	**90,18**	**S**
	STEME	Stellaria media	46-56/31-45	A:10-16 B:12-21 C:12-59	**99,29**	**S**
	AMARE	amaranthus retroflexus	46-56/31-45	A:10-51 B:10-90 C:12-65	**89,91**	**S**
	THLAR	Thlaspi arvense	56/38-43	A:10-65 B:12-81 C:14-97	**54,59**	**T**
CHR/H/ETO 0,6 l/ha ABC	CHEAL	chenopodium album	46-56/31-45	A:10-31 B:11-34 C:12-59	**55,69**	**T**
	GALAP	Galium aparine	46-56/31-45	A:11-14 B:12-16 C:14-18	**95,58**	**S**
	STEME	Stellaria media	46-56/31-45	A:10-16 B:12-21 C:12-59	**99,54**	**S**
	AMARE	amaranthus retroflexus	46-56/31-45	A:10-51 B:10-90 C:12-65	**93,03**	**S**
	THLAR	Thlaspi arvense	56/38-43	A:10-65 B:12-81 C:14-97	**61,89**	**MT**

In summary, it may be stated that the most problematic weeds species in sugar beet in Poland and in the Czech Republic are comparable and they are almost all controlled by ethofumesate. Therefore product CHR/H/ETO 500 SC 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. Winter wheat and winter triticale which are of interest to the authors of this report, go through its development phases at relatively close calendar dates. What is more, the greatest weed problems are posed by almost the same weed species in both countries. All of these and many more are targeted by florasulam which is the active substance of product CHR/H/ETO 500 SC.

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, sugar beet herbicide CHR/H/ETO 500 SC in the Czech Republic.

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

Test report/ research number (1)	Trial location (2); Crop culti-var; 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)
CHR_H_ETO_SEL_PL01 / SRPL20-246-336HE	Tynwałd / Poland; potatoes; F N	SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1 85-027 Bydgoszcz Poland	EPPO PP 1/135 (4)	BBCH 12-16	AB:7 BC:7	2;3	A:200; B:200; C:200
CHR_H_ETO_SEL_PL02 / SRPL20-247-336HE	Lipina Nowa / Poland F N	SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1 85-027 Bydgoszcz Poland	EPPO PP 1/135 (4)	BBCH 12-17	AB:6 BC:5	2;3	A:200; B:200; C:200
CHR_H_ETO_SEL_PL03 / SRPL20-248-336HE	Borzęcin / Poland	SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1 85-027 Bydgoszcz Poland	EPPO PP 1/135 (4) 3x5=15m2	BBCH 12-17	AB:38 BC:7	2;3	A:300; B:300; C:300
CHR_H_ETO_SEL_PL04 / SRPL20-249-336HE	Izdebno / Poland	SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1 85-027 Bydgoszcz Poland	EPPO PP 1/135 (4) 3x7=21m2	BBCH 12-16	AB:7 BC:9	2;3	A:300; B:300; C:300
CHR_H_ETO_SEL_PL05 / SRPL20-250-336HE	Turze / Poland	SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1 85-027 Bydgoszcz Poland	EPPO PP 1/135 (4) 3x5=15m2	BBCH 12-16	AB:7 BC:6	2;3	A:200; B:200; C:200
CHR_H_ETO20_SEL_CZ01 / SRCZ20-094-301HE	Semcice / Czech Republic	SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1 85-027 Bydgoszcz Poland	EPPO PP 1/135 (4) 3x4=12m2	BBCH 12-18	AB:19 BC:8	3;2	A:225; B:225; C:225
CHR_H_ETO20_SEL_CZ02 / SRCZ20-095-301HE	Senorady / Czezch republic	SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1 85-027 Bydgoszcz Poland	EPPO PP 1/135 (4) 3x5=15m2	BBCH 11-18	AB:7 BC:8	3;2	A:250; B:250; C:250
CHR_H_ETO20_SEL_CZ03 / SRCZ20-096-301HE	Troubsko / Czech Republic	SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1 85-027 Bydgoszcz Poland	EPPO PP 1/135 (4) 2x8=16m2	BBCH 11-19	AB:8 BC:7	3;2	A:250; B:250; C: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

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]	
CHR_H_ETO_SEL_PL01 / SRPL20-246-336HE	Potatoes/ BEAVA/ VIOAR CHEAL AMARE THLAR ECHCG	A – 18 B – 18 C – 18,3	A: 10-14 B: 12-14 C: 12-16	CHR/H/ETO CHR/H/ETO CHR/H/ETO CHR/H/ETO CHR/H/ETO	0,4 0,5 0,6 0,8 1,0	Oblix MT 500 SC	2,0	Application date: 19.06.2020 Assessment date: 26.06.2020 03.07.2020 17.07.2020 14.08.2020
CHR_H_ETO_SEL_PL02 / SRPL20-247-336HE	winter wheat CHEAL POLPE SOLNI GALAP LAMAM	A – 18,5 B – 20,1 C – 25,3	A: 14-31 B: 31-34 C: 32-59	CHR/H/ETO CHR/H/ETO CHR/H/ETO CHR/H/ETO CHR/H/ETO	0,4 0,5 0,6 0,8 1,0	Oblix MT 500 SC	2,0	Application date: 29.05.2020 Assessment date: 04.06.2020 09.06.2020 26.06.2020 24.07.2020
CHR_H_ETO_SEL_PL03 / SRPL20-248-336HE	winter wheat/ BEAVA/ CHEAL POLAV AMARE	A – 5,5 B – 6 C - 7	A: 12-16 B: 16-19 C: 12-16	CHR/H/ETO CHR/H/ETO CHR/H/ETO CHR/H/ETO CHR/H/ETO	0,4 0,5 0,6 0,8 1,0	Oblix MT 500 SC	2,0	Application date: 04.06.2020 Assessment date: 11.06.2020 18.06.2020 02.07.2020 30.07.2020
CHR_H_ETO_SEL_PL04 / SRPL20-249-336HE	Maize/ BEAVA/ VIOAR STEME CHEAL GALAP AMARE THLAR	A – 9 B – 11 C - 11	A: 10-12 B: 12-13 C: 13-14	CHR/H/ETO CHR/H/ETO CHR/H/ETO CHR/H/ETO CHR/H/ETO	0,4 0,5 0,6 0,8 1,0	Oblix MT 500 SC	2,0	Application date: 15.06.2020 Assessment date: 22.06.2020 29.06.2020 13.07.2020 10.08.2020
CHR_H_ETO_SEL_PL05 / SRPL20-250-336HE	winter wheat/ BEAVA/ VIOAR STEME CHEAL GALAP AMARE THLAR	A – 9 B – 9 C – 9	A: 11-12 B: 12-13 C: 13-15	CHR/H/ETO CHR/H/ETO CHR/H/ETO CHR/H/ETO CHR/H/ETO	0,4 0,5 0,6 0,8 1,0	Oblix MT 500 SC	2,0	Application date: 06.06.2020 Assessment date: 13.06.2020 19.06.2020 04.07.2020 01.08.2020
CHR_H_ETO20_SEL_CZ01 / SRCZ20-094-301HE	winter oilseed rape/ BEAVA/ ECHCG SENVU STEME LAMAM AMARE THLAR	A – 4,5 B – 6,3 C – 5,3	A: 23-30 B: 32-33 C: 45-55	CHR/H/ETO CHR/H/ETO CHR/H/ETO CHR/H/ETO CHR/H/ETO	0,4 0,5 0,6 0,7 1,0	Ethofol X 500 SC	0,6	Application date: 15.06.2020 Assessment date: 22.06.2020 25.06.2020 03.07.2020 10.07.2020 20.07.2020 10.08.2020 14.09.2020
CHR_H_ETO20_SEL_CZ02 / SRCZ20-095-301HE	winter wheat/ BEAVP/ CHEAL AMARE POLLA	A: 30,5 B: 29,5 C: 41,75	A: 10-12 B: 11-14 C: 14-19	CHR/H/ETO CHR/H/ETO CHR/H/ETO CHR/H/ETO CHR/H/ETO	0,4 0,5 0,6 0,7 1,0	Ethofol X 500 SC	0,6	Application date: 22.05.2020 Assessment date: 29.05.2020

	POLCO ECHCG							08.06.2020 24.07.2020 10.07.2020 30.07.2020
CHR_H_ETO20_SEL_CZ03 / SRCZ20-096-301HE	spring barley/ BEAVA/ CHEAL AMARE POLLA ECHCG	A: 11 B: 15,5 C: 29,75	A: 11-12 B: 14-16 C: 16-33	CHR/H/ETO CHR/H/ETO CHR/H/ETO CHR/H/ETO CHR/H/ETO	0,4 0,5 0,6 0,7 1,0	Ethofol X 500 SC	0,6	Application date: 25.05.2020 Assessment date: 02.06.2020 09.06.2020 25.06.2020 10.07.2020 31.07.2020

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

Appendix 5 Summary of detailed data on herbicide effectiveness trials

Table 1. The efficacy of CHR/H/ETO in control of GALAP Galium aparine

	Report code	CHR_H_ETO_EFF_PL04	CHR_H_ETO_EFF_PL05	CHR_H_ETO20_EFF_CZ01	CHR_H_ETO20_EFF_CZ03	CHR_H_ETO_EFF_PL01	CHR_H_ETO20_EFF_CZ02	Mean
Treatment		SRPL20-244-336HE	SRPL20-245-336HE	SRCZ20-093-301HE	SRCZ20-092-301HE	SRPL20-241-336HE	SRCZ20-091-301HE	
Weeds m2		A: 5,0; B:5,0; C:5,0	A: 7,0; B:7,0; C:7,0	A: 5,0; B:6,0; C:6,5	A: 6,0; B:6,0; C:6,0	A:15, B:15,5, C:15,5	A:5,0, B:5,0, C:5,0	
Weeds BBCH		A:11-12; B:12-13; C:14-22	A:12-13; B:13-14; C:14-16	A:23-30; B:32-33; C:14-17	A:10-12; B:11-21; C:13-25	A:10-12; B:12-14; C:12-16	A:10-12; B:10-13; C:13-23	
Crop BBCH		A:12-13; B:13-14; C:15-16	A:12-13; B:13-14; C:15-16	A:12; B:12-13; C:14-18	A:11-14; B:16-17; C:16-19	A:12-14; B:12-15; C:14-16	A:11-13; B:14-16; C:16-18	
Interval days		AB:7; BC:9	AB:7; BC:6	AB:10; BC:9	AB:7; BC:7	AB:7; BC:7	AB:7; BC:10	
Product	Dose l/ha	28 DAA	28/15 DAA/C	35/17 DAA/C	31/16 DAA/C	28/14 DAA/C	33/16 DAA/C	
CHR/H/ETO 500 S.C.	0,6 AB	76,25	75,00	72,50	65,00	71,30	55,00	69,18
CHR/H/ETO 500 S.C.	0,8 AB	88,75	87,50	88,75	88,00	82,50	75,00	85,08
CHR/H/ETO 500 S.C.	1,0 AB	97,50	97,00	93,00	91,00	86,30	81,00	90,97
CHR/H/ETO 500 S.C.	0,4 ABC	77,50	76,25	77,50	70,00	71,30	52,50	70,84
CHR/H/ETO 500 S.C.	0,5 ABC	85,00	82,50	88,50	84,25	78,80	76,25	82,55
CHR/H/ETO 500 S.C.	0,6 ABC	97,00	97,00	91,00	85,50	82,50	80,50	88,92
Oblix MT 500 S.C.	2,0 AB	99,00	97,00			94,50		96,83
Oblix MT 500 S.C.	2,0 ABC	100,00	100,00			99,50		99,83
Ethofol X 500 S.C.	0,6 AB			93,50	86,00		81,00	86,83
LSD		3,891	2,905	3,755	3,589	3,70	4,529	

Table 2. The efficacy of CHR/H/ETO in control of GALAP Galium aparine

	Report code	CHR_H_ETO_EFF_PL04	CHR_H_ETO_EFF_PL05	CHR_H_ETO_EFF_PL01	CHR_H_ETO20_EFF_CZ01	CHR_H_ETO20_EFF_CZ03	CHR_H_ETO20_EFF_CZ02	Mean
Treatment		SRPL20-244-336HE	SRPL20-245-336HE	SRPL20-241-336HE	SRCZ20-093-301HE	SRCZ20-092-301HE	SRCZ20-091-301HE	
Weeds m2		A: 5,0; B:5,0; C:5,0	A: 7,0; B:7,0; C:7,0	A:15, B:15,5, C:15,5	A: 5,0; B:6,0; C:6,5	A: 6,0; B:6,0; C:6,0	A:5,0, B:5,0, C:5,0	
Weeds BBCH		A:11-12; B:12-13; C:14-22	A:12-13; B:13-14; C:14-16	A:10-12; B:12-14; C:12-16	A:23-30; B:32-33; C:14-17	A:10-12; B:11-21; C:13-25	A:10-12; B:10-13; C:13-23	
Crop BBCH		A:12-13; B:13-14; C:15-16	A:12-13; B:13-14; C:15-16	A:12-14; B:12-15; C:14-16	A:12; B:12-13; C:14-18	A:12-14; B:12-15; C:14-16	A:11-13; B:14-16; C:16-18	
Interval		AB:7; BC:9	AB:7; BC:6	AB:7; BC:7	AB:10; BC:9	AB:7; BC:7	AB:7; BC:10	
Product	Dose l/ha	56 DAA	56/43 DAA/C	56/42 DAA/C	56/38 DAA/C	46/31 DAA/C	49/32 DAA/C	
CHR/H/ETO 500 S.C.	0,6 AB	77,50	76,25	75,00	76,25	76,25	58,75	73,33
CHR/H/ETO 500 S.C.	0,8 AB	91,25	90,00	87,50	92,50	100,00	78,00	89,88
CHR/H/ETO 500 S.C.	1,0 AB	99,00	97,00	91,80	97,50	100,00	82,75	94,68
CHR/H/ETO 500 S.C.	0,4 ABC	80,00	80,00	78,80	78,75	77,50	55,00	75,01
CHR/H/ETO 500 S.C.	0,5 ABC	92,50	91,25	86,30	91,75	100,00	79,25	90,18
CHR/H/ETO 500 S.C.	0,6 ABC	100,00	100,00	93,00	98,75	100,00	81,75	95,58
Oblix MT 500 S.C.	2,0 AB	100,00	100,00	94,50				98,17
Oblix MT 500 S.C.	2,0 ABC	100,00	100,00	99,50				99,83
Ethofol X 500 S.C.	0,6 AB				100,00	100,00	83,00	94,33
LSD		3,218	2,084	3,510	3,981	2,244	5,183	

Table 3. The efficacy of CHR/H/ETO in control of CHEAL Chenopodium album

	Report code	CHR_H_ETO_EFF_PL02	CHR_H_ETO_EFF_PL04	CHR_H_ETO_EFF_PL05	CHR_H_ETO_EFF_PL01	CHR_H_ETO_EFF_PL03	CHR_H_ETO20_EFF_CZ02	CHR_H_ETO20_EFF_CZ03	Mean
Treatment		SRPL20-242-336HE	SRPL20-244-336HE	SRPL20-245-336HE	SRPL20-241-336HE	SRPL20-243-336HE	SRCZ20-091-301HE	SRCZ20-092-301HE	
Weds m2		A: 18,5; B:20,1; C:25,3	A: 45,0; B:60,0; C:60,0	A: 40,0; B:45,0; C:45,0	A: 52,0; B:52,0; C:52,3	A:5,5; B:6,0; C:7,0	A:10,0; B:10,0; C:10,0	A:11,0; B:15,5; C:29,75	
Weeds BBCH		A:14-31; B:31-34; C:32-59	A:10-13; B:11-15; C:13-17	A:11-12; B:12-14; C:13-15	A:10-14; B:12-16; C:13-18	A:12-16; B:12-17; C:12-19	A:10-12; B:11-14; C:14-19	A:11-12; B:14-16; C:16-33	
Crop BBCH		A:12-14; B:14-16; C:16-17	A:12-13; B:13-14; C:15-16	A:12-13; B:13-14; C:15-16	A:12-14; B:12-15; C:14-16	A:12-16; B:14-16; C:14-17	A:11-13; B:14-16; C:16-18	A:11-14; B:16-17; C:16-19	
Interval days		AB:5; BC:5	AB:7; BC:9	AB:7; BC:6	AB:7; BC:7	AB:7; BC:7	AB:7; BC:10	AB:8; BC:7	
Product	Dose l/ha	28/17 DAA/C	28 DAA	28/15 DAA/C	28/14 DAA/C	28/14 DAA/C	33/16 DAA/C	31/16 DAA/C	
CHR/H/ETO 500 S.C.	0,6 AB	45,00	27,50	30,00	16,80	23,80	53,75	52,50	35,62
CHR/H/ETO 500 S.C.	0,8 AB	50,00	40,00	38,75	31,30	37,50	62,50	65,00	46,44
CHR/H/ETO 500 S.C.	1,0 AB	55,00	55,00	52,50	42,50	55,00	71,25	75,00	58,04
CHR/H/ETO 500 S.C.	0,4 ABC	50,00	20,00	25,00	20,00	23,80	57,50	55,00	35,90
CHR/H/ETO 500 S.C.	0,5 ABC	60,00	36,25	35,00	26,30	35,00	72,50	73,75	48,40
CHR/H/ETO 500 S.C.	0,6 ABC	65,00	47,50	46,25	31,30	50,00	75,00	80,00	56,44
Oblix MT 500 S.C. /	2,0 AB / 0,6 AB	62,50	99,00	97,00	82,30	96,00			87,36
Ethofol X 500 S.C.							71,25	77,50	74,38
Oblix MT 500 S.C.	2,0 ABC	85,00	99,00	99,00	85,50	96,00			92,90
LSD		1,500	3,972	2,938	6,720	4,280	5,594	6,829	

Table 4. The efficacy of CHR/H/ETO in control of CHEAL Chenopodium album

	Report code	CHR_H_ETO_EFF_PL02	CHR_H_ETO_EFF_PL04	CHR_H_ETO_EFF_PL05	CHR_H_ETO_EFF_PL01	CHR_H_ETO_EFF_PL03	CHR_H_ETO20_EFF_CZ02	CHR_H_ETO20_EFF_CZ03	
Treatment		SRPL20-242-336HE	SRPL20-244-336HE	SRPL20-245-336HE	SRPL20-241-336HE	SRPL20-243-336HE	SRCZ20-091-301HE	SRCZ20-092-301HE	
Weds m2		A: 18,5; B:20,1; C:25,3	A: 45,0; B:60,0; C:60,0	A: 40,0; B:45,0; C:45,0	A: 52,0; B:52,0; C:52,3	A:5,5; B:6,0; C:7,0	A:10,0; B:10,0; C:10,0	A:11,0; B:15,5; C:29,75	
Weeds BBCH		A:14-31; B:31-34; C:32-59	A:10-13; B:11-15; C:13-17	A:11-12; B:12-14; C:13-15	A:10-14; B:12-16; C:13-18	A:12-16; B:12-17; C:12-19	A:10-12; B:11-14; C:14-19	A:11-12; B:14-16; C:16-33	Mean
Crop BBCH		A:12-14; B:14-16; C:16-17	A:12-13; B:13-14; C:15-16	A:12-13; B:13-14; C:15-16	A:12-14; B:12-15; C:14-16	A:12-16; B:14-16; C:14-17	A:11-13; B:14-16; C:16-18	A:11-14; B:16-17; C:16-19	
Interval		AB:5; BC:5	AB:7; BC:9	AB:7; BC:6	AB:7; BC:7	AB:7; BC:7	AB:7; BC:10	AB:8; BC:7	
Product	Dose l/ha	56/45 DAA/C	56 DAA	56/43 DAA/C	56/42 DAA/C	56/42 DAA/C	49/32 DAA/C	46/31 DAA/C	
CHR/H/ETO 500 S.C.	0,6 AB	40,00	21,25	20,00	18,80	25,00	56,25	57,50	34,11
CHR/H/ETO 500 S.C.	0,8 AB	45,00	37,50	35,00	38,80	40,00	71,25	73,75	48,76
CHR/H/ETO 500 S.C.	1,0 AB	52,50	47,50	46,25	52,50	53,80	80,50	80,50	59,08
CHR/H/ETO 500 S.C.	0,4 ABC	50,00	18,75	20,00	17,50	23,80	62,50	62,50	36,44
CHR/H/ETO 500 S.C.	0,5 ABC	62,50	33,75	35,00	26,30	33,80	75,00	78,75	49,30
CHR/H/ETO 500 S.C.	0,6 ABC	70,00	45,00	45,00	21,30	46,30	81,25	81,00	55,69
Oblix MT 500 S.C.	2,0 AB	56,30	100,00	99,75	86,30	100,00			88,47
Ethofol X 500 S.C.	0,6 AB						76,25	80,00	78,13
Oblix MT 500 S.C.	2,0 ABC	90,00	100,00	100,00	92,00	100,00			96,40
LSD		2,610	4,750	1,270	5,710	3,360	4,874	3,465	

Table 5. The efficacy of CHR/H/ETO in control of STEME Stellaria media

	Report code	CHR_H_ETO_EFF_PL05	CHR_H_ETO_EFF_PL04	CHR_H_ETO20_EFF_CZ01	CHR_H_ETO_EFF_PL01	CHR_H_ETO_EFF_PL02	CHR_H_ETO_EFF_PL03	CHR_H_ETO20_EFF_CZ03	CHR_H_ETO20_EFF_CZ02	Mean
Treatment		SRPL20-245-336HE	SRPL20-244-336HE	SRCZ20-093-301HE	SRPL20-241-336HE	SRPL20-242-336HE	SRPL20-243-336HE	SRCZ20-092-301HE	SRCZ20-091-301HE	
Weeds m2		A:10,0, B:10,0, C:10,0	A:8,0, B:8,0, C:8,0	A:5,0, B:5,0, C:5,0	A:15, B:15,5, C:15,5	A: 18,5; B:20,1; C:25,3	A:5,5; B:6,0; C:7,0	A:5,0; B:10,0; C:10,0	A:6,0; B:6,0; C:6,0	
Weeds BBCH		A:11-12; B:13-14; C:14-18	A:12-13; B:13-14; C:14-21	A:23-26; B:23-65; C:25-69	A:10-12; B:12-14; C:12-16	A:14-31; B:31-34; C:32-59	A:12-16; B:12-17; C:12-19	A:11-12; B:12-21; C:13-22	A:10-12; B:12-21; C:13-22	
Crop BBCH		A:12-13; B:13-14; C:15-16	A:12-13; B:13-14; C:15-16	A:BBCH:12; B:BBCH:12-13; C:BBCH:14-18	A:12-14; B:12-15; C:14-16	A:12-14; B:14-16; C:16-17	A:12-16; B:14-16; C:14-17	A:11-14; B:14-16; C:16-33	A:11-13; B:14-16; C:16-18	
Interval days		AB:7; BC:6	AB:7; BC:9	AB:10; BC:8	AB:7; BC:7	AB:5; BC:5	AB:7; BC:7	AB:8; BC:7	AB:7; BC:10	
Product	Dose l/ha	28/15 DAA/C	28 DAA	35/17 DAA/C	28/14 DAA/C	28/17 DAA/C	28/14 DAA/C	31/16 DAA/C	33/16 DAA/C	
CHR/H/ETO 500 S.C.	0,6 AB	82,50	83,75	80,50	79,30	77,50	82,80	78,75	76,25	80,17
CHR/H/ETO 500 S.C.	0,8 AB	96,75	99,00	85,00	89,30	91,00	91,80	100,00	95,50	93,54
CHR/H/ETO 500 S.C.	1,0 AB	99,25	100,00	100,00	91,80	94,80	92,50	95,00	96,50	96,23
CHR/H/ETO 500 S.C.	0,4 ABC	83,75	85,00	95,50	77,50	73,80	81,00	86,00	77,50	82,51
CHR/H/ETO 500 S.C.	0,5 ABC	97,00	98,50	100,00	88,50	89,80	90,50	100,00	94,25	94,82
CHR/H/ETO 500 S.C.	0,6 ABC	99,00	99,00	100,00	91,00	92,30	91,80	100,00	95,25	96,04
Oblix MT 500 S.C. /	2,0 AB / 0,6 AB	99,75	100,00		93,00	88,80	89,80			94,27
Ethofol X 500 S.C.				100,00				100,00	96,50	98,83
Oblix MT 500 S.C.	2,0 ABC	100,00	100,00		92,50	95,00	94,30			96,36
LSD		2,672	1,329	0,753	4,080	4,270	2,750	8,419	2,600	

Table 6. The efficacy of CHR/H/ETO in control of STEME Stellaria media

	Report code	CHR_H_ETO_EFF_PL05	CHR_H_ETO_EFF_PL04	CHR_H_ETO20_EFF_CZ01	CHR_H_ETO_EFF_PL01	CHR_H_ETO_EFF_PL02	CHR_H_ETO_EFF_PL03	CHR_H_ETO20_EFF_CZ03	CHR_H_ETO20_EFF_CZ02	Mean
Treatment		SRPL20-245-336HE	SRPL20-244-336HE	SRCZ20-093-301HE	SRPL20-241-336HE	SRPL20-242-336HE	SRPL20-243-336HE	SRCZ20-092-301HE	SRCZ20-091-301HE	
Weeds m2		A:10,0, B:10,0, C:10,0	A:8,0, B:8,0, C:8,0	A:5,0, B:5,0, C:5,0	A:9,5; B:10; C:10;	A: 18,5; B:20,1; C:25,3	A:5,5; B:6,0; C:7,0	A:5,0; B:10,0; C:10,0	A:6,0; B:6,0; C:6,0	
Weeds BBCH		A:11-12; B:13-14; C:14-18	A:12-13; B:13-14; C:14-21	A:23-26; B:23-65; C:25-69	A:10-12; B:12-14; C:14-18	A:14-31; B:31-34; C:32-59	A:12-16; B:12-17; C:12-19	A:11-12; B:12-21; C:13-22	A:10-12; B:12-21; C:13-22	
Crop BBCH		A:12-13; B:13-14; C:15-16	A:12-13; B:13-14; C:15-16	A:BBCH:12; B:BBCH:12-13; C:BBCH:14-18	A:12-14; B:12-15; C:14-16	A:12-14; B:14-16; C:16-17	A:12-16; B:14-16; C:14-17	A:11-14; B:14-16; C:16-33	A:11-13; B:14-16; C:16-18	
Interval		AB:7; BC:6	AB:7; BC:9	AB:10; BC:8	AB:7; BC:7	AB:5; BC:5	AB:7; BC:7	AB:8; BC:7	AB:7; BC:10	
Product	Dose l/ha	56/43 DAA/C	56DAA	56/38 DAA/C	56/42 DAA/C	56/45 DAA/C	56/42 DAA/C	46/31 DAA/C	49/32 DAA/C	
CHR/H/ETO 500 S.C.	0,6 AB	85,00	86,25	82,50	84,80	86,80	89,30	81,50	78,75	84,36
CHR/H/ETO 500 S.C.	0,8 AB	99,00	100,00	86,00	99,00	100,00	100,00	100,00	97,50	97,69
CHR/H/ETO 500 S.C.	1,0 AB	99,00	100,00	100,00	100,00	100,00	100,00	96,25	100,00	99,41
CHR/H/ETO 500 S.C.	0,4 ABC	90,00	88,75	98,50	86,00	87,30	87,30	87,25	80,50	88,20
CHR/H/ETO 500 S.C.	0,5 ABC	99,25	100,00	100,00	97,80	100,00	97,30	100,00	100,00	99,29
CHR/H/ETO 500 S.C.	0,6 ABC	99,50	100,00	100,00	99,30	100,00	100,00	100,00	97,50	99,54
Oblix MT 500 S.C.	2,0 AB / 0,6 AB	99,75	100,00		100,00	100,00	100,00			99,95

Ethofol X 500 S.C.				100,00				100,00	100,00	100,00
Oblix MT 500 S.C.	2,0 ABC	100,00	100,00		100,00	100,00	100,00			100,00
LSD		0,460	1,684	1,850	2,610	1,520	2,260	6,947	3,528	

Table 7. The efficacy of CHR/H/ETO in control of THLAR Thlaspi arvense

	Report code	CHR_H_ETO_EFF_PL05	CHR_H_ETO_EFF_PL04	CHR_H_ETO_EFF_PL01	CHR_H_ETO20_EFF_CZ01	Mean
Treatment		SRPL20-245-336HE	SRPL20-244-336HE	SRPL20-241-336HE	SRCZ20-093-301HE	
Weeds m2		A:5,0; B:6,0; C:6,0;	A:5,0; B:6,0; C:6,0;	A:9,5; B:10; C:10;	A:6,0; B:6,0; C:6,0;	
Weeds BBCH		A:11-12; B:12-14; C:14-17	A:11-12; B:13-14; C:14-17	A:10-12; B:12-14; C:14-18	A:61-65; B:81,0; C:89,0-97,0	
Crop BBCH		A:12-13; B:13-14; C:15-16	A:12-13; B:13-14; C:15-16	A:12-14; B:12-15; C:14-16	A:12; B:12-13; C:14-18	
Interval days		AB:7; BC:6	AB:7; BC:9	AB:7; BC:7	AB:8; BC:7	
Product	Dose l/ha	28/15 DAA/C	28 DAA	28/14 DAA/C	35/17 DAA/C	
CHR/H/ETO 500 S.C.	0,6 AB	65,00	65,00	55,00	0,00	46,25
CHR/H/ETO 500 S.C.	0,8 AB	68,75	72,50	70,00	0,00	52,81
CHR/H/ETO 500 S.C.	1,0 AB	80,00	81,25	79,30	0,00	60,14
CHR/H/ETO 500 S.C.	0,4 ABC	70,00	65,00	57,50	0,00	48,13
CHR/H/ETO 500 S.C.	0,5 ABC	72,50	71,25	73,80	0,00	54,39

CHR/H/ETO 500 S.C.	0,6 ABC	80,00	80,00	77,50	0,00	59,38
Oblix MT 500 S.C. /	2,0 AB / 0,6 AB	98,00	99,00	86,00	0,00	70,75
Ethofol X 500 S.C.					0,00	0,00
Oblix MT 500 S.C.	2,0 ABC	100,000	100,000	87,800		95,93
LSD		2,013	4,723	4,980	0,000	

Table 8. The efficacy of CHR/H/ETO in control of THLAR Thlaspi arvense

	Report code	CHR_H_ETO_EFF_PL05	CHR_H_ETO_EFF_PL04	CHR_H_ETO_EFF_PL01	CHR_H_ETO20_EFF_CZ01	Mean
Treatment		SRPL20-245-336HE	SRPL20-244-336HE	SRPL20-241-336HE	SRCZ20-093-301HE	
Weeds m2		A:5,0; B:6,0; C:6,0;	A:5,0; B:6,0; C:6,0;	A:9,5; B:10; C:10;	A:6,0; B:6,0; C:6,0;	
Weeds BBCH		A:11-12; B:12-14; C:14-17	A:11-12; B:13-14; C:14-17	A:10-12; B:12-14; C:14-18	A:61-65; B:81,0; C:89,0-97,0	
Crop BBCH		A:12-13; B:13-14; C:15-16	A:12-13; B:13-14; C:15-16	A:12-14; B:12-15; C:14-16	A:12; B:12-13; C:14-18	
Interval		AB:7; BC:6	AB:7; BC:9	AB:7; BC:7	AB:8; BC:7	
Product	Dose l/ha	56/43 DAA/C	56DAA	56/42 DAA/C	56/38 DAA/C	
CHR/H/ETO 500 S.C.	0,6 AB	62,50	62,50	63,80	0,00	47,20
CHR/H/ETO 500 S.C.	0,8 AB	70,00	68,75	73,80	0,00	53,14
CHR/H/ETO 500 S.C.	1,0 AB	80,00	80,00	82,50	0,00	60,63
CHR/H/ETO 500 S.C.	0,4 ABC	61,25	62,50	70,00	0,00	48,44
CHR/H/ETO 500 S.C.	0,5 ABC	70,00	71,25	77,50	0,00	54,69
CHR/H/ETO 500 S.C.	0,6 ABC	83,75	82,50	81,30	0,00	61,89
Oblix MT 500 S.C. /	2,0 AB / 0,6 AB	99,75	100,00	97,80		99,18
Ethofol X 500 S.C.					0,00	0,00
Oblix MT 500 S.C.	2,0 ABC	100,00	100,00	99,50		99,83
LSD		2,304	4,257	4,470	0,000	

Table 9. The efficacy of CHR/H/ETO in control of AMARE Amaranthus retroflexus

	Report code	CHR_H_ETO_EFF_PL05	CHR_H_ETO_EFF_PL04	CHR_H_ETO_EFF_PL01	CHR_H_ETO_EFF_PL03	CHR_H_ETO20_EFF_CZ02	CHR_H_ETO20_EFF_CZ03	CHR_H_ETO20_EFF_CZ01	CHR_H_ETO_EFF_PL02	Mean
Treatment		SRPL20-245-336HE	SRPL20-244-336HE	SRPL20-241-336HE	SRPL20-243-336HE	SRCZ20-091-301HE	SRCZ20-092-301HE	SRCZ20-093-301HE	SRPL20-242-336HE	
Weeds m2		A:15,0; B:15,0; C:15,0	A:17,0; B:19,0; C:19,0	A:15, B:15,5, C:15,5	A:6,3; B:6,4; C:6,5	A:3,75; B:3,75; C:5,75	A:9,0; B:9,0; C:9,0	A:8,5; B:8,5; C:8,0	A: 18,5; B:20,1; C:25,3	
Weeds BBCH		A:11-12; B:12-13; C:14-15	A:11-12; B:12-14; C:15-16	A:10-12; B:12-14; C:12-16	A:12-16; B:14-18; C:16-19	A:10-11; B:11-14; C:12-16	A:10-12; B:13-16; C:17-32	A:11-51; B:10-90; C:31-65	A:14-31; B:31-34; C:32-59	
Crop BBCH		A:12-13; B:13-14; C:15-16	A:12-13; B:13-14; C:15-16	A:12-14; B:12-15; C:14-16	A:12-16; B:14-16; C:14-17	A:BBCH:11-13; B:BBCH:14-16; C:BBCH:16-18	A:11-14; B:14-16; C:16-33	A:BBCH:12; B:BBCH:12-13; C:BBCH:14-18	A:12-14; B:14-16; C:16-17	
Interval days		AB:7; BC:6	AB:7; BC:9	AB:7; BC:7	AB:7; BC:7	AB:7; BC:10	AB:8; BC:7	AB:8; BC:7	AB:5; BC:5	
Product	Dose l/ha	28/15 DAA/C	28 DAA	28/14 DAA/C	28/14 DAA/C	33/16 DAA/C	31/16 DAA/C	35/17 DAA/C	28/17 DAA/C	
CHR/H/ETO 500 S.C.	0,6 AB	82,50	83,75	78,80	83,80	80,00	56,25	72,50	68,80	75,80
CHR/H/ETO 500 S.C.	0,8 AB	95,00	99,00	90,00	97,00	81,25	72,50	80,00	75,00	86,22
CHR/H/ETO 500 S.C.	1,0 AB	99,00	100,00	97,00	100,00	91,25	85,50	85,50	84,30	92,82
CHR/H/ETO 500 S.C.	0,4 ABC	85,00	85,00	80,00	82,50	82,50	58,75	78,75	70,00	77,81
CHR/H/ETO 500 S.C.	0,5 ABC	87,50	91,25	86,30	90,00	88,75	76,25	84,25	79,80	85,51
CHR/H/ETO 500 S.C.	0,6 ABC	98,00	99,00	92,50	98,00	90,00	87,25	88,50	82,30	91,94
Oblix MT 500 S.C. /	2,0 AB / 0,6 AB	98,00	98,00	96,50	99,80				81,80	94,82
Ethofol X 500 S.C.	06 AB					92,50	87,25	85,50		88,42
Oblix MT 500 S.C.	2,0 ABC	99,00	99,00	98,30	100,00				87,30	96,72

LSD		2,428	3,343	5,240	4,020	3,816	5,111	2,460	4,130		

Table 10. The efficacy of CHR/H/ETO in control of AMARE Amaranthus retroflexus

	Report code	CHR_H_ETO_EFF_PL05	CHR_H_ETO_EFF_PL04	CHR_H_ETO_EFF_PL01	CHR_H_ETO_EFF_PL03	CHR_H_ETO20_EFF_CZ02	CHR_H_ETO20_EFF_CZ03	CHR_H_ETO20_EFF_CZ01	CHR_H_ETO_EFF_PL02	Mean
Treatment		SRPL20-245-336HE	SRPL20-244-336HE	SRPL20-241-336HE	SRPL20-243-336HE	SRCZ20-091-301HE	SRCZ20-092-301HE	SRCZ20-093-301HE	SRPL20-242-336HE	
Weeds m2		A:15,0; B:15,0; C:15,0	A:17,0; B:19,0; C:19,0	A:15, B:15,5, C:15,5	A:6,3; B:6,4; C:6,5	A:3,75; B:3,75; C:5,75	A:9,0; B:9,0; C:9,0	A:8,5; B:8,5; C:8,0	A: 18,5; B:20,1; C:25,3	
Weeds m2		A:11-12; B:12-13; C:14-15	A:11-12; B:12-14; C:15-16	A:10-12; B:12-14; C:12-16	A:12-16; B:14-18; C:16-19	A:10-11; B:11-14; C:12-16	A:10-12; B:13-16; C:17-32	A:11-51; B:10-90; C:31-65	A:14-31; B:31-34; C:32-59	
Crop BBCH		A:12-13; B:13-14; C:15-16	A:12-13; B:13-14; C:15-16	A:12-14; B:12-15; C:14-16	A:12-16; B:14-16; C:14-17	A:BBCH:11-13; B:BBCH:14-16; C:BBCH:16-18	A:11-14; B:14-16; C:16-33	A:BBCH:12; B:BBCH:12-13; C:BBCH:14-18	A:12-14; B:14-16; C:16-17	
Interval		AB:7; BC:6	AB:7; BC:9	AB:7; BC:7	AB:7; BC:7	AB:7; BC:10	AB:8; BC:7	AB:8; BC:7	AB:5; BC:5	
Product	Dose l/ha	56/43 DAA/C	56DAA	56/42 DAA/C	56/42 DAA/C	69/52 DAA/C	46/31 DAA/C	56/38 DAA/C	56/45 DAA/C	
CHR/H/ETO 500 S.C.	0,6 AB	85,00	86,25	78,80	88,80	70,00	58,75	75,00	72,50	76,89
CHR/H/ETO 500 S.C.	0,8 AB	99,50	100,00	90,00	99,80	85,50	76,25	80,50	83,50	89,38
CHR/H/ETO 500 S.C.	1,0 AB	99,25	100,00	97,00	100,00	86,00	87,25	86,75	88,00	93,03
CHR/H/ETO 500 S.C.	0,4 ABC	87,50	88,75	80,00	90,00	70,00	61,25	81,75	70,00	78,66
CHR/H/ETO 500 S.C.	0,5 ABC	99,75	100,00	86,30	100,00	86,50	79,25	86,00	81,50	89,91
CHR/H/ETO 500 S.C.	0,6 ABC	100,00	100,00	92,50	100,00	86,00	88,50	91,25	86,00	93,03
Oblix MT 500 S.C. /	2,0 AB / 0,6 AB	100,00	100,00	96,50	100,00				89,30	97,16
Ethofol X 500 S.C.	0,6 AB					84,25	86,50	87,25		86,00

Oblix MT 500 S.C.	2,0 ABC	100,00	100,00	98,30	100,00				91,80	98,02
LSD		1,396	1,684	5,24	1,29	2,664	3,52	3,055	2,76	

Appendix 6 Summary of phytotoxicity trials data in summary form

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

	Treatment	Dose	Unit	Code	DAA/C				
					7/0	**.14/7**	**.21/7**	**.28/14**	**56/42**
CHR_H_ETO_SEL_PL01 / SRPL20-246-336HE	Untreated Check				0,00	0,00	0,00	0,00	0,00
	CHR/H/ETO 500 SC	1,00	l/ha	AB	0,00	0,00	0,00	0,00	0,00
	CHR/H/ETO 500 SC	2,00	l/ha	AB	0,00	0,00	0,00	0,00	0,00
	CHR/H/ETO 500 SC	0,60	l/ha	ABC	0,00	0,00	0,00	0,00	0,00
	CHR/H/ETO 500 SC	1,20	l/ha	ABC	0,00	0,00	0,00	0,00	0,00
	Oblix MT 500 SC	2,00	l/ha	AB	0,00	0,00	0,00	0,00	0,00
	Oblix MT 500 SC	4,00	l/ha	AB	0,00	0,00	0,00	0,00	0,00
	Oblix MT 500 SC	2,00	l/ha	ABC	0,00	0,00	0,00	0,00	0,00
	Oblix MT 500 SC	4,00	l/ha	ABC	0,00	0,00	0,00	0,00	0,00
	Treatment	Dose	Unit	Code	DAA/C				
					7/0	**.14/3**	**.21/10**	**.28/17**	**56/45**
CHR_H_ETO_SEL_PL02 / SRPL20-247-336HE	Untreated Check				0,00	0,00	0,00	0,00	0,00
	CHR/H/ETO 500 SC	1,00	l/ha	AB	0,00	0,00	0,00	0,00	0,00
	CHR/H/ETO 500 SC	2,00	l/ha	AB	0,00	0,00	0,00	0,00	0,00
	CHR/H/ETO 500 SC	0,60	l/ha	ABC	0,00	0,00	0,00	0,00	0,00
	CHR/H/ETO 500 SC	1,20	l/ha	ABC	0,00	0,00	0,00	0,00	0,00
	Oblix MT 500 SC	2,00	l/ha	AB	0,00	0,00	0,00	0,00	0,00
	Oblix MT 500 SC	4,00	l/ha	AB	0,00	0,00	0,00	0,00	0,00
	Oblix MT 500 SC	2,00	l/ha	ABC	0,00	0,00	0,00	0,00	0,00

	Oblix MT 500 SC	4,00	l/ha	ABC	0,00	0,00	0,00	0,00	0,00
CHR_H_ETO_SEL_PL03 / SRPL20-248-336HE	Treatment	Dose	Unit	Code	**DAA/C**				
					7/0	**.14/7**	**.21/7**	**.28/14**	**56/42**
	Untreated Check				0,00	0,00	0,00	0,00	0,00
	CHR/H/ETO 500 SC	1,00	l/ha	AB	0,00	0,00	0,00	0,00	0,00
	CHR/H/ETO 500 SC	2,00	l/ha	AB	0,00	0,00	0,00	0,00	0,00
	CHR/H/ETO 500 SC	0,60	l/ha	ABC	0,00	0,00	0,00	0,00	0,00
	CHR/H/ETO 500 SC	1,20	l/ha	ABC	0,00	0,00	0,00	0,00	0,00
	Oblix MT 500 SC	2,00	l/ha	AB	0,00	0,00	0,00	0,00	0,00
	Oblix MT 500 SC	4,00	l/ha	AB	0,00	0,00	0,00	0,00	0,00
	Oblix MT 500 SC	2,00	l/ha	ABC	0,00	0,00	0,00	0,00	0,00
	Oblix MT 500 SC	4,00	l/ha	ABC	0,00	0,00	0,00	0,00	0,00
CHR_H_ETO_SEL_PL04 / SRPL20-249-336HE	Treatment	Dose	Unit	Code	**DAA/C**				
					7/0	**.14/6**	**.28/12**	**56/40**	
	Untreated Check				0,00	0,00	0,00	0,00	
	CHR/H/ETO 500 SC	1,00	l/ha	AB	0,00	0,00	0,00	0,00	
	CHR/H/ETO 500 SC	2,00	l/ha	AB	0,00	0,00	0,00	0,00	
	CHR/H/ETO 500 SC	0,60	l/ha	ABC	0,00	0,00	0,00	0,00	
	CHR/H/ETO 500 SC	1,20	l/ha	ABC	0,00	0,00	0,00	0,00	
	Oblix MT 500 SC	2,00	l/ha	AB	0,00	0,00	0,00	0,00	
	Oblix MT 500 SC	4,00	l/ha	AB	0,00	0,00	0,00	0,00	
	Oblix MT 500 SC	2,00	l/ha	ABC	0,00	0,00	0,00	0,00	
	Oblix MT 500 SC	4,00	l/ha	ABC	0,00	0,00	0,00	0,00	
CHR_H_ETO_SEL_PL05 / SRPL20-250-336HE	Treatment	Dose	Unit	Code	**DAA/C**				
					7/0	**.14/5**	**.21/5**	**.28/12**	**56/40**
	Untreated Check				0,00	0,00	0,00	0,00	0,00
	CHR/H/ETO 500 SC	1,00	l/ha	AB	0,00	0,00	0,00	0,00	0,00
	CHR/H/ETO 500 SC	2,00	l/ha	AB	0,00	0,00	0,00	0,00	0,00
	CHR/H/ETO 500 SC	0,60	l/ha	ABC	0,00	0,00	0,00	0,00	0,00

	CHR/H/ETO 500 SC	1,20	l/ha	ABC	0,00	0,00	0,00	0,00	0,00
	Oblix MT 500 SC	2,00	l/ha	AB	0,00	0,00	0,00	0,00	0,00
	Oblix MT 500 SC	4,00	l/ha	AB	0,00	0,00	0,00	0,00	0,00
	Oblix MT 500 SC	2,00	l/ha	ABC	0,00	0,00	0,00	0,00	0,00
	Oblix MT 500 SC	4,00	l/ha	ABC	0,00	0,00	0,00	0,00	0,00
CHR_H_ETO20_SEL_CZ01 / SRCZ20-094-301HE	Treatment	Dose	Unit	Code	**DAA/C**				
					7/0	**8/0**	**.14/6**	**.15/7**	**21/60**
	Untreated Check				0,00	0,00	0,00	0,00	0,00
	CHR/H/ETO 500 SC	1,00	l/ha	AB	0,00	0,00	0,00	0,00	0,00
	CHR/H/ETO 500 SC	2,00	l/ha	AB	0,00	0,00	0,00	0,00	0,00
	CHR/H/ETO 500 SC	0,60	l/ha	ABC	0,00	0,00	0,00	0,00	0,00
	CHR/H/ETO 500 SC	1,20	l/ha	ABC	0,00	0,00	0,00	0,00	0,00
	Ethofol X 500 SC	0,60	l/ha	AB	0,00	0,00	0,00	0,00	0,00
	Ethofol X 500 SC	1,20	l/ha	AB	0,00	0,00	0,00	0,00	0,00
CHR_H_ETO20_SEL_CZ02 / SRCZ20-095-301HE	Treatment	Dose	Unit	Code	**DAA/C**				
					7/0	**.14/7**	**.17/10**	**.21/4**	**.24/7**
	Untreated Check				0,00	0,00	0,00	0,00	0,00
	CHR/H/ETO 500 SC	1,00	l/ha	AB	0,00	0,00	0,00	0,00	0,00
	CHR/H/ETO 500 SC	2,00	l/ha	AB	0,00	0,00	0,00	0,00	0,00
	CHR/H/ETO 500 SC	0,60	l/ha	ABC	0,00	0,00	0,00	0,00	0,00
	CHR/H/ETO 500 SC	1,20	l/ha	ABC	0,00	0,00	0,00	0,00	0,00
	Ethofol X 500 SC	0,60	l/ha	AB	0,00	0,00	0,00	0,00	0,00
	Ethofol X 500 SC	1,20	l/ha	AB	0,00	0,00	0,00	0,00	0,00
CHR_H_ETO20_SEL_CZ03 / SRCZ20-096-301HE	Treatment	Dose	Unit	Code	**DAA/C**				
					9/0	**.14/5**	**.16/7**	**.21/5**	**.28/12**
	Untreated Check				0,00	0,00	0,00	0,00	0,00
	CHR/H/ETO 500 SC	1,00	l/ha	AB	0,00	0,00	0,00	0,00	0,00
	CHR/H/ETO 500 SC	2,00	l/ha	AB	0,00	0,00	0,00	0,00	0,00
	CHR/H/ETO 500 SC	0,60	l/ha	ABC	0,00	0,00	0,00	0,00	0,00

	CHR/H/ETO 500 SC	1,20	l/ha	ABC	0,00	0,00	0,00	0,00	0,00
	Ethofol X 500 SC	0,60	l/ha	AB	0,00	0,00	0,00	0,00	0,00
	Ethofol X 500 SC	1,20	l/ha	AB	0,00	0,00	0,00	0,00	0,00

Table 2 – data from phytotoxicity trials Poland and Czech Republic

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**
CHR_H_ETO_SEL_PL01 / SRPL20-246-336HE	SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1 85-027 Bydgoszcz Poland	Tynwałd / Poland	T: A:19.06.2020; B:26.06.2020, C:03.07.2020 A:BBCH 12-14; B:BBCH 12-15; C:BBCH 14-16	sugar beet / Kujavia F N	Randomized blocks EPPO PP 1/135 (4)	Soil type: loamy sand pH 5,10
CHR_H_ETO_SEL_PL02 / SRPL20-247-336HE	SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1 85-027 Bydgoszcz Poland	Pliskow Kolonia / Poland	T: A:29.05.2020; B:04.06.2020, C:09.06.2020 A:BBCH:12-14; B:BBCH:14-16; C:BBCH:16-18	sugar beet / Jampol F N	Randomized blocks EPPO PP 1/135 (4)	Soil type: clay loam pH 6,14
CHR_H_ETO_SEL_PL03 / SRPL20-248-336HE	SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1 85-027 Bydgoszcz	Podgorzela / Poland	T: A:26.05.2020; B:02.06.2020, C:09.06.2020 A:BBCH:12-13; B:BBCH:13-15; C:BBCH:16-17	sugar beet / Kujavia F N	Randomized blocks EPPO PP 1/135 (4)	Soil type: clay loam pH 6,60

	Poland					
CHR_H_ETO_SEL_PL04 / SRPL20-249-336HE	SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1 85-027 Bydgoszcz Poland	Szczepankowo / Poland	T:A:18.05.2020; B:26.05.2020, C:03.06.2020 A:BBCH:13-14; B:BBCH:15-16; C:BBCH:16-17	sugar beet / Jaromir F N	Randomized blocks EPPO PP 1/135 (4)	Soil type: loamy sand pH 6,50
CHR_H_ETO_SEL_PL05 / SRPL20-250-336HE	SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1 85-027 Bydgoszcz Poland	Turze / Poland	T: A:28.05.2020; B:06.06.2020, C:13.06.2020 A:BBCH:12; B:BBCH:12; C:BBCH:14	sugar beet / Sobieski F N	Randomized blocks EPPO PP 1/135 (4)	Soil type: sandy loam pH 6,10
CHR_H_ETO20_SEL_CZ01 / SRCZ20-094-301HE	SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1 85-027 Bydgoszcz Poland	Hoškovice / Czech Republic	T:A:20.05.2020; B:28.05.2020, C:04.06.2021 A:BBCH:14-17; B:BBCH:16-18; C:BBCH:19-31	sugar beet / Dalmatin F N	Randomized blocks EPPO PP 1/135 (4)	Soil type: loamy clay pH 7,0
CHR_H_ETO20_SEL_CZ02 / SRCZ20-095-301HE	SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1 85-027 Bydgoszcz Poland	Miletín / Czech Republic	T: A:21.05.2020; B:28.05.2020, C:07.06.2021 A:BBCH:15-18; B:BBCH:17-31; C:BBCH:18-31	sugar beet / Jagger F N	Randomized blocks EPPO PP 1/135 (4)	Soil type: loamy clay pH 6,90

CHR_H_ETO20_SEL_CZ03 / SRCZ20-096-301HE	SynTech Research Poland Sp. z o.o. ul. Jagiellońska 69/1 85-027 Bydgoszcz Poland	Semcice / Czech Republic	T: A:27.05.2020; B:05.06.2020, C:12.06.2020 A:BBCH:17-18; B:BBCH:19; C:BBCH:19	sugar beet / Gallert F N	Randomized blocks EPPO PP 1/135 (4)	Soil type: loam pH 7,16

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

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

None

Appendix 8 Summary of data on succeeding crop

None