

FINAL REGISTRATION REPORT

Part B

Section 3

Efficacy Data and Information

Concise summary

Product code: Terbut 500 SC

Product name(s): La Zina 500 S.C. / Tekno 500 S.C.

Chemical active substance(s):

Terbuthylazine 500 g/l

Central Zone

Zonal Rapporteur Member State: Poland

CORE ASSESSMENT

(authorization)

Applicant: Chemirol Sp. z o.o.

Submission date: 08.2020

Update date: 22.11.2021

MS Finalisation date: 12/2021; June 2022

Version history

When	What
December 2021	ZRMs evaluated dRR updated by Applicant.
June 2022	Final Version after Commenting period

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

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

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

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

Abstract

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

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

PPP (product name/code):	La Zina 500 SC/Tekno 500 SC	Formulation type:	GAP rev., date: 2021-11-22 SC ^(a, b)
Active substance 1:	terbuthylazine	Conc. of as 1:	500 g/l ^(c)
Active substance 2:	-	Conc. of as 2:	^(c)
Active substance 3:	-	Conc. of as 3:	^(c)
Safener:	-	Conc. of safener:	^(c)
Synergist:	-	Conc. of synergist:	^(c)
Applicant:	Innvigo Sp. z o.o.	Professional use:	<input checked="" type="checkbox"/>
Zone(s):	Central ^(d)	Non professional use:	<input type="checkbox"/>
Verified by MS:	no		
Field of use:	herbicide		

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Use- No. *	Member state(s)	Crop and/ or situation (crop desti- nation / purpose of crop)	F, Fn, G, Gn, Gnp or I **	Pests or Group of pests controlled (additionally: devel- opmental stages of the pest or pest group)	Application				Application rate			PHI (days)	Remarks: e.g. g safener/ synergist per ha, other dose rate expression, dose range (min-max)	zRMS Conclusion
					Method / Kind	Timing / Growth stage of crop & season	Max. num- ber 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	Maize <i>Zea mays</i> (ZEAMX)	F	Dicotyledonous weeds	Spray, medium sprayer	Spring BBCH 00- 05	a)1 b)1	n/a	a) 1.0 l/ha b) 1.0 l/ha	a) 0.5 kg a.s./ha b) 0.5 kg a.s./ha	200-300	n/a		Not accepta- ble
2	PL	Maize <i>Zea mays</i> (ZEAMX)	F	Dicotyledonous weeds	Spray, medium sprayer	Spring BBCH 00- 05	a)1 b)1	n/a	a) 1.0 l/ha + 0.2 % v/v Hydra- vance 100 LQ b) 1.0 l/ha + 0.2 % v/v Hydra- vance 100 LQ	a) 0.5 kg a.s./ha + 0.2 % v/v Hydravance 100 LQ b) 0.5 kg a.s./ha + 0.2 % v/v Hydravance 100 LQ	200-300	n/a		Acceptable
3	PL	Maize <i>Zea mays</i> (ZEAMX)	F	Dicotyledonous weeds	Spray, medium sprayer	Spring BBCH 12- 16	a)1 b)1	n/a	a) 1.0 l/ha b) 1.0 l/ha	a) 0.5 kg a.s./ha b) 0.5 kg a.s./ha	200-300	n/a		Acceptable
4	PL	Maize <i>Zea mays</i> (ZEAMX)	F	Dicotyledonous weeds	Spray, medium sprayer	Spring BBCH 12- 16	a)1 b)1	n/a	a) 1.0 l/ha + 0.2 % v/v Hydra- vance 100 LQ b) 1.0 l/ha + 0.2 % v/v Hydra- vance 100 LQ	a) 0.5 kg a.s./ha + 0.2 % v/v Hydravance 100 LQ b) 0.5 kg a.s./ha + 0.2 % v/v Hydravance 100 LQ	200-300	n/a		Acceptable
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)														
5														

6														
Minor uses according to Article 51 (field uses)														
7														
8														
Minor uses according to Article 51 (interzonal uses)														
9														
10														

Hydravance 100 LQ - Adjuvant

Remarks table heading:	(a)	e.g. wettable powder (WP), emulsifiable concentrate (EC), granule (GR)	(d)	Select relevant
	(b)	Catalogue of pesticide formulation types and international coding system CropLife International Technical Monograph n°2, 6th Edition Revised May 2008	(e)	Use number(s) in accordance with the list of all intended GAPs in Part B, Section 0 should be given in column 1
	(c)	g/kg or g/l	(f)	No authorization possible for uses where the line is highlighted in grey, Use should be crossed out when the notifier no longer supports this use.
Remarks columns:	1	Numeration necessary to allow references	7	Growth stage at first and last treatment (BBCH Monograph, Growth Stages of Plants, 1997, Blackwell, ISBN 3-8263-3152-4), including where relevant, information on season at time of application
	2	Use official codes/nomenclatures of EU Member States	8	The maximum number of application possible under practical conditions of use must be provided.
	3	For crops, the EU and Codex classifications (both) should be used; when relevant, the use situation should be described (e.g. fumigation of a structure)	9	Minimum interval (in days) between applications of the same product
	4	F: professional field use, Fn: non-professional field use, Fpn: professional and non-professional field use, G: professional greenhouse use, Gn: non-professional greenhouse use, Gpn: professional and non-professional greenhouse use, I: indoor application	10	For specific uses other specifications might be possible, e.g.: g/m³ in case of fumigation of empty rooms. See also EPPO-Guideline PP 1/239 Dose expression for plant protection products.
	5	Scientific names and EPPO-Codes of target pests/diseases/ weeds or, when relevant, the common names of the pest groups (e.g. biting and sucking insects, soil born insects, foliar fungi, weeds) and the developmental stages of the pests and pest groups at the moment of application must be named.	11	The dimension (g, kg) must be clearly specified. (Maximum) dose of a.s. per treatment (usually g, kg or L product / ha).
	6	Method, e.g. high volume spraying, low volume spraying, spreading, dusting, drench Kind, e.g. overall, broadcast, aerial spraying, row, individual plant, between the plants - type of equipment used must be indicated.	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

Applicant: Innvigo Sp. z.o.o.
Applicant Document ID Section 3 PART B Terbut 500 SC
Applicant Author: R.N.

Evaluator: IOS-PIB, PL
Date: 11.2021

Product code: Terbut 500 SC
Product name: La Zina 500 S.C. / Tekno 500 S.C.
Part B – Section 3 - Core Assessment
Applicant version

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Template for chemical PPP
Version July 2020

C	To be confirmed by cMS
N	Not acceptable / evaluation not possible
n.r.	Not relevant for section 3

Applicant: Innvigo Sp. z.o.o.
Applicant Document ID Section 3 PART B Terbut 500 SC
Applicant Author: R.N.

Evaluator: IOŚ-PIB, PL
Date: 11.2021

3.2 Efficacy data (KCP 6)

Introduction

This document summarizes the information related to the efficacy of the product Terbut containing active substance terbuthylazine.

General information:

Description of the plant protection product

Marketing name:

product submitted to registration under one marketing names: La Zina 500 S.C. / Tekno 500 S.C.

Formulants content:

The information concerning ingredients of product Terbut 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:

Terbut is to be applied pre-crop in maize at BBCH 00 max. 3 days after sowing.

The suggested dose of the product:

- pre- emergence application: 1.0 L/ha once a season in maize which are corresponding to 500 g a.s./ha of terbuthylazine
- post- emergence application: 1.0 L/ha once a season in maize which are corresponding to 500 g a.s./ha of terbuthylazine

Terbut containing terbuthylazine as the active substance is prepared for the use in agricultural practice as a herbicide in the form SC – Suspension concentrate.

Information on the composition of product Terbut are included in the confidential part of the registration dossier: Registration Report – Part C.

Description of active substances

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

Mode of action

Active substance:

Terbuthylazine 500 g/l

Chemical name (IUPAC): N²-tert-butyl-6-chloro-N⁴-ethyl-1,3,5-triazine-2,4- diamine

According to the Terbuthylazine_DAR_04_Vol3_B1-B5_public

Terbuthylazine is an inhibitor of photosystem II (PS II) (HRAC mode of action group C1, WSSA group 5). By binding to the Q_B binding site of photosystem II it blocks the Hill reaction, which takes place in the chloroplast. Photosynthesis is prevented at the solar energy collected by the leaf is diverted into the for-

Applicant: Innvigo Sp. z.o.o.

Applicant Document ID Section 3 PART B Terbut 500 SC

Applicant Author: R.N.

Evaluator: IOŚ-PIB, PL

Date: 11.2021

mation of destructive compounds (free radicals) rather than into the normal photosynthesis products. These free radicals build up to the point where chlorophyll, carotenoids and cell membranes are destroyed. The rate of plant death is rapid and too fast to be accounted for by starvation (by stopping photosynthesis alone) and the destruction of cell walls and membranes are the major causes of the foliar chlorosis, necrosis and finally death of the plant. Selectivity of the crop is due to the ability of corn to rapidly metabolise terbuthylazine into non-toxic compounds.

According to the Terbuthylazine_DAR_01_Vol1_public

Terbuthylazine provides a broad spectrum of activity, mainly against range of broad leaved weeds.

Susceptible weeds (pre- and post –emergence at 750 g ai/ha): *Amaranthus* spp. (PC), *Anagallis arvensis*, *Atriplex* spp., *Capsela bursa-pastoris*, *Chenopodium* spp., *Galinsoga parviflora*, *Kickxia spuria*, *Mercurialis annua*, *Poa annua*, *Polygonum persicaria* (PC), *Polygonum aviculare* (PC), *Portulaca oleraceae* (PC), *Solanum nigrum*, *Stellaria media*, *Urtica* spp. (PC), *Veronica persica* (PC), *Viola arvensis* (PC), *Viola tricolor* (PC).

(PC- partially controlled)

Effects on harmful organisms

Terbuthylazine provides control of annual broad-leaved weeds, pre-emergence and early-post emergence. Terbuthylazine is mainly taken up via plant roots, although entering the leaves is possible. The site of application is located in the chloroplast of leaf meristems where interference with the electron transport of photosystem II ('Hill reaction') takes place leading to inhibition of photosynthesis.

Table 3.2-1: Details of the active substances

Active substance	Terbuthylazine
Concentration (Unit: g/kg or g/L...)	500 g/l
Chemical group	Triazine
Mode of action	Inhibition of photosynthesis at photosystem II
Biological action	Effects on harmful organisms Terbuthylazine provides control of annual broad-leaved weeds, pre-emergence and early-post emergence Terbuthylazine is mainly taken up via plant roots, although entering the leaves is possible. The site of application is located in the chloroplast of leaf meristems where interference with the electron transport of photosystem II ('Hill reaction') takes place leading to inhibition of photosynthesis.

Description of the plant protection product

Formulation of use:

SC – Suspension concentrate

Terbut containing 500 g/l terbuthylazine as the active substance is prepared for the use in agricultural practice as a herbicide in the form SC – Suspension concentrate.

Terbut is to be applied in spring preemergence in maize at BBCH 00.

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

Uses		Member State	Requested rate(s)		Comments / Other relevant details on GAPs
Crop(s)	Target(s)		max. rate per appl	max. total rate per crop/season	
maize	Dicotyledonous weeds	PL	1,0 l/ha	1,0 l/ha	-
maize	Dicotyledonous weeds	PL	1,0 l/ha	1,0 l/ha	-

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

Description of the target pests

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

EPPO code	Scientific name	Common name*
ECHCG	<i>Echinochloa crus-galli</i>	-
CHEAL	<i>Chenopodium Album</i>	-
GALAP	<i>Galium aparine</i>	-
MATIN	<i>Tripleurospermum inodorum</i>	-
STEME	<i>Stellaria media</i>	-
AMARE	<i>Amaranthus retroflexus</i>	-
GERPU	<i>Geranium pusillum</i>	-
VIOAR	<i>Viola arvensis</i>	-
VERAR	<i>Veronica arvensis</i>	-
MATCH	<i>Matricaria chamomilla</i>	-
POLCO	<i>Fallopia convolvulus</i>	-
CAPBP	<i>Capsella bursa-pastoris</i>	-
POLPE	<i>Persicaria maculosa</i>	-
ANTAR	<i>Anthemis arvensis</i>	-
CENCY	<i>Centaurea cyanus</i>	-
GASPA	<i>Galinsoga parviflora</i>	-
SETPU	<i>Setaria pallidifusca</i>	-
LYCAR	<i>Anchusa arvensis</i>	-
POAAN	<i>Poa annua</i>	-
GERDI	<i>Geranium dissectum</i>	-
SOLNI	<i>Solnaum nigrum</i>	-
POLAV	<i>Polygonum aviculare</i>	-
POLLA	<i>Persicaria lapathifolia</i>	-

CHEPO	<i>Lipandra polysperma</i>	-
-------	----------------------------	---

* optional

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

Maize (pre-emergence)

Crop and/or situation	Crop status		Pests or group of pests controlled	Pest status	
	Major	minor		Major	minor
Maize	PL, GER, CZ	-	<i>Echinochloa crus-galli</i>	PL, GER, CZ	-
Maize	PL, GER, CZ	-	<i>Chenopodium Album</i>	PL, GER, CZ	-
Maize	PL, GER, CZ	-	<i>Galium aparine</i>	PL, GER, CZ	-
Maize	PL, GER, CZ	-	<i>Tripleurospermum inodorum</i>	PL, GER, CZ	-
Maize	PL	-	<i>Stellaria media</i>	PL	-
Maize	PL, GER	-	<i>Amaranthus retroflexus</i>	PL, GER	-
Maize	PL	-	<i>Setaria palidifusca</i>	PL	-
Maize	PL, GER	-	<i>Geranium pusillum</i>	PL, GER	-
Maize	PL, GER	-	<i>Viola arvensis</i>	PL, GER	-
Maize	PL, GER	-	<i>Matricaria chamomilla</i>	PL, GER	-
Maize	PL, GER	-	<i>Fallopia convolvulus</i>	PL, GER	-
Maize	PL, GER	-	<i>Capsella bursa-pastoris</i>	PL, GER	-
Maize	PL	-	<i>Persicaria maculosa</i>	PL	-
Maize	PL	-	<i>Anthemis arvensis</i>	PL	-
Maize	PL	-	<i>Centaurea cyanus</i>	PL	-
Maize	PL	-	<i>Galinsoga parviflora</i>	PL	-
Maize	PL	-	<i>Anchusa arvensis</i>	PL	-
Maize	GER	-	<i>Poa annua</i>	GER	-
Maize	GER	-	<i>Geranium dissectum</i>	GER	-
Maize	GER	-	<i>Solnaum nigrum</i>	GER	-
Maize	GER	-	<i>Polygonum aviculare</i>	GER	-
Maize	GER	-	<i>Persicaria lapathifolia</i>	GER	-
Maize	CZ	-	<i>Lipandra polysperma</i>	CZ	-

Maize (post-emergence)

Crop and/or situation	Crop status		Pests or group of pests controlled	Pest status	
	Major	minor		Major	minor
Maize	PL, GER, CZ	-	<i>Galium aparine</i>	PL, GER, CZ	-
Maize	PL, GER,	-	<i>Viola arvensis</i>	PL, GER,	-
Maize	PL, GER,	-	<i>Amaranthus retroflexus</i>	PL, GER,	-
Maize	PL	-	<i>Anchusa arvensis</i>	PL	-
Maize	PL	-	<i>Anthemis arvensis</i>	PL	-
Maize	PL, GER,	-	<i>Capsella bursa-pastoris</i>	PL, GER,	-
Maize	PL	-	<i>Centaurea cyanus</i>	PL	-
Maize	PL, GER, CZ	-	<i>Chenopodium Album</i>	PL, GER, CZ	-
Maize	PL, GER, CZ	-	<i>Echinochloa crus-galli</i>	PL, GER, CZ	-
Maize	PL, GER	-	<i>Fallopia convolvulus</i>	PL, GER	-
Maize	PL	-	<i>Galinsoga parviflora</i>	PL	-
Maize	GER	-	<i>Geranium dissectum</i>	GER	-
Maize	PL, GER,	-	<i>Geranium pusillum</i>	PL, GER,	-
Maize	CZ	-	<i>Lipandra polysperma</i>	CZ	-
Maize	PL, GER,	-	<i>Matricaria chamomilla</i>	PL, GER,	-
Maize	GER	-	<i>Persicaria lapathifolia</i>	GER	-
Maize	PL,	-	<i>Persicaria maculosa</i>	PL	-
Maize	GER	-	<i>Poa annua</i>	-	GER
Maize	GER	-	<i>Polygonum aviculare</i>	-	GER
Maize	PL	-	<i>Setaria pallidifusca</i>	-	PL
Maize	PL, GER	-	<i>Solnaum nigrum</i>	-	PL, GER
Maize	PL	-	<i>Stellaria media</i>	PL	-
Maize	PL, GER, CZ	-	<i>Tripleurospermum inodorum</i>	PL, GER, CZ	-
Maize	PL	-	<i>Veronica arvensis</i>	PL	-

Compliance with the Uniform Principles

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

Information on trials submitted (3.1 Efficacy data)

A total of 26 trials have been carried out in 2017 and 2019 in the North-East EPPO zone within the Central registration zone to evaluate the efficacy of applied at the proposed label rate of 500-600 g a.s./ha and 600-750 g a.s./ha in the weed control in maize (Table 3.2 6). Trials were conducted in the main maize growing areas in the North-East EPPO zone in Poland, Germany and Czech Republic.

Table 3.2-5: Presentation of trials efficacy trials.

Pre- emergence application

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

					North-East Zone			
Maize (pre-emergence) BBCH 00, max. 3 days after sowing	Echinochloa crus-galli	GER	2017	E	1(1)	-	GEP	-
		CZ	2017	-	1(1)	-	-	-
		PL	2017	-	1(1)	-	-	-
		TOTAL	-	-	3(3)	-	-	-
Maize (pre-emergence) BBCH 00, max. 3 days after sowing	Chenopodium album	GER	2017	E	5(5)	-	GEP	-
		CZ	2017	E	1(1)	-	-	-
		PL	2019	E	7(7)	-	-	-
		TOTAL	-	-	13(13)	-	-	-
Maize (pre-emergence) BBCH 00, max. 3 days after sowing	Galium aparine	GER	2017	E	1(1)	-	GEP	-
		CZ	-	-	1(1)	-	-	-
		PL	-	-	2(2)	-	-	-
		TOTAL	-	-	4(4)	-	-	-
Maize (pre-emergence) BBCH 00, max. 3 days after sowing	Tripleurospermum inodorum	GER	2017	E	1(1)	-	GEP	-
		CZ	2017	E	1(1)	-	GEP	-
		PL	2017; 2019	E	4(4)	-	GEP	-
		TOTAL	-	-	6(6)	-	-	-
Maize (pre-emergence) BBCH 00, max. 3 days after sowing	Stellaria media	GER	-	E	-	-	GEP	-
		CZ	-	E	-	-	-	-
		PL	2019	E	2(2)	-	-	-
		TOTAL	-	-	2(2)	-	-	-
Maize (pre-emergence) BBCH 00, max. 3 days after sowing	Amaranthus retroflexus	GER	2017	E	1(1)	-	GEP	-
		CZ	-	-	-	-	-	-
		PL	2017; 2019	E	4(4)	-	-	-
		TOTAL	-	-	5(5)	-	-	-
Maize (pre-emergence) BBCH 00, max. 3 days after sowing	Geranium pusillum	GER	2017	E	2(2)	-	GEP	-
		CZ	-	-	-	-	-	-
		PL	2017	E	2(2)	-	GEP	-
		TOTAL	-	-	4(4)	-	-	-
Maize (pre-emergence) BBCH 00, max. 3 days after sowing	Viola arvensis	GER	2017	E	2(2)	-	GEP	-

		PL	2017; 2019	E	5(5)			
	TOTAL		2017-2019		7(7)	-	-	-
Maize (pre-emergence) BBCH 00, max. 3 days after sowing	Matricaria chamomilla	GER	2017	E	1(1)	-	GEP	-
		PL	2017; 2019	E	3(3)	-		
	TOTAL		2017-2019		4(4)	-	-	-
Maize (pre-emergence) BBCH 00, max. 3 days after sowing	Fallopia convolvulus	GER	2017	E	3(3) 2 (2)	-	GEP	-
		PL	2017; 2019	E	4(4)	-	GEP	
	TOTAL	-	2017-2019	-	7(7) 6 (6)	-	-	-
Maize (pre-emergence) BBCH 00, max. 3 days after sowing	Capsella bursa-pastoris	GER	2017	E	3(1)	-	GEP	-
		PL	2017	E	1(1)	-		
	TOTAL	-	2017	-	4(4)	-	-	-
Maize (pre-emergence) BBCH 00, max. 3 days after sowing	Persicaria maculosa	Poland	2017	E	1(1)	-	GEP	-
	TOTAL	-	2017	-	1(1)	-	-	-
Maize (pre-emergence) BBCH 00, max. 3 days after sowing	Anthemis arvensis	Poland	2017	E	1(1)	-	GEP	-
	TOTAL	-	2017	-	1(1)	-	-	-
Maize (pre-emergence) BBCH 00, max. 3 days after sowing	Centaurea cyanus	Poland	2017; 2019	E	4(4)	-	GEP	-
	TOTAL	-	2017-2019	-	4(4)	-	-	-
Maize (pre-emergence) BBCH 00, max. 3 days after sowing	Galinsoga parviflora	Poland	2017	E	1(1)	-	GEP	-
	TOTAL	-	2017	-	1(1)	-	-	-
Maize (pre-emergence) BBCH 00, max. 3 days after sowing	Anchusa arvensis	Poland	2017	E	1(1)	-	GEP	-
	TOTAL	-	2017	-	1(1)	-	-	-
Maize (pre-emergence) BBCH 00, max. 3 days after sowing	Setaria palidifusca	Poland	2017	E	1(1)			
			2017		1(1)	-	-	-
Maize (pre-emergence) BBCH 00, max. 3 days after sowing	Poa annua	Germany	2017	E	1(1)	-	GEP	-
	TOTAL	-	2017	-	1(1)	-	-	-

Maize (pre-emergence) BBCH 00, max. 3 days after sowing	Geranium dissectum	Germany	2017	E	1(1)	-	GEP	-
	TOTAL	-	2017	-	1(1)	-	-	-
Maize (pre-emergence) BBCH 00, max. 3 days after sowing	Solanum nigrum	Germany	2017	E	1(1)	-	GEP	-
	TOTAL	-	2017	-	1(1)	-	-	-
Maize (pre-emergence) BBCH 00, max. 3 days after sowing	Polygonum aviculare	Germany	2017	E	1(1)	-	GEP	-
	TOTAL	-	2017	-	1(1)	-	-	-
Maize (pre-emergence) BBCH 00, max. 3 days after sowing	Persicaria lapathifolia	Germany	2017	E	1(1)	-	GEP	-
	TOTAL	-	2017	-	1(1)	-	-	-
Maize (pre-emergence) BBCH 00, max. 3 days after sowing	Lipandra polysperma	Czech Republic	2017	E	1(1)	-	GEP	-
	TOTAL	-	2017	-	1(1)	-	-	-
TOTAL	-	-	2017-2019	-	73(73) 72 (72)	-	-	-

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

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

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

Post-emergence application

Crop(s) *	Target(s)*	Country	Years	Type of trial**	Number of trials (number of valid trials)		GEP, non-GEP, official***	Comments (any other relevant information)
					North-East Zone	-		
Maize (post-emergence) BBCH 12-16	Amaranthus retroflexus	GER	2017	E	1(1)	-	GEP	-
		PL	2017; 2019	E	12(12)	-	GEP	-
	TOTAL	-	2017-2019	-	13(13)	-	-	-
Maize (post-emergence) BBCH 12-16	Anthemis arvensis	-	-	-	-	-	-	-
		PL	2019	E	1(1)	-	GEP	-
	TOTAL	-	2019	-	1(1)	-	-	-
Maize (post-emergence) BBCH 12-16	Capsella bursa-pastoris	GER	2017	E	3(3)	-	GEP	-
		PL	2017; 2019	E	8(8)	-	GEP	-
	TOTAL	-	2017-2019	-	11(11)	-	-	-
Maize (post-emergence)	Centaurea cyanus	-	-	-	-	-	-	-

emergence) BBCH 12-16								
		PL	2017;2019	E	5(5)	-	GEP	-
	TOTAL		2017-2019		5(5)	-	-	-
Maize (post-emergence) BBCH 12-16	<i>Chenopodium album</i>	GER	2017	E	5(5)	-	GEP	-
		CZ	2017	E	1(1)	-	GEP	-
		PL	2019	E	18(18)	-	GEP	-
	TOTAL		2017-2019		24(24)	-	-	-
Maize (post-emergence) BBCH 12-16	<i>Lipandra polysperma</i>	CZ	2017	E	1(1)	-	GEP	-
		-	-	-	-	-	-	-
	TOTAL		2017		1(1)	-	-	-
Maize (post-emergence) BBCH 12-16	<i>Echinochloa crus-galli</i>	GER	2017	E	1(1)	-	GEP	-
		CZ	2017	E	1(1)	-	GEP	-
		PL	2017	E	2(2)	-	GEP	-
	TOTAL		2017		4(4)	-	-	-
Maize (post-emergence) BBCH 12-16	<i>Galium aparine</i>	GER	2017	E	1(1)	-	GEP	-
		CZ	2017	E	1(1)	-	GEP	-
		PL	2017;2019	E	9(9)	-	GEP	-
	TOTAL		2017-2019		11(11)	-	-	-
Maize (post-emergence) BBCH 12-16	<i>Galinsoga parviflora</i>							
		PL	2017;2019	E	2(2)	-	GEP	-
	TOTAL		2017-2019		2(2)	-	-	-
Maize (post-emergence) BBCH 12-16	<i>Geranium dissectum</i>	GER	2017	E	1(1)	-	GEP	-
		-	-	-	-	-	-	-
	TOTAL		2017		1(1)	-	-	-
Maize (post-emergence) BBCH 12-16	<i>Geranium pusillum</i>	GER	2017	E	2(2)	-	GEP	-
		PL	2017;2019	E	3(3)	-	GEP	-
	TOTAL		2017-2019		5(5)	-	-	-
Maize (post-emergence) BBCH 12-16	<i>Anchusa arvensis</i>							
		PL	2019	E	1(1)	-	-	-
	TOTAL		2019		1(1)	-	-	-
Maize (post-emergence) BBCH 12-16	<i>Matricaria chamomilla</i>	GER	2017	E	1(1)	-	GEP	-
		PL	2019	E	4(4)	-	GEP	-
	TOTAL		2017-2019		5(5)	-	-	-
Maize (post-emergence)	<i>Tripleurospermum inodorum</i>	GER	2017	E	1(1)	-	GEP	-

BBCH 12-16								
		CZ	2017	E	1(1)	-	GEP	-
		PL	2017;2019	E	10(10)	-	GEP	-
	TOTAL		2017-2019		12(12)	-	-	-
Maize (post-emergence) BBCH 12-16	<i>Poa annua</i>	GER	2017	E	1(1)	-	GEP	-
	TOTAL		2017		1(1)	-	-	-
Maize (post-emergence) BBCH 12-16	<i>Polygonum aviculare</i>	GER	2017	E	1(1)	-	GEP	-
	TOTAL		2017		1(1)	-	-	-
Maize (post-emergence) BBCH 12-16	<i>Fallopia convolvulus</i>	GER	2017	E	3(3)	-	GEP	-
	TOTAL	PL	2017;2019	E	10(10)	-	GEP	-
			2017-2019		13(13)	-	-	-
Maize (post-emergence) BBCH 12-16	<i>Persicaria lapathifolia</i>	GER	2017	E	1(1)	-	GEP	-
	TOTAL		2017		1(1)	-	-	-
Maize (post-emergence) BBCH 12-16	<i>Persicaria maculosa</i>	-	-	-	-	-	-	-
	TOTAL	PL	2019	E	1(1)	-	-	-
			2019		1(1)	-	-	-
Maize (post-emergence) BBCH 12-16	<i>Setaria pallidifusca</i>	-	-	-	-	-	-	-
	TOTAL	PL	2017	E	1(1)	-	GEP	-
			2017		1(1)	-	-	-
Maize (post-emergence) BBCH 12-16	<i>Solanum nigrum</i>	GER	2017	E	1(1)	-	GEP	-
	TOTAL	PL	2019	E	7(7)	-	GEP	-
			2019		8(8)	-	-	-
Maize (post-emergence) BBCH 12-16	<i>Stellaria media</i>	-	-	-	-	-	-	-
	TOTAL	PL	2019	E	3(3)	-	GEP	-
			2019		3(3)	-	-	-
Maize (post-emergence) BBCH 12-16	<i>Veronica arvensis</i>	-	-	-	-	-	-	-
	TOTAL	PL	2019	E	6(6)	-	GEP	-
			2019		6(6)	-	-	-
Maize (post-emergence) BBCH 12-16	<i>Viola arvensis</i>	GER	2017	E	2(2)	-	GEP	-
	TOTAL	PL	2019	E	16(16)	-	-	-
			2017-2019		18(18)	-	-	-

TOTAL	2017-2019	149(149)			
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- * According to the GAP table. Timing of the application(s) can be added if relevant (e.g. Pre-emergence vs post-emergence, spring vs autumn).
- ** P = preliminary trial, MED = minimum effective dose, E = efficacy trial.
- *** GEP: Good Experimental Practices. Official: carried out by a national official organisation.

Table 3.2-6: Presentation of reference standards used in 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)	
Maize	Tezosar 500 SC	PL	R - 146/2018	Terbutylazine	S.C. – Suspension concentrate	500	1,0 l/ha	1,0 l/ha	-
	Lumax 537,5 SE	PL	R-70/2008	Terbutylazine	SE - Suspo-Emulsion	187,5	3,5-4,0 l/ha	3,5 l/ha	-
				Mesotrione		37,5	-	-	-
				S-metolachlor		312,5	-	-	-
	Gardo Gold 500 SC	DE	024613-00	Terbutylazine	SC - Suspension-Concentrate	187,5	4 l/ha	4 l/ha	-
				S-metolachlor		312,5	-	-	-
	Gardoprim Plus Gold 500 SC	CZ	4378-2	Terbutylazine	SC - Suspension-Concentrate	187,5	4 l/ha	4 l/ha	-
				S-metolachlor		312,5	-	-	-

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

Comments of zRMS:	<p>This document summarizes the information related to the efficacy of the plant protection product – La Zina 500 SC / Tekno 500 SC (product code: Terbut 500 SC).</p> <p>Terbut 500 SC is a suspension concentrate (SC) formulation containing 500 g/l terbuthylazine. For now, this mentioned active substances is on the list of approved active substances. What is important, a large-scale efficacy trials are available to evaluate the effectiveness of products containing this active compound (terbuthylazine).</p> <p>All necessary information's about tested plant protection products, active substances, studied pests, reference products, etc. are correctly presented in this drr by Applicant. In Poland 15 plant protection products terbuthylazine are already registered.</p> <p>The product – La Zina 500 SC / Tekno 500 SC (product code: Terbut 500 SC) containing terbuthylazine by Innvigo Sp. z o.o. has not been previously evaluated in any country according to Uniform Principles. Poland is a ZRMs.</p>
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3.2.1 Preliminary tests (KCP 6.1)

Preliminary studies on product Terbut were not carried out because this herbicide contains terbuthylazine 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:	The active substances of La Zina 500 SC / Tekno 500 SC (product code: Terbut 500 SC) – terbuthylazine is registered and have been commonly used in agricultural practice for many years. Large scale efficacy trials are available to evaluate the effectiveness of products containing this active compound, so preliminary tests were not necessary in this case in our opinion.
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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)

No specific studies were conducted to fill this data point.

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 Terbut in maize the minimum effective dose of product Terbut used is:

Used:

- 1,0 L/ha + 0,2% Hydravance 100 LQ once a season in maize in the growth stage BBCH 00, which are corresponding to 500 g a.s./ha of terbuthylazine + Hydravance 100 LQ 0,2%.
- 1,0 L/ha (solo) once a season in maize in the growth stage BBCH 12-16, which are corresponding to 500 g a.s./ha of terbuthylazine.

The minimum effective trials were not conducted

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

Not applicable

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

No specific studies were conducted to fill this data point.

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

Not applicable

Summary and conclusions on the minimum effective dose

Not applicable

Comments of zRMS:	<p>The applicant has proposed doses of La Zina 500 SC / Tekno 500 SC (product code: Terbut 500 SC) that reflect those of currently authorised terbuthylazine products across the EU.</p> <p>To provide information to establish the minimum effective dose, some of the trials conducted to demonstrate efficacy should include at least two lower dose(s) than recommended dose. In the appropriate research of efficacy were tested differ doses and to register was chosen the lowest effective, which is in accordance to EPPO 1/225 (2).</p> <p>During field efficacy tests Applicant used different doses of herbicide La Zina 500 SC / Tekno 500 SC (product code: Terbut 500 SC) containing terbuthylazine (500 g/l). So, in the appropriate research of efficacy were tested differ doses and to register was chosen the lowest effective, which is in accordance to EPPO 1/225 (2). No special MED trials were presented by Applicant.</p> <p>La Zina 500 SC / Tekno 500 SC (product code: Terbut 500 SC) was studied at following doses:</p> <ul style="list-style-type: none"> ✓ pre-emergence use (BBCH 00-05): solo – 1,0 l/ha Terbut 500 SC (N dose) and with adjuvant: 0,8 l/ha Terbut 500 SC+0,2% adjuvant (0,8N); 1,0 l/ha Terbut 500 SC + 0,2% adjuvant (N); 1,2 l/ha Terbut 500 SC + 0,2% adjuvant (1,2N) and 1,5 l/ha Terbut 500 SC + 0,2 % adjuvant (1,5N). ✓ post-emergence use (BBCH 12-16): solo at three different doses: 0,8 l/ha (0,8N); 1,0 l/ha (N); 1,2 l/ha (1,2N) and with adjuvant at one dose: 1,0 l/ha Terbut 500 SC + 0,2 % adjuvant (N). <p>Based on results achieved on studied weeds in the 26 maize trials, it can be concluded that to consistently control frequently occurring weeds in maize, La Zina 500 SC / Tekno 500 SC (product code: Terbut 500 SC) should be applied:</p> <ul style="list-style-type: none"> • early post-emergence (BBCH 12-16) solo at dose 1,0 l/ha and with adjuvant at dose 1,0 l/ha Terbut 500 SC+0,2 % adjuvant. • pre-emergence (BBCH 00-05) – solo at dose 1,0 l/ha and with adjuvant at dose 1,0 l/ha Terbut 500 SC + 0,2 % adjuvant.
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3.2.3 Efficacy tests (KCP 6.2)

Materials and methods

The applicant submitted 26 reports (in total) showing the results in research into product efficacy carried out in 2017 and 2019 in maize. List of these reports is contained in Appendix 1. Trials were carried out in one season because this herbicide contains terbuthylazine which is a well-known active substance that

has been used for many years in agricultural practice.

Site

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

Testing units

Efficacy studies on herbicide Terbut were performed in 2017 by:

- SGS Polska Sp. z o.o., ul. Jana Kazimierza 3, 01-248 Warszawa, Poland
- Syntech Research Poland Sp. z o.o. ul. Jagiellonska 69/1, 85-027, Bydgoszcz, Poland
- Poznań University of Life Sciences, Research and Education Center Gorzyń, Agronomy Department; ul. Wojska Polskiego 28, 60-637 Poznań

Experimental details

The efficacy trials were designed, conducted and reported according to the following EPPO guide-lines:

- PP 1/135 (3) Phytotoxicity assessment
- PP 1/152 (3) Design and analysis of efficacy evaluation trials
- PP 1/181 (4) Conduct and reporting of efficacy evaluation trials including good experimental practice
- PP 1/50 (3) Weeds in maize

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 $LSD\alpha=0.05$. 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 1m².

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

Not applicable

Applications methods and rates

The applications were carried out by a T-BOOM – BACCAI, plot sprayer – BACSPR, plot sprayer BICSPR, Schachtner – SPRBIC, knapsack "Gloria" in cereals.

Tested herbicide was applied at the growth stage in maize in BBCH 00

The product Terbut has been used in maize at the following rates of 0.8, 1.0, 1.2, 1.5 l/ha Lumax 537,5 SE, Gardo Gold 500 SC and Gardoprime Plus Gold 500 SC were used as a reference product in maize.

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

Experiment pattern:

Poland 2017

No.	Name	Rate (l/ha)	other rate (g a.s./ha)	Appl code	Growth Stage BBCH
1	Untreated Check				
2	Lumax 537,5 SE	3,5	1881,25	A	BBCH 00
3	Terbut 500 S.C.	1,50	750	A	BBCH 00
3	Hydravance 100 LQ	0,2	-	-	-

4	Terbut 500 S.C.	1,2	600	A	BBCH 00
4	Hydravance 100 LQ	0,2	-	-	-
5	Terbut 500 S.C.	1,0	500	A	BBCH 00
5	Hydravance 100 LQ	0,2	-	-	-
6	Terbut 500 S.C.	0,8	400	A	BBCH 00
6	Hydravance 100 LQ	0,2	-	-	-

Germany 2017

No.	Name	Rate (l/ha)	other rate (g a.s./ha)	Appl code	Growth Stage BBCH
1	Untreated Check				
2	Gardo Gold 500 SC	4,0	2000	A	BBCH 00-05
3	Terbut 500 S.C.	1,50	750	A	BBCH 00-05
3	Hydravance 100 LQ	0,2	-	-	-
4	Terbut 500 S.C.	1,2	600	A	BBCH 00-05
4	Hydravance 100 LQ	0,2	-	-	-
5	Terbut 500 S.C.	1,0	500	A	BBCH 00-05
5	Hydravance 100 LQ	0,2	-	-	-
6	Terbut 500 S.C.	0,8	400	A	BBCH 00-05
6	Hydravance 100 LQ	0,2	-	-	-

Czech Republic 2017

No.	Name	Rate (l/ha)	other rate (g a.s./ha)	Appl code	Growth Stage BBCH
1	Untreated Check				
2	Gardoprim Plus Gold 500 SC	4,0	2000	A	BBCH 00
3	Terbut 500 S.C.	1,50	750	A	BBCH 00
3	Hydravance 100 LQ	0,2	-	-	-
4	Terbut 500 S.C.	1,2	600	A	BBCH 00
4	Hydravance 100 LQ	0,2	-	-	-
5	Terbut 500 S.C.	1,0	500	A	BBCH 00
5	Hydravance 100 LQ	0,2	-	-	-
6	Terbut 500 S.C.	0,8	400	A	BBCH 00
6	Hydravance 100 LQ	0,2	-	-	-

Poland 2019

No.	Name	Rate (l/ha)	other rate (g a.s./ha)	Appl code	Growth Stage BBCH
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1	Untreated Check	0,0			
2	Terbut 500 S.C.	0,8	2000	A	BBCH 00
	Hydravance 100 LQ	0,2	750	A	BBCH 00
3	Terbut 500 S.C.	1,0	-	-	-
	Hydravance 100 LQ	0,2	600	A	BBCH 00
4	Tezosar 500 S.C.	1,2	-	-	-
	Hydravance 100 LQ	0,2	500	A	BBCH 00
5	Terbut 500 S.C.	1,0	-	-	-
6	Lumax 537,5 SE	3,5	400	A	BBCH 00

Tested herbicide was applied at the growth stage in maize in BBCH 12-16

The product Terbut has been used in maize at the following rates of 0.8, 1.0, 1.2, 1.5 l/ha, Tezosar 500 SC, Bromoterb 500 SC were used as a reference product in maize. The experiment was established on a set of complete randomized blocks in 4 replications.

Experiment pattern:

Czech Republic 2017

No.	Name	Rate (l/ha)	other rate (g a.s./ha)	Appl code	Growth Stage BBCH
1	Untreated Check	0,0			
2	Terbut 500 S.C.	1,5			
	Hydravance 100 LQ	0,2		A	BBCH 12-16
3	Terbut 500 S.C.	1,2	600	A	BBCH 12-16
	Hydravance 100 LQ	0,2	-	-	-
4	Terbut 500 S.C.	1,0	500	A	BBCH 12-16
	Hydravance 100 LQ	0,20	-	-	-
5	Terbut 500 S.C.	0,80	400	A	BBCH 12-16
	Hydravance 100 LQ	0,20	-	-	-
6	Gardoprim Plus Gold 500 S.C.	4,0	2000	A	BBCH 12-16

Germany 2017

No.	Name	Rate (l/ha)	other rate (g a.s./ha)	Appl code	Growth Stage BBCH
1	Untreated Check	0,0			
2	Terbut 500 S.C.	1,5	750		
	Hydravance 100 LQ	0,2		A	BBCH 12-16
3	Terbut 500 S.C.	1,2	600	A	BBCH 12-16
	Hydravance 100 LQ	0,2	-	-	-

4	Terbut 500 S.C.	1,0	500	A	BBCH 12-16
	Hydravance 100 LQ	0,20	-	-	-
5	Terbut 500 S.C.	0,80	400	A	BBCH 12-16
	Hydravance 100 LQ	0,20	-	-	-
6	Gardoprim Plus Gold 500 S.C.	4,0	2000	A	BBCH 12-16

Poland 2017

No.	Name	Rate (l/ha)	other rate (g a.s./ha)	Appl code	Growth Stage BBCH
1	Untreated Check	0,0			
2	Terbut 500 S.C.	1,5	750	A	BBCH 12-16
	Hydravance 100 LQ	0,2		A	BBCH 12-16
3	Terbut 500 S.C.	1,2	600	-	-
	Hydravance 100 LQ	0,2		A	BBCH 12-16
4	Terbut 500 S.C.	1,0	500	-	-
	Hydravance 100 LQ	0,20		A	BBCH 12-16
5	Terbut 500 S.C.	0,80	400	-	-
	Hydravance 100 LQ	0,20		A	BBCH 12-16
6	Bromoterb 500 S.C.	1,5	750		

Poland 2019

No.	Name	Rate (l/ha)	other rate (g a.s./ha)	Appl code	Growth Stage BBCH
1	Untreated Check	0,0			
2	Terbut 500 S.C.	0,8	400	A	BBCH 12-16
3	Terbut 500 S.C.	1,0	500	A	BBCH 12-16
4	Terbut 500 S.C.	1,20	600	-	-
5	Terbut 500 S.C.	1,00	500	A	BBCH 12-16
	Hydravance 100 LQ	0,20	-	-	-
6	Tezosar 500 S.C.	1,0	500	A	BBCH 12-16

Details of experiments

Poland 2017

Report code	SGS/2017/145/PL01	SGS/2017/145/PL02	SGS/2017/145/PL03	SGS/2017/145/PL04	SGS/2017/145/PL05	SGS/2017/145/PL06
Location	Wąsy/Poland	Piskorzówek /Poland	Dąbrówka/Poland	Białozewin /Poland	Toboła/Poland	Pruszków/Poland

Plant/cultivar	maize/SY Symbolic	maize/Falcone	maize/Konkurent	maize/Kosmal	maize/San	maize/Prollog
Seeding date	16.05.2017	11.05.2017	06.05.2017	26.04.2017	02.05.2017	16.05.2017
Seeding rate	90 000 P/ha	90 000 P/ha	80 000 P/ha	100 000 P/ha	90 000 P/ha	90 000 P/ha
Forecrop	Onion	Maize	Grassland	Rye	Spring barley	Maize
Type of sprayer	Backpack sprayer	Backpack sprayer	Backpack sprayer	Backpack sprayer	Backpack sprayer	Backpack sprayer
Date of treatment	17.05.2017	11.05.2017	06.05.2017	26.04.2017	03.05.2017	18.05.2017
Plant development phase	BBCH 00	BBCH 00	BBCH 00	BBCH 00	BBCH 00	BBCH 00
Soil type	Sandy clay	Clay	Loamy sand	Sandy silt	Sandy loam	Sandy clay
Soil pH	6,1	6,2	4,3	6,9	6,7	6
Water volume (l/ha)	300	300	200	200	300	200

Germany 2017

Report code	SGS2017H001G ER01	SGS2017H001G ER02	SGS2017H001G ER03	SGS2017H001 GER04	SGS2017H001G ER05
Location	Medelby/Germany	Storbeck/Germany	Beverbruch/Germany	Fahrdorf/Germany	Lohne/Germany
Plant/cultivar	maize/P7524	maize/Zoey	maize/Amagrana	maize/LG 30225	maize/DKC3409
Seeding date	06.05.2017	09.05.2017	03.05.2017	10.05.2017	01.05.2017
Seeding rate	88 000 P/ha	8 S/m2	8 S/m2	90 000 P/ha	7 S/m2
Forecrop	Winter wheat	Barley	Rye	Winter wheat	Maize
Type of sprayer	Bicycle sprayer	Bicycle sprayer	Bicycle sprayer	Bicycle sprayer	Bicycle sprayer
Date of treatment	15.05.2017	13.05.2017	05.05.2017	17.05.2017	03.05.2017
Plant development phase	BBCH 05	BBCH 00	BBCH 00	BBCH 05	BBCH 00
Soil type	Sandy loam	Sandy loam	Fine sand	Sandy loam	Humanic sand
Soil pH	5,4	7,1	5,8	6,1	5,3
Water volume (l/ha)	200	200	200	200	200

Czech Republic 2017

Report code	SGS2017H001CZ01
Location	Sumperk - Honc.5/Czech Republic
Plant/cultivar	maize/ES PALAZZO
Seeding date	18.05.2017

Applicant: Innvigo Sp. z.o.o.
 Applicant Document ID Section 3 PART B Terbut 500 SC
 Applicant Author: R.N.

Evaluator: IOŚ-PIB, PL
 Date: 11.2021

Seeding rate	25,0 kg/ha
Forecrop	Winter wheat
Type of sprayer	Sphir
Date of treatment	19.05.2017
Plant development phase	BBCH 00
Soil type	Clay loam
Soil pH	6,32
Water volume (l/ha)	200

Poland 2019

Report code	AH/19/K/14/Ce/04	AH/19/K/14/Dziem/03	AH/19/K/14/Gr/01	AH/19/K/14/Nw/01	AH/19/K/14/Nw/05	AH/19/K/14/Ra/02	SRPL19-148-336HE	SRPL19-147-336HE	SRPL19-152-336HE	SRPL19-149-336HE	SRPL19-150-336HE	SRPL19-151-336HE	SRPL19-153-336HE	SRPL19-154-336HE
Location	Cerekwica / Poland	Dziembowo / Poland	Gorzyń / Poland	Kruczowo / Poland	Niewolno / Poland	Rataje / Poland	Podlejki / Poland	Prusino / Poland	Izdebno / Poland	Żołędowo / Poland	Ląki / Poland	Feliksów / Poland	Jankowice Wielkie / Poland	Napachanie / Poland
Plant/cultivar	maize / Rosomak	maize / MAS 21.E	maize / Kwintus	maize / Famma-gic	maize / Famfan-cy	maize / P8150	maize / MAS 21e	maize / MAS 27 L	maize / Glejt	maize / MAS 17 G	maize / Pioneer	maize / San	maize / Talisman	maize / Delitop
Seeding date	26.04.2019	03.05.2019	24.04.2019	30.04.2019	20.04.2019	14.05.2019	28.05.2019	30.04.2019	06.05.2019	29.04.2019	15.05.2019	06.05.2019	23.04.2019	29.04.2019
Seeding rate	55 000 S/ha	70 000 S/ha	70 000 S/ha	83 000 S/ha	83 000 S/ha	70 000 S/ha	90 000 S/ha	75 000 S/ha	100 000 S/ha	90 000 S/ha	85 000 S/ha	85 000 S/ha	85 000 S/ha	75 000 S/ha
Forecrop	maize	winter rye	white mustard	maize		perennial ryegrass	maize	triticale	potato	winter wheat	maize	rye	winter wheat	winter wheat
Type of sprayer	PLOT SPRAY ER/BIC SPR	PLOT SPRAY ER/BIC SPR	PLOT SPRAY ER/BIC SPR	PLOT SPRAY-ER/BIC SPR	PLOT SPRAY-ER/BIC SPR	PLOT SPRAY-ER/BIC SPR	SRPL136/1/BACCAI	T-Bo-om/BAC CAI	T-Bo-om/BAC CAI	T-Bo-om/BAC CAI	T-Bo-om/BACC AI	T-Bo-om/BACC CAI	T-Bo-om/BACC AI	T-Bo-om/BACC AI
Date of treatment A	07.06.2019	29.05.2019	17.05.2019	30.04.2019	08.06.2019	08.06.2019	01.06.2019	28.05.2019	29.05.2019	14.06.2019	12.06.2019	03.06.2019	27.05.2019	29.05.2019
Date of treatment B	-	-	-	25.05.2019	-	-	17.06.2019	-	-	-	-	-	-	-
Plant development phase A	BBCH 16	BBCH 13	BBCH 13	BBCH 00	BBCH 13	BBCH 14	BBCH 00-03	BBCH 12-14	BBCH 12-13	BBCH 12-14	BBCH 12-13	BBCH 14-16	BBCH 13	BBCH 14-16
Plant development phase B	-	-	-	BBCH 14	-	-	BBCH 12-14	-	-	-	-	-	-	-
Soil type	loamy sand	loamy sand	loamy clay	loamy sand	loamy sand	loamy sand	sandy loam	sandy loam	loamy sand	sandy clay loam	sandy clay	clayey sand	loamy sand	clay loam
Soil pH	6,5	6,8	6,2	6,1	5,9	6,7	6,1	6	6,6	6,6	5,9	6,2	6,8	6,7
Water volume (l/ha)	200	200	200	200	200	200	300	200	300	200	200	300	300	200

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 26 trials in total were carried out in maize in 2017 and 2019 in Poland, Germany and Czech Republic. The herbicide Terbut was applied once per season at the following rates:

The product Terbut has been used in maize at the following rates of 0.8, 1.0, 1.2, 1.5 l/ha.

Tested herbicide was applied at the growth stage maize BBCH 00 and BBCH 12-16.

Table 0-1: Details on trial methodology

Guidelines	General guidelines	PP 1/135 (3) Phytotoxicity assessment
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Applicant: Innvigo Sp. z.o.o.

Applicant Document ID Section 3 PART B Terbut 500 SC

Applicant Author: R.N.

Evaluator: IOŚ-PIB, PL

Date: 11.2021

		PP 1/152 (3) Design and analysis of efficacy evaluation trials PP 1/181 (4) Conduct and reporting of efficacy evaluation trials including good experimental practice
	Specific guidelines	PP 1/50 (3) Weeds in maize
Experimental design	Plot design	Randomized Complete Block (RCB) – (26)
	Plot size	12 - 30 m ²
	Number of replications	4 (26)
Crop	Trials per crop	Maize
	Varieties per crop	Maize: SY Symbolic, Falcone, Konkurent, Kosmal, San, Prollog, P7524, Zoey, Amagrana, LG 30225, DKC3409, ES PALAZZO, Rosomak, MAS 21 E, Kwintus, Fammagic, Famfancy, P8150, MAS 27 L, Glejt, MAS 17 G, Pioneer, San, Talisman, Delitop
	Sowing period	Maize: 23.04. - 28.05.2017
Application	Crop stage (BBCH)* at application	BBCH 00-05 (A) BBCH 12-16 (B)
	Timing Pest stage at application (1)	The data available in Appendix 4
	Number of applications Intervals between applications	1 (26 trials) interval – n/a
	Spray volumes	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 ...)	Sandy clay, Clay, Loamy sand, Sandy silt, Sandy loam, Clay loam, Fine sand, Humanic sand, Sandy clay loam, Clayay sand, 4,3 – 7,1 pH
	e.g. Natural / artificial inoculation...	n/a
	e.g. Field / Greenhouse...	n/a
	...	

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

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

A total of 26 trials were carried out to evaluate the efficacy of Terbut for the control of weeds in maize.

Efficacy data for weeds are presented from 26 efficacy trials assessed. 26 trials have been conducted in season 2017 and 2019 in Poland, Germany, Czech Republic.

3.2.3-1 Efficacy tests of Terbut 500 SC

Maize

The twenty six trials were carried out in maize in 2017 and 2019. The herbicide Terbut was applied once per season at the following rates of 0.8, 1.0, 1.2 solo and 0.8, 1.0, 1.2, 1.5 L/ha with 0.2 % Hydravance 100 LQ. The treatments was conducted at the growth stage BBCH 00 or BBCH 12-16

Efficacy Poland, Germany, Czech Republic 2017-2019

3.2.3-1.1 The efficacy of Terbut 500 SC in control of AMARE *Amaranthus retroflexus*

Application in BBCH 00

The efficiency of Terbut in control of *Amaranthus retroflexus* were investigated in 5 trials (3 trials in 2017 and 2 trials in 2019). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 % or solo at rates: 1.0 l/ha with controlled this species of weed to the high level of efficacy from 7 DA-A to 25 DA-B. The effectiveness fluctuated from 88,7 to 99,6 %.

The effectiveness fluctuated at rate 0.8 l/ha + 0.2 % from 60 % (7 DA-A) to 100 % (25 DA-B), at rate 1.0 l/ha from 77,50% (7 DA-A) to 97,50% (25 DA-A) at rate 1.0 l/ha + 0.2 % from 70 % (7 DA-A) to 100 % (25 DA-B), at rate 1.2 l/ha + 0.2 from 80,0 % (7 DA-A) to 100 % (25 DA-B), at rate 1.5 l/ha + 0.2 % from 98,3 % (7 DA-A) to 100 % (25 DA-B).

The efficacy of the tested herbicide was similar the standard product. In the trials efficacy amounted 100% during the assessment (Appendix 5 tab. 1a).

Application in BBCH 12-16

The efficiency of Terbut in control of *Amaranthus retroflexus* were investigated in 13 trials (3 trials in 2017 and 10 trials in 2019). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 % or solo at rates: 0.8 l/ha, 1.0 l/ha, 1.2 l/ha with controlled this species of weed at the medium to high level of efficacy from 14 DA-B to 56 DA-B. The effectiveness fluctuated from 80,34 to 100 %.

The effectiveness fluctuated at rate 0.8 l/ha from 45% (12 DA-B) to 93,8% (25 DA-B), at rate 0.8 l/ha + 0.2 % from 70 % (12 DA-B) to 100 % (25 DA-B), at rate 1.0 l/ha from 61,3% (12 DA-B) to 100% (25 DA-B), at rate 1.2 l/ha from 62,5% (12 DA-B) to 100% (25 DA-B) at rate 1.0 l/ha + 0.2 % from 63,8% (12 DA-B) to 100 % (25 DA-B), at rate 1.2 l/ha + 0.2 from 100% (12 DA-B) to 100 % (25 DA-B), at rate 1.5 l/ha + 0.2 % from 100% (12 DA-B) to 100 % (25 DA-B).

The efficacy of the tested herbicide was similar the standard product. In the trials efficacy amounted 91,19% during the assessment (Appendix 5 tab. 1b).

3.2.3-1.2 The efficacy of Terbut 500 SC in control of ANTAR *Anthemis arvensis*

Application in BBCH 00

The efficiency of Terbut in control of *Anthemis arvensis* were investigated in 1 trials (in 2017). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 % with controlled this species of weed the high level of efficacy from 20 DA-A to 14 DA-B. The effectiveness fluctuated from 98,15 to 100%.

The effectiveness fluctuated at rate 0.8 l/ha + 0.2 % from 97,50 % (20 DA-A) to 100 % (14 DA-B), at rate 1.0 l/ha + 0.2 % from 100 % (20 DA-B) to 100 % (14 DA-B), at rate 1.2 l/ha + 0.2 from 95,0 % (20 DA-A) to 100 % (14 DA-B), at rate 1.5 l/ha + 0.2 % from 100 % (20 DA-A) to 100 % (14 DA-B).

The efficacy of the tested herbicide was similar the standard product. In the trials efficacy amounted 100% during the assessment (Appendix 5 tab. 2a).

The efficiency of Terbut in control of *Anthemis arvensis* were investigated in 1 trials (in 2017). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 % with controlled this species of weed at the low level of efficacy from 14 DA-B to 56 DA-B. The effectiveness fluctuated from 0,0 to 0.0%.

The effectiveness fluctuated at rate 0.8 l/ha + 0.2 % from 0% (13 DA-A) to 0% (56 DA-B), at rate 1.0 l/ha + 0.2 % from 0% (14 DA-B) to 0% (56 DA-B), at rate 1.2 l/ha + 0.2 from 0% (14 DA-B) to 0% (56 DA-B), at rate 1.5 l/ha + 0.2 % from 0% (14 DA-B) to 0% (56 DA-B).

The efficacy of the tested herbicide was lower than the standard product. In the trials efficacy amounted 91,9% during the assessment (Appendix 5 tab. 2b).

3.2.3-1.3 The efficacy of Terbut 500 SC in control of CAPBP *Capsella bursa-pastoris*

Application in BBCH 00

The efficiency of Terbut in control of *Capsella bursa-pastoris* were investigated in 4 trials (in 2017). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 % with controlled this species of weed the high level of efficacy from 13 DA-A to 14 DA-A. The effectiveness fluctuated from 93,8 to 98,4%.

The effectiveness fluctuated at rate 0.8 l/ha + 0.2 % from 66,30 % (0 DA-B) to 100 % (20 DA-A), at rate 1.0 l/ha + 0.2 % from 73,8 % (0 DA-B) to 100 % (20 DA-A), at rate 1.2 l/ha + 0.2 from 83,8 % (0 DA-B) to 100 % (20 DA-A), at rate 1.5 l/ha + 0.2 % from 90,0 % (0 DA-B) to 100 % (20 DA-A).

The efficacy of the tested herbicide was similar the standard product. In the trials efficacy amounted 96,14% during the assessment (Appendix 5 tab. 3a).

Application in BBCH 12-16

The efficiency of Terbut in control of *Capsella bursa-pastoris* were investigated in 11 trials (4 trials in 2017 and 7 trials in 2019). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 % or solo at rates: 0.8 l/ha, 1,0 l/ha, 1.2 l/ha with controlled this species of weed at the medium to high level of efficacy from 14 DA-B to 56 DA-B. The effectiveness fluctuated from 86 to 99,50 %.

The effectiveness fluctuated at rate 0.8 l/ha from 72,5% (13 DA-A) to 100 (43 DA-A), 0.8 l/ha + 0.2 % from 98,80 % (13 DA-A) to 100 % (43 DA-A), at rate 1.0 l/ha from 76,25% (13 DA-A) to 100% (43 DA-A), at rate 1.0 l/ha + 0.2 % from 83,75 % (13 DA-A) to 100 % (43 DA-A), at rate 1.2 l/ha from 82,50% (13 DA-A) to 100% (43 DA-A), at rate 1.2 l/ha + 0.2 from 99,0 % (13 DA-A) to 100 % (43 DA-A), at rate 1.5 l/ha + 0.2 % from 99,0 % (13 DA-A) to 100 % (43 DA-A).

The efficacy of the tested herbicide was higher than the standard product. In the trials efficacy amounted 100% during the assessment (Appendix 5 tab. 3b).

3.2.3-1.4 The efficacy of Terbut 500 SC in control of CENCY *Centaurea cyanus*

Application in BBCH 00

The efficiency of Terbut in control of *Centaurea cyanus* were investigated in 4 trials (3 trials in 2017 and 1 trial in 2019). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 % and Terbut 500 SC solo (1 trials) at rate: 1.0 l/ha with controlled this species of weed the medium level of efficacy from 14 DA-A to 14 DA-B. The effectiveness fluctuated from 75,5% to 96,65%.

The effectiveness fluctuated at rate 0.8 l/ha + 0.2 % from 15% (0 DA-B) to 100% (14 DA-B), at rate 1.0 l/ha from 66,30% (0 DA-B) to 90% (14 DA-B), at rate 1.0 l/ha + 0.2 % from 50 % (0 DA-B) to 100 %

(14 DA-B), at rate 1.2 l/ha + 0.2 from 0 % (0 DA-B) to 100 % (14 DA-B), at rate 1.5 l/ha + 0.2 % from 81,3 % (0 DA-B) to 100 % (14 DA-B).

The efficacy of the tested herbicide was lower than the standard product. In the trials efficacy amounted 98,45% during the assessment (Appendix 5 tab. 4a).

Application in BBCH 12-16

The efficiency of Terbut in control of *Centaurea cyanus* were investigated in 5 trials (3 trials in 2017 and 2 trials in 2019). The tested product Terbut 500 SC + Hydravance 100 LQ (3 trials) at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 % or solo (in 2 trials) at rates: 0.8 l/ha, 1,0 l/ha, 1.2 l/ha with controlled this species of weed at the medium to high level of efficacy from 14 DA-B to 56 DA-B. The effectiveness fluctuated from 67,08 to 96,43 %.

The effectiveness fluctuated at rate 0.8 l/ha from 42,50% (11 DA-B) to 87,50% (27 DA-B), 0.8 l/ha + 0.2 % from 25,00 % (11 DA-B) to 100 % (27 DA-B), at rate 1,0 l/ha from 47,50% (11 DA-B) to 90,0% (27 DA-B), at rate 1.0 l/ha + 0.2 % from 17,5% (11 DA-B) to 100 % (28 DA-B), at rate 1.2 l/ha from 58,8% (11 DA-B) to 95% (27 DA-B), at rate 1.2 l/ha + 0.2 from 45 % (11 DA-B) to 100 % (27 DA-B), at rate 1.5 l/ha + 0.2 % from 88,8 % (11 DA-B) to 100 % (27 DA-B).

The efficacy of the tested herbicide was higher than the standard product. In the trials efficacy amounted 91,28% during the assessment (Appendix 5 tab. 4b).

3.2.3-1.5 The efficacy of Terbut 500 SC in control of CHEAL *Chenopodium album*

Application in BBCH 00

The efficiency of Terbut in control of *Chenopodium album* were investigated in 13 trials (12 trials in 2017 and 1 trial in 2019). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 % and Terbut 500 SC solo at rate: 1.0 l/ha with controlled this species of weed the medium level of efficacy from 7 DA-A to 28 DA-B. The effectiveness fluctuated from 84,86 to 97,50 %.

The effectiveness fluctuated at rate 0.8 l/ha + 0.2 % from 46% (7 DA-A) to 100% (28 DA-B), at rate 1.0 l/ha from 97,5% (15 DA-A) to 97,5% (38 DA-A), at rate 1.0 l/ha + 0.2 % from 50% (7 DA-A) to 100 % (28 DA-B), at rate 1.2 l/ha + 0.2 from 60% (7 DA-A) to 100% (28 DA-B), at rate 1.5 l/ha + 0.2 % from 76,3% (7 DA-B) to 100 % (28 DA-B).

The efficacy of the tested herbicide was lower than the standard product. In the trials efficacy amounted 96,06% during the assessment (Appendix 5 tab. 5a).

Application in BBCH 12-16

The efficiency of Terbut in control of *Chenopodium album* were investigated in 24 trials (12 trials in 2017 and 12 trials in 2019). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 % or solo at rates: 0.8 l/ha, 1,0 l/ha, 1.2 l/ha with controlled this species of weed at the medium to high level of efficacy from 14 DA-B to 56 DA-B. The effectiveness fluctuated from 74,35 to 90,16 %.

The effectiveness fluctuated at rate 0.8 l/ha from 48,75% (14 DA-A) to 92,50% (28 DA-B), 0.8 l/ha + 0.2 % from 0,0 % 14 DA-A) to 100 % (28 DA-B), at rate 1,0 l/ha from 62,50% (14 DA-A) to 100% (28 DA-B), at rate 1.0 l/ha + 0.2 % from 0,0% (14 DA-A) to 100 % (28 DA-B), at rate 1.2 l/ha from 67,48% (14 DA-A) to 100% (28 DA-B), at rate 1.2 l/ha + 0.2 from 0,0% (14 DA-A) to 100 % (28 DA-B), at rate 1.5 l/ha + 0.2 % from 0,0% (14 DA-A) to 100 % (28 DA-B).

The efficacy of the tested herbicide was lower than the standard product. In the trials efficacy amounted 93,02% during the assessment (Appendix 5 tab. 5b).

3.2.3-1.6 The efficacy of Terbut 500 SC in control of CHEPO *Lipandra polysperma*

Application in BBCH 00

The efficiency of Terbut in control of *Lipandra polysperma* were investigated in 1 trials (in 2017). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 % with controlled this species of weed the medium level of efficacy from 13 DA-A to 13 DA-B. The effectiveness fluctuated from 57,5% to 99,1%.

The effectiveness fluctuated at rate 0.8 l/ha + 0.2 % from 52,5% (13 DA-A) to 60% (13 DA-B), at rate 1.0 l/ha + 0.2 % from 81,3% (13 DA-A) to 85% (13 DA-B), at rate 1.2 l/ha + 0.2 from 90% (13 DA-A) to 93,8% (13 DA-B), at rate 1.5 l/ha + 0.2 % from 98,3% (13 DA-A) to 99,8% (13 DA-B).

The efficacy of the tested herbicide was similar than the standard product. In the trials efficacy amounted 99,9% during the assessment (Appendix 5 tab. 6a).

Application in BBCH 12-16

The efficiency of Terbut in control of *Lipandra polysperma* were investigated in 1 trials (in 2017). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 % with controlled this species of weed at the low to high level of efficacy from 14 DA-B to 56 DA-B. The effectiveness fluctuated from 55,43 to 94,87%.

The effectiveness fluctuated at rate 0.8 l/ha + 0.2 % from 48,8 % (13 DA-A) to 60% (46 DA-B), at rate 1.0 l/ha + 0.2 % from 65% (13 DA-A) to 75% (46 DA-B), at rate 1.2 l/ha + 0.2 from 76,30% (13 DA-A) to 86,30% (46 DA-B), at rate 1.5 l/ha + 0.2 % from 88,8% (13 DA-A) to 98,8% (46 DA-B).

The efficacy of the tested herbicide was lower than the standard product. In the trials efficacy amounted 95,7% during the assessment (Appendix 5 tab. 6b).

3.2.3-1.7 The efficacy of Terbut 500 SC in control of ECHCG *Echinochloa crus-galli*

Application in BBCH 00

The efficiency of Terbut in control of *Echinochloa crus-galli* were investigated in 3 trials (in 2017). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 % with controlled this species of weed at the low to medium level of efficacy from 13 DA-A to 26 DA-B. The effectiveness fluctuated from 37,01% to 94,36%.

The effectiveness fluctuated at rate 0.8 l/ha + 0.2 % from 0,0% (13 DA-A) to 90% (26 DA-B), at rate 1.0 l/ha + 0.2 % from 35% (13 DA-A) to 92,5% (26 DA-B), at rate 1.2 l/ha + 0.2 from 68,8% (13 DA-A) to 99,0% (26 DA-B), at rate 1.5 l/ha + 0.2 % from 90% (13 DA-A) to 97,5% (26 DA-B).

The efficacy of the tested herbicide was similar than the standard product. In the trials efficacy amounted 91,2% during the assessment (Appendix 5 tab. 7a).

Application in BBCH 12-16

The efficiency of Terbut in control of *Echinochloa crus-galli* were investigated in 4 trials (in 2017). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 % with controlled this species of weed at the low to medium level of efficacy from 14 DA-B to 56 DA-B. The effectiveness fluctuated from 27,51 to 57,47%.

The effectiveness fluctuated at rate 0.8 l/ha + 0.2 % from 0,0% (14 DA-B) to 65,0% (14 DA-B), at rate 1.0 l/ha + 0.2 % from 0,0% (14 DA-B) to 65,0% (14 DA-B), at rate 1.2 l/ha + 0.2 from 11,30% (14 DA-B) to 87,50% (14 DA-B), at rate 1.5 l/ha + 0.2 % from 13,80% (14 DA-B) to 95,80% (14 DA-B).

The efficacy of the tested herbicide was lower than the standard product. In the trials efficacy amounted 54,44% during the assessment (Appendix 5 tab. 7b).

3.2.3-1.8 The efficacy of Terbut 500 SC in control of GALAP *Galium aparine*

Application in BBCH 00

The efficiency of Terbut in control of *Galium aparine* were investigated in 4 trials (in 2017). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 % with controlled this species of weed at the low to medium level of efficacy from 13 DA-A to 25 DA-A. The effectiveness fluctuated from 79,04% to 95,91%.

The effectiveness fluctuated at rate 0.8 l/ha + 0.2 % from 46,30% (13 DA-A) to 100% (25 DA-B), at rate 1.0 l/ha + 0.2 % from 58,80% (13 DA-A) to 100,0% (25 DA-B), at rate 1.2 l/ha + 0.2 from 68,80% (13 DA-A) to 100,0% (25 DA-B), at rate 1.5 l/ha + 0.2 % from 85,0% (13 DA-B) to 100,0% (25 DA-B).

The efficacy of the tested herbicide was similar than the standard product. In the trials efficacy amounted 96,9% during the assessment (Appendix 5 tab. 8a).

Application in BBCH 12-16

The efficiency of Terbut in control of *Galium aparine* were investigated in 11 trials (4 trials in 2017 and 7 trials in 2019). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 % with controlled this species of weed at the low to medium level of efficacy from 14 DA-B to 56 DA-B. The effectiveness fluctuated from 80,49 to 93,33%.

The effectiveness fluctuated at rate 0.8 l/ha + 0.2 % from 53,75% (13 DA-B) to 90,0% (21 DA-B), at rate 1.0 l/ha + 0.2 % from 41,30% (13 DA-A) to 100,0% (21 DA-B), at rate 1.2 l/ha + 0.2 from 61,25% (13 DA-A) to 97,50% (21 DA-B), at rate 1.5 l/ha + 0.2 % from 67,50% (13 DA-A) to 100,0% (21 DA-B).

The efficacy of the tested herbicide was lower than the standard product. In the trials efficacy amounted 91,10% during the assessment (Appendix 5 tab. 8b).

3.2.3-1.9 The efficacy of Terbut 500 SC in control of GASPA *Galinsoga parviflora*

Application in BBCH 00

The efficiency of Terbut in control of *Galinsoga parviflora* were investigated in 1 trials (in 2017). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 with controlled this species of weed at the low to medium level of efficacy from 13 DA-A to 0 DA-B. The effectiveness fluctuated from 98,13 to 100,0%.

The effectiveness fluctuated at rate 0.8 l/ha + 0.2 % from 97,5% (13 DA-A) to 100% (0 DA-B), at rate 1.0 l/ha + 0.2 % from 95,0% (14 DA-A) to 100% (0 DA-B), at rate 1.2 l/ha + 0.2 from 100,0% (13 DA-A) to 100,0% (0 DA-B), at rate 1.5 l/ha + 0.2 % from 100% (13 DA-A) to 100,0% (0 DA-B).

The efficacy of the tested herbicide was similar than the standard product. In the trials efficacy amounted 100% during the assessment (Appendix 5 tab. 9a).

Application in BBCH 12-16

The efficiency of Terbut in control of *Galinsoga parviflora* were investigated in 2 trials (1 trial in 2017 and 1 trial in 2019). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 % or solo (in 2 trials) at rates: 0.8 l/ha, 1,0 l/ha, 1.2 l/ha with controlled this species of weed at the low to medium level of efficacy from 14 DA-B to 56 DA-B. The effectiveness fluctuated from 87,92 to 99,60%.

The effectiveness fluctuated at rate 0.8 l/ha from 87,50% (14 DA-A) to 88,75% (56 DA-A), at rate 0.8 l/ha + 0.2 % from 98,80% (14 DA-A) to 100,0% (56 DA-A), at rate 1.0 l/ha from 99,0% (14 DA-A) to 100,0% (56 DA-A), at rate 1.0 l/ha + 0.2 % from 99,0% (14 DA-A) to 100,0% (56 DA-A), at rate 1.2 l/ha from 99,0% (14 DA-A) 100,0% (56 DA-A), at rate 1.2 l/ha + 0.2 from 98,8% (14 DA-A) to 100% (56 DA-A), at rate 1.5 l/ha + 0.2 % from 98,8% (14 DA-A) to 100,0% (56 DA-A).

The efficacy of the tested herbicide was lower than the standard product. In the trials efficacy amounted 99,6% during the assessment (Appendix 5 tab. 9b).

3.2.3-1.10 The efficacy of Terbut 500 SC in control of GERDI *Geranium dissectum*

Application in BBCH 00

The efficiency of Terbut in control of *Geranium dissectum* were investigated in 1 trials (in 2017). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 with controlled this species of weed at the low to medium level of efficacy from 0 DA-B to 14 DA-B. The effectiveness fluctuated from 82,5% to 97,5%.

The effectiveness fluctuated at rate 0.8 l/ha + 0.2 % from 75% (0 DA-B) to 90,0% (14 DA-B), at rate 1.0 l/ha + 0.2 % from 81,3% (14 DA-B) to 92,5% (0 DA-B), at rate 1.2 l/ha + 0.2 from 90% (14 DA-B) to 92,5% (0 DA-B), at rate 1.5 l/ha + 0.2 % from 95% (14 DA-B) to 100,0% (0 DA-B).

The efficacy of the tested herbicide was similar than the standard product. In the trials efficacy amounted 71,9% during the assessment (Appendix 5 tab. 10a).

Application in BBCH 12-16

The efficiency of Terbut in control of *Geranium dissectum* were investigated in 1 trial (in 2017). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 % with controlled this species of weed at the low to medium level of efficacy from 14 DA-B to 56 DA-B. The effectiveness fluctuated from 90,0 to 99,0%.

The effectiveness fluctuated at rate 0.8 l/ha + 0.2 % from 90,0% (14 DA-B) to 90,0% (26 DA-B), at rate 1.0 l/ha + 0.2 % from 90,0% (14 DA-B) to 95,0% (26 DA-B), at rate 1.2 l/ha + 0.2 from 96,5% (14 DA-B) to 100% (26 DA-B), at rate 1.5 l/ha + 0.2 % from 98,0% (14 DA-B) to 100,0% (26 DA-B).

The efficacy of the tested herbicide was lower than the standard product. In the trials efficacy amounted 99,0% during the assessment (Appendix 5 tab. 10b).

3.2.3-1.11 The efficacy of Terbut 500 SC in control of GERPU *Geranium pusillum*

Application in BBCH 00

The efficiency of Terbut in control of *Geranium pusillum* were investigated in 4 trials (in 2017). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 with controlled this species of weed at the low to medium level of efficacy from 0 DA-A to 14 DA-B. The effectiveness fluctuated from 60,37 to 82,05%.

The effectiveness fluctuated at rate 0.8 l/ha + 0.2 % from 10,0% (0 DA-B) to 93,5% (14 DA-B), at rate 1.0 l/ha + 0.2 % from 30,0% (14 DA-B) to 94,8% (14 DA-B), at rate 1.2 l/ha + 0.2 from 30,0% (14 DA-B) to 97,5% (14 DA-B), at rate 1.5 l/ha + 0.2 % from 48,8% (14 DA-B) to 99,8% (14 DA-B).

The efficacy of the tested herbicide was similar than the standard product. In the trials efficacy amounted 99,78% during the assessment (Appendix 5 tab. 11a).

Application in BBCH 12-16

The efficiency of Terbut in control of *Geranium pusillum* were investigated in 5 trials (4 trials in 2017 and 1 trial in 2019). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 % or solo (in 1 trials) at rates: 0.8 l/ha, 1.0 l/ha, 1.2 l/ha with controlled this species of weed at the low to medium level of efficacy from 14 DA-B to 56 DA-B. The effectiveness fluctuated from 72,08 to 92,25%.

The effectiveness fluctuated, at rate 0,8 l/ha from 62,50% (DA-B) to 77,50% (DA-B), at rate 0.8 l/ha + 0.2 % from 0,0% (14 DA-B) to 100,0% (21 DA-B), at rate 1.0 l/ha from 77,5% (14 DA-B) to 85,0% (21 DA-B), at rate 1.0 l/ha + 0.2 % from 55,0% (14 DA-B) to 100,0% (21 DA-B), at rate 1,2 l/ha from 81,25% (14 DA-B) to 88,75% (21 DA-B) at rate 1.2 l/ha + 0.2 from 80,0% (14 DA-B) to 100% (21 DA-B), at rate 1.5 l/ha + 0.2 % from 80,0% (14 DA-B) to 100,0% (21 DA-B).

The efficacy of the tested herbicide was lower than the standard product. In the trials efficacy amounted 94,36% during the assessment (Appendix 5 tab. 11b).

3.2.3-1.12 The efficacy of Terbut 500 SC in control of LYCAR *Anchusa arvensis*

Application in BBCH 00

The efficiency of Terbut in control of *Anchusa arvensis* were investigated in 1 trials (in 2017). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 with controlled this species of weed to the high level of efficacy from 0 DA-B to 14 DA-B. The effectiveness fluctuated from 95,6 to 99,9%.

The effectiveness fluctuated at rate 0.8 l/ha + 0.2 % from 93,5% (14 DA-B) to 99,8% (0 DA-B), at rate 1.0 l/ha + 0.2 % from 94,8% (14 DA-B) to 100,0% (0 DA-B), at rate 1.2 l/ha + 0.2 from 96% (14 DA-B) to 100,0% (0 DA-B), at rate 1.5 l/ha + 0.2 % from 99,8% (14 DA-B) to 100,0% (0 DA-B).

The efficacy of the tested herbicide was similar than the standard product. In the trials efficacy amounted 100,0% during the assessment (Appendix 5 tab. 12a).

Application in BBCH 12-16

The efficiency of Terbut in control of *Anchusa arvensis* were investigated in 1 trials (in 2017). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 % with controlled this species of weed at the low to medium level of efficacy from 14 DA-B to 56 DA-B. The effectiveness fluctuated from 100,0 to 100%.

The effectiveness fluctuated, at rate 0,8 l/ha from 100,0% (DA-B) to 100,0% (DA-B), at rate 0.8 l/ha + 0.2 % from 100,0% (14 DA-B) to 100,0% (27 DA-B), at rate 1.0 l/ha from 100,0% (14 DA-B) to 100,0% (27 DA-B), at rate 1.0 l/ha + 0.2 % from 100,0% (14 DA-B) to 100,0% (27 DA-B)), at rate 1,2 l/ha from 100,0% (14 DA-B) to 100,0% (27 DA-B) at rate 1.2 l/ha + 0.2 from 100,0% (14 DA-B) to 100% (27 DA-B), at rate 1.5 l/ha + 0.2 % from 100,0% (14 DA-B) to 100,0% (27 DA-B).

The efficacy of the tested herbicide was lower than the standard product. In the trials efficacy amounted 100,0% during the assessment (Appendix 5 tab. 12b).

3.2.3-1.13 The efficacy of Terbut 500 SC in control of MATCH *Matricaria chamomilla*

Application in BBCH 00

The efficiency of Terbut in control of *Matricaria chamomilla* were investigated in 4 trials (2 trials in 2017 and 2 trials in 2019). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 or Terbut 500 SC solo at rate 1.0 l/ha (in 2 trials) with controlled this species of weed to to high level of efficacy from 13 DA-A to 27 DA-B. The effectiveness fluctuated from 84,11 to 94,66%.

The effectiveness fluctuated at rate 0.8 l/ha + 0.2 % from 10% (22 DA-B) to 100% (27 DA-B), at rate 1.0 l/ha from 90,0% (22 DA-B) to 96,80% (27 DA-B), at rate 1.0 l/ha + 0.2% from 60% (22 DA-A) to 100,0% (27 DA-B), at rate 1.2 l/ha + 0.2 from 73,8% (22 DA-B) to 100% (27 DA-B), at rate 1.5 l/ha + 0.2 % from 90,0% (22 DA-B) to 100,0% (27 DA-B).

The efficacy of the tested herbicide was similar than the standard product. In the trials efficacy amounted 98,1% during the assessment (Appendix 5 tab. 13a).

Application in BBCH 12-16

The efficiency of Terbut in control of *Matricaria chamomilla* were investigated in 5 trials (2 trials in 2017 and 3 trials in 2019). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 % or Terbut 500 SC solo at rate 0.8 l/ha, 1.0 l/ha, 1.2 l/ha

(in 3 trials) with controlled this species of weed at the medium to high level of efficacy from 14 DA-B to 56 DA-B. The effectiveness fluctuated from 77,35 to 89,57%.

The effectiveness fluctuated, at rate 0,8 l/ha from 57,5% (28 DA-A) to 88,8% (73 DA-A), at rate 0.8 l/ha + 0.2 % from 0,0% (28 DA-A) to 100,0% (73 DA-A), at rate 1.0 l/ha from 60,0% (28 DA-A) to 93,8% (73 DA-A), at rate 1.0 l/ha + 0.2 % from 0.0% (28 DA-A) to 100,0% (73 DA-A)), at rate 1,2 l/ha from 65,0% (28 DA-A) to 100,0% (73 DA-A) at rate 1.2 l/ha + 0.2 from 6,3% (28 DA-A) to 100% (73 DA-A), at rate 1.5 l/ha + 0.2 % from 5,0% (28 DA-A) to 100,0% (73 DA-A).

The efficacy of the tested herbicide was lower than the standard product. In the trials efficacy amounted 89,92% during the assessment (Appendix 5 tab. 13b).

3.2.3-1.14 The efficacy of Terbut 500 SC in control of MATIN *Tripleurospermum inodorum*

Application in BBCH 00

The efficiency of Terbut in control of *Tripleurospermum inodorum* were investigated in 6 trials (4 trials in 2017 and 2 trials in 2019). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 or Terbut 500 SC solo at rate 1.0 l/ha (in 2 trials) with controlled this species of weed to to high level of efficacy from 13 DA-A to 38 DA-A. The effectiveness fluctuated from 85,27% to 98,86%.

The effectiveness fluctuated at rate 0.8 l/ha + 0.2 % from 47,5% (13 DA-B) to 100% (38 DA-B), at rate 1.0 l/ha from 88,8% (13 DA-B) to 97,5% (38 DA-B), at rate 1.0 l/ha + 0.2% from 80,0% (13 DA-A) to 100,0% (38 DA-a), at rate 1.2 l/ha + 0.2 from 87,5% (13 DA-A) to 100% (38 DA-A), at rate 1.5 l/ha + 0.2 % from 90,0% (13 DA-A) to 100,0% (38 DA-A).

The efficacy of the tested herbicide was similar than the standard product. In the trials efficacy amounted 99,59% during the assessment (Appendix 5 tab. 14a).

Application in BBCH 12-16

The efficiency of Terbut in control of *Tripleurospermum inodorum* were investigated in 12 trials (3 trials in 2017 and 9 trials in 2019). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 % or Terbut 500 SC solo at rate 0.8 l/ha, 1.0 l/ha, 1.2 l/ha (in 9 trials) with controlled this species of weed at the medium to high level of efficacy from 14 DA-B to 56 DA-B. The effectiveness fluctuated from 83,35 to 98,49%.

The effectiveness fluctuated, at rate 0,8 l/ha from 52,5% (13 DA-B) to 100,0% (25 DA-B), at rate 0.8 l/ha + 0.2 % from 58,8% (DA-B) to 98,8% (DA-B), at rate 1.0 l/ha from 56,30% (13 DA-B) to 100% (25 DA-B), at rate 1.0 l/ha + 0.2 % from 62,5% (13 DA-B) to 100,0% (25 DA-B)), at rate 1,2 l/ha from 60,0% (13 DA-B) to 100,0% (25 DA-B) at rate 1.2 l/ha + 0.2 from 87,5% (13 DA-B) to 100% (25 DA-B), at rate 1.5 l/ha + 0.2 % from 95,0% (13 DA-B) to 100,0% (25 DA-B).

The efficacy of the tested herbicide was lower than the standard product. In the trials efficacy amounted 92,43% during the assessment (Appendix 5 tab. 14b).

3.2.3-1.15 The efficacy of Terbut 500 SC + Hydravance 100 LQ 0,2% in control of POAAN *Poa annua*

Application in BBCH 00

The efficiency of Terbut in control of *Poa annua* were investigated in 1 trials (in 2017). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 % with controlled this species of weed at the medium to high level of efficacy from 0 DA-B to 26 DA-B. The effectiveness fluctuated from 65-92,5 %.

The effectiveness fluctuated at rate 1.5 l/ha + 0.2 % from 90% (26 DA-B) to 95% (0 DA-B), at rate 1.2 l/ha + 0.2 % from 68,8% (26 DA-B) to 92,5 % (0 DA-B), at rate 1.0 l/ha + 0.2 from 45% (26 DA-B) to 92,5 % (0 DA-B), at rate 0.8 l/ha + 0.2 % from 40% (26 DA-B) to 90 % (0 DA-B).

The efficacy of the tested herbicide was higher than the standard product. In the trials efficacy amounted 69,4% during the assessment. (Appendix 5 tab. 15).

Application in BBCH 12-16

The efficiency of Terbut in control of *Poa annua* were investigated in 1 trials (in 2017). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2%, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 % with controlled this species of weed at the medium to high level of efficacy from 14 DA-B to 26 DA-B. The effectiveness fluctuated from 69,9 to 89,0%.

The effectiveness fluctuated at rate 0.8 l/ha + 0.2% from 60,0% (26 DA-B) to 63,0% (14 DA-B), at rate 1.0 l/ha + 0.2 % from 62,5% (26 DA-B) to 63,8% (14 DA-B), at rate 1.2 l/ha + 0.2 from 70,0% (26 DA-B) to 92,5% (14 DA-B), at rate 1.5 l/ha + 0.2 % from 82,5% (26 DA-B) to 97,3 (14 DA-B).

The efficacy of the tested herbicide was similar than the standard product. In the trials efficacy amounted 96,0% during the assessment (Appendix 5 tab. 15b).

3.2.3-1.16 The efficacy of Terbut 500 SC + Hydravance 100 LQ 0,2% in control of POLAV *Polygonum aviculare*

Application in BBCH 00

The efficiency of Terbut in control of *Polygonum aviculare* were investigated in 1 trials (in 2017). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 with controlled this species of weed from medium to high level of efficacy from 0 DA-A to 24 DA-B. The effectiveness fluctuated from 60,1% to 99,0%.

The effectiveness fluctuated at rate 0.8 l/ha + 0.2 % from 40,0% (14 DA-A) to 99% (24 DA-B), at rate 1.0 l/ha + 0.2% from 60% (0DA-B) to 99% (24 DA-B), at rate 1.2 l/ha + 0.2 from 70% (0 DA-B) to 99,0% (24 DA-B), at rate 1.5 l/ha + 0.2 % from 99,0% (0 DA-B) to 99,0% (24 DA-B).

The efficacy of the tested herbicide was similar than the standard product. In the trials efficacy amounted 73,0% during the assessment (Appendix 5 tab. 16a).

Application in BBCH 12-16

The efficiency of Terbut in control of *Polygonum aviculare* were investigated in 1 trials (in 2017). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 % with controlled this species of weed at the medium to high level of efficacy from 14 DA-B to 28 DA-B. The effectiveness fluctuated from 92,5 to 99,0%.

The effectiveness fluctuated at rate 0.8 l/ha from 90,0% (14 DA-B) to 99,0% (14 DA-B), at rate 1.0 l/ha + 0.2 % from 99,0% (14 DA-B) to 99,0% (28 DA-B), at rate 1.2 l/ha from 99,0% (14 DA-B) to 99,0% (28 DA-B), at rate 1.2 l/ha + 0.2 from 99,0% (14 DA-B) to 99,0% 28 DA-B), at rate 1.5 l/ha + 0.2 % from 99,0% (14 DA-B) to 99,0 (28 DA-B).

The efficacy of the tested herbicide was lower than the standard product. In the trials efficacy amounted 99,0% during the assessment (Appendix 5 tab. 16b).

3.2.3-1.17 The efficacy of Terbut 500 SC in control of POLCO *Fallopia convolvulus*

Application in BBCH 00

The efficiency of Terbut in control of *Fallopia convolvulus* were investigated in 6 trials (in 2017). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 with controlled this species of weed to to high level of efficacy from 14 DA-A to 24 DA-B. The effectiveness fluctuated from 63,09% to 88,53%.

The effectiveness fluctuated at rate 0.8 l/ha + 0.2 % from 0,0% (14 DA-A) to 100% (24 DA-B), at rate 1.0 l/ha + 0.2% from 10% (DA-B) to 100% (DA-B), at rate 1.2 l/ha + 0.2 from 10% (14 DA-B) to 100% (24 DA-B), at rate 1.5 l/ha + 0.2 % from 20% (14 DA-A) to 100,0% (24 DA-B).

The efficacy of the tested herbicide was similar than the standard product. In the trials efficacy amounted 88,79% during the assessment (Appendix 5 tab. 17a).

Application in BBCH 12-16

The efficiency of Terbut in control of *Fallopia convolvulus* were investigated in 13 trials (7 trials in 2017 and 6 trials in 2019). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 % or Terbut 500 SC at rate 0.8 l/ha, 1.0 l/ha, 1.2 l/ha with controlled this species of weed at the medium to high level of efficacy from 14 DA-B to 56 DA-B. The effectiveness fluctuated from 78,69 to 97,91%.

The effectiveness fluctuated at rate 0.8 l/ha from 65,0% (14 DA-B) to 90,0% (14 DA-B), at rate 0.8 l/ha + 0.2% from 0,0% (14 DA-B) to 100,0% (14 DA-B), at rate 1.0 l/ha from 66,25% (14 DA-A) to 100% (14 DA-B), at rate 1.0 l/ha + 0.2 % from 23,80% (14 DA-B) to 100,0% (14 DA-B), at rate 1.2 l/ha from 76,25% (14 DA-B) to 100,0% (14 DA-B), at rate 1.2 l/ha + 0.2 from 75,0% (14 DA-B) to 100,0% (14 DA-B), at rate 1.5 l/ha + 0.2 % from 90,88% (14 DA-B) to 100,0 (14 DA-B).

The efficacy of the tested herbicide was lower than the standard product. In the trials efficacy amounted 93,30% during the assessment (Appendix 5 tab. 17b).

3.2.3-1.18 The efficacy of Terbut 500 SC in control of POLLA *Persicaria lapathifolia*

Application in BBCH 00

The efficiency of Terbut in control of *Persicaria lapathifolia* were investigated in 1 trials (in 2017). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 with controlled this species of weed to to high level of efficacy from 0 DA-B to 14 DA-B. The effectiveness fluctuated from 50,87 to 88,8%.

The effectiveness fluctuated at rate 0.8 l/ha + 0.2 % from 38,8% (0 DA-B) to 73,80% (14DA-B), at rate 1.0 l/ha + 0.2% from 60,0% (0 DA-B) to 80,0% (14 DA-B), at rate 1.2 l/ha + 0.2 from 73,8% (0 DA-B) to 81,30% (14 DA-B), at rate 1.5 l/ha + 0.2 % from 83,80% (0 DA-B) to 93,80% (14 DA-B).

The efficacy of the tested herbicide was similar than the standard product. In the trials efficacy amounted 93,1% during the assessment (Appendix 5 tab. 18a).

Application in BBCH 12-16

The efficiency of Terbut in control of *Persicaria lapathifolia* were investigated in 1 trials (in 2017). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 % with controlled this species of weed at the medium to high level of efficacy from 14 DA-B to 56 DA-B. The effectiveness fluctuated from 58,75 to 98,75%.

The effectiveness fluctuated at rate 0.8 l/ha + 0.2% from 57,5% (DA-B) to 60,0% (DA-B), at rate 1.0 l/ha + 0.2 % from 70,0% (DA-B) to 80,0% (DA-B), at rate 1.2 l/ha + 0.2 from 71,3% (DA-B) to 83,8% (DA-B), at rate 1.5 l/ha + 0.2 % from 98,5% (DA-B) to 99,0% (DA-B).

The efficacy of the tested herbicide was lower than the standard product. In the trials efficacy amounted 99,0% during the assessment (Appendix 5 tab. 18b).

3.2.3-1.19 The efficacy of Terbut 500 SC in control of POLPE *Persicaria maculosa*

Application in BBCH 00

The efficiency of Terbut in control of *Persicaria maculosa* were investigated in 1 trials (in 2017). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 with controlled this species of weed to to high level of efficacy from 0 DA-B to 10 DA-B. The effectiveness fluctuated from 88,8 to 99,3%.
The effectiveness fluctuated at rate 0.8 l/ha + 0.2 % from 88,8% (0 DA-B) to 88,8% (10 DA-B), at rate 1.0 l/ha + 0.2% from 90,0% (0 DA-B) to 90,0% (10 DA-B), at rate 1.2 l/ha + 0.2 from 99,3% (0 DA-B) to 99,3% (10 DA-B), at rate 1.5 l/ha + 0.2 % from 98,3% (0 DA-B) to 98,3% (10 DA-B).
The efficacy of the tested herbicide was similar than the standard product. In the trials efficacy amounted 100% during the assessment (Appendix 5 tab. 19a).

Application in BBCH 12-16

The efficiency of Terbut in control of *Persicaria maculosa* were investigated in 1 trial (in 2017). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 % with controlled this species of weed at the medium to high level of efficacy from 14 DA-B to 56 DA-B. The effectiveness fluctuated from 85,0 to 96,30%.
The effectiveness fluctuated at rate 0.8 l/ha + 0.2% from 85,0% (14 DA-B) to 85,0% (14 DA-B), at rate 1.0 l/ha + 0.2 % from 87,5% (14 DA-B) to 87,5% (14 DA-B), at rate 1.2 l/ha + 0.2 from 96,3% (14 DA-B) to 96,3% (14 DA-B), at rate 1.5 l/ha + 0.2 % from 93,3% (14 DA-B) to 93,3% (14 DA-B).
The efficacy of the tested herbicide was lower than the standard product. In the trials efficacy amounted 98,8% during the assessment (Appendix 5 tab. 19b).

3.2.3-1.20 The efficacy of Terbut 500 SC in control of SETPU *Setaria pallidefusca*

Application in BBCH 00

The efficiency of Terbut in control of *Setaria pallidefusca* were investigated in 1 trials (in 2017). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 % with controlled this species of weed at the low level of efficacy from 24 DA-A to 22 DA-B. The effectiveness fluctuated from 4,1-14,7 %.
The effectiveness fluctuated at rate 1.5 l/ha + 0.2 % from 0 % (11 DA-B) to 28,8 % (0 DA-B), at rate 1.2 l/ha + 0.2 % from 0 % (11, 22 DA-B) to 25 % (0 DA-B), at rate 1.0 l/ha + 0.2 from 0 % (11, 22 DA-B) to 15 % (24 DA-A), at rate 0.8 l/ha + 0.2 % from 0 % (11, 22 DA-B) to 11,3 % (0 DA-B).
The efficacy of the tested herbicide was lower than the standard product. In the trials efficacy amounted above 91,3 % during the assessment. (Appendix 5 tab. 20a).

Application in BBCH 12-16

The efficiency of Terbut in control of *Setaria pallidefusca* were investigated in 1 trials (in 2017). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 % with controlled this species of weed at the medium to high level of efficacy from 24 DA-A to 0 DA-B. The effectiveness fluctuated from 8,155% to 28,15%.
The effectiveness fluctuated at rate 0.8 l/ha + 0.2% from 5% (24 DA-A) to 11,3% (0 DA-B), at rate 1.0 l/ha + 0.2 % from 12,5% (24 DA-A) to 15% (0 DA-B), at rate 1.2 l/ha + 0.2 from 22,5% (24 DA-A) to 25% (0 DA-B), at rate 1.5 l/ha + 0.2 % from 27,5% (24 DA-A) to 28,80% (0 DA-B).
The efficacy of the tested herbicide was lower than the standard product. In the trials efficacy amounted 0,0% during the assessment (Appendix 5 tab. 20b).

3.2.3-1.21 The efficacy of Terbut 500 SC in control of SOLNI *Solanum nigrum*

Application in BBCH 00

The efficiency of Terbut in control of *Solanum nigrum* were investigated in 1 trials (in 2017). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 % with controlled this species of weed at the high level of efficacy from 16 DA-A to 14 DA-B. The effectiveness fluctuated from 85-91,3%.

The effectiveness fluctuated at rate 1.5 l/ha + 0.2 % from 82,5 % (16 DA-A) to 100 % (14 DA-B), at rate 1.2 l/ha + 0.2 % from 81,3 % (16 DA-A) to 100 % (14 DA-B), at rate 1.0 l/ha + 0.2 from 70 % (16 DA-A) to 100 % (14 DA-B), at rate 0.8 l/ha + 0.2 % from 70 % (16 DA-A) to 100 % (14 DA-B).

The efficacy of the tested herbicide was slightly lower than the standard product. In the trials efficacy amounted above 90 % during the assessment. (Appendix 5 tab. 21a).

Application in BBCH 12-16

The efficiency of Terbut in control of *Solanum nigrum* were investigated in 8 trials (1 trial in 2017 and 7 trials in 2019). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 % (in 1 trials) or Terbut 500 SC solo at rate 0.8 l/ha, 1.0 l/ha, 1.2 l/ha (in 7 trials) with controlled this species of weed at the medium to high level of efficacy from 14 DA-B to 56 DA-B. The effectiveness fluctuated from 77,21 to 97,5%.

The effectiveness fluctuated at rate 0.8 l/ha from 50,0% (16 DA-A) to 91,3% (27 DA-B), at rate 0.8 l/ha + 0.2% from 95,0% (16 DA-A) to 100,0% (27 DA-B), at rate 1.0 l/ha from 60,0% (16 DA-A) to 98,8% (27 DA-B), at rate 1.0 l/ha + 0.2 % from 63,78% (16 DA-A) to 100,0% (27 DA-B), at rate 1.2 l/ha from 63,76% (16 DA-A) to 100,0% (27 DA-B), at rate 1.2 l/ha + 0.2 from 95,0% (16 DA-A) to 100,0% (27 DA-B), at rate 1.5 l/ha + 0.2 % from 95,0% (16 DA-A) to 100,0% (27 DA-B).

The efficacy of the tested herbicide was lower than the standard product. In the trials efficacy amounted 89,68% during the assessment (Appendix 5 tab. 21b).

3.2.3-1.22 The efficacy of Terbut 500 SC in control of STEME *Stellaria media*

Application in BBCH 00

The efficiency of Terbut in control of *Stellaria media* were investigated in 2 trials (in 2019). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, with controlled this species of weed at the high level of efficacy from 15 DA-A to 38 DA-A. The effectiveness fluctuated from 84,11-91,8%.

The effectiveness fluctuated at rate 0.8 l/ha + 0.2 % from 63,8% (15 DA-A) to 97,5% (38 DA-A), at rate 1.0 l/ha from 67,5% (16 DA-A) to 100,0% (38 DA-A), at rate 1.0 l/ha + 0.2 from 68,8% (16 DA-A) to 100,0% (38 DA-A), at rate 1.2 l/ha + 0.2 from 65% (16 DA-A) to 97,5% (38 DA-A).

The efficacy of the tested herbicide was similar than the standard product. In the trials efficacy amounted 100% during the assessment (Appendix 5 tab. 22a).

Application in BBCH 12-16

The efficiency of Terbut in control of *Stellaria media* were investigated in 3 trials (in 2019). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 % (in 1 trials) or Terbut 500 SC solo at rate 0.8 l/ha, 1.0 l/ha, 1.2 l/ha (in 7 trials) with controlled this species of weed at the medium to high level of efficacy from 14 DA-B to 56 DA-B. The effectiveness fluctuated from 75,8 to 87,5%.

The effectiveness fluctuated at rate 0.8 l/ha from 52,5% (12 DA-B) to 87,5% (57 DA-B), at rate 1.0 l/ha from 57,5% (12 DA-A) to 97,5% (57 DA-B), at rate 1.0 + 0.2% from 62,5% (12 DA-A) to 99,0% (57 DA-B), at rate 1.2 l/ha from 60,0% (12 DA-A) to 98,8% (57 DA-B).

The efficacy of the tested herbicide was lower than the standard product. In the trials efficacy amounted 87,2% during the assessment (Appendix 5 tab. 22b).

3.2.3-1.23 The efficacy of Terbut 500 SC in control of VERAR *Veronica persica*

Application in BBCH 12-16

The efficiency of Terbut in control of *Veronica persica* were investigated in 6 trials (in 2019). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha, 1.0 l/ha, 1.0 l/ha + 0.2 %, 1.2 l/ha, 10.2 % at rate with controlled this species of weed at the medium to high level of efficacy from 14 DA-B to 43 DA-A. The effectiveness fluctuated from 80,5 to 89,3%.

The effectiveness fluctuated at rate 0.8 l/ha from 57,5% (14 DA-A) to 91,3% (43 DA-A), at rate 1.0 l/ha from 62,5% (14 DA-A) to 97,5% (43 DA-B), at rate 1.0 + 0.2% from 77,5% (14 DA-B) to 100,0% (43 DA-B), at rate 1.2 l/ha from 68,8% (14 DA-A) to 100,0% (43 DA-B)

The efficacy of the tested herbicide was lower than the standard product. In the trials efficacy amounted 89,3% during the assessment (Appendix 5 tab. 23).

3.2.3-1.24 The efficacy of Terbut 500 SC in control of VIOAR *Viola arvensis*

Application in BBCH 00

The efficiency of Terbut in control of *Viola arvensis* were investigated in 7 trials (6 trials in 2017 and 1 trial in 2019). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 or Terbut 500 SC solo at rate 1.0 l/ha with controlled this species of weed to high level of efficacy from 14 DA-A to 24 DA-B. The effectiveness fluctuated from 71,18% to 97,57%.

The effectiveness fluctuated at rate 0.8 l/ha + 0.2 % from 10% (10 DA-A) to 99,0% (0 DA-B), at rate 1.0 l/ha from 78,8% (10 DA-A) to 97,5% (0 DA-B), at rate 1.0 l/ha + 0.2% from 50% (14 DA-A) to 99,0% (24 DA-B), at rate 1.2 l/ha + 0.2 from 72,5% (14 DA-A) to 100% (24 DA-B), at rate 1.5 l/ha + 0.2 % from 86,3% (14 DA-A) to 100,0% (24 DA-B).

The efficacy of the tested herbicide was similar than the standard product. In the trials efficacy amounted 95,03% during the assessment (Appendix 5 tab. 24a).

Application in BBCH 12-16

The efficiency of Terbut in control of *Viola arvensis* were investigated in 18 trials (6 trials in 2017 and 12 trials in 2019). The tested product Terbut 500 SC + Hydravance 100 LQ at rates: 0.8 l/ha + 0.2 %, 1.0 l/ha + 0.2 %, 1.2 l/ha + 0.2 %, 1.5 l/ha + 0.2 % or Terbut 500 SC solo at rate 0.8 l/ha, 1.0 l/ha, 1.2 l/ha with controlled this species of weed at the medium to high level of efficacy from 14 DA-B to 56 DA-B. The effectiveness fluctuated from 82,26 to 99,22%.

The effectiveness fluctuated at rate 0.8 l/ha from 55,0% (14 DA-A) to 100,0% (56 DA-A), at rate 0.8 l/ha + 0.2% from 68,8% (14DA-A) to 100,0% (56 DA-A), at rate 1.0 l/ha from 58,8% (14 DA-A) to 100,0% (56 DA-A), at rate 1.0 l/ha + 0.2 % from 62,5% (14 DA-A) to 100.0% (56 DA-A), at rate 1.2 l/ha from 60,0% (14 DA-A) to 100,0% (56 DA-A), at rate 1.2 l/ha + 0.2 from 96,3% (14 DA-A) to 100,0% (14 DA-A), at rate 1.5 l/ha + 0.2 % from 94,8% (14 DA-A) to 100,0% (56 DA-B).

The efficacy of the tested herbicide was lower than the standard product. In the trials efficacy amounted 92,68% during the assessment (Appendix 5 tab. 24b).

Conclusions on the biological efficacy 2017-2019 (PL, CZ, GER)

Pre- emergence application (maize in stage BBCH 00)

Dose Terbut 500 SC 0,8 l/ha + 0,2% Hydravance 100 LQ

Susceptible: *Amarenthus retroflexus* (AMARE), *Anthemis arvensis* (ANTAR), *Capsella bursa-pastoris* (CAPBP), *Galinsoga parviflora* (GASPA), *Anchusa arvensis* (LYCAR), *Tripleurospermum inodorum* (MATIN), *Persicaria maculosa* (POLPE), *Solanum nigrum* (SOLNI),
Moderately Susceptible: *Cyanus segetum* (CENCY), *Chenopodium album* (CHEAL), *Galium aparine* (GALAP), *Geranium dissectum* (GERDI), *Matricaria chamomila* (MATCH), *Stellaria media* (STEME), *Viola arvensis* (VIOAR)
Moderately Tolerant: *Geranium pusillum* (GERPU), *Poa annua* (POAAN), *Fallopia convolvulus* (POLCO), *Polygonum aviculare* (POLAV),
Tolerant: *Lipandra polysperma* (CHEPO), *Echinochloa crus-galli* (ECHCG), *Persicaria lapathifolia* (POLLA), , *Settaria helvola* (SETPU)

Dose Terbut 500 SC 1,0 l/ha

Susceptible: *Amarenthus retroflexus* (AMARE), *Chenopodium album* (CHEAL) , *Matricaria chamomila* (MATCH), *Tripleurospermum inodorum* (MATIN), *Stellaria media* (STEME), *Viola arvensis* (VIOAR)
Moderately Susceptible: *Cyanus segetum* (CENCY)

Dose Terbut 500 SC 1,0 l/ha + 0,2% Hydravance 100 LQ

Susceptible: *Amarenthus retroflexus* (AMARE), *Anthemis arvensis* (ANTAR), *Capsella bursa-pastoris* (CAPBP), *Cyanus segetum* (CENCY), *Chenopodium album* (CHEAL), *Galium aparine* (GALAP), *Galinsoga parviflora* (GASPA), *Geranium dissectum* (GERDI), *Anchusa arvensis* (LYCAR), *Matricaria chamomila* (MATCH), *Tripleurospermum inodorum* (MATIN), *Stellaria media* (STEME), *Solanum nigrum* (SOLNI), *Viola arvensis* (VIOAR), *Persicaria maculosa* (POLPE)
Moderately Susceptible: *Lipandra polysperma* (CHEPO), *Polygonum aviculare* (POLAV), *Fallopia convolvulus* (POLCO),
Moderately Tolerant: *Poa annua* (POAAN), *Geranium pusillum* (GERPU), *Persicaria lapathifolia* (POLLA), *Echinochloa crus-galli* (ECHCG),
Tolerant: *Settaria helvola* (SETPU),

Dose Terbut 500 SC 1,2 l/ha + 0,2% Hydravance 100 LQ

Susceptible: *Amarenthus retroflexus* (AMARE), *Anthemis arvensis* (ANTAR), *Capsella bursa-pastoris* (CAPBP), *Chenopodium album* (CHEAL), *Lipandra polysperma* (CHEPO), *Galium aparine* (GALAP), *Galinsoga parviflora* (GASPA), *Geranium dissectum* (GERDI), *Anchusa arvensis* (LYCAR), *Matricaria chamomila* (MATCH), *Tripleurospermum inodorum* (MATIN), *Solanum nigrum* (SOLNI), *Stellaria media* (STEME), *Viola arvensis* (VIOAR), *Echinochloa crus-galli* (ECHCG), *Persicaria maculosa* (POLPE)
Moderately Susceptible: *Cyanus segetum* (CENCY), *Geranium pusillum* (GERPU), *Poa annua* (POAAN), *Polygonum aviculare* (POLAV), *Fallopia convolvulus* (POLCO), *Persicaria lapathifolia* (POLLA)
Tolerant:), *Settaria helvola* (SETPU)

Dose Terbut 500 SC 1,5 l/ha + 0,2% Hydravance 100 LQ

Susceptible: *Amarenthus retroflexus* (AMARE), *Anthemis arvensis* (ANTAR), *Capsella bursa-pastoris* (CAPBP), *Cyanus segetum* (CENCY), *Chenopodium album* (CHEAL), *Lipandra polysperma* (CHEPO), *Galium aparine* (GALAP), *Galinsoga parviflora* (GASPA), *Geranium dissectum* (GERDI), *Anchusa arvensis* (LYCAR), *Matricaria chamomila* (MATCH), *Tripleurospermum inodorum* (MATIN), *Poa annua* (POAAN), *Polygonum aviculare* (POLAV), , *Fallopia convolvulus* (POLCO), *Persicaria lapathifolia* (POLLA), *Solanum nigrum* (SOLNI), *Viola arvensis* (VIOAR), *Persicaria maculosa* (POLPE), *Echinochloa crus-galli* (ECHCG)
Moderately Susceptible: *Geranium pusillum* (GERPU),
Tolerant: *Settaria helvola* (SETPU)

Post- emergence application (BBCH 12-16)

Dose Terbut 500 SC 0,8 l/ha

Susceptible: *Capsella bursa-pastoris* (CAPBP), *Galinsoga parviflora* (GASPA),

Moderately Susceptible: *Amaranthus retroflexus* (AMARE), *Chenopodium album* (CHEAL), *Galium aparine* (GALAP), *Geranium pusillum* (GERPU), *Anthemis arvensis* (ANTAR), *Tripleurospermum inodorum* (MATIN), *Fallopia convolvulus* (POLCO), *Solanum nigrum* (SOLNI), *Stellaria media* (STEME), *Veronica arvensis* (VERAR), *Viola arvensis* (VIOAR)

Dose Terbut 500 SC 0,8 l/ha + 0,2 l/ha Hydravance 100 LQ

Susceptible: *Amaranthus retroflexus* (AMARE), *Capsella bursa-pastoris* (CAPBP), *Galinsoga parviflora* (GASPA), *Geranium dissectum* (GERDI), *Anchusa arvensis* (LYCAR), *Polygonum aviculare* (POLAV), *Persicaria maculosa* (POLPE)

Moderately Susceptible: *Cyanus segetum* (CENCY), *Galium aparine* (GALAP), *Tripleurospermum inodorum* (MATIN), *Fallopia convolvulus* (POLCO)

Dose Terbut 500 SC 1,0 l/ha

Susceptible: *Amaranthus retroflexus* (AMARE), *Capsella bursa-pastoris* (CAPBP), *Chenopodium album* (CHEAL), *Galium aparine* (GALAP), *Galinsoga parviflora* (GASPA), *Tripleurospermum inodorum* (MATIN), *Fallopia convolvulus* (POLCO), *Solanum nigrum* (SOLNI), *Veronica arvensis* (VERAR), *Viola arvensis* (VIOAR)

Moderately Susceptible: *Cyanus segetum* (CENCY), *Geranium pusillum* (GERPU), *Matricaria chamomila* (MATCH), *Stellaria media* (STEME)

Dose Terbut 500 SC 1,0 l/ha + 0,2 l/ha Hydravance 100 LQ

Susceptible: *Amaranthus retroflexus* (AMARE), *Capsella bursa-pastoris* (CAPBP), *Chenopodium album* (CHEAL), *Galium aparine* (GALAP), *Galinsoga parviflora* (GASPA), *Geranium dissectum* (GERDI), *Anchusa arvensis* (LYCAR), *Tripleurospermum inodorum* (MATIN), *Polygonum aviculare* (POLAV), *Fallopia convolvulus* (POLCO), *Persicaria maculosa* (POLPE), *Solanum nigrum* (SOLNI), *Stellaria media* (STEME), *Veronica arvensis* (VERAR), *Viola arvensis* (VIOAR)

Moderately Susceptible: *Cyanus segetum* (CENCY), *Lipandra polysperma* (CHEPO), *Geranium pusillum* (GERPU), *Matricaria chamomila* (MATCH), *Persicaria lapathifolia* (POLLA)

Moderately Tolerant: *Poa annua* (POAAN)

Tolerant: *Echinochloa crus-galli* (ECHCG), *Settaria helvola* (SETPU),

Dose Terbut 500 SC 1,2 l/ha

Susceptible: *Amaranthus retroflexus* (AMARE), *Capsella bursa-pastoris* (CAPBP), *Chenopodium album* (CHEAL), *Galium aparine* (GALAP), *Galinsoga parviflora* (GASPA), *Geranium pusillum* (GERPU), *Matricaria chamomila* (MATCH), *Tripleurospermum inodorum* (MATIN), *Fallopia convolvulus* (POLCO), *Solanum nigrum* (SOLNI), *Veronica arvensis* (VERAR), *Viola arvensis* (VIOAR)

Moderately Susceptible: *Cyanus segetum* (CENCY), *Stellaria media* (STEME)

Dose Terbut 500 SC 1,2 l/ha + 0,2 l/ha Hydravance 100 LQ

Susceptible: *Amaranthus retroflexus* (AMARE), *Capsella bursa-pastoris* (CAPBP), *Chenopodium album* (CHEAL), *Galium aparine* (GALAP), *Galinsoga parviflora* (GASPA), *Geranium dissectum* (GERDI), *Geranium pusillum* (GERPU), *Anchusa arvensis* (LYCAR), *Tripleurospermum inodorum* (MATIN), *Polygonum aviculare* (POLAV), *Fallopia convolvulus* (POLCO), *Persicaria maculosa* (POLPE), *Solanum nigrum* (SOLNI), *Viola arvensis* (VIOAR)

Moderately Susceptible: *Cyanus segetum* (CENCY), *Lipandra polysperma* (CHEPO), *Poa annua* (POAAN), *Persicaria lapathifolia* (POLLA)

Moderately Tolerant: *Matricaria chamomila* (MATCH)

Tolerant: *Echinochloa crus-galli* (ECHCG), *Settaria helvola* (SETPU)

Dose Terbut 500 SC 1,5 l/ha + 0,2 l/ha Hydravance 100 LQ

Susceptible: *Amaranthus retroflexus* (AMARE), *Capsella bursa-pastoris* (CAPBP), *Cyanus segetum* (CENCY), *Chenopodium album* (CHEAL), *Lipandra polysperma* (CHEPO), *Galium aparine* (GALAP), *Galinsoga parviflora* (GASPA), *Geranium dissectum* (GERDI), *Geranium pusillum* (GERPU), *Anchusa arvensis* (LYCAR), *Tripleurospermum inodorum* (MATIN), *Poa annua* (POAAN), *Polygonum aviculare*

(POLAV), *Fallopia convolvulus* (POLCO), *Persicaria lapathifolia* (POLLA), *Persicaria maculosa* (POLPE), *Solanum nigrum* (SOLNI), *Viola arvensis* (VIOAR)
Tolerant: *Echinochloa crus -galli* (ECHCG), *Settaria helvola* (SETPU)

Table 3.2-11: Efficacy of Terbut at the timing of assessment.

Pre- emergence application

Target	Terbut 500 SC at rate	Number of trials		Infestation in the untreated control (unit)		% control				No of trials where product is >, <, = compared to standard(s)*
						Terbut 500 SC at rate		Lumax 537,5 SE at rate 3,5 l/ha; Gardo Gold 500 SE at rate 4 l/ha; Gardoprime Plus Gold 500 S.C. at rate 4 l/ha		
		2017	2019	Mean	Min & Max	Mean	Min & Max	Mean	Min & Max	
<i>Amaranthus retroflexus</i>	0,80 + 0,2%	3	2	10	5 & 16	88,73	60 & 100			-
Pre-emergence	1					91,97	77,5 & 97,5			-
	1,0 + 0,2%					92,84	70 & 100			-
	1,2 + 0,2%					96,74	80 & 100			-
	1,5 + 0,2%					99,58	98,3 & 100	100	100 & 100	-
<i>Anthemis arvensis</i>	0,80 + 0,2%	1	0	30	30 & 30	99,08	97,5 & 100			-
Pre-emergence	1,0 + 0,2%					100	100 & 100			-
	1,2 + 0,2%					98,15	95 & 100			-
	1,5 + 0,2%					100	100 & 100	100	100 & 100	-
<i>Capsella bursa-pastoris</i>	0,80 + 0,2%	4	0	24,5	5 & 58	93,81	66,3 & 100			-
Pre-emergence	1,0 + 0,2%					94,7	73,8 & 100			-
	1,2 + 0,2%					96,34	83,8 & 100			-
	1,5 + 0,2%					98,14	90,0 & 100	96,14	86,3 & 100	-

<i>Cyanus segetum</i> Pre-emergence	0,80 + 0,2%	3	1	10	5 & 21,5	75,5	15,0 & 100			-
	1					83,15	66,3 & 90			-
	1,0 + 0,2%					85,04	50 & 100			-
	1,2 + 0,2%					81,46	0 & 100			-
	1,5 + 0,2%					96,65	81,3 & 100	98,45	88,8 & 100	-
<i>Chenopodium album</i> Pre-emergence	0,80 + 0,2%	12	1	16,1	5 & 69,5	84,86	46 & 100			-
	1					97,5	97,5 & 97,5			-
	1,0 + 0,2%					89,3	50 & 100			-
	1,2 + 0,2%					91,67	60 & 100			-
	1,5 + 0,2%					95,93	76,3 & 100	96,06	50 & 100	-
<i>Lipandra polysperma</i> Pre-emergence	0,80 + 0,2%	1	0	5	5 & 5	57,5	52,5 & 60			-
	1,0 + 0,2%					83,775	81,3 & 85			-
	1,2 + 0,2%					91,575	90 & 93,8			-
	1,5 + 0,2%					99,1	98,3 & 99,8	99,95	99,8 & 100	-
<i>Echinochloa crus-galli</i> Pre-emergence	0,80 + 0,2%	3	0	17,1	5 & 80	37,01	0 & 90			-
	1,0 + 0,2%					61,77	35 & 92,5			-
	1,2 + 0,2%					88,07	68,8 & 99			-
	1,5 + 0,2%					94,36	90 & 97,5	91,2	45 & 99,3	-
<i>Galium aparine</i> Pre-emergence	0,80 + 0,2%	4	0	5,9	5 & 8	79,04	46,3 & 100			-
	1,0 + 0,2%					85,67	58,8 & 100			-
	1,2 + 0,2%					88,65	68,8 & 100			-
	1,5 + 0,2%					95,91	85 & 100	96,93	88,8 & 100	-
<i>Galinsoga parviflora</i> Pre-emergence	0,80 + 0,2%	1	0	6	6 & 6	99,38	97,5 & 100			-
	1,0 + 0,2%					98,13	95 & 100			-
	1,2 + 0,2%					100	100 & 100			-

	1,5 + 0,2%					100	100 & 100	100	100 & 100	
<i>Geranium dissectum</i>	0,80 + 0,2%	1	0	15	15 & 15	82,5	75 & 90			
Pre-emergence	1,0 + 0,2%					86,9	81,3 & 92,5			
	1,2 + 0,2%					91,25	90 & 92,5			
	1,5 + 0,2%					97,5	95 & 100	71,9	50 & 93,8	
<i>Geranium pusillum</i>	0,80 + 0,2%	4	0	5,9	5,0 & 7,5	60,37	10 & 93,5			
Pre-emergence	1,0 + 0,2%					69,54	30 & 94,8			
	1,2 + 0,2%					75,16	30 & 97,5			
	1,5 + 0,2%					82,05	48,8 & 99,8	99,75	99 & 100	
<i>Anchusa arvensis</i>	0,80 + 0,2%	1	0	5	5 & 5	95,6	93,5 & 99,8			
Pre-emergence	1,0 + 0,2%					96,5	94,8 & 100			
	1,2 + 0,2%					97,8	96 & 100			
	1,5 + 0,2%					99,9	99,8 & 100	100,0	100 & 100	
<i>Matricaria chamomilla</i>	0,80 + 0,2%	2	2	10,9	5 & 21,5	84,1	10,0 & 100			
Pre-emergence	1					94,1	90,0 & 96,8			
	1,0 + 0,2%					91,8	60,0 & 100			
	1,2 + 0,2%					94	73,8 & 100			
	1,5 + 0,2%					94,7	90,0 & 100	98,1	90,0 & 100	
<i>Tripleurospermum inodorum</i>	0,80 + 0,2%	4	2	9,6	5 & 21,5	85,27	47,5 & 100			
Pre-emergence	1					94,66	88,8 & 97,5			
	1,0 + 0,2%					94,56	80 & 100			
	1,2 + 0,2%					97,79	87,5 & 100			

	1,5 + 0,2%					98,86	90 & 100	99,59	93,3 & 100	
<i>Poa annua</i>	0,80 + 0,2%	1	0	17,4	15 & 19,7	65	40,0 & 90			-
Pre-emergence	1,0 + 0,2%					68,8	45,0 & 92,5			-
	1,2 + 0,2%					80,7	68,8 & 92,5			-
	1,5 + 0,2%					92,5	90,0 & 95,0	69,4	45,0 & 93,8	-
<i>Polygonum aviculare</i>	0,80 + 0,2%	1	0	15,9	15,5 & 16,3	60,1	40 & 99			-
Pre-emergence	1,0 + 0,2%					73,0	60 & 99			-
	1,2 + 0,2%					79,7	70 & 99			-
	1,5 + 0,2%					99,0	99 & 99	73,0	60 & 99	-
<i>Fallopia convolvulus</i>	0,80 + 0,2%	6	0	13,6	5 & 41,5	63,09	0 & 100			-
Pre-emergence	1,0 + 0,2%					74,93	10 & 100			-
	1,2 + 0,2%					78,49	10 & 100			-
	1,5 + 0,2%					88,53	20 & 100	88,79	48,8 & 100	-
<i>Persicaria lapathifolia</i>	0,80 + 0,2%	1	0	8,6	7,2 & 10,8	50,87	38,8 & 73,8			-
Pre-emergence	1,0 + 0,2%					67,10	60 & 80			-
	1,2 + 0,2%					78,37	73,8 & 81,3			-
	1,5 + 0,2%					88,80	83,8 & 93,8	93,10	81,3 & 99	-
<i>Persicaria maculosa</i>	0,80 + 0,2%	1	0	5	5,0 & 5,0	88,8	88,8 & 88,8			-
Pre-emergence	1,0 + 0,2%					90	90 & 90			-
	1,2 + 0,2%					99,3	99,3 & 99,3			-
	1,5 + 0,2%					98,3	98,3 & 98,3	100	100 & 100	-
<i>Setaria palidifusca</i>	0,80 + 0,2%	1	0	7	5 & 10	4,08	0 & 11,3			-

Pre-emergence	1,0 + 0,2%					6,88	0 & 15			
	1,2 + 0,2%					11,88	0 & 25			
	1,5 + 0,2%					14,70	0 & 28,8	91,30	83,8 & 96,3	
<i>Solanum nigrum</i> Pre-emergence	0,80 + 0,2%	1	0	14,2	10 & 20	85	70 & 100			
	1,0 + 0,2%					85	70 & 100			
	1,2 + 0,2%					90,35	81,3 & 100			
	1,5 + 0,2%					91,25	82,5 & 100	92,5	85 & 100	
<i>Stellaria media</i> Pre-emergence	0,80 + 0,2%	0	2	10,6	6 & 15,3	84,11	63,8 & 97,5			
	1					91,26	67,5 & 100			
	1,0 + 0,2%					91,80	68,8 & 100			
	1,2 + 0,2%					88,57	65 & 97,5	100,00	100 & 100	
<i>Viola arvensis</i> Pre-emergence	0,80 + 0,2%	6	1	13,7	5 & 37,5	71,18	10 & 99			
	1					91,28	78,8 & 97,5			
	1,0 + 0,2%					85,43	50 & 99			
	1,2 + 0,2%					91,62	72,5 & 100			
	1,5 + 0,2%					97,57	86,3 & 100	95,03	65 & 100	

Post- emergence application

Target	Terbut 500 SC at rate	Number of trials		Infestation in the unt- reated control (unit)		% control				No of trials where product is >, <, = com- pared to stan- dard(s)*
						Terbut 500 SC at rate		Lumax 537,5 SE at rate 3,5 l/ha; Gardo Gold 500 SE at rate 4 l/ha; Gardo- prim Plus Gold 500 S.C. at rate 4 l/ha		
		2017	2019	Mean	Min & Max	Mean	Min & Max	Mean	Min & Max	
<i>Amaranthus retro- flexus</i> Post-emergence	0,8	3	10	10,4	5 & 16	80,34	45 & 93,8			-
	0,8 + 0,2%					89,6	70 & 100			-
	1					87,64	61,3 & 100			-
	1,2					91,53	62,5 & 100			-
	1,0 + 0,2%					91,52	63,8 & 100			-
	1,2 + 0,2%					100	100 & 100			-
	1,5 + 0,2%					100	100 & 100	91,19	67,5 & 100	-
<i>Anthemis arvensis</i> Post-emergence	0,8 + 0,2%	1	0	30	30 & 30	0	0			-
	1,0 + 0,2%					0	0			-
	1,2 + 0,2%					0	0			-
	1,5 + 0,2%					0	0	91,9	91,3 & 92,5	-
<i>Capsella bursa- pastoris</i> Post-emergence appli- cation	0,8	4	7	17,6	5,0 & 48,7	86,1	72,5 & 100			-
	0,8 + 0,2%					99,4	98,8 & 100			-
	1					92,6	76,3 & 100			-
	1,2					94,4	82,5 & 100			-
	1,0 + 0,2%					96,2	83,8 & 100			-
	1,2 + 0,2%					99,5	99 & 100			-

	1,5 + 0,2%					99,5	99 & 100	94,9	80 & 100	-
<i>Cyanus segetum</i>	0,8	3	2	10,8	5 & 21,5	67,1	42,5 & 87,5			-
Post-emergence	0,8 + 0,2%					74,8	25,0 & 100			-
	1					71,9	47,5 & 90			-
	1,2					78,6	58,8 & 95			-
	1,0 + 0,2%					76,8	17,5 & 100			-
	1,2 + 0,2%					82,5	45 & 100			-
	1,5 + 0,2%					96,4	88,8 & 100	91,3	57,5 & 100	-
<i>Chenopodium album</i>	0,8	12	12	19,3	5,0 & 83	78,5	48,7 & 92,5			-
Post-emergence	0,8 + 0,2%					74,3	0,0 & 100			-
	1					85,7	62,5 & 100			-
	1,2					89,7	67,5 & 100			-
	1,0 + 0,2%					86,7	0 & 100			-
	1,2 + 0,2%					86,9	0 & 100			-
	1,5 + 0,2%					90,2	0 & 100	93	75 & 100	-
<i>Lipandra polysperma</i>	0,8 + 0,2%	1	0	5	5 & 5	55,4	48,8 & 60			-
Post-emergence	1,0 + 0,2%					71,3	65,0 & 75			-
	1,2 + 0,2%					81,7	76,3 & 86,3			-
	1,5 + 0,2%					94,9	88,8 & 98,8	95,7	90,0 & 99,3	-
<i>Echinochloa crus-galli</i>	0,8 + 0,2%	4	0	26,8	5 & 80	27,5	0,0 & 65			-
Post-emergence	1,0 + 0,2%					34	0,0 & 65			-
	1,2 + 0,2%					48,5	11,3 & 87,5			-
	1,5 + 0,2%					57,5	13,8 & 95,8	54,4	0,0 & 90	-
<i>Galium aparine</i>	0,8	4	7	6	5 & 8	80,5	53,8 & 90			-

Post-emergence	0,8 + 0,2%					74,9	41,3 & 100			
	1					87,4	61,3 & 97,5			
	1,2					92,7	67,5 & 100			
	1,0 + 0,2%					88,9	56,3 & 100			
	1,2 + 0,2%					89,7	67,5 & 100			
	1,5 + 0,2%					93,3	80,0 & 100	91,1	78,8 & 100	
<i>Galinsoga parviflora</i>	0,8	1	1	14,6	6,0 & 21,0	87,9	87,5 & 88,8			
Post-emergence	0,8 + 0,2%					99,4	98,8 & 100			
	1					99,3	99,0 & 100			
	1,2					99,3	99,0 & 100			
	1,0 + 0,2%					99,6	99,0 & 100			
	1,2 + 0,2%					99,4	98,8 & 100			
	1,5 + 0,2%					99,4	98,8 & 100	99,6	99,0 & 100	
<i>Geranium dissectum</i>	0,8 + 0,2%	1	0	15	15 & 15	90	90,0 & 90			
Post-emergence	1,0 + 0,2%					92,5	90,0 & 95			
	1,2 + 0,2%					98,3	96,5 & 100			
	1,5 + 0,2%					99	98,0 & 100	99	98 & 100	
<i>Geranium pusillum</i>	0,8	4	1	5,5	5 & 7,5	72,1	62,5 & 77,5			
Post-emergence	0,8 + 0,2%					51,3	0,0 & 100			
	1					82,1	77,5 & 85			
	1,2					86,3	81,3 & 88,8			
	1,0 + 0,2%					77,7	55,0 & 100			
	1,2 + 0,2%					92,3	80,0 & 100			
	1,5 + 0,2%					89,8	80,0 & 100	94,4	86,3 & 100	
<i>Anchusa arvensis</i>	0,8 + 0,2%	1	0	5	5 & 5	100	100			

Post-emergence	1,0 + 0,2%					100	100			
	1,2 + 0,2%					100	100			
	1,5 + 0,2%					100	100	100	100	
<i>Matricaria chamomilla</i>	0,8	2	3	9,5	5 & 21,5	77,4	57,5 & 88,8			
Post-emergence	0,8 + 0,2%					50,6	0,0 & 100			
	1					84,6	60,0 & 93,8			
	1,2					89,6	65,0 & 100			
	1,0 + 0,2%					75,4	0,0 & 100			
	1,2 + 0,2%					66	6,3 & 100			
	1,5 + 0,2%					57,8	5,0 & 100	89,9	61,3 & 100	
<i>Tripleurospermum inodorum</i>	0,8	3	9	8,7	5 & 21,5	83,3	52,5 & 100			
Post-emergence	0,8 + 0,2%					76,3	58,8 & 98,8			
	1					88,3	56,3 & 100			
	1,2					91,9	60,0 & 100			
	1,0 + 0,2%					91	62,5 & 100			
	1,2 + 0,2%					96,1	87,5 & 100			
	1,5 + 0,2%					98,5	95	92,4	62,5 & 100	
<i>Poa annua</i>	0,8 + 0,2%	1	0	15	15 & 15	61,9	60,0 & 63,8			
Post-emergence	1,0 + 0,2%					63,2	62,5 & 63,8			
	1,2 + 0,2%					81,3	70,0 & 92,5			
	1,5 + 0,2%					89,9	82,5 & 97,3	96	94,5 & 97,5	
<i>Polygonum aviculare</i>	0,8 + 0,2%	1	0	16,2	16 & 16,3	92,5	90,0 & 95			
Post-emergence	1,0 + 0,2%					99	99,0 & 99			

	1,2 + 0,2%					99	99,0 & 99			
	1,5 + 0,2%					99	99,0 & 99	99	99,0 & 99	
<i>Fallopia convolvulus</i>	0,8	7	6	12,2	5 & 33,5	78,7	65,0 & 90			
Post-emergence	0,8 + 0,2%					76,8	0,0 & 100			
	1					85,2	66,3 & 98			
	1,2					90,5	76,3 & 100			
	1,0 + 0,2%					88	23,8 & 100			
	1,2 + 0,2%					94,9	75,0 & 100			
	1,5 + 0,2%					97,9	90,8 & 100	93,3	77,5 & 100	
<i>Persicaria lapathifolia</i>	0,8 + 0,2%	1	0	7,5	7,2 & 7,7	58,8	57,5 & 60			
Post-emergence	1,0 + 0,2%					75	70,0 & 80			
	1,2 + 0,2%					77,6	71,3 & 83,8			
	1,5 + 0,2%					98,8	98,5 & 99	99	99,0 & 99	
<i>Persicaria maculosa</i>	0,8 + 0,2%	1	0	5,5	5 & 6	85	85,0 & 85			
Post-emergence	1,0 + 0,2%					87,5	87,5 & 87,5			
	1,2 + 0,2%					96,3	96,3 & 96,3			
	1,5 + 0,2%					93,3	93,3 & 93,3	98,8	98,8 & 98,8	
<i>Setaria palidifusca</i>	0,8 + 0,2%	1	0	6,5	5 & 8	3,8	2,5 & 5			
Post-emergence	1,0 + 0,2%					2,5	2,5 & 2,5			
	1,2 + 0,2%					8,8	7,5 & 10			
	1,5 + 0,2%					15,1	11,3 & 18,80	0	0,0 & 0,0	
<i>Solanum nigrum</i>	0,8	1	7	20,7	5 & 50,5	77,2	50,0 & 91,3			
Post-emergence	0,8 + 0,2%					97,5	95,0 & 100			
	1					86,3	60,0 &			

							98,8			
	1,2					89,1	63,8 & 100			
	1,0 + 0,2%					91,2	68,8 & 100			
	1,2 + 0,2%					97,5	95,0 & 100			
	1,5 + 0,2%					97,5	95,0 & 100	89,7	78,8 & 100	
<i>Stellaria media</i>	0,8	0	3	8,9	6 & 15,3	75,8	52,5 & 87,5			
Post-emergence	1					80,5	57,5 & 97,5			
	1,2					84,4	60,0 & 98,8			
	1,0 + 0,2%					87,5	62,5 & 99	87,2	66,3 & 100	
<i>Veronica arvensis</i>	0,8	0	6	5,4	4,5 & 7,0	80,5	57,5 & 91,3			
Post-emergence	1					87,3	62,5 & 97,5			
	1,2					91	68,8 & 100			
	1,0 + 0,2%					91,8	77,5 & 100	89,3	77,5 & 100	
<i>Viola arvensis</i>	0,8	6	12	13,4	5,0 & 37,5	82,3	55,0 & 100			
Post-emergence	0,8 + 0,2%					88,5	68,8 & 100			
	1					87,5	58,8 & 100			
	1,2					90,8	60,0 & 100			
	1,0 + 0,2%					92,5	62,5 & 100			
	1,2 + 0,2%					99,4	96,3 & 100			
	1,5 + 0,2%					99,2	94,8 & 100	92,7	60,0 & 100	

* Optional

Crop(s) 2 / Target(s) 2

Not applicable

Minor use

Not applicable

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

Not applicable

Table 3.2-12: Yield (quality) effect of product in efficacy trials on crop * target 1

Not applicable

Summary and conclusion

Not applicable

Comments of zRMS:	<p>EPPO Standard PP 1/226 Number of efficacy trials provides guidance on the number of trials in target crops needed to demonstrate the efficacy of a plant protection product at the recommended dose. Where authorization is sought across a range of diverse conditions, such as across an authorization zone (PP 1/278 Principles of zonal data production and evaluation), then the number of trials conducted may need to increase. These trials should be done across the range of climatic and environmental conditions likely to be encountered, and over at least 2 years.</p> <p>Applicant submitted in total 26 efficacy trials carried out in different growing seasons for pre-emergence and post-emergence use. For pre-emergence used Applicant submitted in total 14 field studies and for post-emergence used – 26 field trials. All trials were carried out in accordance with EPPO standards: EPPO PP 1/135 (4), EPPO PP 1/181 (4), EPPO PP 1/152 (4) and EPPO PP 1/50 (3).</p> <p>During trials different doses were studied:</p> <ul style="list-style-type: none"> • for pre-emergence use – 1,0 l/ha for support solo use and for mixture tank use with adjuvant: 0,8 l/ha Terbut 500 SC+0,2 % adjuvant; 1,0 l/ha Terbut 500 SC+0,2 % adjuvant; 1,2 l/ha Terbut 500 SC+0,2 % adjuvant and 1,5l/ha Terbut 500 SC +0,2 % adjuvant. • for post -emergence use: 0,8 l/ha; 1,0 l/ha; 1,2 l/ha for solo use and 1,0 l/ha Terbut 500 SC+0,2 % adjuvant for use in the mixture tank with adjuvant. <p>In the opinion of Evaluator, we can accept only solo post-emergence use on the basis on 14 trials and pre-mergence use with adiuvant (14 trials) and post-emergence use with adiuvant (26 trials). Use solo at pre-emergence should be excluded from GAP table due to not enough of number of trials (only 2, whilst at least 6 are required).</p> <p>Only trials with greater than 5 weeds/m² or over 2% ground cover have been included. In the opinion of ZRMs weed species which occurred only in 1 trial, should be excluded from label and GAP table.</p> <p>Applicant submitted classification of weed sensitivity in accordance to Polish rules. According to EPPO PP 1/226 at least 6 fully supportive results for major weeds and 2 trials for minor weeds should be required. According to Polish rules – at least 4 valid trials should be presented for major weeds and at least 2 valid trials for minor weeds. Therefore, based on knowledge of major/minor status of weeds in Poland, weeds with insufficient results should be excluded.</p> <p>In Poland we accept trials from neighbouring countries, so results from trials are assessed together. In GAP table only Poland is included, however Applicant has included the comparability of climate and agricultural conditions between Poland and Czech Republic in this dRR. Poland and Czech Republic belong to the countries of Central Zone (registration zone). The justification for possibility of data from efficacy and phytotoxicity trials conducted in Poland to be used for registration purposes in the Czech Republic are presented in the Appendix 2 of this dRR. In the opinion of Evaluator, cMS from CZ should decide if registration will be possible on the basis on submitted documentation.</p> <p>Below, we presented the list of studied with classification of its sensitivity observed at recommended dose at solo use (1,0 l/ha) and in the mixture tank with adjuvant (1,0 l/ha Terbut 500 SC + 0,2% adjuvant) weed at pre- and post-emergence use in maize:</p> <ul style="list-style-type: none"> • post emergence use at BBCH 12-16: <p>AMARE – 10 trials for solo use and 13 trials for use in the mixture tank with adjuvant. It can be concluded that AMARE is a susceptible weed at solo use at rec-</p>
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	<p>ommended dose (1,0 l/ha) and in the mixture tank with adjuvant (dose Terbut 500 SC 1,0 l/ha + Hydravance 100 LQ 0,2%).</p> <p>ANTAR – lack of trials for solo use and 1 trial for use in the mixture tank with adjuvant. ANTAR should be excluded from label project due to not enough trials.</p> <p>CAPBP – 7 trials for solo use and 11 trials for use in the mixture tank with adjuvant. It can be concluded that CAPBP is a susceptible weed at solo use at recommended dose (1,0 l/ha) and in the mixture tank with adjuvant (dose Terbut 500 SC 1,0 l/ha + Hydravance 100 LQ 0,2 %).</p> <p>CENCY – 2 trials for solo use and 5 trials for use in the mixture tank with adjuvant. It can be concluded that CENCY is a moderately susceptible weed at solo use at recommended dose (1,0 l/ha) and in the mixture tank with adjuvant (dose Terbut 500 SC 1,0 l/ha + Hydravance 100 LQ 0,2 %).</p> <p>CHEAL – 12 trials for solo use and 24 trials for use in the mixture tank with adjuvant. It can be concluded that CHEAL is a susceptible weed at solo use at recommended dose (1,0 l/ha) and in the mixture tank with adjuvant (dose Terbut 500 SC 1,0 l/ha + Hydravance 100 LQ 0,2 %).</p> <p>CHEPO – lack of trials for solo use and 1 trial for use in the mixture tank with adjuvant. CHEPO should be excluded from label project due to not enough trials.</p> <p>ECHCG – lack of trials for solo use and 4 trials for use in the mixture tank with adjuvant. It can be concluded that ECHCG is a tolerant weed at use in the mixture tank with adjuvant (dose Terbut 500 SC 1,0 l/ha + Hydravance 100 LQ 0,2 %).</p> <p>GALAP – 7 trials for solo use and 11 trials for use in the mixture tank with adjuvant. It can be concluded that GALAP is a susceptible weed at solo use at recommended dose (1,0 l/ha) and in the mixture tank with adjuvant (dose Terbut 500 SC 1,0 l/ha + Hydravance 100 LQ 0,2 %).</p> <p>GASPA – 1 trial for solo use and 2 trials for use in the mixture tank with adjuvant. It can be concluded that GASPA is a susceptible weed at use in the mixture tank with adjuvant (dose Terbut 500 SC 1,0 l/ha + Hydravance 100 LQ 0,2 %).</p> <p>GERDI – lack of trials for solo use and 1 trial for use in the mixture tank with adjuvant. GERDI should be excluded from label project due to not enough trials</p> <p>GERPU – 1 trial for solo use and 5 trials for use in the mixture tank with adjuvant. It can be concluded that GERPU is a moderately susceptible weed at use in the mixture tank with adjuvant (dose Terbut 500 SC 1,0 l/ha + Hydravance 100 LQ 0,2 %).</p> <p>LYCAR – lack of trials for solo use and 1 trial for use in the mixture tank with adjuvant. LYCAR should be excluded from label project due to not enough trials</p> <p>MATCH – 3 trials for solo use and 5 trials for use in the mixture tank with adjuvant. It can be concluded that MATCH is a moderately susceptible weed at solo use at recommended dose (1,0 l/ha) and in the mixture tank with adjuvant (dose Terbut 500 SC 1,0 l/ha + Hydravance 100 LQ 0,2 %).</p> <p>MATIN – 9 trials for solo use and 12 trials for use in the mixture tank with adjuvant. It can be concluded that MATIN is a susceptible weed at solo use at recommended dose (1,0 l/ha) and in the mixture tank with adjuvant (dose Terbut 500 SC 1,0 l/ha + Hydravance 100 LQ 0,2 %).</p> <p>POAAN – lack of trials for solo use and 1 trial for use in the mixture tank with adjuvant. POAAN should be excluded from label project due to not enough trials</p> <p>POLAV – lack of trials for solo use and 1 trial for use in the mixture tank with</p>
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	<p>adjuvant. POLAV should be excluded from label project due to not enough trials</p> <p>POLCO – 6 trials for solo use and 13 trials for use in the mixture tank with adjuvant. It can be concluded that POLCO is a susceptible weed at solo use at recommended dose (1,0 l/ha) and in the mixture tank with adjuvant (dose Terbut 500 SC 1,0 l/ha + Hydravance 100 LQ 0,2 %).</p> <p>POLLA – lack of trials for solo use and 1 trial for use in the mixture tank with adjuvant. POLLA should be excluded from label project due to not enough trials</p> <p>POLPE – lack of trials for solo use and 1 trial for use in the mixture tank with adjuvant. POLPE should be excluded from label project due to not enough trials</p> <p>SETPU – lack of trials for solo use and 1 trial for use in the mixture tank with adjuvant. SETPU should be excluded from label project due to not enough trials</p> <p>SOLNI – 7 trials for solo use and 8 trials for use in the mixture tank with adjuvant. It can be concluded that SOLNI is a susceptible weed at solo use at recommended dose (1,0 l/ha) and in the mixture tank with adjuvant (dose Terbut 500 SC 1,0 l/ha + Hydravance 100 LQ 0,2 %).</p> <p>STEME – 3 trials for solo use and 3 trials for use in the mixture tank with adjuvant. It can be concluded that STEME is a moderately susceptible weed at solo use at recommended dose (1,0 l/ha) and a susceptible weed in the mixture tank with adjuvant (dose Terbut 500 SC 1,0 l/ha + Hydravance 100 LQ 0,2 %).</p> <p>VERAR – 6 trials for solo use and 6 trials for use in the mixture tank with adjuvant. It can be concluded that VERAR is a susceptible weed at solo use at recommended dose (1,0 l/ha) and in the mixture tank with adjuvant (dose Terbut 500 SC 1,0 l/ha + Hydravance 100 LQ 0,2 %).</p> <p>VIOAR – 13 trials for solo use and 18 trials for use in the mixture tank with adjuvant. It can be concluded that VIOAR is a susceptible weed at solo use at recommended dose (1,0 l/ha) and in the mixture tank with adjuvant (dose Terbut 500 SC 1,0 l/ha + Hydravance 100 LQ 0,2 %).</p> <ul style="list-style-type: none"> • pre-emergence use at BBCH 00-05 <p>AMARE –2 trials for solo use and 5 trials for use in the mixture tank with adjuvant. It can be concluded that AMARE is a susceptible weed at use in the mixture tank with adjuvant (dose Terbut 500 SC 1,0 l/ha + Hydravance 100 LQ 0,2 %).</p> <p>ANTAR – lack of trials for solo use and 1 trial for use in the mixture tank with adjuvant. ANTAR should be excluded from label project due to not enough trials</p> <p>CAPBP– lack of trials for solo use and 4 trials for use in the mixture tank with adjuvant. It can be concluded that CAPBP is a susceptible weed at use in the mixture tank with adjuvant (dose Terbut 500 SC 1,0 l/ha + Hydravance 100 LQ 0,2 %).</p> <p>CENCY– 1 trial for solo use and 4 trials for use in the mixture tank with adjuvant. It can be concluded that CENCY is a susceptible weed at use in the mixture tank with adjuvant (dose Terbut 500 SC 1,0 l/ha + Hydravance 100 LQ 0,2 %).</p> <p>CHEAL– 1 trial for solo use and 13 trials for use in the mixture tank with adjuvant. It can be concluded that CHEAL is a susceptible weed at use in the mixture tank with adjuvant (dose Terbut 500 SC 1,0 l/ha + Hydravance 100 LQ 0,2 %).</p>
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	<p>CHEPO – lack of trials for solo use and 1 trial for use in the mixture tank with adjuvant. CHEPO should be excluded from label project due to not enough trials</p> <p>ECHCG– lack of trials for solo use and 3 trials for use in the mixture tank with adjuvant. ECHCG is a major weed in maize, due to not enough trials this weed should be excluded from label.</p> <p>GALAP– lack of trials for solo use and 4 trials for use in the mixture tank with adjuvant. It can be concluded that GALAP is a susceptible weed at use in the mixture tank with adjuvant (dose Terbut 500 SC 1,0 l/ha + Hydravance 100 LQ 0,2 %).</p> <p>GASPA – lack of trials for solo use and 1 trial for use in the mixture tank with adjuvant. GASPA should be excluded from label project due to not enough trials</p> <p>GERDI – lack of trials for solo use and 1 trial for use in the mixture tank with adjuvant. GERDI should be excluded from label project due to not enough trials</p> <p>GERPU– lack of trials for solo use and 4 trials for use in the mixture tank with adjuvant. It can be concluded that GERPU is a moderately tolerant weed at use in the mixture tank with adjuvant (dose Terbut 500 SC 1,0 l/ha + Hydravance 100 LQ 0,2 %).</p> <p>LYCAR – lack of trials for solo use and 1 trial for use in the mixture tank with adjuvant. LYCAR should be excluded from label project due to not enough trials</p> <p>MATCH– 2 trials for solo use and 4 trials for use in the mixture tank with adjuvant. It can be concluded that MATCH is a susceptible weed at use in the mixture tank with adjuvant (dose Terbut 500 SC 1,0 l/ha + Hydravance 100 LQ 0,2 %).</p> <p>MATIN– 2 trials for solo use and 6 trials for use in the mixture tank with adjuvant. It can be concluded that MATIN is a susceptible weed at use in the mixture tank with adjuvant (dose Terbut 500 SC 1,0 l/ha + Hydravance 100 LQ 0,2 %).</p> <p>POAAN – lack of trials for solo use and 1 trial for use in the mixture tank with adjuvant. POAAN should be excluded from label project due to not enough trials</p> <p>POLAV – lack of trials for solo use and 1 trial for use in the mixture tank with adjuvant. POLAV should be excluded from label project due to not enough trials</p> <p>POLCO– lack of trials for solo use and 6 trials for use in the mixture tank with adjuvant. It can be concluded that POLCO is a moderately susceptible weed at use in the mixture tank with adjuvant (dose Terbut 500 SC 1,0 l/ha + Hydravance 100 LQ 0,2 %).</p> <p>POLLA – lack of trials for solo use and 1 trial for use in the mixture tank with adjuvant. POLLA should be excluded from label project due to not enough trials</p> <p>POLPE – lack of trials for solo use and 1 trial for use in the mixture tank with adjuvant. POLPE should be excluded from label project due to not enough trials</p> <p>SETPU – lack of trials for solo use and 1 trial for use in the mixture tank with adjuvant. SETPU should be excluded from label project due to not enough trials</p> <p>SOLNI – lack of trials for solo use and 1 trial for use in the mixture tank with adjuvant. SOLNI should be excluded from label project due to not enough trials</p> <p>STEME– 2 trials for solo use and 2 trials for use in the mixture tank with adjuvant. It can be concluded that STEME is a susceptible weed at use in the mixture tank with adjuvant (dose Terbut 500 SC 1,0 l/ha + Hydravance 100 LQ 0,2 %).</p>
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	<p>%).</p> <p>VIOAR– 1 trial for solo use and 7 trials for use in the mixture tank with adjuvant. It can be concluded that VIOAR is a susceptible weed at use in the mixture tank with adjuvant (dose Terbut 500 SC 1,0 l/ha + Hydravance 100 LQ 0,2 %).</p> <p>SUMMARY:</p> <p><u>Accepted weed in Polish label:</u></p> <ul style="list-style-type: none"> • pre-emergence use: <ul style="list-style-type: none"> ✓ solo use at 1,0 l/ha: lack of accepted weed species. All should be excluded from GAP table and label project. ✓ mixture tank use (1,0 l/ha Terbut 500 SC + 0,2 % adjuvant): <i>susceptible weeds:</i> AMARE, CAPBP, CENCY, CHEAL, GALAP, MATCH, MATIN, STEME, VIOAR and <i>moderately susceptible weeds:</i> POLCO and <i>moderately tolerant weeds:</i> GERPU. • post-emergence use: <ul style="list-style-type: none"> ✓ solo use at 1,0 l/ha: <i>susceptible weeds:</i> AMARE, CAPBP, CHEAL, GALAP, MATIN, POLCO, SOLNI, VERAR, VIOAR and <i>moderately susceptible weeds:</i> CENCY, MATCH, STEME. ✓ mixture tank use (1,0 l/ha Terbut 500 SC + 0,2 % adjuvant): <i>susceptible weeds:</i> AMARE, CAPBP, CHEAL, GALAP, GASPA, MATIN, POLCO, SOLNI, STEME, VERAR, VIOAR and <i>moderately susceptible weeds:</i> CENCY, GERPU, MATCH. <p><u>Accepted volume of water:</u> 200-300 l/ha</p> <p><u>Accepted BBCH of maize:</u> for pre-emergence BBCH 00-05 and for post-emergence BBCH 12-16.</p> <p><u>Adjuvant:</u> in all trials as adjuvant was used – Hydravance 100 LQ, so this adjuvant can be included in the label.</p>
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3.3 Information on the occurrence or possible occurrence of the development of resistance (KCP 6.3)

According to terbuthylazine_DAR_04_Vol3_B1-B5.public

Weeds resistance to triazine herbicides were first identified in the late 1960's. This resistance is not due to differential penetration, translocation, or herbicide degradation between the resistant and susceptible biotypes. The difference has been identified to be the result of differential activity at the site of action (chloroplast membrane), impairing binding of the triazines to the protein at the Q_B binding site. This resistance increases in frequency in the population as the result of natural selection of resistant biotypes. Such resistant biotypes are present as small component of the natural population and are "selected for" when the susceptible biotypes are suppressed by the application of triazine herbicides.

Resistant weeds include ¹: *Abutilon theophrasti*, *Amaranthus* spp., *Ambrosia artemisiifolia*, *Artiplex patula*, *Bidens tripartite*, *Brassica campestris*, *Bromus tectorum*, *Capsella bursa-pastoris*, *Chenopodium* spp., *Chloris inflata*, *Datura stramonium*, *Digitaria sanguinalis*, *Echinochloa crus-galli*, *Fallopia convolvulus*, *Galinsoga ciliate*, *Kochia scoparia*, *Lolium rigidum*, *Panicum* spp., *Phalaris paradoxa*, *Poa annua*, *Polygonum* spp., *Raphanus raphanistrum*, *Senecio vulgaris*, *Setaria* spp., *Sinapis arvensis*, *Solanum nigrum*, *Stellaria media*.

Management Strategy

Applicant: Innvigo Sp. z.o.o.
 Applicant Document ID Section 3 PART B Terbut 500 SC
 Applicant Author: R.N.

Evaluator: IOŚ-PIB, PL
 Date: 11.2021

Herbicide resistance commonly develops in situations where the pressure imposed by herbicides on target weeds is high. Continuous monocultures or perennial crops where the same herbicide or herbicides with the same mode of action have been used over several years impose high selection pressure. Triazine resistance was first reported as a field problem in the late 1960's, about 10 years after the commercial introduction of this class of herbicides. The development of resistance was associated with the extensive and continuous use of triazine herbicides on the same fields over years.

Risk factor:

Herbicide resistance may develop due to:

- Continuous annual use of single herbicide or herbicides with the same mode of action for weed control on the same site,
- Multiple applications of a single herbicide or herbicides with the same mode of action to control of multiple weed germination flushes,
- Monocropping, if accompanied by the repeated use of the same herbicide or herbicides with the same mode of action on the same site
- Minimum or no tillage agriculture that rely solely on chemical weed control.

Comments of zRMS:	<p>La Zina 500 SC / Tekno 500 SC (product code: Terbut 500 SC) is a suspension concentrate (SC) formulation, containing 500 g of active substance: terbuthylazine in 1 litre. The product is intended for herbicidal control of range of weeds in maize (ZEAMX). Product applications in maize (ZEAMX) are recommended either pre-emergence or early post-emergence. Terbuthylazine is registered for use in Europe in many countries.</p> <p>Terbuthylazine belongs to the chemical group of Triazines. Terbuthylazine is rapidly translocated to the chloroplasts of the plant cell. Terbuthylazine is primarily interrupting the electron transport in photosystem II (Hill-reaction) and consequently an inhibitor of photosynthesis. The herbicidal activity of Terbuthylazine was first reported in 1966. It is applied world-wide in a wide range of crops like maize, sorghum, vines, orchards, forest and potatoes as a broad-spectrum herbicide against broad-leaved weeds.</p> <p>The Herbicide Resistance Action Committee (HRAC) grouped the mode of action of terbuthylazine in the international HRAC group C1. Following herbicides are included in HRAC group C1/5:</p> <p>Mechanism of resistance: Resistance occurs generally when naturally existing unsusceptible biotypes are selected by repeated applications of the same “selecting factor” – e.g. one herbicide. The further development and spread of the resistance particularly depend on the seed production of the weed species and on the fitness of the resistant biotypes. However, herbicides mostly effect a specific target site, which are controlled by one or a few genes, so that one mutation of few genes already can cause a resistance. Use of herbicides with the same mode of action in one population can produce a considerable selection pressure, which may result in fast reproduction of the resistant biotypes. These biotypes can generate increased population sizes and may infest more arable land without limitation, because the sensitive species and varieties are controlled by the herbicide or the same MOS group of herbicides.</p> <p>Triazine group are applied in crops like sugar beet, potatoes and cereals for a selective and targeted weed control as an important mean of modern crop management. Although the development of resistance or even reduced susceptibility is a long-term process as weeds usually produce only one generation per year and new, resistant individuals spread quite slowly within the population, it is evident that a repeated application of herbicides with the same mode of action over 20-30 years results in selection pressure and induces selection of resistant eco-types.</p>
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<p>Evidence of resistance: Terbutylazine, belonging to the chemical group of Triazine, is classified with HRAC code C1 and with the biochemical mode of action “Inhibition of photosynthesis at photosystem”.</p>						
#	Year	Species	Country	MOAs	Actives	Situations
1	1982	<i>Polygonum lapathifolium</i>	Czech Republic	Photosystem II inhibitors (C1/5)	atrazine, terbutylazine, terbutryn, prometryn, cyanazine, lenacil	Railways
2	1986	<i>Chenopodium album</i>	Czech Republic	Photosystem II inhibitors (C1/5)	atrazine, simazine, terbutylazine, terbutryn, prometon, cyanazine, lenacil	Corn (maize), Sugar beets
3	1988	<i>Senecio vulgaris</i>	Czech Republic	Photosystem II inhibitors (C1/5)	atrazine, simazine, terbutylazine, terbutryn, prometryn, cyanazine, lenacil	Orchards, Railways
4	1999	<i>Amaranthus retroflexus</i>	Italy	Photosystem II inhibitors (C1/5)	chloridazon = pyrazon, terbutylazine, metamitron	Corn (maize), Soybean, Sugar beets
5	1999	<i>Solanum nigrum</i>	New Zealand	Photosystem II inhibitors (C1/5)	atrazine, terbutylazine, prometryn, cyanazine	Corn (maize)
<p>(Source: http://weedscience.org/Summary/ResistByActive.aspx).</p> <p>Photosystem II inhibitors (C1/5) group comprises of very large number of herbicidal active ingredients and terbutylazine is just one active substance out of 25. In spite of significant resistance of weeds to herbicides representing photosystem II inhibitors group only 5 weed species were found to develop resistance directly to terbutylazine. There is no report documenting weeds species resistant to terbutylazine from Poland.</p> <p>Cross resistance: According to HRAC org. cross resistance is defined as the expression of a genetically-endowed mechanism conferring the ability to withstand herbicides from different chemical classes. It relates to herbicides from different chemical groups but of the same mode of action. If there is a resistance to at least two or more a.s. from the same chemical group or even from different chemical groups but of the same mode of action – cross resistance is a case.</p> <p>Triazine herbicides have been persistently used for weed control in maize production in many parts of the world and this practice has led to widespread resistance in target weeds. The first report of herbicide resistance involved a triazine herbicide (Ryan, 1970), and since then triazine resistance has become the most prevalent and well characterized example of herbicide resistance world-wide. It is noteworthy that biotypes highly resistant to triazine herbicides as a result of a modified D1 protein are not resistant to the chemically distinct substituted urea herbicides, despite the fact that the substituted urea herbicides are also potent PS2 inhibitors (reviewed by Gronwald, 1994). The substituted urea and triazine herbicides bind to overlapping, but not identical, sites in PS2 (reviewed by Trebst, 1991). As a result, the mutation Ser 264 Gly providing resistance to triazine herbicides does not affect binding of substituted urea herbicides (Arntzen et al., 1982; Trebst, 1991). Plants containing triazine-resistant PS2 are resistant to other PS2-inhibiting herbicide chemistries including the triazinones, uracils, and pyridazinones (Fuerst et al., 1986; Ducruet and De Prado, 1982; Oettmeier et al., 1982; De Prado et al., 1989).</p> <p>Multiple resistance: Cross resistance and multiple resistance is a very dynamic ongoing process, and the major prevention strategy is this - included in Good Agricultural Practice and Integrated Pest Management strategies with avoidance of sequential use of herbicides belonging to the same SOAs and cross resistant</p>						

	<p>groups (B/2 and C2/7) – in a first place. There are 2 cases of multiple weeds resistance to photosystem II inhibitors (C1/5) herbicides. It is important to notify that there are no cases of multiple resistance relative to Photosystem II inhibitors C1/5 group found in Poland up to date.</p> <p>Sensitivity data: For the active substances: terbuthylazine – no baseline sensitivity studies were available to the applicant. The overview of the Herbicide Resistance Action Committee (HRAC) about the evidence of resistance can replace baseline sensitivity studies. The International Survey of Herbicide Resistant Weeds (http://www.weedscience.org/in.asp) cites cases of resistance to HRAC herbicide group C1/5 in the Central Zone: in Germany, Poland and Czech Republic. Sensitivity data should be generated and available in the future to measure sensitivity shift and resistance development.</p> <p>There were no special studies organized by the applicant concerning weed resistance risk. System of monitoring, testing and informing about resistance which is in place thanks to plant protection industry and the network of dedicated scientists as well as resulting communication with users, seems to be sufficient for the informed market introduction of La Zina 500 SC / Tekno 500 SC (product code: Terbut 500 SC).</p> <p>Generally, evidences of resistance to HRAC Group C1/5 (Photosystem II inhibitors) and specifically to terbuthylazine are well documented by Weed Science organization and Herbicide Resistance Action Committee. 5 weeds species are reported worldwide being resistant to terbuthylazine, out of which 4 were reported in Europe, and none in Poland so far.</p> <p>The resistance risk is regarded acceptable if La Zina 500 SC / Tekno 500 SC (product code: Terbut 500 SC) is used under adherence to the management strategy and label recommendations.</p> <p>To prevent further development of resistance or cross-resistance and to maintain effective control of target weeds:</p> <ul style="list-style-type: none"> • apply La Zina 500 SC / Tekno 500 SC (product code: Terbut 500 SC) at the recommended dose rate, • apply a maximum of 1 application per season in the optimum development phase of weeds, • use herbicides with different modes of action and overlapping weed spectrum, • prevent weeds reproduction by seed or by vegetative proliferation, • control efficacy of the applications. If applications show decreasing efficacy and other reasons (e.g. weather, application timing) can be excluded, consult local advisors, • use a reasonable crop rotation and mix of different herbicides programs, • integrate La Zina 500 SC / Tekno 500 SC (product code: Terbut 500 SC) into an overall pest management program, • clean equipment between sites and avoid movement of plant material between sites, • implement cultural practices known to reduce weed development, • monitor publicly available information regarding weed resistance • often consult local advisors. <p>Always follow HRAG guidelines for the prevention and managing herbicide resistant grass and broadleaved weeds.</p>
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3.4 Adverse effects on treated crops (KCP 6.4)

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

Table 3.4-1: Presentation of trials selectivity trials.

Not applicable

The trials are in progress, the new data will be added.

Table 3.4-2: Presentation of reference standards used in trials efficacy/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)	
Maize	Tezosar 500 SC	PL	R - 146/2018	Terbuthylazine	SC - Suspension-Concentrate	500	1,0 l/ha	1,0 l/ha	-
	Lumax 537,5 SE	PL	R-70/2008	Terbuthylazine	SE - Suspo-Emulsion	187,5	3,5-4,0 l/ha	3,5 l/ha	-
				Mesotrione		37,5	-	-	-
				S-metolachlor		312,5	-	-	-
	Gardo Gold 500 SC	GER	024613-00	Terbuthylazine	SC - Suspension-Concentrate	187,5	4 l/ha	4 l/ha	-
				S-metolachlor		312,5	-	-	-
	Gardoprim Plus Gold 500 SC	CZ	4378-2	Terbuthylazine	SC - Suspension-Concentrate	187,5	4 l/ha	4 l/ha	-
				S-metolachlor		312,5	-	-	-

(1) only on use(s) applied for (with the test product)

(2) e.g. WP (wetable 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 10 reports (in total) showing the results in research into product efficacy/selectivity carried out in 2019 in maize. List of these reports is contained in Appendix 1. Trials were carried out in one season because this herbicide contains terbuthylazine which is a well-known active substance that has been used for many years in agricultural practice.

Site

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

Testing units

Efficacy studies on herbicide Terbut were performed in 2017 by:

- SGS Polska Sp. z o.o., ul. Jana Kazimierza 3, 01-248 Warszawa, Poland
- Syntech Research Poland Sp. z o.o., ul. Jagiellonska 69/1, 85-027 Bydgoszcz, Poland
- Poznań University of Life Sciences, Research and Education Center Gorzyń, Wojska Polskiego 28, 60-637 Poznań

Experimental details

The efficacy trials were designed, conducted and reported according to the following EPPO guide-lines:

- PP 1/135 (3) Phytotoxicity assessment
- PP 1/152 (3) Design and analysis of efficacy evaluation trials
- PP 1/181 (4) Conduct and reporting of efficacy evaluation trials including good experimental practice
- PP 1/50 (3) Weeds in maize

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 $LSD\alpha=0.05$. 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

Applicant: Innvigo Sp. z.o.o.

Applicant Document ID Section 3 PART B Terbut 500 SC

Applicant Author: R.N.

Evaluator: IOŚ-PIB, PL

Date: 11.2021

100 - crop damaged

Harvest

Not applicable

Applications methods and rates

The applications were carried out by a T-BOOM – BACCAI, plot sprayer – BACSPR, plot sprayer BICSPR, Schachtner – SPRBIC, knapsack "Gloria" in cereals.

Tested herbicide was applied at the growth stage in maize in BBCH 00

The product Terbut has been used in maize at the following rates of 0.8, 1.0, 1.2, 1.5 l/ha
 Lumax 537,5 SE, Gardo Gold 500 SC and Gardoprim Plus Gold 500 SC were used as a reference product in maize.

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

Experiment pattern:

Poland 2017

No.	Name	Rate (l/ha)	other rate (g a.s./ha)	Appl code	Growth Stage BBCH
1	Untreated Check				
2	Lumax 537,5 SE	3,5	1881,25	A	BBCH 00
3	Terbut 500 S.C.	1,50	750	A	BBCH 00
3	Hydravance 100 LQ	0,2	-	-	-
4	Terbut 500 S.C.	1,2	600	A	BBCH 00
4	Hydravance 100 LQ	0,2	-	-	-
5	Terbut 500 S.C.	1,0	500	A	BBCH 00
5	Hydravance 100 LQ	0,2	-	-	-
6	Terbut 500 S.C.	0,8	400	A	BBCH 00
6	Hydravance 100 LQ	0,2	-	-	-

Poland 2019 (A)

No.	Name	Rate (l/ha)	other rate (g a.s./ha)	Appl code	Growth Stage BBCH
1	Untreated Check				
2	Terbut 500 SC Hydravance 100 LQ	1,0 0,2%	500	A	00
3	Terbut 500 SC Hydravance 100 LQ	2,0 0,4%	1000	A	00
4	Terbut 500 SC	1,0	500	A	00
5	Terbut 500 SC	2,0	1000	A	00
6	Lumax 537,5 SE	3,5	537,5	A	00
7	Lumax 537,5 SE	7,0	1075	A	00

Poland 2019 (B)

No.	Name	Rate (l/ha)	other rate (g a.s./ha)	Appl code	Growth Stage BBCH
1	Untreated Check				
2	Terbut 500 SC Hydravance 100 LQ	1,0 0,2%	500	B	12-16
3	Terbut 500 SC Hydravance 100 LQ	2,0 0,4%	1000	B	12-16
4	Terbut 500 SC	1,0	500	B	12-16
5	Terbut 500 SC	2,0	1000	B	12-16
6	Tezosar 500 SC	1,0	500	B	12-16
7	Tezosar 500 SC	2,0	1000	B	12-16

Germany

No.	Name	Rate (l/ha)	other rate (g a.s./ha)	Appl code	Growth Stage BBCH
1	Untreated Check				
2	Gardo Gold 500 SC	4,0	2000	A	BBCH 00-05
3	Terbut 500 S.C.	1,50	750	A	BBCH 00-05
3	Hydravance 100 LQ	0,2	-	-	-
4	Terbut 500 S.C.	1,2	600	A	BBCH 00-05
4	Hydravance 100 LQ	0,2	-	-	-
5	Terbut 500 S.C.	1,0	500	A	BBCH 00-05
5	Hydravance 100 LQ	0,2	-	-	-
6	Terbut 500 S.C.	0,8	400	A	BBCH 00-05
6	Hydravance 100 LQ	0,2	-	-	-

Czech Republic

No.	Name	Rate (l/ha)	other rate (g a.s./ha)	Appl code	Growth Stage BBCH
1	Untreated Check				
2	Gardoprim Plus Gold 500 SC	4,0	2000	A	BBCH 00
3	Terbut 500 S.C.	1,50	750	A	BBCH 00
3	Hydravance 100 LQ	0,2	-	-	-
4	Terbut 500 S.C.	1,2	600	A	BBCH 00
4	Hydravance 100 LQ	0,2	-	-	-
5	Terbut 500 S.C.	1,0	500	A	BBCH 00
5	Hydravance 100 LQ	0,2	-	-	-
6	Terbut 500 S.C.	0,8	400	A	BBCH 00
6	Hydravance 100 LQ	0,2	-	-	-

Details of experiments

Poland 2017

Report code	SGS/2017/145/PL01	SGS/2017/145/PL02	SGS/2017/145/PL03	SGS/2017/145/PL04	SGS/2017/145/PL05	SGS/2017/145/PL06
Location	Wąsy/Poland	Piskorzówek /Poland	Dąbrówka/Poland	Białożewin /Poland	Toboła/Poland	Pruszków/Poland
Plant/cultivar	maize/SY Symbolic	maize/Falcone	maize/Konkurent	maize/Kosmal	maize/San	maize/Prollog
Seeding date	16.05.2017	11.05.2017	06.05.2017	26.04.2017	02.05.2017	16.05.2017
Seeding rate	90 000 P/ha	90 000 P/ha	80 000 P/ha	100 000 P/ha	90 000 P/ha	90 000 P/ha
Forecrop	Onion	Maize	Grassland	Rye	Spring barley	Maize
Type of sprayer	Backpack sprayer	Backpack sprayer	Backpack sprayer	Backpack sprayer	Backpack sprayer	Backpack sprayer
Date of treatment	17.05.2017	11.05.2017	06.05.2017	26.04.2017	03.05.2017	18.05.2017
Plant development phase	BBCH 00	BBCH 00	BBCH 00	BBCH 00	BBCH 00	BBCH 00
Soil type	Sandy clay	Clay	Loamy sand	Sandy silt	Sand loam	Sandy clay
Soil pH	6,1	6,2	4,3	6,9	6,7	6
Water volume (l/ha)	300	300	200	200	300	200

Poland 2019

Report code	SRPL19-155-336HS	SRPL19-156-336HS	SRPL19-157-336HS	SRPL19-158-336HS	SRPL19-159-336HS	AH/19/K/14/BR/2	AH/19/K/14/GR/5	AH/19/K/14/NW/1	AH/19/K/14/RA/4	AH/19/K/14/ZL/3
Location	Gąbin / Poland	Łąki / Poland	Baborówko / Poland	Feliksów / Poland	Szczepankowo / Poland	Brody / Poland	Gorzyń / Poland	Cytrynowo / Poland	Rataje / Poland	Złotniki / Poland
Plant/cultivar	maize / Pyroxenia 130	maize / Pioneer	maize / Angan	maize / San	maize / P 8400	maize / PR39H32	maize / Kwins	maize / Farmgigant	maize / P8150	maize / Farmfire
Seeding date	29.07.2019	15.05.2019	29.04.2019	06.05.2019	04.05.2019	24.04.2019	24.04.2019	04.05.2019	14.05.2019	25.04.2019
Seeding rate	90 000 S/ha	85 000 S/ha	75 000 S/ha	85 000 S/ha	115 000 S/ha	81 000 S/ha	25 kg/ha	85 000 S/ha		79 365 S/ha
Forecrop	barley	maize	winter wheat	winter rye	maize	barley	white mustard	maize	perennial ryegrass	oat
Type of sprayer	T-Bo-om/BACC AI	T-Bo-om/BACC AI	T-Bo-om/BACC AI	T-Bo-om/BACC AI	T-Bo-om/BACC AI	WAH3/BI C SPR	WAH3/B I C SPR	WAH3/BI C SPR	WAH3/B I C SPR	WAH3/B I C SPR
Date of treatment A	01.08.2019	16.05.2019	29.04.2019	10.05.2019	10.05.2019	25.04.2019	26.04.2019	08.05.2019	18.05.2019	30.04.2019
Date of treatment B	15.08.2019	12.06.2019	22.05.2019	03.06.2019	28.05.2019	21.05.2019	17.05.2019	08.06.2019	08.06.2019	27.05.2019
Plant development phase A	BBCH 00	BBCH 00	BBCH 00	BBCH 00	BBCH 03-04	BBCH 00-09	BBCH 03	BBCH 00-01	BBCH 10	BBCH 00
Plant development phase B	BBCH 12-15	BBCH 12-13	BBCH 12-16	BBCH 13-15	BBCH 12-13	BBCH 13	BBCH 13	BBCH 13-14	BBCH14	BBCH 14-16
Soil type	sandy clay loam	sandy clay loam	sandy loam	clayay sand	loamy sand	sandy loam	sandy loam	loamy sand	loamy sand	sandy loam
Soil pH	6,6	6,9	5,6	6,2	6,3	6,3	6,2	6,5	6,7	6,9
Water volume (l/ha)	200	200	200	300	300	230	200	200	250	300

Germany

Report code	SGS2017H001G ER01	SGS2017H001G ER02	SGS2017H001G ER03	SGS2017H001 GER04	SGS2017H001G ER05
Location	Medelby/Germany	Storbeck/Germany	Beverbruch/Germany	Fahrdorf/Germany	Lohne/Germany
Plant/cultivar	maize/P7524	maize/Zoey	maize/Amagrana	maize/LG 30225	maize/DKC3409
Seeding date	06.05.2017	09.05.2017	03.05.2017	10.05.2017	01.05.2017
Seeding rate	88 000 P/ha	8 S/m2	8 S/m2	90 000 P/ha	7 S/m2
Forecrop	Winter wheat	Barley	Rye	Winter wheat	Maize
Type of sprayer	Bicycle sprayer	Bicycle sprayer	Bicycle sprayer	Bicycle sprayer	Bicycle sprayer
Date of treatment	15.05.2017	13.05.2017	05.05.2017	17.05.2017	03.05.2017
Plant development phase	BBCH 05	BBCH 00	BBCH 00	BBCH 05	BBCH 00
Soil type	Sandy loam	Sandy loam	Fine sand	Sandy loam	Humanic sand
Soil pH	5,4	7,1	5,8	6,1	5,3
Water volume (l/ha)	200	200	200	200	200

Czech Republic

Report code	SGS2017H001CZ01
Location	Sumperk - Honc.5/Czech Republic
Plant/cultivar	maize/ES PALAZZO
Seeding date	18.05.2017
Seeding rate	25,0 kg/ha
Forecrop	Winter wheat
Type of sprayer	Sphipr
Date of treatment	19.05.2017
Plant development phase	BBCH 00
Soil type	Clay loam
Soil pH	6,32
Water volume (l/ha)	200

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

Maize, preemergence application 26 efficacy/selectivity and 10 selectivity trials were carried out on maize in Poland in 2017 and 2019 and on a wide range of commercially grown varieties. There were not observed any phytotoxicity symptoms on tested product and standard in trials.

Number of trials with		Selectivity trials (10)				Efficacy/ Selectivity trials (26)	
		Not applicable		Not applicable		Terbut	Lumax 537,5 SE; Tezosar 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:	In the evaluation process the fact that the active ingredient – terbuthylazine is used in many plant protection products and has been commonly used in crop protection for many years were taken into consideration. The Applicant submitted in total 10 selectivity studies conducted in two growing seasons (2017 and 2019) on herbicide (La Zina 500 SC / Tekno 500 SC – product code: Terbut 500 SC) containing this active substance. The selectivity evaluation of the herbicide was performed according to appropriate EPPO guidelines. The evaluation of herbicide selectivity was carried out 4-5 per season. Results were described in percent of destruction of plant for herbicides treatment compared to plant for untreated, where 0% means no phytotoxicity and 100% - complete destruction. Phytotoxicity assessment was carried out with the use of different cultivars of maize. Dosages N and 2N were studied in all trials. Experimental details and assessments methods were in accordance to EPPO standards. In all trials standard reference products were used (Lumax 537,5 SE, Gardo Gold 500 SC and Gardoprim Plus Gold 500 SC). No phytotoxicity symptoms were observed for any tested dosage for all tested maize varieties. The crop developed normally and did not involve a loss in yield at harvest.
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3.4.2 Effect on the yield of treated plants or plant product (KCP 6.4.2)

In Poland in 2019 there were 10 phytotoxicity experiments. The study did not observe any negative impact on the size and quality of maize grain yield (Added 17.12.2020)

Table 3.4-4: Relationship between phytotoxicity and yield.

Table. 3.4-4. 1. The effect of Terbut 500 SC application on maize yielding. (Added 17.12.2020)

crop code				Yield (t/ha)													
replot code				SRPL 19- 155- 336HS	SRPL1 9-156- 336HS	SRPL 19- 157- 336HS	SRPL 19- 158- 336HS	SRPL 19- 159- 336HS	AH/1 9/K/1 4/BR /2	AH/1 9/K/1 4/GR /5	AH/1 9/K/1 4/NW /1	AH/1 9/K/1 4/RA/ 4	AH/19 /K/14/ ZL/3	Av era ge	Mi n.	Ma x.	
BBCH crop				BBCH 99	BBCH 89	BBCH 99	BBCH 89	BBCH 89	BBC H 99	BBC H 99	BBC H 99	BBC H 99	BBCH 99				
date				30.10. 2019	15.10.2 019	02.10.2 019	29.10. 2019	30.09. 2019	11.09. .2019	25.09 .2019	24.10. 2019	11.09. 2019	25.09. 2019				
No	Product Code	l/h a	Co de ap pl.														
1	Untreated Check	0,0 0	A	6,25	6,5	4,68	6,8	6,39	9,28	7,50	7,09	8,59	7,91	7,1 0	4,6 8	9,2 8	
2	Terbut 500 SC Hydrav- ance 100 LQ	1,0 0 0,2 0%	A	6,23	6,2	4,78	6,8	6,52	9,19	8,27	7,38	8,46	7,40	7,1 2	4,7 8	9,1 9	
3	Terbut 500 SC Hydrav- ance 100 LQ	2,0 0 0,4 0%	A	6,24	5,8	4,75	6,9	6,51	9,82	8,28	6,97	8,48	8,39	7,2 1	4,7 5	9,8 2	
4	Terbut 500 SC	1,0 0	A	6,17	6,3	4,73	6,8	6,24	8,34	8,20	6,51	8,44	8,98	7,0 7	4,7 3	8,9 8	
5	Terbut 500 SC	2,0 0	A	6,37	6,1	4,77	6,9	6,35	9,08	8,41	6,91	8,54	8,36	7,1 8	4,7 7	9,0 8	
6	Lumax 537,5 SE	3,5 0	A	6,28	6,3	4,73	6,8	6,32	9,69	8,74	7,51	8,41	8,59	7,3 4	4,7 3	9,6 9	
7	Lumax 537,5 SE	7,0 0	A	6,24	5,9	4,82	6,8	6,22	9,24	9,09	7,39	8,53	8,21	7,2 4	4,8 2	9,2 4	
8	Terbut 500 SC Hydra- vance 100 LQ	1,0 0 0,2 0 %	B	6,24	6,2	4,73	7	6,4	8,09	8,71	6,90	8,46	7,89	7,0 6	4,7 3	8,7 1	
9	Terbut 500 SC Hydrav- ance 100 LQ	2,0 0 0,4 0%	B	6,24	5,9	4,78	6,8	6,28	8,89	8,57	6,53	8,50	8,78	7,1 3	4,7 8	8,8 9	
10	Terbut 500 SC	1,0 0	B	6,3	6	4,8	6,8	6,45	8,43	7,77	6,96	8,43	8,40	7,0 3	4,8	8,4 3	

1	Terbut 500 SC	2,00	B	6,26	5,8	4,8	6,9	6,52	8,59	9,14	6,80	8,53	8,45	7,18	4,8	9,14
1	Tezosar 500 SC	1,00	B	6,24	6	4,59	6,8	6,61	7,85	8,94	6,73	8,51	7,97	7,02	4,59	8,94
1	Tezosar 500 SC	2,00	B	6,25	5,8	4,67	6,8	6,44	8,19	8,24	6,83	8,50	8,18	6,99	4,67	8,5
LSD(P=.05)				0,148	0,5	0,133	0,3	0,256	2,618	1,707	1,164	0,367	2,392			

Comments of zRMS:	Submitted trials are sufficient. Influence of La Zina 500 SC / Tekno 500 SC – product code: Terbut 500 SC on yield was evaluated during selectivity research. The evaluation was carried out in accordance with EPPO guidelines. In all trials no detrimental effect on the yield was recorded at the proposed dose rate and even at the double dose rate. Application of La Zina 500 SC / Tekno 500 SC – product code: Terbut 500 SC provided a yield similar to the untreated plots and to those treated with the reference products. No statistical differences were observed between untreated and treated plots and also between the tested product and the standard product.
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3.4.3 Effects on the quality of plants or plant products (KCP 6.4.3)

Table 3.4.3.1. Effect of Terbut 500 SC application on grain moisture at harvest. (Added 17.12.2020)

crop code				Moisture (%)												
replot code				SRPL 19-155-336HS	SRPL 19-156-336HS	SRPL 19-157-336HS	SRPL 19-158-336HS	SRPL1 9-159-336HS	AH/1 9/K/1 4/BR/ 2	AH/1 9/K/1 4/GR /5	AH/1 9/K/1 4/NW /1	AH/1 9/K/1 4/RA/ 4	AH/1 9/K/1 4/ZL/ 3	Average	Min.	Max.
BBCH crop				BBCH 99	BBCH 89	BBCH 99	BBCH 89	BBCH 89	BBC H 99	BBC H 99	BBC H 99	BBC H 99	BBC H 99			
date				30.10.2019	15.10.2019	02.10.2019	29.10.2019	30.09.2019	11.09.2019	25.09.2019	24.10.2019	11.09.2019	25.09.2019			
No.	Product Code	I/h a	Code appl.													
1	Untreated Check	0,00	A	25,4	29,05	25,28	28,58	28,58	20,13	17,50	28,13	17,00	33,55	25,32	17	33,55
2	Terbut 500 SC Hydravance 100 LQ	1,00 0,20%	A	25,45	29,15	25,33	28,63	28,68	19,65	18,40	27,70	17,65	33,30	25,39	17,65	33,30
3	Terbut 500 SC Hydravance 100 LQ	2,00 0,40%	A	24,78	29,25	25,38	28,58	28,43	19,58	18,13	28,15	17,98	33,83	25,41	17,98	33,83
4	Terbut 500 SC	1,00	A	25,43	29,15	25,4	28,78	28,5	19,58	17,75	27,85	17,75	33,58	25,38	17,75	33,58
5	Terbut 500 SC	2,00	A	25,08	29,23	25,4	28,65	29,08	19,55	17,48	27,78	17,48	34,00	25,37	17,48	34,00
6	Lumax 537.5	3,50	A	25,35	29,35	25,4	28,73	28,48	20,25	17,75	27,93	17,75	33,40	25,44	17,75	33,40

	SE															
7	Lumax 537,5 SE	7,00	A	25,13	29,18	25,6	28,68	28,45	20,85	17,53	27,65	17,53	33,00	25,36	17,53	33,00
8	Terbut 500 SC Hydravance 100 LQ	1,00 0,20%	B	25,25	29,28	25,4	28,55	28,73	20,43	18,18	28,13	18,18	33,65	25,58	18,18	33,65
9	Terbut 500 SC Hydravance 100 LQ	2,00 0,40%	B	25,3	29,35	25,58	28,75	28,55	19,15	17,00	27,75	17,75	32,10	25,13	17	32,10
10	Terbut 500 SC	1,00	B	25,08	29,35	25,65	28,53	28,38	20,28	17,90	28,10	17,90	33,15	25,43	17,9	33,15
11	Terbut 500 SC	2,00	B	25,25	29,25	25,58	28,55	28,23	20,63	16,98	27,53	16,98	33,48	25,25	16,98	33,48
12	Tezosar 500 SC	1,00	B	25,43	29,08	25,7	28,38	28,35	20,78	17,25	28,25	17,25	33,58	25,41	17,25	33,58
13	Tezosar 500 SC	2,00	B	25,13	29,28	25,65	28,38	28,8	20,73	17,45	27,65	17,45	33,60	25,41	17,45	33,6
LSD(P=.05)				0,405	0,147	0,193	0,509	0,727	3,082	1,864	1,378	1,282	1,655			

Table 3.4.3.2. Effect of Terbut 500 SC application on thousand grain weight. (Added 17.12.2020)

crop code				TKW (g)												
replot code				SRPL 19-155-336HS	SRPL 19-156-336HS	SRPL 19-157-336HS	SRPL1 9-158-336HS	SRPL 19-159-336HS	AH/1 9/K/1 4/BR /2	AH/1 9/K/1 4/GR /5	AH/1 9/K/1 4/NW /1	AH/1 9/K/1 4/RA/ 4	AH/1 9/K/1 4/ZL/ 3	Av era ge	Mi n.	Ma x.
BBCH crop				BBCH 99	BBCH 89	BBC H 99	BBCH 89	BBCH 89	BBC H 99	BBC H 99	BBC H 99	BBCH 99	BBC H 99			
date				30.10.2019	15.10.2019	02.10.2019	29.10.2019	30.09.2019	11.09.2019	25.09.2019	24.10.2019	11.09.2019	25.09.2019			
N o .	Product Code	l/h a	Co de ap pl.													
1	Untreated Check	0,00	A	271,76	279,81	271,14	291,64	325,65	298,65	311,45	326,74	284,38	273,53	293,48	271,14	326,74
2	Terbut 500 SC Hydrav- ance 100 LQ	1,00 0,20%	A	272,24	279,49	271,05	291,88	324,5	295,2	311,25	317,52	288,84	265,83	291,78	265,83	324,50
3	Terbut 500 SC Hydrav- ance 100 LQ	2,00 0,40%	A	269,76	285,04	265,2	291,92	326,23	302,77	282,60	342,72	286,66	281,78	293,47	265,2	342,72
4	Terbut 500 SC	1,00	A	272,31	280,9	268,21	290,93	321,38	306,98	308,45	324,99	282,28	273,28	292,97	268,21	324,99
5	Terbut 500 SC	2,00	A	272,46	285,04	271,1	291,37	322,1	300,78	311,05	327,91	279,94	261,53	292,33	261,53	327,91

6	Lumax 537,5 SE	3,50	A	269,83	284,59	267,63	291,47	328,85	312,63	307,90	320,79	292,46	277,13	295,33	267,63	328,85
7	Lumax 537,5 SE	7,00	A	272,59	284,88	266,91	291,85	329,63	311,10	321,15	320,98	290,19	271,45	296,07	266,91	329,63
8	Terbut 500 SC Hydravance 100 LQ	1,00 0,20 0 %	B	270,3	286,98	272,55	291,62	327,6	310,52	316,60	329,15	280,25	273,75	295,93	270,3	327,6
9	Terbut 500 SC Hydravance 100 LQ	2,00 0,40 0%	B	270,53	282,88	266,12	291,74	328,1	311,61	303,80	324,24	290,45	274,85	294,43	266,12	328,1
10	Terbut 500 SC	1,00	B	270,89	285,15	271,94	291,77	323,53	302,38	286,00	323,76	280,27	268,15	290,38	268,15	323,53
11	Terbut 500 SC	2,00	B	270,36	283,07	269,99	291,48	322,35	304,26	308,85	331,70	290,98	264,03	293,71	269,99	322,35
12	Tezosar 500 SC	1,00	B	270,18	288,37	270,73	291,93	326,23	305,06	311,65	334,24	294,92	276,00	296,93	270,73	326,23
13	Tezosar 500 SC	2,00	B	271,15	282,00	271,78	292,01	327,58	310,53	319,55	324,43	287,32	286,38	297,27	271,78	327,58
LSD(P=.05)				5,846	4,825	4,77	0,761	6,255	21,817	49,701	34,553	29,713	26,218			

Table. 3.4.3.3. Effect of Terbut 500 SC application on the weight of hectolitre of grain. (Added 17.12.2020)

crop code				HLW (kg)								
repot code				SRPL19-155-336HS	SRPL19-156-336HS	SRPL19-157-336HS	SRPL19-158-336HS	SRPL19-159-336HS	Average	Min.	Max.	
BBCH crop				BBCH 99	BBCH 89	BBCH 99	BBCH 89	BBCH 89				
date				30.10.2019	15.10.2019	02.10.2019	29.10.2019	30.09.2019				
N o.	Product Code	l/ha	Co-de appl.									
1	Untreated Check	0,00	A	73,2	76,1	80,78	77,93	74,75	76,55	73,2	80,78	
2	Terbut 500 SC Hydravance 100 LQ	1,00 0,20 %	A	73,73	76,23	80,68	77,73	74,88	76,65	73,73	80,68	
3	Terbut 500 SC Hydravance 100 LQ	2,00 0,40 %	A	72,83	76,25	80,43	77,55	74,23	76,26	72,83	80,43	
4	Terbut 500 SC	1,00	A	72,7	76,2	79,55	77,63	74,90	76,20	72,7	79,55	
5	Terbut 500 SC	2,00	A	73	76,03	80,1	77,48	74,00	76,12	73	80,10	
6	Lumax 537,5	3,50	A	73,15	75,83	81,2	77,5	75,2	76,58	73,15	81,20	

	SE										
7	Lumax 537,5 SE	7,00	A	72,43	75,6	80,85	77,35	74,73	76,19	72,43	80,85
8	Terbut 500 SC Hydravance 100 LQ	1,00 0,20 %	B	73,18	75,7	80,0	77,48	75,3	76,33	73,18	80,00
9	Terbut 500 SC Hydravance 100 LQ	2,00 0,40 %	B	73,63	76,3	80,55	77,55	74,23	76,45	73,63	80,55
10	Terbut 500 SC	1,00	B	72,48	76,43	79,8	77,53	75,10	76,27	72,48	79,8
11	Terbut 500 SC	2,00	B	72,08	76,45	79,83	77,5	75,70	76,31	72,08	79,83
12	Tezosar 500 SC	1,00	B	74,23	76,25	80,83	77,28	74,93	76,70	74,23	80,83
13	Tezosar 500 SC	2,00	B	74	76,18	80,5	77,55	74,80	76,61	74	80,5
LSD(P=.05)				1,593	0,622	1,624	0,623	1,202			

Comments of zRMS:	Submitted trials are sufficient. Influence of La Zina 500 SC / Tekno 500 SC – product code: Terbut 500 SC on quantity and quality of yield was evaluated during selectivity research. The evaluation was carried out in accordance with EPPO guidelines. Following parameters were studied: moisture, Grain TKW and Grain HLW. In all trials no detrimental effect on the quality of yield was recorded at the proposed dose rate and even at the double dose rate. Application of La Zina 500 SC / Tekno 500 SC – product code: Terbut 500 SC provided a quality yield similar to the untreated plots and to those treated with the reference products. No statistical differences were observed between un-treated and treated plots and also between the tested product and the standard product.
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3.4.4 Effects on transformation processes (KCP 6.4.4)

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

Terbuthylazine

No significant residues, i.e >0,1mg/kg were found in grain and therefore processing studies are not required.

Comments of zRMS:	<p>Assuming a long history of safe use of a.s.: terbuthylazine no special trials dedicated to evaluation of effects of La Zina 500 SC / Tekno 500 SC – product code: Terbut 500 SC on transformation process were undertaken. The effect of the residues on processing was not investigated given the low residues in raw crop. Commodities confirmed by number of studies done for the EU evaluation of terbuthylazine.</p> <p>In the opinion of Evaluator, considering that product is applied at early stage of the crop and maize (BBCH 00-00 for pre-emergence use and BBCH 12-16 for post-emergence use) is not a typical crop used for subsequent processing, it could be agreed that no negative impact on processing is expected. Adverse effects on plant parts (seed) used for propagation purposes did not occur.</p> <p>The latest time of application for La Zina 500 SC / Tekno 500 SC is crop growth stage BBCH 16. Since applications of La Zina 500 SC / Tekno 500 SC are made at an early stage in the crop's development there is no risk that the actives would be translocated to the grain. The germination of maize seeds will be not negatively affected by the application of La Zina 500 SC / Tekno 500 SC, in the opinion of Evaluator.</p>
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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 Terbut in seed crops of maize.

In the course of studies carried out in Poland in the season of 2017 on product Terbut the herbicide has not been observed to have any phytotoxicity symptoms.

The product may be used in seed crops of maize.

Summary and conclusion

The submitted efficacy data (reports from 12 field trials) and additional information fulfill requirements and conditions determined in the following EPPO guidelines:

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

They were carried out on the field in the conditions of natural pest infestation. The efficacy trials were concluded according to the EPPO standards:

- PP 1/50 (3) Weeds in maize

The studies fulfill also requirements of the Commission Regulation (EU) No 540/2011 of 25 May 2011 implementing Regulation (EC) No 1107/2009 of the European Parliament and of the Council as regards

the data requirements for plant protection products.

The formulation of Terbut is suspension concentrate (SC) and it comprises active substance terbuthylazine 500 g a.s./l. The applicant submitted 12 reports in total showing the results in research into product efficacy carried out in 2017 in maize.

Comments of zRMS:	<p>La Zina 500 SC / Tekno 500 SC – product code: Terbut 500 SC is a basically soil-applied, pre-emergence or early post-emergence herbicide of which decomposes in plants to non-toxic metabolites during the vegetation period. Therefore, it can be assumed that application of La Zina 500 SC / Tekno 500 SC in maize - crop of interest in this submission - will pose no risk for maize propagation capabilities.</p> <p>The active substances: terbuthylazine, is commonly used for many years in many countries. No adverse effects on parts of plant used for propagating purposes were reported.</p> <p>No adverse effect on the yield and quality and no phytotoxicity symptoms were recorded in the field trials. Also, no information is available pointing to presence of any limitations to using of terbuthylazine in seed crops of maize.</p> <p>In the opinion of Evaluator, the product La Zina 500 SC / Tekno 500 has no negative impact on parts of plants used for propagating purposes.</p>
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The obtained data in performed trials show that Terbut 500 SC provides benefits against the most important weeds in maize 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%

Poland, Czech Republic and Germany 2017-2019

pre-emergence application

No.	Name	Rate (l, %/ha)	Applica-tion code	Pest code	Scientific name	DA-A/B	Average	Efficacy
1	Terbut 500 S.C.	0,8	A	AMARE	<i>Amaranthus retro-flexus</i>	7 DAA - 25 DAB	88,73	S
	Hydravance 100 LQ	0,2		ANTAR	<i>Anthemis arvensis</i>	20 DAA - 14 DAB	99,08	S
				CAPBP	<i>Capsella bursa-pastoris</i>	13 DAA - 14 DAB	93,81	S
				CENCY	<i>Cyanus segetum</i>	14 DAA - 14 DAB	75,50	MS
				CHEAL	<i>Chenopodium al-bum</i>	7 DAA - 28 DAB	84,86	MS
				CHEPO	<i>Lipandra polysper-ma</i>	13 DAA - 13 DAB	57,50	T
				ECHCG	<i>Echinochloa crus-galli</i>	13 DAA - 26 DAB	37,01	T
				GALAP	<i>Galium aparine</i>	13 DAA - 25 DAB	79,04	MS

				GASPA	<i>Galinsoga parviflora</i>	13 DAA - 0 DAB	99,38	S
				GERDI	<i>Geranium dissectum</i>	0 DAB 14 DAB	82,50	MS
				GERPU	<i>Geranium pusillum</i>	0 DAA - 14 DAB	60,37	MT
				LYCAR	<i>Anchusa arvensis</i>	14 DAB - 26 DAB	95,60	S
				MATCH	<i>Matricaria chamomilla</i>	13 DAA - 27 DAB	84,11	MS
				MATIN	<i>Tripleurospermum inodorum</i>	13 DAA - 38 DAB	85,27	S
				POAAN	<i>Poa annua</i>	0 DAB - 26 DAB	65,00	MT
				POLAV	<i>Polygonum aviculare</i>	0 DAB - 28 DAB	60,10	MT
				POLCO	<i>Fallopia convolvulus</i>	14 DAA - 24 DAB	63,09	MT
				POLLA	<i>Persicaria lapathifolia</i>	0 DAB - 14 DAB	50,87	T
				POLPE	<i>Persicaria maculosa</i>	0 DAB - 14 DAB	88,80	S
				SETPU	<i>Settaria helvola</i>	24 DAA - 22 DAB	4,08	T
				SOLNI	<i>Solanum nigrum</i>	16 DAA - 14 DAB	85,00	S
				STEME	<i>Stellaria media</i>	15 DAA - 38 DAB	84,10	MS
				VIOAR	<i>Viola arvensis</i>	12 DAA - 24 DAB	71,18	MS
2	Terbut 500 S.C.	1	A	AMARE	<i>Amaranthus retroflexus</i>	7 DAA - 57 DAB	91,97	S
				CENCY	<i>Cyanus segetum</i>	14 DAA - 57 DAB	83,15	MS
				CHEAL	<i>Chenopodium album</i>	13 DAA - 56 DAA	97,50	S
				MATCH	<i>Matricaria chamomilla</i>	16 DAA - 57 DAB	94,13	S
				MATIN	<i>Tripleurospermum inodorum</i>	14 DAA - 57 DAB	94,66	S
				STEME	<i>Stellaria media</i>	15 DAA - 57 DAB	88,57	S
				VIOAR	<i>Viola arvensis</i>	12 DAA - 57 DAB	91,28	S
3	Terbut 500 S.C.	1	A	AMARE	<i>Amaranthus retroflexus</i>	7 DAA - 25 DAB	92,84	S
	Hydravance 100 LQ	0,2		ANTAR	<i>Anthemis arvensis</i>	20 DAA - 14 DAB	100,00	S
				CAPBP	<i>Capsella bursa-pastoris</i>	13 DAA - 14 DAB	94,70	S
				CENCY	<i>Cyanus segetum</i>	14 DAA - 14 DAB	85,04	S
				CHEAL	<i>Chenopodium album</i>	7 DAA - 28 DAB	89,30	S
				CHEPO	<i>Lipandra polysperma</i>	13 DAA - 13 DAB	83,78	MS
				ECHCG	<i>Echinochloa crus-galli</i>	13 DAA - 26 DAB	61,77	MT
				GALAP	<i>Galium aparine</i>	13 DAA - 25 DAB	85,67	S

				GASPA	<i>Galinsoga parviflora</i>	13 DAA - 0 DAB	98,13	S
				GERDI	<i>Geranium dissectum</i>	0 DAB 14 DAB	86,90	S
				GERPU	<i>Geranium pusillum</i>	0 DAA - 14 DAB	69,54	MT
				LYCAR	<i>Anchusa arvensis</i>	14 DAB - 26 DAB	96,53	S
				MATCH	<i>Matricaria chamomilla</i>	13 DAA - 27 DAB	91,75	S
				MATIN	<i>Tripleurospermum inodorum</i>	13 DAA - 38 DAB	94,56	S
				POAAN	<i>Poa annua</i>	0 DAB - 26 DAB	68,75	MT
				POLAV	<i>Polygonum aviculare</i>	0 DAB - 28 DAB	73,00	MS
				POLCO	<i>Fallopia convolvulus</i>	14 DAA - 24 DAB	74,93	MS
				POLLA	<i>Persicaria lapathifolia</i>	0 DAB - 14 DAB	67,10	MT
				POLPE	<i>Persicaria maculosa</i>	0 DAB - 14 DAB	90,00	S
				SETPU	<i>Setaria helvola</i>	24 DAA - 22 DAB	6,88	T
				SOLNI	<i>Solanum nigrum</i>	16 DAA - 14 DAB	85,00	S
				STEME	<i>Stellaria media</i>	15 DAA - 38 DAB	91,30	S
				VIOAR	<i>Viola arvensis</i>	12 DAA - 24 DAB	85,43	S
4	Terbut 500 S.C.	1,2	A	AMARE	<i>Amaranthus retroflexus</i>	7 DAA - 25 DAB	96,74	S
	Hydravance 100 LQ	0,2		ANTAR	<i>Anthemis arvensis</i>	20 DAA - 14 DAB	98,15	S
				CAPBP	<i>Capsella bursa-pastoris</i>	13 DAA - 14 DAB	96,34	S
				CENCY	<i>Cyanus segetum</i>	14 DAA - 14 DAB	81,46	MS
				CHEAL	<i>Chenopodium album</i>	7 DAA - 28 DAB	91,67	S
				CHEPO	<i>Lipandra polysperma</i>	13 DAA - 13 DAB	91,58	S
				ECHCG	<i>Echinochloa crus-galli</i>	13 DAA - 26 DAB	88,07	S
				GALAP	<i>Galium aparine</i>	13 DAA - 25 DAB	88,65	S
				GASPA	<i>Galinsoga parviflora</i>	13 DAA - 0 DAB	100,00	S
				GERDI	<i>Geranium dissectum</i>	0 DAB 14 DAB	91,25	S
				GERPU	<i>Geranium pusillum</i>	0 DAA - 14 DAB	75,16	MS
				LYCAR	<i>Anchusa arvensis</i>	14 DAB - 26 DAB	97,77	S
				MATCH	<i>Matricaria chamomilla</i>	13 DAA - 27 DAB	94,03	S
				MATIN	<i>Tripleurospermum inodorum</i>	13 DAA - 38 DAB	97,79	S
				POAAN	<i>Poa annua</i>	0 DAB - 26 DAB	80,65	MS
				POLAV	<i>Polygonum aviculare</i>	0 DAB - 28 DAB	79,67	MS

					re	DAB		
					POLCO	<i>Fallopia convolvulus</i>	14 DAA - 24 DAB	78,49 MS
					POLLA	<i>Persicaria lapathifolia</i>	0 DAB - 14 DAB	78,37 MS
					POLPE	<i>Persicaria maculosa</i>	0 DAB - 14 DAB	99,30 S
					SETPU	<i>Settaria helvola</i>	24 DAA - 22 DAB	11,88 T
					SOLNI	<i>Solanum nigrum</i>	16 DAA - 14 DAB	90,35 S
					STEME	<i>Stellaria media</i>	15 DAA - 38 DAB	91,80 S
					VIOAR	<i>Viola arvensis</i>	12 DAA - 24 DAB	91,62 S
5	Terbut 500 S.C.	1,5	A	AMARE	<i>Amaranthus retroflexus</i>	7 DAA - 25 DAB	99,58	S
	Hydravance 100 LQ	0,2		ANTAR	<i>Anthemis arvensis</i>	20 DAA - 14 DAB	100,00	S
				CAPBP	<i>Capsella bursa-pastoris</i>	13 DAA - 14 DAB	98,14	S
				CENCY	<i>Cyanus segetum</i>	14 DAA - 14 DAB	96,65	S
				CHEAL	<i>Chenopodium album</i>	7 DAA - 28 DAB	95,93	S
				CHEPO	<i>Lipandra polysperma</i>	13 DAA - 13 DAB	99,10	S
				ECHCG	<i>Echinochloa crus-galli</i>	13 DAA - 26 DAB	94,36	S
				GALAP	<i>Galium aparine</i>	13 DAA - 25 DAB	95,91	S
				GASPA	<i>Galinsoga parviflora</i>	13 DAA - 0 DAB	100,00	S
				GERDI	<i>Geranium dissectum</i>	0 DAB 14 DAB	97,50	S
				GERPU	<i>Geranium pusillum</i>	0 DAA - 14 DAB	82,05	MS
				LYCAR	<i>Anchusa arvensis</i>	14 DAB - 26 DAB	99,87	S
				MATCH	<i>Matricaria chamomilla</i>	13 DAA - 27 DAB	94,66	S
				MATIN	<i>Tripleurospermum inodorum</i>	13 DAA - 38 DAB	98,86	S
				POAAN	<i>Poa annua</i>	0 DAB - 26 DAB	92,50	S
				POLAV	<i>Polygonum aviculare</i>	0 DAB - 28 DAB	99,00	S
				POLCO	<i>Fallopia convolvulus</i>	14 DAA - 24 DAB	88,53	S
				POLLA	<i>Persicaria lapathifolia</i>	0 DAB - 14 DAB	88,80	S
				POLPE	<i>Persicaria maculosa</i>	0 DAB - 14 DAB	98,30	S
				SETPU	<i>Settaria helvola</i>	24 DAA - 22 DAB	14,70	T
				SOLNI	<i>Solanum nigrum</i>	16 DAA - 14 DAB	91,25	S
				VIOAR	<i>Viola arvensis</i>	12 DAA - 24 DAB	97,57	S

6	Lumax 537,5 SE; Gardo Gold 500 S.C.; Gardoprim Plus Gold 500 S.C	3,5; 4; 4	A	AMARE	<i>Amaranthus retroflexus</i>	7 DAA - 25 DAB	100,00	S
				ANTAR	<i>Anthemis arvensis</i>	20 DAA - 14 DAB	100,00	S
				CAPBP	<i>Capsella bursa-pastoris</i>	13 DAA - 14 DAB	96,14	S
				CENCY	<i>Cyanus segetum</i>	14 DAA - 14 DAB	98,45	S
				CHEAL	<i>Chenopodium album</i>	7 DAA - 28 DAB	96,06	S
				CHEPO	<i>Lipandra polysperma</i>	13 DAA - 13 DAB	99,95	S
				ECHCG	<i>Echinochloa crus-galli</i>	13 DAA - 26 DAB	91,20	S
				GALAP	<i>Galium aparine</i>	13 DAA - 25 DAB	96,93	S
				GASPA	<i>Galinsoga parviflora</i>	13 DAA - 0 DAB	100,00	S
				GERDI	<i>Geranium dissectum</i>	0 DAB 14 DAB	71,90	MS
				GERPU	<i>Geranium pusillum</i>	0 DAA - 14 DAB	99,75	S
				LYCAR	<i>Anchusa arvensis</i>	14 DAB - 26 DAB	100,00	S
				MATCH	<i>Matricaria chamomilla</i>	13 DAA - 27 DAB	98,09	S
				MATIN	<i>Tripleurospermum inodorum</i>	13 DAA - 38 DAB	99,59	S
				POAAN	<i>Poa annua</i>	0 DAB - 26 DAB	69,40	MT
				POLAV	<i>Polygonum aviculare</i>	0 DAB - 28 DAB	73,00	MS
				POLCO	<i>Fallopia convolvulus</i>	14 DAA - 24 DAB	88,79	S
				POLLA	<i>Persicaria lapathifolia</i>	0 DAB - 14 DAB	93,10	S
				POLPE	<i>Persicaria maculosa</i>	0 DAB - 14 DAB	100,00	S
				SETPU	<i>Settaria helvola</i>	24 DAA - 22 DAB	91,30	S
				SOLNI	<i>Solanum nigrum</i>	16 DAA - 14 DAB	92,50	S
				STEME	<i>Stellaria media</i>	15 DAA - 38 DAB	100,00	S
				VIOAR	<i>Viola arvensis</i>	12 DAA - 24 DAB	95,03	S

post-emergence application

No.	Name	Rate (l, %/ha)	Application code	Pest code	Scientific name	DA-A/B	Average	Efficacy
1	Terbut 500 S.C.	0,8	B	AMARE	<i>Amaranthus retroflexus</i>	7 DAA - 57 DAB	80,34	MS
				CAPBP	<i>Capsella bursa-pastoris</i>	14 DAA - 57 DAB	86,1	S
				CENCY	<i>Cyanus segetum</i>	14 DAA - 57 DAB	67,08	MT
				CHEAL	<i>Chenopodium album</i>	13 DAA - 46 DAB	78,5	MS

				GALAP	<i>Galium aparine</i>	14 DAA - 46 DAB	80,49	MS
				GASPA	<i>Galinsoga parviflora</i>	14 DAA - 28 DAB	87,92	S
				GERPU	<i>Geranium pusillum</i>	14 DAA - 28 DAB	72,08	MS
				MATCH	<i>Matricaria chamomilla</i>	16 DAA - 57 DAB	77,35	MS
				MATIN	<i>Tripleurospermum inodorum</i>	14 DAA - 57 DAB	83,35	MS
				POLCO	<i>Fallopia convolvulus</i>	14 DAA - 28 DAB	78,69	MS
				SOLNI	<i>Solanum nigrum</i>	14 DAA - 27 DAB	77,21	MS
				STEME	<i>Stellaria media</i>	15 DAA - 57 DAB	75,8	MS
				VERAR	<i>Veronica arvensis</i>	14DAA-46DAB	80,5	MS
				VIOAR	<i>Viola arvensis</i>	12 DAA - 57 DAB	82,26	MS
2	Terbut 500 S.C.	0,8	B	AMARE	<i>Amaranthus retroflexus</i>	7 DAA - 57 DAB	89,6	S
	Hydravance 100 LQ	0,2		CAPBP	<i>Capsella bursa-pastoris</i>	14 DAA - 57 DAB	99,35	S
				CENCY	<i>Cyanus segetum</i>	14 DAA - 57 DAB	74,8	MS
				CHEAL	<i>Chenopodium album</i>	13 DAA - 46 DAB	74,35	MS
				CHEPO	<i>Lipandra polysperma</i>	13 DAA - 56 DAA	55,43	T
				ECHCG	<i>Echinochloa crus-galli</i>	13 DAA - 46 DAB	27,51	T
				GALAP	<i>Galium aparine</i>	14 DAA - 46 DAB	74,87	MS
				GASPA	<i>Galinsoga parviflora</i>	14 DAA - 28 DAB	99,4	S
				GERDI	<i>Geranium dissectum</i>	0 DAB 26 DAB	90	S
				GERPU	<i>Geranium pusillum</i>	14 DAA - 28 DAB	51,25	T
				LYCAR	<i>Anchusa arvensis</i>	0 DAB - 27 DAB	100	S
				MATCH	<i>Matricaria chamomilla</i>	16 DAA - 57 DAB	50,63	T
				MATIN	<i>Tripleurospermum inodorum</i>	14 DAA - 57 DAB	76,29	MS
				POAAN	<i>Poa annua</i>	0 DAB - 26 DAB	61,9	MT
				POLAV	<i>Polygonum aviculare</i>	0 DAB - 28 DAB	92,5	S
				POLCO	<i>Fallopia convolvulus</i>	14 DAA - 28 DAB	76,83	MS
				POLLA	<i>Persicaria lapathifolia</i>	0 DAB - 28 DAB	58,75	T
				POLPE	<i>Persicaria maculosa</i>	12 DAA - 24 DAB	85	S
				SETPU	<i>Setaria helvola</i>	24 DAA - 22 DAB	3,75	T
				SOLNI	<i>Solanum nigrum</i>	14 DAA - 27 DAB	97,5	S
				VIOAR	<i>Viola arvensis</i>	12 DAA - 57 DAB	88,53	S

3	Terbut 500 S.C.	1	B	AMARE	<i>Amaranthus retroflexus</i>	7 DAA - 57 DAB	87,64	S
				CAPBP	<i>Capsella bursa-pastoris</i>	14 DAA - 57 DAB	92,06	S
				CENCY	<i>Cyanus segetum</i>	14 DAA - 57 DAB	71,88	MS
				CHEAL	<i>Chenopodium album</i>	13 DAA - 46 DAB	85,71	S
				GALAP	<i>Galium aparine</i>	14 DAA - 46 DAB	87,36	S
				GASPA	<i>Galinsoga parviflora</i>	14 DAA - 28 DAB	99,33	S
				GERPU	<i>Geranium pusillum</i>	14 DAA - 28 DAB	82,08	MS
				MATCH	<i>Matricaria chamomilla</i>	16 DAA - 57 DAB	84,63	MS
				MATIN	<i>Tripleurospermum inodorum</i>	14 DAA - 57 DAB	88,29	S
				POLCO	<i>Fallopia convolvulus</i>	14 DAA - 28 DAB	85,25	S
				SOLNI	<i>Solanum nigrum</i>	14 DAA - 27 DAB	86,27	S
				STEME	<i>Stellaria media</i>	15 DAA - 57 DAB	80,48	MS
				VERAR	<i>Veronica arvensis</i>	14DAA-46DAB	87,32	S
				VIOAR	<i>Viola arvensis</i>	12 DAA - 57 DAB	87,52	S
4	Terbut 500 S.C.	1,2	B	AMARE	<i>Amaranthus retroflexus</i>	7 DAA - 57 DAB	91,53	S
				CAPBP	<i>Capsella bursa-pastoris</i>	14 DAA - 57 DAB	94,4	S
				CENCY	<i>Cyanus segetum</i>	14 DAA - 57 DAB	78,56	MS
				CHEAL	<i>Chenopodium album</i>	13 DAA - 46 DAB	89,71	S
				GALAP	<i>Galium aparine</i>	14 DAA - 46 DAB	92,66	S
				GASPA	<i>Galinsoga parviflora</i>	14 DAA - 28 DAB	99,33	S
				GERPU	<i>Geranium pusillum</i>	14 DAA - 28 DAB	86,25	S
				MATCH	<i>Matricaria chamomilla</i>	16 DAA - 57 DAB	89,57	S
				MATIN	<i>Tripleurospermum inodorum</i>	14 DAA - 57 DAB	91,85	S
				POLCO	<i>Fallopia convolvulus</i>	14 DAA - 28 DAB	90,52	S
				SOLNI	<i>Solanum nigrum</i>	14 DAA - 27 DAB	89,11	S
				STEME	<i>Stellaria media</i>	15 DAA - 57 DAB	84,38	MS
				VERAR	<i>Veronica arvensis</i>	14DAA-46DAB	90,97	S
				VIOAR	<i>Viola arvensis</i>	12 DAA - 57 DAB	90,85	S
5	Terbut 500 S.C.	1	B	AMARE	<i>Amaranthus retroflexus</i>	7 DAA - 57 DAB	91,11	S
	Hydravance 100 LQ	0,2		CAPBP	<i>Capsella bursa-pastoris</i>	14 DAA - 57 DAB	95,89	S

				CENCY	<i>Cyanus segetum</i>	14 DAA - 57 DAB	76,81	MS
				CHEAL	<i>Chenopodium album</i>	13 DAA - 46 DAB	86,7	S
				CHEPO	<i>Lipandra polysperma</i>	13 DAA - 56 DAA	71,27	MS
				ECHCG	<i>Echinochloa crus-galli</i>	13 DAA - 46 DAB	34,04	T
				GALAP	<i>Galium aparine</i>	14 DAA - 46 DAB	88,93	S
				GASPA	<i>Galinsoga parviflora</i>	14 DAA - 28 DAB	99,6	S
				GERDI	<i>Geranium dissectum</i>	0 DAB 26 DAB	92,5	S
				GERPU	<i>Geranium pusillum</i>	14 DAA - 28 DAB	77,73	MS
				LYCAR	<i>Anchusa arvensis</i>	0 DAB - 27 DAB	100	S
				MATCH	<i>Matricaria chamomilla</i>	16 DAA - 57 DAB	75,42	MS
				MATIN	<i>Tripleurospermum inodorum</i>	14 DAA - 57 DAB	90,96	S
				POAAN	<i>Poa annua</i>	0 DAB - 26 DAB	63,15	MT
				POLAV	<i>Polygonum aviculare</i>	0 DAB - 28 DAB	99	S
				POLCO	<i>Fallopia convolvulus</i>	14 DAA - 28 DAB	88,03	S
				POLLA	<i>Persicaria lapathifolia</i>	0 DAB - 28 DAB	75	MS
				POLPE	<i>Persicaria maculosa</i>	12 DAA - 24 DAB	87,5	S
				SETPU	<i>Settaria helvola</i>	24 DAA - 22 DAB	2,5	T
				SOLNI	<i>Solanum nigrum</i>	14 DAA - 27 DAB	91,22	S
				STEME	<i>Stellaria media</i>	15 DAA - 57 DAB	87,54	S
				VERAR	<i>Veronica arvensis</i>	14DAA-46DAB	91,76	S
				VIOAR	<i>Viola arvensis</i>	12 DAA - 57 DAB	92,54	S
6	Terbut 500 S.C.	1,2	B	AMARE	<i>Amaranthus retroflexus</i>	7 DAA - 57 DAB	100	S
	Hydravance 100 LQ	0,2		CAPBP	<i>Capsella bursa-pastoris</i>	14 DAA - 57 DAB	99,5	S
				CENCY	<i>Cyanus segetum</i>	14 DAA - 57 DAB	82,5	MS
				CHEAL	<i>Chenopodium album</i>	13 DAA - 46 DAB	86,92	S
				CHEPO	<i>Lipandra polysperma</i>	13 DAA - 56 DAA	81,7	MS
				ECHCG	<i>Echinochloa crus-galli</i>	13 DAA - 46 DAB	48,5	T
				GALAP	<i>Galium aparine</i>	14 DAA - 46 DAB	89,73	S
				GASPA	<i>Galinsoga parviflora</i>	14 DAA - 28 DAB	99,4	S
				GERDI	<i>Geranium dissectum</i>	0 DAB 26 DAB	98,25	S
				GERPU	<i>Geranium pusillum</i>	14 DAA - 28 DAB	92,25	S

				LYCAR	<i>Anchusa arvensis</i>	0 DAB - 27 DAB	100	S
				MATCH	<i>Matricaria chamomilla</i>	16 DAA - 57 DAB	65,95	MT
				MATIN	<i>Tripleurospermum inodorum</i>	14 DAA - 57 DAB	96,06	S
				POAAN	<i>Poa annua</i>	0 DAB - 26 DAB	81,25	MS
				POLAV	<i>Polygonum aviculare</i>	0 DAB - 28 DAB	99	S
				POLCO	<i>Fallopia convolvulus</i>	14 DAA - 28 DAB	94,94	S
				POLLA	<i>Persicaria lapathifolia</i>	0 DAB - 28 DAB	77,55	MS
				POLPE	<i>Persicaria maculosa</i>	12 DAA - 24 DAB	96,3	S
				SETPU	<i>Settaria helvola</i>	24 DAA - 22 DAB	8,75	T
				SOLNI	<i>Solanum nigrum</i>	14 DAA - 27 DAB	97,5	S
				VIOAR	<i>Viola arvensis</i>	12 DAA - 57 DAB	99,36	S
7	Terbut 500 S.C.	1,5	B	AMARE	<i>Amaranthus retroflexus</i>	7 DAA - 57 DAB	100	S
	Hydravance 100 LQ	0,2		CAPBP	<i>Capsella bursa-pastoris</i>	14 DAA - 57 DAB	99,5	S
				CENCY	<i>Cyanus segetum</i>	14 DAA - 57 DAB	96,43	S
				CHEAL	<i>Chenopodium album</i>	13 DAA - 46 DAB	90,16	S
				CHEPO	<i>Lipandra polysperma</i>	13 DAA - 56 DAA	94,87	S
				ECHCG	<i>Echinochloa crus-galli</i>	13 DAA - 46 DAB	57,47	T
				GALAP	<i>Galium aparine</i>	14 DAA - 46 DAB	93,33	S
				GASPA	<i>Galinsoga parviflora</i>	14 DAA - 28 DAB	99,4	S
				GERDI	<i>Geranium dissectum</i>	0 DAB 26 DAB	99	S
				GERPU	<i>Geranium pusillum</i>	14 DAA - 28 DAB	89,75	S
				LYCAR	<i>Anchusa arvensis</i>	0 DAB - 27 DAB	100	S
				MATCH	<i>Matricaria chamomilla</i>	16 DAA - 57 DAB	57,83	T
				MATIN	<i>Tripleurospermum inodorum</i>	14 DAA - 57 DAB	98,49	S
				POAAN	<i>Poa annua</i>	0 DAB - 26 DAB	89,9	S
				POLAV	<i>Polygonum aviculare</i>	0 DAB - 28 DAB	99	S
				POLCO	<i>Fallopia convolvulus</i>	14 DAA - 28 DAB	97,91	S
				POLLA	<i>Persicaria lapathifolia</i>	0 DAB - 28 DAB	98,75	S
				POLPE	<i>Persicaria maculosa</i>	12 DAA - 24 DAB	93,3	S
				SETPU	<i>Settaria helvola</i>	24 DAA - 22 DAB	15,05	T
				SOLNI	<i>Solanum nigrum</i>	14 DAA - 27	97,5	S

						DAB		
				VIOAR	<i>Viola arvensis</i>	12 DAA - 57 DAB	99,22	S
8	Tezosar 500 S.C.; Bromoterb 500 S.C.	1,00; 1,50	B	AMARE	<i>Amaranthus retroflexus</i>	7 DAA - 57 DAB	90,67	S
				ANTAR	<i>Anthemis arvensis</i>	20 DAA - 28 DAB	91,9	S
				CAPBP	<i>Capsella bursa-pastoris</i>	14 DAA - 57 DAB	93,29	S
				CENCY	<i>Cyanus segetum</i>	14 DAA - 57 DAB	91,28	S
				CHEAL	<i>Chenopodium album</i>	13 DAA - 46 DAB	93,02	S
				CHEPO	<i>Lipandra polysperma</i>	13 DAA - 56 DAA	95,7	S
				ECHCG	<i>Echinochloa crus-galli</i>	13 DAA - 46 DAB	54,44	T
				GALAP	<i>Galium aparine</i>	14 DAA - 46 DAB	91,1	S
				GASPA	<i>Galinsoga parviflora</i>	14 DAA - 28 DAB	99,6	S
				GERDI	<i>Geranium dissectum</i>	0 DAB 26 DAB	99	S
				GERPU	<i>Geranium pusillum</i>	14 DAA - 28 DAB	94,36	S
				LYCAR	<i>Anchusa arvensis</i>	0 DAB - 27 DAB	100	S
				MATCH	<i>Matricaria chamomilla</i>	16 DAA - 57 DAB	89,92	S
				MATIN	<i>Tripleurospermum inodorum</i>	14 DAA - 57 DAB	92,43	S
				POAAN	<i>Poa annua</i>	0 DAB - 26 DAB	96	S
				POLAV	<i>Polygonum aviculare</i>	0 DAB - 28 DAB	99	S
				POLCO	<i>Fallopia convolvulus</i>	14 DAA - 28 DAB	93,3	S
				POLLA	<i>Persicaria lapathifolia</i>	0 DAB - 28 DAB	99	S
				POLPE	<i>Persicaria maculosa</i>	12 DAA - 24 DAB	98,8	S
				SETPU	<i>Settaria helvola</i>	24 DAA - 22 DAB	0	T
				SOLNI	<i>Solanum nigrum</i>	14 DAA - 27 DAB	89,68	S
				STEME	<i>Stellaria media</i>	15 DAA - 57 DAB	87,21	S
				VERAR	<i>Veronica arvensis</i>	14DAA-46DAB	89,34	S
				VIOAR	<i>Viola arvensis</i>	12 DAA - 57 DAB	92,68	S

On the basis of submitted research, it is possible to state that Terbut 500 SC used at dose controlled:

Pre- emergence application (maize in stage BBCH 00)

Dose Terbut 500 SC 0,8 l/ha + 0,2% Hydravance 100 LQ

Susceptible: *Amarenthus retroflexus* (AMARE), *Anthemis arvensis* (ANTAR), *Capsella bursa-pastoris* (CAPBP), *Galinsoga parviflora* (GASPA), *Anchusa arvensis* (LYCAR), *Tripleurospermum inodorum* (MATIN), *Persicaria maculosa* (POLPE), *Solanum nigrum* (SOLNI),
Moderately Susceptible: *Cyanus segetum* (CENCY), *Chenopodium album* (CHEAL), *Galium aparine* (GALAP), *Geranium dissectum* (GERDI), *Matricaria chamomila* (MATCH), *Stellaria media* (STEME), *Viola arvensis* (VIOAR)
Moderately Tolerant: *Geranium pusillum* (GERPU), *Poa annua* (POAAN), *Fallopia convolvulus* (POLCO), *Polygonum aviculare* (POLAV),
Tolerant: *Lipandra polysperma* (CHEPO), *Echinochloa crus-galli* (ECHCG), *Persicaria lapathifolia* (POLLA), , *Settaria helvola* (SETPU)

Dose Terbut 500 SC 1,0 l/ha

Susceptible: *Amarenthus retroflexus* (AMARE), *Chenopodium album* (CHEAL) , *Matricaria chamomila* (MATCH), *Tripleurospermum inodorum* (MATIN), *Stellaria media* (STEME), *Viola arvensis* (VIOAR)
Moderately Susceptible: *Cyanus segetum* (CENCY)
Moderately Tolerant:
Tolerant:

Dose Terbut 500 SC 1,0 l/ha + 0,2% Hydravance 100 LQ

Susceptible: *Amarenthus retroflexus* (AMARE), *Anthemis arvensis* (ANTAR), *Capsella bursa-pastoris* (CAPBP), *Cyanus segetum* (CENCY), *Chenopodium album* (CHEAL), *Galium aparine* (GALAP), *Galinsoga parviflora* (GASPA), *Geranium dissectum* (GERDI), *Anchusa arvensis* (LYCAR), *Matricaria chamomila* (MATCH), *Tripleurospermum inodorum* (MATIN), *Stellaria media* (STEME), *Solanum nigrum* (SOLNI), *Viola arvensis* (VIOAR), *Persicaria maculosa* (POLPE)
Moderately Susceptible: *Lipandra polysperma* (CHEPO), *Polygonum aviculare* (POLAV), *Fallopia convolvulus* (POLCO),
Moderately Tolerant: *Poa annua* (POAAN), *Geranium pusillum* (GERPU), *Persicaria lapathifolia* (POLLA), *Echinochloa crus-galli* (ECHCG),
Tolerant: *Settaria helvola* (SETPU),

Dose Terbut 500 SC 1,2 l/ha + 0,2% Hydravance 100 LQ

Susceptible: *Amarenthus retroflexus* (AMARE), *Anthemis arvensis* (ANTAR), *Capsella bursa-pastoris* (CAPBP), *Chenopodium album* (CHEAL), *Lipandra polysperma* (CHEPO), *Galium aparine* (GALAP), *Galinsoga parviflora* (GASPA), *Geranium dissectum* (GERDI), *Anchusa arvensis* (LYCAR), *Matricaria chamomila* (MATCH), *Tripleurospermum inodorum* (MATIN), *Solanum nigrum* (SOLNI), *Stellaria media* (STEME), *Viola arvensis* (VIOAR), *Echinochloa crus-galli* (ECHCG), *Persicaria maculosa* (POLPE)
Moderately Susceptible: *Cyanus segetum* (CENCY), *Geranium pusillum* (GERPU), *Poa annua* (POAAN), *Polygonum aviculare* (POLAV), *Fallopia convolvulus* (POLCO), *Persicaria lapathifolia* (POLLA)
Moderately Tolerant:
Tolerant:, *Settaria helvola* (SETPU)

Dose Terbut 500 SC 1,5 l/ha + 0,2% Hydravance 100 LQ

Susceptible: *Amarenthus retroflexus* (AMARE), *Anthemis arvensis* (ANTAR), *Capsella bursa-pastoris* (CAPBP), *Cyanus segetum* (CENCY), *Chenopodium album* (CHEAL), *Lipandra polysperma* (CHEPO), *Galium aparine* (GALAP), *Galinsoga parviflora* (GASPA), *Geranium dissectum* (GERDI), *Anchusa arvensis* (LYCAR), *Matricaria chamomila* (MATCH), *Tripleurospermum inodorum* (MATIN), *Poa annua* (POAAN), *Polygonum aviculare* (POLAV), , *Fallopia convolvulus* (POLCO), *Persicaria lapathifolia* (POLLA), *Solanum nigrum* (SOLNI), *Viola arvensis* (VIOAR), *Persicaria maculosa* (POLPE), *Echinochloa crus-galli* (ECHCG)
Moderately Susceptible: *Geranium pusillum* (GERPU),
Moderately Tolerant:

Tolerant: *Settaria helvola* (SETPU)

Post- emergence application (BBCH 12-16)

Dose Terbut 500 SC 0,8 l/ha

Susceptible: *Capsella bursa-pastoris* (CAPBP), *Galinsoga parviflora* (GASPA),

Moderately Susceptible: *Amaranthus retroflexus* (AMARE), *Chenopodium album* (CHEAL), *Galium aparine* (GALAP), *Geranium pusillum* (GERPU), *Anthemis arvensis* (ANTAR), *Tripleurospermum inodorum* (MATIN), *Fallopia convolvulus* (POLCO), *Solanum nigrum* (SOLNI), *Stellaria media* (STEME), *Veronica arvensis* (VERAR), *Viola arvensis* (VIOAR)

Moderately Tolerant:

Tolerant:

Dose Terbut 500 SC 0,8 l/ha + 0,2 l/ha Hydravance 100 LQ

Susceptible: *Amaranthus retroflexus* (AMARE), *Capsella bursa-pastoris* (CAPBP), *Galinsoga parviflora* (GASPA), *Geranium dissectum* (GERDI), *Anchusa arvensis* (LYCAR), *Polygonum aviculare* (POLAV), *Persicaria maculosa* (POLPE)

Moderately Susceptible: *Cyanus segetum* (CENCY), *Galium aparine* (GALAP), *Tripleurospermum inodorum* (MATIN), *Fallopia convolvulus* (POLCO)

Moderately Tolerant:

Tolerant:

Dose Terbut 500 SC 1,0 l/ha

Susceptible: *Amaranthus retroflexus* (AMARE), *Capsella bursa-pastoris* (CAPBP), *Chenopodium album* (CHEAL), *Galium aparine* (GALAP), *Galinsoga parviflora* (GASPA), *Tripleurospermum inodorum* (MATIN), *Fallopia convolvulus* (POLCO), *Solanum nigrum* (SOLNI), *Veronica arvensis* (VERAR), *Viola arvensis* (VIOAR)

Moderately Susceptible: *Cyanus segetum* (CENCY), *Geranium pusillum* (GERPU), *Matricaria chamomila* (MATCH), *Stellaria media* (STEME)

Moderately Tolerant:

Tolerant:

Dose Terbut 500 SC 1,0 l/ha + 0,2 l/ha Hydravance 100 LQ

Susceptible: *Amaranthus retroflexus* (AMARE), *Capsella bursa-pastoris* (CAPBP), *Chenopodium album* (CHEAL), *Galium aparine* (GALAP), *Galinsoga parviflora* (GASPA), *Geranium dissectum* (GERDI), *Anchusa arvensis* (LYCAR), *Tripleurospermum inodorum* (MATIN), *Polygonum aviculare* (POLAV), *Fallopia convolvulus* (POLCO), *Persicaria maculosa* (POLPE), *Solanum nigrum* (SOLNI), *Stellaria media* (STEME), *Veronica arvensis* (VERAR), *Viola arvensis* (VIOAR)

Moderately Susceptible: *Cyanus segetum* (CENCY), *Lipandra polysperma* (CHEPO), *Geranium pusillum* (GERPU), *Matricaria chamomila* (MATCH), *Persicaria lapathifolia* (POLLA)

Moderately Tolerant: *Poa annua* (POAAN)

Tolerant: *Echinochloa crus-galli* (ECHCG), *Settaria helvola* (SETPU),

Dose Terbut 500 SC 1,2 l/ha

Susceptible: *Amaranthus retroflexus* (AMARE), *Capsella bursa-pastoris* (CAPBP), *Chenopodium album* (CHEAL), *Galium aparine* (GALAP), *Galinsoga parviflora* (GASPA), *Geranium pusillum* (GERPU), *Matricaria chamomila* (MATCH), *Tripleurospermum inodorum* (MATIN), *Fallopia convolvulus* (POLCO), *Solanum nigrum* (SOLNI), *Veronica arvensis* (VERAR), *Viola arvensis* (VIOAR)

Moderately Susceptible: *Cyanus segetum* (CENCY), *Stellaria media* (STEME)

Moderately Tolerant:

Tolerant:

Dose Terbut 500 SC 1,2 l/ha + 0,2 l/ha Hydravance 100 LQ

Susceptible: *Amaranthus retroflexus* (AMARE), *Capsella bursa-pastoris* (CAPBP), *Chenopodium album* (CHEAL), *Galium aparine* (GALAP), *Galinsoga parviflora* (GASPA), *Geranium dissectum* (GERDI), *Geranium pusillum* (GERPU), *Anchusa arvensis* (LYCAR), *Tripleurospermum inodorum* (MATIN), *Polygonum aviculare* (POLAV), *Fallopia convolvulus* (POLCO), *Persicaria maculosa* (POLPE), *Solanum nigrum* (SOLNI), *Viola arvensis* (VIOAR)

Moderately Susceptible: *Cyanus segetum* (CENCY), *Lipandra polysperma* (CHEPO), *Poa annua* (POAAN), *Persicaria lapathifolia* (POLLA)

Moderately Tolerant: *Matricaria chamomila* (MATCH)

Tolerant: *Echinochloa crus-galli* (ECHCG), *Settaria helvola* (SETPU)

Dose Terbut 500 SC 1,5 l/ha + 0,2 l/ha Hydravance 100 LQ

Susceptible: *Amaranthus retroflexus* (AMARE), *Capsella bursa-pastoris* (CAPBP), *Cyanus segetum* (CENCY), *Chenopodium album* (CHEAL), *Lipandra polysperma* (CHEPO), *Galium aparine* (GALAP), *Galinsoga parviflora* (GASPA), *Geranium dissectum* (GERDI), *Geranium pusillum* (GERPU), *Anchusa arvensis* (LYCAR), *Tripleurospermum inodorum* (MATIN), *Poa annua* (POAAN), *Polygonum aviculare* (POLAV), *Fallopia convolvulus* (POLCO), *Persicaria lapathifolia* (POLLA), *Persicaria maculosa* (POLPE), *Solanum nigrum* (SOLNI), *Viola arvensis* (VIOAR)

Moderately Susceptible:

Moderately Tolerant:

Tolerant: *Echinochloa crus-galli* (ECHCG), *Settaria helvola* (SETPU)

Herbicide Terbut has demonstrated good crop tolerance to maize. Therefore concluded that Terbut is safe usage at proposed rate and this support the la-bel claim for the use in maize.

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 Terbut 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, Czech Republic

Maize

Recommended dose at:

- Terbut 1,0 + 0,2% Hydravance 100 LQ in maize in growth stage BBCH 00
- Terbut 1,0 l/ha + 0,2% Hydravance 100 LQ in maize BBCH 12-16
- Terbut 1,0 l/ha (solo) in maize in growth stage BBCH 12-16

The product Terbut should be use once per season at spring preemergence. To avoid resistance, products contain active substance with the same group shouldn't be used year after year on the same field.

- Terbut is to be applied in spring in maize at BBCH 00-05
Recommended volume of water 200-300 l/ha
Recommended medium droplet spraying
- Terbut is to be applied in spring in maize at BBCH 12-16
Recommended volume of water 200-300 l/ha
Recommended medium droplet spraying

Use of Terbut 500 SC according to the proposed GAP does not represent a hazard to rotation-al crops and does not justify a specific labelling. Terbut is not persistent in soil nor is it taken up by succeeding crops.

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

3.5.1 Impact on succeeding crops (KCP 6.5.1)

According to Terbutylazine_DAR_01_Vol1_public

Maize can be re-seeded immediately in case of crop failure. There are no restrictions on succeeding crops in a normal agricultural rotation. Recommendations for local rotation specifications in different countries may be considered.

No minimum waiting period is necessary when succeeding crops are sown or planted after harvest of the crop to be protected. However it is recommended to plough the soil if sowing/planting of succeeding crops is intended in the same year as harvest of the protected crop.

There are no limitations on the choice of succeeding crops.

Terbutylazine is rapidly and extensively metabolised in maize, representing less than 5% of the TRR in all plant parts, and being not detected in mature grains at harvest.

Supervised residue trials were provided by both applicants. Samples were analysed for terbutylazine but also for the metabolites MT1 and MT14 in a significant number of experiments. No residues were observed above the LOQ, except for the metabolite MT14 detected at the level of 0.03 mg/kg in maize forage in two locations. In addition, cold rotational crop trials were submitted where cereals, oilseed and tuber/root crops were rotated with maize treated as a primary crop at a dose rate of 844 to 937 g/ha. Parent residues were always below or at the LOQ of 0.02 mg/kg, MT1 was observed at the level of 0.02 to 0.06 mg/kg in cereal straw, sugar beet tops and sunflower seeds and metabolite MT14 was only detected in a single location in rapeseed grain (0.05 mg/kg). These trials confirm that parent residues are not expected to be present in rotational crops above the LOQ of 0.02 mg/kg. The residue data are supported by the storage stability studies, showing the residues of the parent, MT1 and MT14 to be stable up to 2 years when stored frozen at -18°C. Processing studies were not submitted and are not required because of the low residue levels.

EFSA Conclusion on the peer review of the pesticide risk assessment of the active substance terbutylazine

Table 3.5-1: PEC-values and TER-calculation of product Terbut 500 SC based on EC10-values.

Not applicable

Table 3.5-2: Results of field trials: Effects of product Terbut 500 SC on succeeding crops.

Not applicable

Comments of zRMS:	<p>The EU requirements on plant protection products requires, that sufficient data must be reported to permit an evaluation of possible adverse effects of a treatment with the plant protection product on succeeding crops if studies and evaluations presented in the other part of the dossier, show that significant residues of the active substance, its metabolites or degradation products, which have or may have biological activity on succeeding crops, remain in soil or in plant materials up to sowing or planting time of possible succeeding crops. Therefore, the Applicant should present the assessment of the possible effect of La Zina 500 SC / Tekno 500 SC – product code: Terbut 500 SC on crops grown as rotational or replacement crops following crops treated with that product, prepared in accordance to the EPPO Standard Efficacy evaluation of plant protection products.</p> <p>Effects on succeeding crops (PP 1/207 (2)). This standard is intended as a general</p>
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	<p>standard on the methods used to examine whether the active substance of a plant protection product can cause negative effects on crops grown after a crop treated with that product. These crops can be grown as normal rotational crops as well as replacement crops in case of crop failure.</p> <p>Product decomposes in the soil during the growing season without endangering crops. Therefore, it can be assumed that application La Zina 500 SC / Tekno 500 SC – product code: Terbut 500 SC in maize will pose no risk for succeeding crops.</p> <p>Lack of additional tests in this range - not submitted by the applicant. The half-life (DT₅₀) for terbuthylazine – 77-169 days. As regards effects on succeeding crops the applicant proposed the following label text which was accepted by Evaluator.</p> <p>Necessary precautions to prevent the negative impact on succeeding crops should be included in the label claim: “The product decomposes in soil during the vegetation period to a level that does not pose a threat to succeeding crops. If a plantation treated with the product has to be liquidated earlier, after ploughing (to a depth of 25 cm), only maize can be cultivated.”</p>
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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 phototoxic effect were observed in the commissioned trials, the product is safe for plants of adjacent crops.

Terbut 500 SC effectively controlled dicotyledonous plants therefore users must exercise caution to avoid drift or vapors which may cause discoloration and damage to non-target foliage.

Studies on the toxicity to non-target terrestrial plants have been carried out with terbuthylazine and its relevant metabolites. Full details of these studies are provided in the respective EU DAR and related documents. Effects on non-target terrestrial plants of TERBUT 500 SC were not evaluated as part of the EU assessment of terbuthylazine.

Table 3.5-3: Endpoints and effect values relevant for the risk assessment for non-target terrestrial plants

Species	Substance	Exposure System	Results	Reference
<i>Sunflower Helianthus annuus</i>	TERBUT 500 SC	21 d Seedling emergence	ER50 > 1500 ml prod/ha equal to 1657.5 g prod/ha	W. Dec, Study code: G/286/17, 2018
<i>Cabbage Brassica oleracea var. capitata</i>	TERBUT 500 SC	21 d Seedling emergence	ER= 49.44 ml prod/ha equal to 54.63 g prod/ha	
<i>Pea Pisum sativum</i>	TERBUT 500 SC	21 d Seedling emergence	ER50 > 1500 ml prod/ha equal to 1657.5 g prod/ha	
<i>Tomato Solanum lycopersicon</i>	TERBUT 500 SC	21 d Seedling emergence	ER50= 63.32 ml prod/ha equal to 69.97 g prod/ha	
<i>Onion Allium cepa</i>	TERBUT 500 SC	21 d Seedling emergence	ER50= 92.17 ml prod/ha equal to	

Species	Substance	Exposure System	Results	Reference
			101.85 g prod/ha	
<i>Oats</i> <i>Avena sativa</i>	TERBUT 500 SC	21 d Seedling emergence	ER50= 598.95 ml prod/ha equal to 661.84 g prod/ha	
<i>Sunflower</i> <i>Helianthus annuus</i>	TERBUT 500 SC	21 d Vegetative vigour	ER50 > 212.3ml prod/ha equal to 234.59 g prod/ha	A. Gierbuszewska, Study code: G/287/17, 2018
<i>Cabbage</i> <i>Brassica oleracea</i> var. <i>capitata</i>	TERBUT 500 SC	21 d Vegetative vigour	ER50= 180 ml prod/ha equal to 198.90 g prod/ha	
<i>Pea</i> <i>Pisum sativum</i>	TERBUT 500 SC	21 d Vegetative vigour	ER50 > 619.6 ml prod/ha equal to 684.66 g prod/ha	
<i>Tomato</i> <i>Solanum lycopersicon</i>	TERBUT 500 SC	21 d Vegetative vigour	ER50= 57.3 ml prod/ha equal to 63.32 g prod/ha	
<i>Onion</i> <i>Allium cepa</i>	TERBUT 500 SC	21 d Vegetative vigour	ER50= 51.1 ml prod/ha equal to 56.47 g prod/ha	
<i>Oats</i> <i>Avena sativa</i>	TERBUT 500 SC	21 d Vegetative vigour	ER50= 391.0 ml prod/ha equal to 432.06 g prod/ha	

m: monocotyledonous; d: dicotyledonous

The risk assessment is based on the “Guidance Document on Terrestrial Ecotoxicology”, (SAN-CO/10329/2002 rev.2 final, 2002). It is restricted to off-field situations, as non-target plants are non-crop plants located outside the treated area.

To achieve a concise risk assessment, the risk envelope approach is applied. Here, the assessment for the use group maize also covers the risk for non-target terrestrial plants from all other intended uses in groups maize (see **Błąd! Nie można odnaleźć źródła odwołania.**).

Table 3.5-4: Assessment of the risk for non-target plants due to the use of TERBUT 500 SC in maize

Intended use				
Active substance/product				
Application rate (g/ha)				
MAF				
		TERBUT 500 SC		
		1 × 1105		
		1		
Test species	ER ₅₀ (g/ha)	Drift rate	PER _{off-field} (g/ha)	TER criterion: TER ≥ 5
<i>Sunflower</i> <i>Helianthus annuus</i>	1657.5 g prod/ha	0.0277	30.61	54
<i>Cabbage</i> <i>Brassica oleracea</i> <i>var. capitata</i>	54.63 g prod/ha	0.0277	30.61	1.78
<i>Pea</i> <i>Pisum sativum</i>	1657.5 g prod/ha	0.0277	30.61	54

Tomato <i>Solanum lycopersicon</i>	69.97 g prod/ha	0.0277	30.61	2.29
Onion <i>Allium cepa</i>	101.85 g prod/ha	0.0277	30.61	3.33
Oats <i>Avena sativa</i>	661.84 g prod/ha	0.0277	30.61	21.62
Sunflower <i>Helianthus annuus</i>	234.59 g prod/ha	0.0277	30.61	7.66
Cabbage <i>Brassica oleracea</i> var. <i>capitata</i>	198.90 g prod/ha	0.0277	30.61	6.50
Pea <i>Pisum sativum</i>	684.66 g prod/ha	0.0277	30.61	22.37
Tomato <i>Solanum lycopersicon</i>	63.32 g prod/ha	0.0277	30.61	2.07
Onion <i>Allium cepa</i>	56.47 g prod/ha	0.0277	30.61	1.84
Oats <i>Avena sativa</i>	432.06 g prod/ha	0.0277	30.61	14.11

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.

Table 3.5-5: Risk assessment for non-target terrestrial plants due to the use of TERBUT 500 SC in maize considering risk mitigation (in-field no-spray buffer zones, and drift-reducing nozzles)

Intended use					
Active substance/product		TERBUT 500 SC			
Application rate (g/ha)		1 × 1105			
MAF		1			
Buffer strip (m)	Drift rate (%)	PER_{off-field} (g/ha)	PER_{off-field} 50 % drift red. (g/ha)	PER_{off-field} 75 % drift red. (g/ha)	PER_{off-field} 90 % drift red. (g/ha)
1	2.77	30.61	15.3	7.65	3.061
5	0.57	6.30	3.15	1.58	0.63
Toxicity value		TER			
ER ₅₀ = 54.63 g/ha		criterion: TER ≥ 5			
1		1.78	3.57	7.14	17.85
5		8.67	17.34	34.58	86.71

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 TERBUT 500 SC in off-field areas, the TER values describing the risk for

non-target plants following exposure to TERBUT 500 SC according to the GAP of the formulation TERBUT 500 SC achieve the acceptability criteria $TER \geq 5$ with applying:

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

Comments of zRMS:	<p>The product – La Zina 500 SC / Tekno 500 SC – product code: Terbut 500 SC decomposes in soil during the vegetation period to a level that does not pose a threat to succeeding crops. If a plantation treated with the product has to be liquidated earlier, after ploughing (to a depth of 25 cm), only maize can be cultivated. should not be used during wind that may cause drift spray solution on adjacent plants, especially dicotyledonous crops / plants. Such recommendation will be contained on the label - instruction of use.</p> <p>Compliance with this basic requirement of producer by users using plant protection products should protect the adjacent crops against unintended and potentially harmful, herbicidal action of product. In addition, the producer's recommendations is that before application of the product, user should in-form of this fact all the interested parties whose property (crops) may be ex-posed to drift of product if they requested such information.</p> <p>Generally, the product is a foliar herbicide effective on broadleaved weeds. Therefore, warnings to avoid spray drift on adjacent crops should appear on the label. La Zina 500 SC / Tekno 500 SC – product code: Terbut 500 SC effectively controlled broadleaf and grass plants therefore users must exercise caution to avoid drift or vapours which may cause stunting or discoloration and damage to non-target foliage.</p> <p>Appropriate buffer zone was provided by Applicant. Detailed assessment of predicted rates of La Zina 500 SC / Tekno 500 SC – product code: Terbut 500 SC in off-field areas, the TER values describing the risk for non-target plants should be described in Ecotoxicological sections.</p>
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Tank cleaning

Cleaning of equipment should be conducted according to the following 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.
- TERBUT 500 SC is non-corrosive to equipment, non-flammable and non-volatile.

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

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

Comments of zRMS:	Detailed studies on the possible adverse effects to beneficial organisms are submitted and summarised in Part B, Section 9 (Ecotoxicology).
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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)
SGS Polska Sp. z o.o.	Jana Kazimierza 3 St., 01-248 Warszawa, Poland	Yes
Syntech Research Poland Sp. z o.o.	Jagiellonska 69/1 St., 85-027 Bydgoszcz, Poland	Yes
University of Life Science Poznan, Research and Education Center Gorzyn	Wojska Polskiego 28 St., 60-637 Poznań, Poland	Yes

Appendix 1 Lists of data considered in support of the evaluation

List of data submitted by the applicant and relied on

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Data Ver- tebrate study Y/N	Owner
KCP 6 KCP 6.2	Emilia Walczak	2017	Efficacy evaluation of Terbut 500 SC when applied pre and post emergence into maize, to control of wide range of broad leaves weeds, Poland, 2017. SGS Polska Sp. z o.o., ul. Jana Kazimierza 3, 01-248 Warszawa, Poland Report no.: SGS/2017/145/PL01 GEP - yes Unpublished	N	Synthos AGRO Sp. z o.o.; Innvigo Sp. z o.o.
KCP 6 KCP 6.2	Emilia Walczak	2017	Efficacy evaluation of Terbut 500 SC when applied pre and post emergence into maize, to control of wide range of broad leaves weeds, Poland, 2017. SGS Polska Sp. z o.o., ul. Jana Kazimierza 3, 01-248 Warszawa, Poland Report no.: SGS/2017/145/PL02 GEP - yes Unpublished	N	Synthos AGRO Sp. z o.o.; Innvigo Sp. z o.o.
KCP 6 KCP 6.2	Emilia Walczak	2017	Efficacy evaluation of Terbut 500 SC when applied pre and post emergence into maize, to control of wide range of broad leaves weeds, Poland, 2017. SGS Polska Sp. z o.o., ul. Jana Kazimierza 3, 01-248 Warszawa, Poland Report no.: SGS/2017/145/PL03 GEP - yes Unpublished	N	Synthos AGRO Sp. z o.o.; Innvigo Sp. z o.o.
KCP 6 KCP 6.2	Emilia Walczak	2017	Efficacy evaluation of Terbut 500 SC when applied pre and post emergence into maize, to control of wide range of broad leaves weeds, Poland, 2017. SGS Polska Sp. z o.o., ul. Jana Kazimierza 3, 01-248 Warszawa, Poland	N	Synthos AGRO Sp. z o.o.; Innvigo Sp. z o.o.

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Data Ver- tebrate study Y/N	Owner
			Report no.: SGS/2017/145/PL04 GEP - yes Unpublished		
KCP 6 KCP 6.2	Emilia Walczak	2017	Efficacy evaluation of Terbut 500 SC when applied pre and post emergence into maize, to control of wide range of broad leaves weeds, Poland, 2017. SGS Polska Sp. z o.o., ul. Jana Kazimierza 3, 01-248 Warszawa, Poland Report no.: SGS/2017/145/PL05 GEP - yes Unpublished	N	Synthos AGRO Sp. z o.o.; Innvigo Sp. z o.o.
KCP 6 KCP 6.2	Emilia Walczak	2017	Efficacy evaluation of Terbut 500 SC when applied pre and post emergence into maize, to control of wide range of broad leaves weeds, Poland, 2017. SGS Polska Sp. z o.o., ul. Jana Kazimierza 3, 01-248 Warszawa, Poland Report no.: SGS/2017/145/PL06 GEP - yes Unpublished	N	Synthos AGRO Sp. z o.o.; Innvigo Sp. z o.o.
KCP 6 KCP 6.2	Emilia Walczak	2017	Efficacy evaluation of Terbut 500 SC when applied pre and post emergence into maize, to control of wide range of broad leaves weeds, Germany, 2017. SGS Polska Sp. z o.o., ul. Jana Kazimierza 3, 01-248 Warszawa, Poland (SGS Institut Fresenius GmbH, Europa Allee 12, 49685 Emstek, Germany) Report no.: SGS2017H001GER01 GEP - yes Unpublished	N	Synthos AGRO Sp. z o.o.; Innvigo Sp. z o.o.
KCP 6 KCP 6.2	Emilia Walczak	2017	Efficacy evaluation of Terbut 500 SC when applied pre and post emergence into maize, to control of wide range of broad leaves weeds, Germany, 2017. SGS Polska Sp. z o.o., ul. Jana Kazimierza 3, 01-248 Warszawa, Poland (SGS Institut Fresenius GmbH, Europa Allee 12, 49685 Emstek, Germany) Report no.: SGS2017H001GER01 GEP - yes Unpublished	N	Synthos AGRO Sp. z o.o.; Innvigo Sp. z o.o.

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Data Ver- tebrate study Y/N	Owner
			GmbH, Europa Allec 12, 49685 Emstek, Germany) Report no.: SGS2017H001GER02 GEP - yes Unpublished		
KCP 6 KCP 6.2	Emilia Walczak	2017	Efficacy evaluation of Terbut 500 SC when applied pre and post emergence into maize, to control of wide range of broad leaves weeds, Germany, 2017. SGS Polska Sp. z o.o., ul. Jana Kazimierza 3, 01-248 Warszawa, Poland (SGS Institut Fresenius GmbH, Europa Allec 12, 49685 Emstek, Germany) Report no.: SGS2017H001GER03 GEP - yes Unpublished	N	Synthos AGRO Sp. z o.o.; Innvigo Sp. z o.o.
KCP 6 KCP 6.2	Emilia Walczak	2017	Efficacy evaluation of Terbut 500 SC when applied pre and post emergence into maize, to control of wide range of broad leaves weeds, Germany, 2017. SGS Polska Sp. z o.o., ul. Jana Kazimierza 3, 01-248 Warszawa, Poland (SGS Institut Fresenius GmbH, Europa Allec 12, 49685 Emstek, Germany) Report no.: SGS2017H001GER04 GEP - yes Unpublished	N	Synthos AGRO Sp. z o.o.; Innvigo Sp. z o.o.
KCP 6 KCP 6.2	Emilia Walczak	2017	Efficacy evaluation of Terbut 500 SC when applied pre and post emergence into maize, to control of wide range of broad leaves weeds, Germany, 2017. SGS Polska Sp. z o.o., ul. Jana Kazimierza 3, 01-248 Warszawa, Poland (SGS Institut Fresenius GmbH, Europa Allec 12, 49685 Emstek, Germany) Report no.: SGS2017H001GER05 GEP - yes Unpublished	N	Synthos AGRO Sp. z o.o.; Innvigo Sp. z o.o.
KCP 6 KCP 6.2	Emilia Walczak	2017	Efficacy evaluation of Terbut 500 SC when applied pre and post emergence	N	Synthos AGRO

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Data Ver- tebrate study Y/N	Owner
			into maize, to control of wide range of broad leaves weeds, Czech Republic, 2017. SGS Polska Sp. z o.o., ul. Jana Kazimierza 3, 01-248 Warszawa, Poland (AGRITEC vyzku slechteni a sluzby s.r.o., Zemedelska 2520/16, 787 01 Sumperk/Olomoucky kraj, Czech Republic) Report no.: SGS2017H001CZ01 GEP - yes Unpublished		Sp. z o.o.; Inn-vigo Sp. z o.o.
KCP 6 KCP 6.2	Sobiech Ł.	2019	Efficacy of Terbut 500 SC in control of weeds in maize cultivation. Poznań University of Life Sciences, Research and Education Center Gorzyń, Agronomy Department; ul. Wojska Polskiego 28, 60-637 Poznań Report no.: AH/19/K/14/Ce/04 GEP - yes Unpublished	N	Chemirol
KCP 6 KCP 6.2	Sobiech Ł.	2019	Efficacy of Terbut 500 SC in control of weeds in maize cultivation Poznań University of Life Sciences, Research and Education Center Gorzyń, Agronomy Department; ul. Wojska Polskiego 28, 60-637 Poznań Report no.: AH/19/K/14/Dziem/03 GEP - yes Unpublished	N	Chemirol
KCP 6 KCP 6.2	Sobiech Ł.	2019	Efficacy of Terbut 500 SC in control of weeds in maize cultivation Poznań University of Life Sciences, Research and Education Center Gorzyń, Agronomy Department; ul. Wojska Polskiego 28, 60-637 Poznań Report no.: AH/19/K/14/Gr/01 GEP - yes	N	Chemirol

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Data Ver- tebrate study Y/N	Owner
			Unpublished		
KCP 6 KCP 6.2	Sobiech Ł.	2019	Efficacy of Terbut 500 SC in control of weeds in maize cultivation Poznań University of Life Sciences, Research and Education Center Gorzyń, Agronomy Department; ul. Wojska Polskiego 28, 60-637 Poznań Report no.: AH/19/K/14/Nw/01 GEP - yes Unpublished	N	Chemiroł
KCP 6 KCP 6.2	Sobiech Ł.	2019	Efficacy of Terbut 500 SC in control of weeds in maize cultivation Poznań University of Life Sciences, Research and Education Center Gorzyń, Agronomy Department; ul. Wojska Polskiego 28, 60-637 Poznań Report no.: AH/19/K/14/Nw/05 GEP - yes Unpublished	N	Chemiroł
KCP 6 KCP 6.2	Sobiech Ł.	2019	Efficacy of Terbut 500 SC in control of weeds in maize cultivation Poznań University of Life Sciences, Research and Education Center Gorzyń, Agronomy Department; ul. Wojska Polskiego 28, 60-637 Poznań Report no.: AH/19/K/14/Ra/02 GEP - yes Unpublished	N	Chemiroł
KCP 6 KCP 6.2	Rembisz D.	2019	EVALUATION EFFICACY OF TERBUT 500 SC APPLIED IN MAIZE SynTech Research Poland Sp. z o.o. 69/1 Jagiellonska 85-027 Bydgoszcz Poland Report no.: SRPL19-148-336HE GEP - yes Unpublished	N	Chemiroł

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Data Ver- tebrate study Y/N	Owner
KCP 6 KCP 6.2	Rembisz D.	2019	EVALUATION EFFICACY OF TERBUT 500 SC APPLIED IN MAIZE SynTech Research Poland Sp. z o.o. 69/1 Jagiellonska 85-027 Bydgoszcz Poland Report no.: SRPL19-147-336HE GEP - yes Unpublished	N	Chemirol
KCP 6 KCP 6.2	Rembisz D.	2019	EVALUATION EFFICACY OF TERBUT 500 SC APPLIED IN MAIZE SynTech Research Poland Sp. z o.o. 69/1 Jagiellonska 85-027 Bydgoszcz Poland Report no.: SRPL19-152-336HE GEP - yes Unpublished	N	Chemirol
KCP 6 KCP 6.2	Rembisz D.	2019	EVALUATION EFFICACY OF TERBUT 500 SC APPLIED IN MAIZE SynTech Research Poland Sp. z o.o. 69/1 Jagiellonska 85-027 Bydgoszcz Poland Report no.: SRPL19-149-336HE GEP - yes Unpublished	N	Chemirol
KCP 6 KCP 6.2	Rembisz D.	2019	EVALUATION EFFICACY OF TERBUT 500 SC APPLIED IN MAIZE SynTech Research Poland Sp. z o.o. 69/1 Jagiellonska 85-027 Bydgoszcz Poland Report no.: SRPL19-150-336HE GEP - yes Unpublished	N	Chemirol
KCP 6 KCP 6.2	Rembisz D.	2019	EVALUATION EFFICACY OF TERBUT 500 SC APPLIED IN MAIZE	N	Chemirol

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Data Ver- tebrate study Y/N	Owner
			MAIZE SynTech Research Poland Sp. z o.o. 69/1 Jagiellonska 85-027 Bydgoszcz Poland Report no.: SRPL19-151-336HE GEP - yes Unpublished		
KCP 6 KCP 6.2	Rembisz D.	2019	EVALUATION EFFICACY OF TERBUT 500 SC APPLIED IN MAIZE SynTech Research Poland Sp. z o.o. 69/1 Jagiellonska 85-027 Bydgoszcz Poland Report no.: SRPL19-153-336HE GEP - yes Unpublished	N	Chemirol
KCP 6 KCP 6.2	Rembisz D.	2019	EVALUATION EFFICACY OF TERBUT 500 SC APPLIED IN MAIZE SynTech Research Poland Sp. z o.o. 69/1 Jagiellonska 85-027 Bydgoszcz Poland Report no.: SRPL19-154-336HE GEP - yes Unpublished	N	Chemirol
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KCP 6 KCP 6.2	Rembisz D.	2019	Evaluation of the selectivity of the product Terbut 500 S.C. in maize. SynTech Research Poland Sp. z o.o. 69/1 Jagiellonska	N	Chemirol

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Data Ver- tebrate study Y/N	Owner
			85-027 Bydgoszcz Poland Report no.: SRPL19-156-336HS GEP - yes Unpublished		
KCP 6 KCP 6.2	Rembisz D.	2019	Evaluation of the selectivity of the product Terbut 500 S.C. in maize. SynTech Research Poland Sp. z o.o. 69/1 Jagiellonska 85-027 Bydgoszcz Poland Report no.: SRPL19-157-336HS GEP - yes Unpublished	N	Chemirol
KCP 6 KCP 6.2	Rembisz D.	2019	Evaluation of the selectivity of the product Terbut 500 SC SynTech Research Poland Sp. z o.o. 69/1 Jagiellonska 85-027 Bydgoszcz Poland Report no.: SRPL19-158-336HS GEP - yes Unpublished	N	Chemirol
KCP 6 KCP 6.2	Rembisz D.	2019	Evaluation of the selectivity of the product Terbut 500 SC in maize SynTech Research Poland Sp. z o.o. 69/1 Jagiellonska 85-027 Bydgoszcz Poland Report no.: SRPL19-159-336HS GEP - yes Unpublished	N	Chemirol
KCP 6 KCP 6.2	Szymańska B.	2019	Evaluation of the phytotoxicity of the product Terbut 500 SC in the cultivation of corn Poznań University of Life Sciences, Research and Education Center Gorzyń, Wojska Polskiego 28, 60-637 Poznań Report no.: AH/19/K/14/BR/2 GEP - yes	N	Chemirol

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Data Ver- tebrate study Y/N	Owner
			Unpublished		
KCP 6 KCP 6.2	Szymańska B.	2019	Evaluation of the phytotoxicity of the product Terbut 500 SC in the cultivation of corn Poznań University of Life Sciences, Research and Education Center Gorzyń, Wojska Polskiego 28, 60-637 Poznań Report no.: AH/19/K/14/GR/5 GEP - yes Unpublished	N	Chemiroł
KCP 6 KCP 6.2	Szymańska B.	2019	Evaluation of the phytotoxicity of the product Terbut 500 SC in the cultivation of corn Poznań University of Life Sciences, Research and Education Center Gorzyń, Wojska Polskiego 28, 60-637 Poznań Report no.: AH/19/K/14/NW/1 GEP - yes Unpublished	N	Chemiroł
KCP 6 KCP 6.2	Szymańska B.	2019	Evaluation of the phytotoxicity of the product Terbut 500 SC in the cultivation of corn Poznań University of Life Sciences, Research and Education Center Gorzyń, Wojska Polskiego 28, 60-637 Poznań Report no.: AH/19/K/14/RA/4 GEP - yes Unpublished	N	Chemiroł
KCP 6 KCP 6.2	Szymańska B.	2019	Evaluation of the phytotoxicity of the product Terbut 500 SC in the cultivation of corn Poznań University of Life Sciences, Research and Education Center Gorzyń, Wojska Polskiego 28, 60-637 Poznań Report no.: AH/19/K/14/ZŁ/3 GEP - yes Unpublished	N	Chemiroł

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 TERBUT 500 SC.

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4. Soil conditions
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 - 5.1. maize sowing timing
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 - 5.4. Target weeds
 - 5.4.1. Weed spectrum in Europe
 - 5.4.2. Weed spectrum in maize
 - 5.4.4. Weed species controlled by terbuthylazine
6. Conclusion

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, Germany and Czech Republic to be used for registration purposes of spring, maize herbicide Terbut in the Czech Republic.

2. Plant protection products under consideration

2.1.General

The efficacy and phytotoxicity studies were conducted in Poland, Germany and Czech Republic in on the plant protection product Terbut 500 SC and a standard herbicide Lumax 537,5 SE, Gardo Gold 500 SC and Gardoprime Plus Gold 500 SC was used as a reference product in maize. Total of 12 efficacy/ phytotoxicity GEP trials were carried out to assess the product's efficacy and phytotoxic potential.

2.2.Products' characteristics:

Products' characteristics

Marketing name:

Applicant: Innvigo Sp. z.o.o.
Applicant Document ID Section 3 PART B Terbut 500 SC
Applicant Author: R.N.

Evaluator: IOŚ-PIB, PL
Date: 11.2021

- **product submitted to registration under two different marketing names La Zina 500 SC / Tekno 500 SC**

Formulants content:

The information concerning ingredients of product Terbut 500 SC are included in the confidential part of the registration dossier: Registration Report – Part C.

Formulation of use:

SC – Suspension concentrate

Description of the active substance

Active substance:

Terbuthylazine 500 g/l

Chemical name (IUPAC): N²-tert-butyl-6-chloro-N⁴-ethyl-1,3,5-triazine-2,4- diamine

According to the Terbuthylazine_DAR_04_Vol3_B1-B5_public

Terbuthylazine is an inhibitor of photosystem II (PS II) (HRAC mode of action group C1, WSSA group 5). By binding to the Q_B binding site of photosystem II it blocks the Hill reaction, which takes place in the chloroplast. Photosynthesis is prevented at the solar energy collected by the leaf is diverted into the formation of destructive compounds (free radicals) rather than into the normal photosynthesis products. These free radicals build up to the point where chlorophyll, carotenoids and cell membranes are destroyed. The rate of plant death is rapid and too fast to be accounted for by starvation (by stopping photosynthesis alone) and the destruction of cell walls and membranes are the major causes of the foliar chlorosis, necrosis and finally death of the plant. Selectivity of the crop is due to the ability of corn to rapidly metabolise terbuthylazine into non-toxic compounds.

According to the Terbuthylazine_DAR_01_Vol1_public

Terbuthylazine provides a broad spectrum of activity, mainly against range of broad leaved weeds.

Susceptible weeds (pre- and post –emergence at 750 g ai/ha): *Amaranthus* spp. (PC), *Anagallis arvensis*, *Atriplex* spp., *Capsela bursa-pastoris*, *Chenopodium* spp., *Galinsoga parviflora*, *Kickxia spuria*, *Mercurialis annua*, *Poa annua*, *Polygonum persicaria* (PC), *Polygonum aviculare* (PC), *Portulaca oleraceae* (PC), *Solanum nigrum*, *Stellaria media*, *Urtica* spp. (PC), *Veronica persica* (PC), *Viola arvensis* (PC), *Viola tricolor* (PC).

(PC- partially controlled)

Effects on harmful organisms

Terbuthylazine provides control of annual broad-leaved weeds, pre-emergence and early-post emergence. Terbuthylazine is mainly taken up via plant roots, although entering the leaves is possible. The site of application is located in the chloroplast of leaf meristems where interference with the electron transport of photosystem II ('Hill reaction') takes place leading to inhibition of photosynthesis.

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

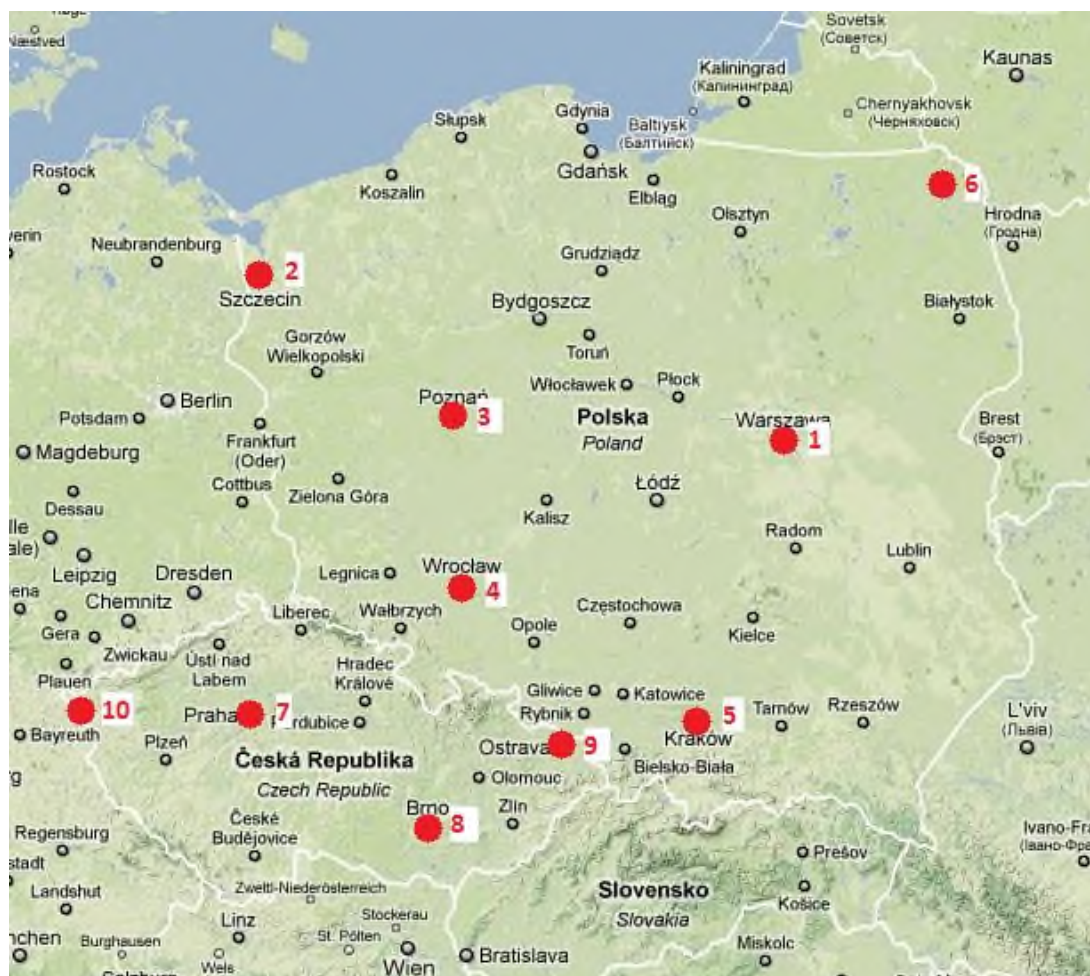


Table 3. Parameters of climate stations

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

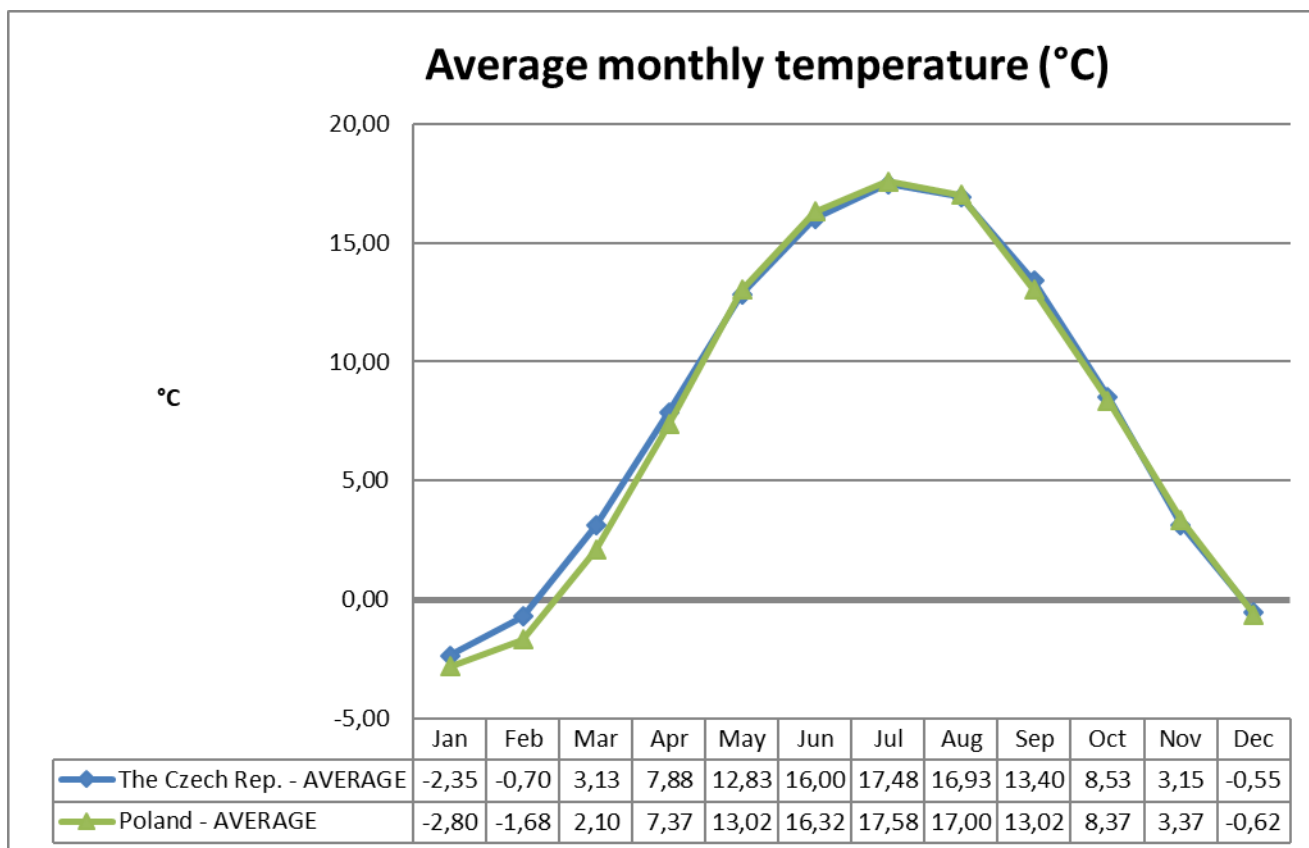
Table 4. Average monthly temperature data

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 Terbut 500 SC is spring. It is so because product Terbut 500 SC is to be applied in the spring (BBCH 00),(See section 5.3.). 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

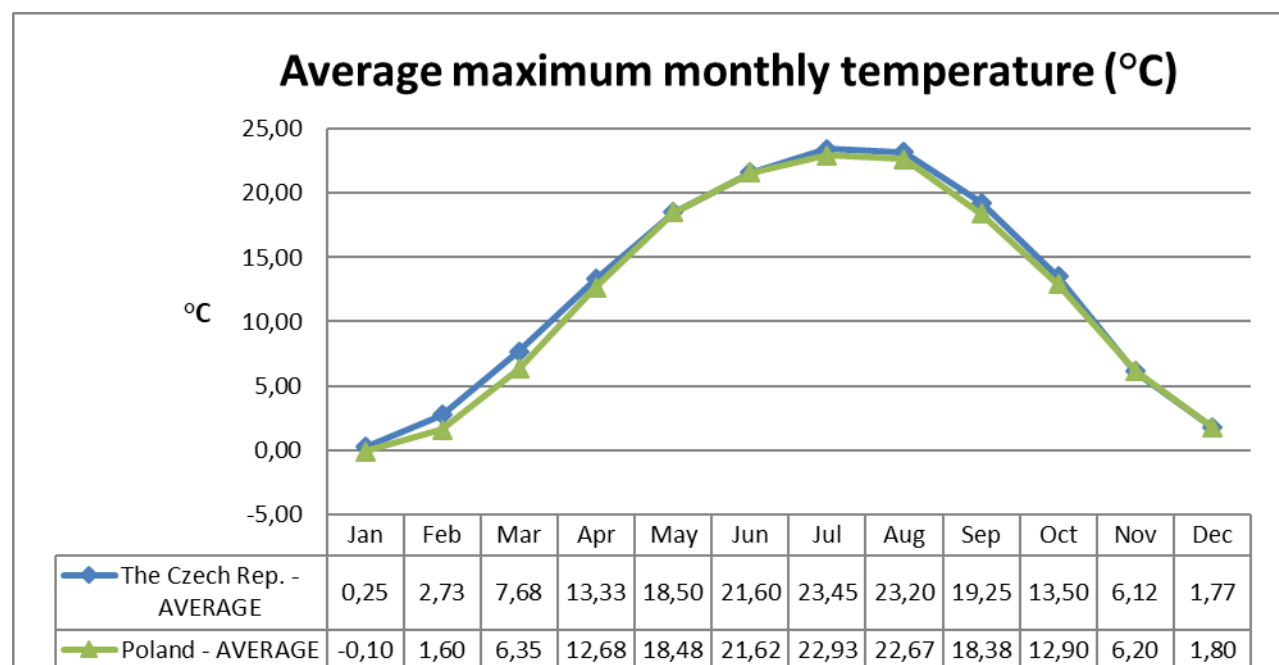
Table 5. Average maximum monthly temperature data

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 Terbut 500 SC average maximum temperature in both countries differs by no more than 0,65°C in April and 0,02°C in May.

3.3 Average minimum monthly temperatures

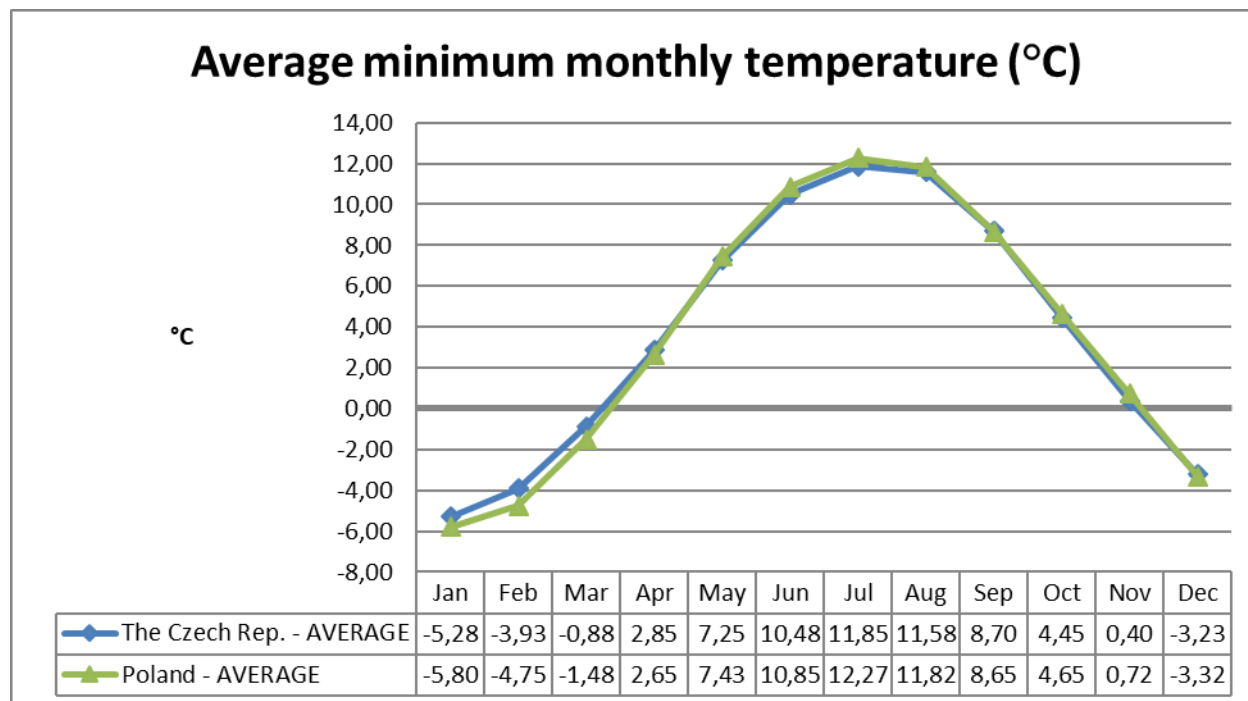
Table 6. Average minimum monthly temperature data

Location	Average minimum monthly temperature (°C)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
The Czech Rep.: Cheb	-5,0	-4,1	-1,2	2,1	6,3	9,6	11,0	10,6	8,0	4,1	0,0	-3,3
The Czech Rep.: Prague	-5,3	-4,2	-1,3	2,4	7,1	10,4	11,8	11,5	8,6	4,0	-0,2	-3,4
The Czech Rep.: Brno	-5,2	-3,3	-0,2	3,9	8,3	11,3	12,7	12,6	9,5	5,0	0,9	-3,0
The Czech Rep.: Ostrava	-5,6	-4,1	-0,8	3,0	7,3	10,6	11,9	11,6	8,7	4,7	0,9	-3,2
The Czech Rep. - AVERAGE	-5,28	-3,93	-0,88	2,85	7,25	10,48	11,85	11,58	8,70	4,45	0,40	-3,23
Poland: Warsaw	-6,1	-5,0	-1,5	3,0	8,0	11,3	12,6	12,1	8,7	4,5	0,8	-3,4
Poland: Poznan	-4,8	-3,9	-0,8	2,8	7,7	11,2	12,5	12,2	9,0	5,3	1,2	-2,6
Poland: Wroclaw	-5,3	-4,0	-0,9	2,8	7,1	10,7	12,0	11,6	8,7	4,6	0,6	-3,1
Poland: Krakow	-6,7	-4,8	-1,3	3,0	7,6	10,8	12,2	11,8	8,6	4,2	0,2	-4,0
Poland: Szczecin	-3,7	-3,1	-0,4	2,9	7,5	11,1	12,9	12,3	9,5	5,8	2,0	-1,6
Poland: Suwalki	-8,2	-7,7	-4,0	1,4	6,7	10,0	11,4	10,9	7,4	3,5	-0,5	-5,2
Poland - AVERAGE	-5,80	-4,75	-1,48	2,65	7,43	10,85	12,27	11,82	8,65	4,65	0,72	-3,32

data source:

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

Figure 5. Average minimum monthly temperature graph



Average minimum monthly temperature in Poland and in the Czech Republic follows almost the same pattern, therefore, it is comparable. The table and graph above show that minimum monthly temperature in Poland and in the Czech Republic is very similar. There are slight differences only in the winter months. The time which is of most importance to the application of product Terbut 500 SC is spring. It is so because product Terbut 500 SC is to be applied in the spring

(BBCH 00). In the months of April through May there is a close correlation between average temperatures in Poland and in the Czech Republic.

3.3. Average monthly precipitation sum

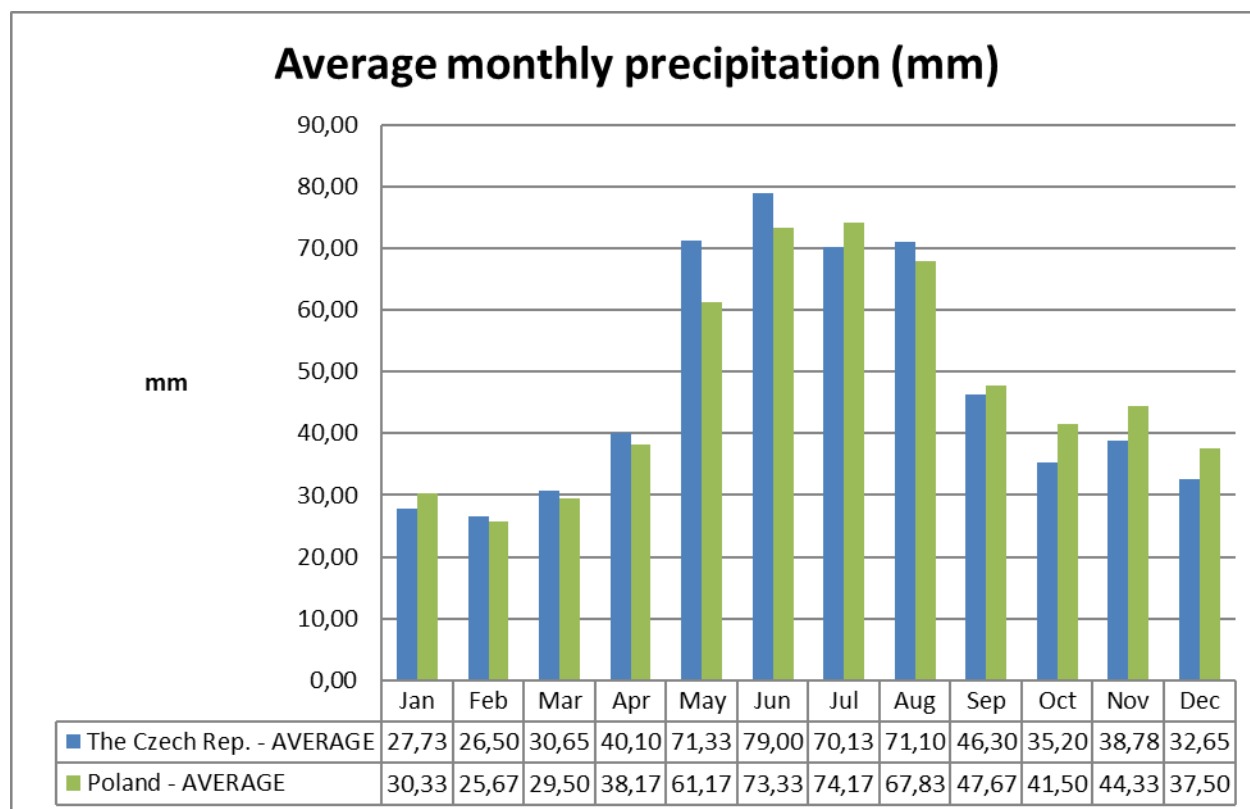
Table 7. Average monthly precipitation sum data

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



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. As mentioned above, April and May are the months of expected application of the product Terbut 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.

4. Soil conditions

Soil conditions in Poland and in the Czech Republic are not compared. As has been mentioned above in terbuthylazine acts primarily through rots and 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. Maize sowing timing

According to the MOCA study in Poland sowing of maize takes place usually between 1st of April to 15th of May depending on the region. In Czech Republic sowing maize take place in the same time.

5.2. Maize growth and development

Figure 7. Phenological crop calendar for maize in Poland

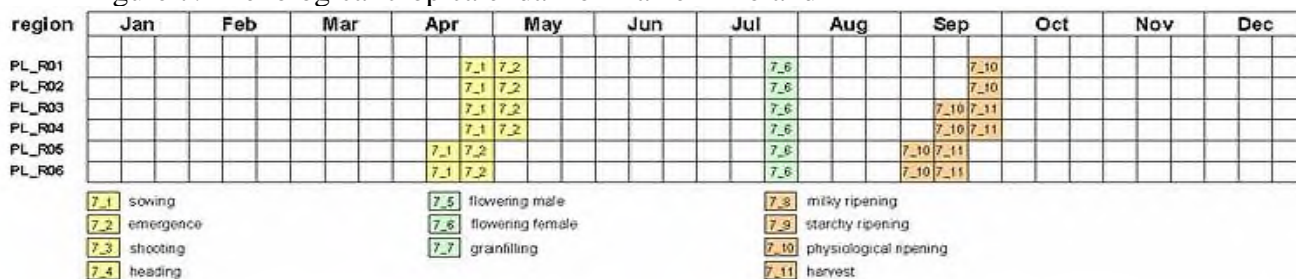
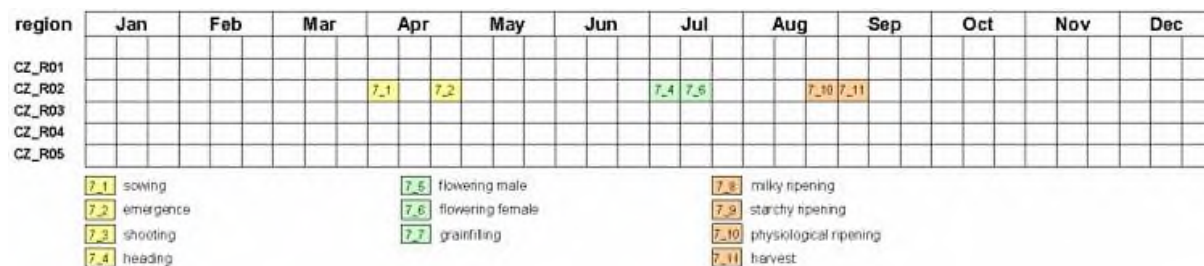


Figure 8. Phenological crop calendar for maize in the Czech Republic



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

5.3. Timing of application

Maize

spring use solo and with adiuwant in BBCH 00 or solo in BBCH 12-16

5.4. Target weeds

5.4.1. Weed spectrum in Europe

In the study published in 1993 by Shroeder et al. Table 4. lists 15 weeds species most important in Europe. Both Poland and the Czech Republic are included in this survey.

Table 8. Most abundant weeds in Europe

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

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

Data source

(http://www.unifr.ch/biol/ecology/muellerschaeerer/group/mueller/webpage/pdf/publications/publications_1993_02_hms.pdf)

5.4.2. Weed spectrum in the maize

According to Shroeder et al. (1993) Table 4. the most abundant weeds in maize are:

5.4.3. Weed species controlled by terbuthylazine

The following table lists weeds that were included in efficacy studies of product Terbut 500 SC. These weeds were present in experimental plots and their sensitivity depended on the dose of the product applied.

Table 12. Weed species and their sensitivity to Terbut 500 SC

Poland, Czech Republic and Germany 2017-2019

Pre-emergence application

No.	Name	Rate (l, %/ha)	Applica- tion code	Pest code	Scientific name	DA-A/B	Average	Efficacy
1	Terbut 500 S.C.	0,8	A	AMARE	<i>Amaranthus retroflexus</i>	7 DAA - 25 DAB	88,73	S
	Hydravance 100 LQ	0,2		ANTAR	<i>Anthemis arvensis</i>	20 DAA - 14 DAB	99,08	S
				CAPBP	<i>Capsella bursa-pastoris</i>	13 DAA - 14 DAB	93,81	S
				CENCY	<i>Cyanus segetum</i>	14 DAA - 14 DAB	75,50	MS
				CHEAL	<i>Chenopodium album</i>	7 DAA - 28 DAB	84,86	MS
				CHEPO	<i>Lipandra polysperma</i>	13 DAA - 13 DAB	57,50	T
				ECHCG	<i>Echinochloa crus-galli</i>	13 DAA - 26 DAB	37,01	T
				GALAP	<i>Galium aparine</i>	13 DAA - 25 DAB	79,04	MS
				GASPA	<i>Galinsoga parviflora</i>	13 DAA - 0 DAB	99,38	S
				GERDI	<i>Geranium dissectum</i>	0 DAB 14 DAB	82,50	MS
				GERPU	<i>Geranium pusillum</i>	0 DAA - 14 DAB	60,37	MT
				LYCAR	<i>Anchusa arvensis</i>	14 DAB - 26 DAB	95,60	S
				MATCH	<i>Matricaria chamomilla</i>	13 DAA - 27 DAB	84,11	MS
				MATIN	<i>Tripleurospermum inodorum</i>	13 DAA - 38 DAB	85,27	S
				POAAN	<i>Poa annua</i>	0 DAB - 26 DAB	65,00	MT
				POLAV	<i>Polygonum aviculare</i>	0 DAB - 28 DAB	60,10	MT
				POLCO	<i>Fallopia convolvulus</i>	14 DAA - 24 DAB	63,09	MT
				POLLA	<i>Persicaria lapathifolia</i>	0 DAB - 14 DAB	50,87	T
				POLPE	<i>Persicaria maculosa</i>	0 DAB - 14 DAB	88,80	S
				SETPU	<i>Settaria helvola</i>	24 DAA - 22 DAB	4,08	T
				SOLNI	<i>Solanum nigrum</i>	16 DAA - 14 DAB	85,00	S
				STEME	<i>Stellaria media</i>	15 DAA - 38 DAB	84,10	MS
				VIOAR	<i>Viola arvensis</i>	12 DAA - 24 DAB	71,18	MS
2	Terbut 500 S.C.	1	A	AMARE	<i>Amaranthus retroflexus</i>	7 DAA - 57 DAB	91,97	S
				CENCY	<i>Cyanus segetum</i>	14 DAA - 57 DAB	83,15	MS
				CHEAL	<i>Chenopodium al-</i>	13 DAA - 56	97,50	S

					bum	DAA		
				MATCH	Matricaria chamomilla	16 DAA - 57 DAB	94,13	S
				MATIN	Tripleurospermum inodorum	14 DAA - 57 DAB	94,66	S
				STEME	Stellaria media	15 DAA - 57 DAB	88,57	S
				VIOAR	Viola arvensis	12 DAA - 57 DAB	91,28	S
3	Terbut 500 S.C. Hydravance 100 LQ	1 0,2	A	AMARE	Amaranthus retroflexus	7 DAA - 25 DAB	92,84	S
				ANTAR	Anthemis arvensis	20 DAA - 14 DAB	100,00	S
				CAPBP	Capsella bursa-pastoris	13 DAA - 14 DAB	94,70	S
				CENCY	Cyanus segetum	14 DAA - 14 DAB	85,04	S
				CHEAL	Chenopodium album	7 DAA - 28 DAB	89,30	S
				CHEPO	Lipandra polysperma	13 DAA - 13 DAB	83,78	MS
				ECHCG	Echinochloa crus-galli	13 DAA - 26 DAB	61,77	MT
				GALAP	Galium aparine	13 DAA - 25 DAB	85,67	S
				GASPA	Galinsoga parviflora	13 DAA - 0 DAB	98,13	S
				GERDI	Geranium dissectum	0 DAB 14 DAB	86,90	S
				GERPU	Geranium pusillum	0 DAA - 14 DAB	69,54	MT
				LYCAR	Anchusa arvensis	14 DAB - 26 DAB	96,53	S
				MATCH	Matricaria chamomilla	13 DAA - 27 DAB	91,75	S
				MATIN	Tripleurospermum inodorum	13 DAA - 38 DAB	94,56	S
				POAAN	Poa annua	0 DAB - 26 DAB	68,75	MT
				POLAV	Polygonum aviculare	0 DAB - 28 DAB	73,00	MS
				POLCO	Fallopia convolvulus	14 DAA - 24 DAB	74,93	MS
				POLLA	Persicaria lapathifolia	0 DAB - 14 DAB	67,10	MT
				POLPE	Persicaria maculosa	0 DAB - 14 DAB	90,00	S
				SETPU	Settaria helvola	24 DAA - 22 DAB	6,88	T
				SOLNI	Solanum nigrum	16 DAA - 14 DAB	85,00	S
				STEME	Stellaria media	15 DAA - 38 DAB	91,30	S
				VIOAR	Viola arvensis	12 DAA - 24 DAB	85,43	S
4	Terbut 500 S.C. Hydravance 100 LQ	1,2 0,2	A	AMARE	Amaranthus retroflexus	7 DAA - 25 DAB	96,74	S
				ANTAR	Anthemis arvensis	20 DAA - 14 DAB	98,15	S

				CAPBP	<i>Capsella bursa-pastoris</i>	13 DAA - 14 DAB	96,34	S
				CENCY	<i>Cyanus segetum</i>	14 DAA - 14 DAB	81,46	MS
				CHEAL	<i>Chenopodium album</i>	7 DAA - 28 DAB	91,67	S
				CHEPO	<i>Lipandra polysperma</i>	13 DAA - 13 DAB	91,58	S
				ECHCG	<i>Echinochloa crus-galli</i>	13 DAA - 26 DAB	88,07	S
				GALAP	<i>Galium aparine</i>	13 DAA - 25 DAB	88,65	S
				GASPA	<i>Galinsoga parviflora</i>	13 DAA - 0 DAB	100,00	S
				GERDI	<i>Geranium dissectum</i>	0 DAB 14 DAB	91,25	S
				GERPU	<i>Geranium pusillum</i>	0 DAA - 14 DAB	75,16	MS
				LYCAR	<i>Anchusa arvensis</i>	14 DAB - 26 DAB	97,77	S
				MATCH	<i>Matricaria chamomilla</i>	13 DAA - 27 DAB	94,03	S
				MATIN	<i>Tripleurospermum inodorum</i>	13 DAA - 38 DAB	97,79	S
				POAAN	<i>Poa annua</i>	0 DAB - 26 DAB	80,65	MS
				POLAV	<i>Polygonum aviculare</i>	0 DAB - 28 DAB	79,67	MS
				POLCO	<i>Fallopia convolvulus</i>	14 DAA - 24 DAB	78,49	MS
				POLLA	<i>Persicaria lapathifolia</i>	0 DAB - 14 DAB	78,37	MS
				POLPE	<i>Persicaria maculosa</i>	0 DAB - 14 DAB	99,30	S
				SETPU	<i>Settaria helvola</i>	24 DAA - 22 DAB	11,88	T
				SOLNI	<i>Solanum nigrum</i>	16 DAA - 14 DAB	90,35	S
				STEME	<i>Stellaria media</i>	15 DAA - 38 DAB	91,80	S
				VIOAR	<i>Viola arvensis</i>	12 DAA - 24 DAB	91,62	S
5	Terbut 500 S.C.	1,5	A	AMARE	<i>Amaranthus retroflexus</i>	7 DAA - 25 DAB	99,58	S
	Hydravance 100 LQ	0,2		ANTAR	<i>Anthemis arvensis</i>	20 DAA - 14 DAB	100,00	S
				CAPBP	<i>Capsella bursa-pastoris</i>	13 DAA - 14 DAB	98,14	S
				CENCY	<i>Cyanus segetum</i>	14 DAA - 14 DAB	96,65	S
				CHEAL	<i>Chenopodium album</i>	7 DAA - 28 DAB	95,93	S
				CHEPO	<i>Lipandra polysperma</i>	13 DAA - 13 DAB	99,10	S
				ECHCG	<i>Echinochloa crus-galli</i>	13 DAA - 26 DAB	94,36	S
				GALAP	<i>Galium aparine</i>	13 DAA - 25 DAB	95,91	S
				GASPA	<i>Galinsoga parviflora</i>	13 DAA - 0 DAB	100,00	S
				GERDI	<i>Geranium dissectum</i>	0 DAB 14 DAB	97,50	S

					<i>tum</i>			
				GERPU	<i>Geranium pusillum</i>	0 DAA - 14 DAB	82,05	MS
				LYCAR	<i>Anchusa arvensis</i>	14 DAB - 26 DAB	99,87	S
				MATCH	<i>Matricaria chamomilla</i>	13 DAA - 27 DAB	94,66	S
				MATIN	<i>Tripleurospermum inodorum</i>	13 DAA - 38 DAB	98,86	S
				POAAN	<i>Poa annua</i>	0 DAB - 26 DAB	92,50	S
				POLAV	<i>Polygonum aviculare</i>	0 DAB - 28 DAB	99,00	S
				POLCO	<i>Fallopia convolvulus</i>	14 DAA - 24 DAB	88,53	S
				POLLA	<i>Persicaria lapathifolia</i>	0 DAB - 14 DAB	88,80	S
				POLPE	<i>Persicaria maculosa</i>	0 DAB - 14 DAB	98,30	S
				SETPU	<i>Settaria helvola</i>	24 DAA - 22 DAB	14,70	T
				SOLNI	<i>Solanum nigrum</i>	16 DAA - 14 DAB	91,25	S
				VIOAR	<i>Viola arvensis</i>	12 DAA - 24 DAB	97,57	S
6	Lumax 537,5 SE; Gardo Gold 500 S.C.; Gardoprim Plus Gold 500 S.C	3,5; 4; 4	A	AMARE	<i>Amaranthus retroflexus</i>	7 DAA - 25 DAB	100,00	S
				ANTAR	<i>Anthemis arvensis</i>	20 DAA - 14 DAB	100,00	S
				CAPBP	<i>Capsella bursa-pastoris</i>	13 DAA - 14 DAB	96,14	S
				CENCY	<i>Cyanus segetum</i>	14 DAA - 14 DAB	98,45	S
				CHEAL	<i>Chenopodium album</i>	7 DAA - 28 DAB	96,06	S
				CHEPO	<i>Lipandra polysperma</i>	13 DAA - 13 DAB	99,95	S
				ECHCG	<i>Echinochloa crus-galli</i>	13 DAA - 26 DAB	91,20	S
				GALAP	<i>Galium aparine</i>	13 DAA - 25 DAB	96,93	S
				GASPA	<i>Galinsoga parviflora</i>	13 DAA - 0 DAB	100,00	S
				GERDI	<i>Geranium dissectum</i>	0 DAB 14 DAB	71,90	MS
				GERPU	<i>Geranium pusillum</i>	0 DAA - 14 DAB	99,75	S
				LYCAR	<i>Anchusa arvensis</i>	14 DAB - 26 DAB	100,00	S
				MATCH	<i>Matricaria chamomilla</i>	13 DAA - 27 DAB	98,09	S
				MATIN	<i>Tripleurospermum inodorum</i>	13 DAA - 38 DAB	99,59	S
				POAAN	<i>Poa annua</i>	0 DAB - 26 DAB	69,40	MT
				POLAV	<i>Polygonum aviculare</i>	0 DAB - 28 DAB	73,00	MS
				POLCO	<i>Fallopia convolvulus</i>	14 DAA - 24	88,79	S

					us	DAB		
				POLLA	<i>Persicaria lapathi-folia</i>	0 DAB - 14 DAB	93,10	S
				POLPE	<i>Persicaria maculo-sa</i>	0 DAB - 14 DAB	100,00	S
				SETPU	<i>Settaria helvola</i>	24 DAA - 22 DAB	91,30	S
				SOLNI	<i>Solanum nigrum</i>	16 DAA - 14 DAB	92,50	S
				STEME	<i>Stellaria media</i>	15 DAA - 38 DAB	100,00	S
				VIOAR	<i>Viola arvensis</i>	12 DAA - 24 DAB	95,03	S

Post-emergence application

No.	Name	Rate (l, %/ha)	Applica- tion code	Pest code	Scientific name	DA-A/B	Average	Efficacy
1	Terbut 500 S.C.	0,8	B	AMARE	<i>Amaranthus retroflexus</i>	7 DAA - 57 DAB	80,34	MS
				CAPBP	<i>Capsella bursa-pastoris</i>	14 DAA - 57 DAB	86,1	S
				CENCY	<i>Cyanus segetum</i>	14 DAA - 57 DAB	67,08	MT
				CHEAL	<i>Chenopodium album</i>	13 DAA - 46 DAB	78,5	MS
				GALAP	<i>Galium aparine</i>	14 DAA - 46 DAB	80,49	MS
				GASPA	<i>Galinsoga parviflora</i>	14 DAA - 28 DAB	87,92	S
				GERPU	<i>Geranium pusillum</i>	14 DAA - 28 DAB	72,08	MS
				MATCH	<i>Matricaria chamomilla</i>	16 DAA - 57 DAB	77,35	MS
				MATIN	<i>Tripleurospermum inodorum</i>	14 DAA - 57 DAB	83,35	MS
				POLCO	<i>Fallopia convolvulus</i>	14 DAA - 28 DAB	78,69	MS
				SOLNI	<i>Solanum nigrum</i>	14 DAA - 27 DAB	77,21	MS
				STEME	<i>Stellaria media</i>	15 DAA - 57 DAB	75,8	MS
				VERAR	<i>Veronica arvensis</i>	14DAA-46DAB	80,5	MS
				VIOAR	<i>Viola arvensis</i>	12 DAA - 57 DAB	82,26	MS
2	Terbut 500 S.C.	0,8	B	AMARE	<i>Amaranthus retroflexus</i>	7 DAA - 57 DAB	89,6	S
	Hydravance 100 LQ	0,2		CAPBP	<i>Capsella bursa-pastoris</i>	14 DAA - 57 DAB	99,35	S
				CENCY	<i>Cyanus segetum</i>	14 DAA - 57 DAB	74,8	MS
				CHEAL	<i>Chenopodium album</i>	13 DAA - 46 DAB	74,35	MS
				CHEPO	<i>Lipandra polysperma</i>	13 DAA - 56 DAA	55,43	T
				ECHCG	<i>Echinochloa crus-galli</i>	13 DAA - 46 DAB	27,51	T
				GALAP	<i>Galium aparine</i>	14 DAA - 46 DAB	74,87	MS

				GASPA	<i>Galinsoga parviflora</i>	14 DAA - 28 DAB	99,4	S
				GERDI	<i>Geranium dissectum</i>	0 DAB 26 DAB	90	S
				GERPU	<i>Geranium pusillum</i>	14 DAA - 28 DAB	51,25	T
				LYCAR	<i>Anchusa arvensis</i>	0 DAB - 27 DAB	100	S
				MATCH	<i>Matricaria chamomilla</i>	16 DAA - 57 DAB	50,63	T
				MATIN	<i>Tripleurospermum inodorum</i>	14 DAA - 57 DAB	76,29	MS
				POAAN	<i>Poa annua</i>	0 DAB - 26 DAB	61,9	MT
				POLAV	<i>Polygonum aviculare</i>	0 DAB - 28 DAB	92,5	S
				POLCO	<i>Fallopia convolvulus</i>	14 DAA - 28 DAB	76,83	MS
				POLLA	<i>Persicaria lapathifolia</i>	0 DAB - 28 DAB	58,75	T
				POLPE	<i>Persicaria maculosa</i>	12 DAA - 24 DAB	85	S
				SETPU	<i>Settaria helvola</i>	24 DAA - 22 DAB	3,75	T
				SOLNI	<i>Solanum nigrum</i>	14 DAA - 27 DAB	97,5	S
				VIOAR	<i>Viola arvensis</i>	12 DAA - 57 DAB	88,53	S
3	Terbut 500 S.C.	1	B	AMARE	<i>Amaranthus retroflexus</i>	7 DAA - 57 DAB	87,64	S
				CAPBP	<i>Capsella bursa-pastoris</i>	14 DAA - 57 DAB	92,06	S
				CENCY	<i>Cyanus segetum</i>	14 DAA - 57 DAB	71,88	MS
				CHEAL	<i>Chenopodium album</i>	13 DAA - 46 DAB	85,71	S
				GALAP	<i>Galium aparine</i>	14 DAA - 46 DAB	87,36	S
				GASPA	<i>Galinsoga parviflora</i>	14 DAA - 28 DAB	99,33	S
				GERPU	<i>Geranium pusillum</i>	14 DAA - 28 DAB	82,08	MS
				MATCH	<i>Matricaria chamomilla</i>	16 DAA - 57 DAB	84,63	MS
				MATIN	<i>Tripleurospermum inodorum</i>	14 DAA - 57 DAB	88,29	S
				POLCO	<i>Fallopia convolvulus</i>	14 DAA - 28 DAB	85,25	S
				SOLNI	<i>Solanum nigrum</i>	14 DAA - 27 DAB	86,27	S
				STEME	<i>Stellaria media</i>	15 DAA - 57 DAB	80,48	MS
				VERAR	<i>Veronica arvensis</i>	14DAA-46DAB	87,32	S
				VIOAR	<i>Viola arvensis</i>	12 DAA - 57 DAB	87,52	S
4	Terbut 500 S.C.	1,2	B	AMARE	<i>Amaranthus retroflexus</i>	7 DAA - 57 DAB	91,53	S
				CAPBP	<i>Capsella bursa-pastoris</i>	14 DAA - 57 DAB	94,4	S

				CENCY	<i>Cyanus segetum</i>	14 DAA - 57 DAB	78,56	MS
				CHEAL	<i>Chenopodium album</i>	13 DAA - 46 DAB	89,71	S
				GALAP	<i>Galium aparine</i>	14 DAA - 46 DAB	92,66	S
				GASPA	<i>Galinsoga parviflora</i>	14 DAA - 28 DAB	99,33	S
				GERPU	<i>Geranium pusillum</i>	14 DAA - 28 DAB	86,25	S
				MATCH	<i>Matricaria chamomilla</i>	16 DAA - 57 DAB	89,57	S
				MATIN	<i>Tripleurospermum inodorum</i>	14 DAA - 57 DAB	91,85	S
				POLCO	<i>Fallopia convolvulus</i>	14 DAA - 28 DAB	90,52	S
				SOLNI	<i>Solanum nigrum</i>	14 DAA - 27 DAB	89,11	S
				STEME	<i>Stellaria media</i>	15 DAA - 57 DAB	84,38	MS
				VERAR	<i>Veronica arvensis</i>	14DAA-46DAB	90,97	S
				VIOAR	<i>Viola arvensis</i>	12 DAA - 57 DAB	90,85	S
5	Terbut 500 S.C. Hydravance 100 LQ	1 0,2	B	AMARE	<i>Amaranthus retroflexus</i>	7 DAA - 57 DAB	91,11	S
				CAPBP	<i>Capsella bursa-pastoris</i>	14 DAA - 57 DAB	95,89	S
				CENCY	<i>Cyanus segetum</i>	14 DAA - 57 DAB	76,81	MS
				CHEAL	<i>Chenopodium album</i>	13 DAA - 46 DAB	86,7	S
				CHEPO	<i>Lipandra polysperma</i>	13 DAA - 56 DAA	71,27	MS
				ECHCG	<i>Echinochloa crus-galli</i>	13 DAA - 46 DAB	34,04	T
				GALAP	<i>Galium aparine</i>	14 DAA - 46 DAB	88,93	S
				GASPA	<i>Galinsoga parviflora</i>	14 DAA - 28 DAB	99,6	S
				GERDI	<i>Geranium dissectum</i>	0 DAB 26 DAB	92,5	S
				GERPU	<i>Geranium pusillum</i>	14 DAA - 28 DAB	77,73	MS
				LYCAR	<i>Anchusa arvensis</i>	0 DAB - 27 DAB	100	S
				MATCH	<i>Matricaria chamomilla</i>	16 DAA - 57 DAB	75,42	MS
				MATIN	<i>Tripleurospermum inodorum</i>	14 DAA - 57 DAB	90,96	S
				POAAN	<i>Poa annua</i>	0 DAB - 26 DAB	63,15	MT
				POLAV	<i>Polygonum aviculare</i>	0 DAB - 28 DAB	99	S
				POLCO	<i>Fallopia convolvulus</i>	14 DAA - 28 DAB	88,03	S
				POLLA	<i>Persicaria lapathifolia</i>	0 DAB - 28 DAB	75	MS
				POLPE	<i>Persicaria maculosa</i>	12 DAA - 24 DAB	87,5	S
				SETPU	<i>Settaria helvola</i>	24 DAA - 22 DAB	2,5	T

				SOLNI	<i>Solanum nigrum</i>	14 DAA - 27 DAB	91,22	S
				STEME	<i>Stellaria media</i>	15 DAA - 57 DAB	87,54	S
				VERAR	<i>Veronica arvensis</i>	14DAA-46DAB	91,76	S
				VIOAR	<i>Viola arvensis</i>	12 DAA - 57 DAB	92,54	S
6	Terbut 500 S.C.	1,2	B	AMARE	<i>Amaranthus retroflexus</i>	7 DAA - 57 DAB	100	S
	Hydravance 100 LQ	0,2		CAPBP	<i>Capsella bursa-pastoris</i>	14 DAA - 57 DAB	99,5	S
				CENCY	<i>Cyanus segetum</i>	14 DAA - 57 DAB	82,5	MS
				CHEAL	<i>Chenopodium album</i>	13 DAA - 46 DAB	86,92	S
				CHEPO	<i>Lipandra polysperma</i>	13 DAA - 56 DAA	81,7	MS
				ECHCG	<i>Echinochloa crus-galli</i>	13 DAA - 46 DAB	48,5	T
				GALAP	<i>Galium aparine</i>	14 DAA - 46 DAB	89,73	S
				GASPA	<i>Galinsoga parviflora</i>	14 DAA - 28 DAB	99,4	S
				GERDI	<i>Geranium dissectum</i>	0 DAB 26 DAB	98,25	S
				GERPU	<i>Geranium pusillum</i>	14 DAA - 28 DAB	92,25	S
				LYCAR	<i>Anchusa arvensis</i>	0 DAB - 27 DAB	100	S
				MATCH	<i>Matricaria chamomilla</i>	16 DAA - 57 DAB	65,95	MT
				MATIN	<i>Tripleurospermum inodorum</i>	14 DAA - 57 DAB	96,06	S
				POAAN	<i>Poa annua</i>	0 DAB - 26 DAB	81,25	MS
				POLAV	<i>Polygonum aviculare</i>	0 DAB - 28 DAB	99	S
				POLCO	<i>Fallopia convolvulus</i>	14 DAA - 28 DAB	94,94	S
				POLLA	<i>Persicaria lapathifolia</i>	0 DAB - 28 DAB	77,55	MS
				POLPE	<i>Persicaria maculosa</i>	12 DAA - 24 DAB	96,3	S
				SETPU	<i>Settaria helvola</i>	24 DAA - 22 DAB	8,75	T
				SOLNI	<i>Solanum nigrum</i>	14 DAA - 27 DAB	97,5	S
				VIOAR	<i>Viola arvensis</i>	12 DAA - 57 DAB	99,36	S
7	Terbut 500 S.C.	1,5	B	AMARE	<i>Amaranthus retroflexus</i>	7 DAA - 57 DAB	100	S
	Hydravance 100 LQ	0,2		CAPBP	<i>Capsella bursa-pastoris</i>	14 DAA - 57 DAB	99,5	S
				CENCY	<i>Cyanus segetum</i>	14 DAA - 57 DAB	96,43	S
				CHEAL	<i>Chenopodium album</i>	13 DAA - 46 DAB	90,16	S
				CHEPO	<i>Lipandra polysperma</i>	13 DAA - 56 DAA	94,87	S

				ECHCG	<i>Echinochloa crus-galli</i>	13 DAA - 46 DAB	57,47	T
				GALAP	<i>Galium aparine</i>	14 DAA - 46 DAB	93,33	S
				GASPA	<i>Galinsoga parviflora</i>	14 DAA - 28 DAB	99,4	S
				GERDI	<i>Geranium dissectum</i>	0 DAB 26 DAB	99	S
				GERPU	<i>Geranium pusillum</i>	14 DAA - 28 DAB	89,75	S
				LYCAR	<i>Anchusa arvensis</i>	0 DAB - 27 DAB	100	S
				MATCH	<i>Matricaria chamomilla</i>	16 DAA - 57 DAB	57,83	T
				MATIN	<i>Tripleurospermum inodorum</i>	14 DAA - 57 DAB	98,49	S
				POAAN	<i>Poa annua</i>	0 DAB - 26 DAB	89,9	S
				POLAV	<i>Polygonum aviculare</i>	0 DAB - 28 DAB	99	S
				POLCO	<i>Fallopia convolvulus</i>	14 DAA - 28 DAB	97,91	S
				POLLA	<i>Persicaria lapathifolia</i>	0 DAB - 28 DAB	98,75	S
				POLPE	<i>Persicaria maculosa</i>	12 DAA - 24 DAB	93,3	S
				SETPU	<i>Settaria helvola</i>	24 DAA - 22 DAB	15,05	T
				SOLNI	<i>Solanum nigrum</i>	14 DAA - 27 DAB	97,5	S
				VIOAR	<i>Viola arvensis</i>	12 DAA - 57 DAB	99,22	S
8	Tezotar 500 S.C.; Bromoterb 500 S.C.	1,00; 1,50	B	AMARE	<i>Amaranthus retroflexus</i>	7 DAA - 57 DAB	90,67	S
				ANTAR	<i>Anthemis arvensis</i>	20 DAA - 28 DAB	91,9	S
				CAPBP	<i>Capsella bursa-pastoris</i>	14 DAA - 57 DAB	93,29	S
				CENCY	<i>Cyanus segetum</i>	14 DAA - 57 DAB	91,28	S
				CHEAL	<i>Chenopodium album</i>	13 DAA - 46 DAB	93,02	S
				CHEPO	<i>Lipandra polysperma</i>	13 DAA - 56 DAA	95,7	S
				ECHCG	<i>Echinochloa crus-galli</i>	13 DAA - 46 DAB	54,44	T
				GALAP	<i>Galium aparine</i>	14 DAA - 46 DAB	91,1	S
				GASPA	<i>Galinsoga parviflora</i>	14 DAA - 28 DAB	99,6	S
				GERDI	<i>Geranium dissectum</i>	0 DAB 26 DAB	99	S
				GERPU	<i>Geranium pusillum</i>	14 DAA - 28 DAB	94,36	S
				LYCAR	<i>Anchusa arvensis</i>	0 DAB - 27 DAB	100	S
				MATCH	<i>Matricaria chamomilla</i>	16 DAA - 57 DAB	89,92	S
				MATIN	<i>Tripleurospermum inodorum</i>	14 DAA - 57 DAB	92,43	S

				POAAN	<i>Poa annua</i>	0 DAB - 26 DAB	96	S
				POLAV	<i>Polygonum aviculare</i>	0 DAB - 28 DAB	99	S
				POLCO	<i>Fallopia convolvulus</i>	14 DAA - 28 DAB	93,3	S
				POLLA	<i>Persicaria lapathifolia</i>	0 DAB - 28 DAB	99	S
				POLPE	<i>Persicaria maculosa</i>	12 DAA - 24 DAB	98,8	S
				SETPU	<i>Settaria helvola</i>	24 DAA - 22 DAB	0	T
				SOLNI	<i>Solanum nigrum</i>	14 DAA - 27 DAB	89,68	S
				STEME	<i>Stellaria media</i>	15 DAA - 57 DAB	87,21	S
				VERAR	<i>Veronica arvensis</i>	14DAA-46DAB	89,34	S
				VIOAR	<i>Viola arvensis</i>	12 DAA - 57 DAB	92,68	S

In summary, it may be stated that the most problematic weeds species in maize in Poland and in the Czech Republic are comparable and they are almost all controlled by terbuthylazine. Therefore product Terbut 500 SC is expected to be equally highly efficient in both Poland and in the Czech Republic.

6. Conclusion

Poland and the Czech Republic are neighboring countries. Both lie in central Europe in the moderate climate zone. They share not only the border but also important climatic characteristics. Yearly temperature and precipitation patterns are very similar in both counties. This has influence on the agricultural practice in these countries and on the development of cultivated crops. Maize which is of interest to the authors of this report, go through its development phases at relatively close calendar dates. What is more, the greatest weed problems are posed by almost the same weed species in both countries. All of these and many more are targeted by terbuthylazine which is the active substances of product Terbut 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, maize herbicide Terbut 500 SC in the Czech Republic.

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

Test report/ re-search number (1)	Trial location (2); Crop cultivar; F/G (3); N/A (4)	Testing Unit (5)	Test method (6); Plot size; Sample size (7)	Treatment			
				Growth stage (8)	Interval	Total number	Spray volume (L/ha)
SGS/2017/145/PL01	Wąsy-Wieś/Poland maize/SY Symbolic F N	SGS Polska Sp. z o.o., ul. Jana Kazimierza 3, 01-248 Warszawa, Poland	EPPO PP 1/50(3) 3 x 5=15 m ²	BBCH 00	n/a	1	300
SGS/2017/145/PL02	Piskorzówek /Poland maize/Falcone F N	SGS Polska Sp. z o.o., ul. Jana Kazimierza 3, 01-248 Warszawa, Poland	EPPO PP 1/50(3) 3 x 5=15 m ²	BBCH 00	n/a	1	300
SGS/2017/145/PL03	Dąbrówka/Poland maize/Konkurent F N	SGS Polska Sp. z o.o., ul. Jana Kazimierza 3, 01-248 Warszawa, Poland	EPPO PP 1/50(3) 3 x 5=15 m ²	BBCH 00	n/a	1	200
SGS/2017/145/PL04	Białożewin /Poland maize/Kosmal F N	SGS Polska Sp. z o.o., ul. Jana Kazimierza 3, 01-248 Warszawa, Poland	EPPO PP 1/50(3) 3 x 5=15 m ²	BBCH 00	n/a	1	200
SGS/2017/145/PL05	Toboła/Poland maize/San F N	SGS Polska Sp. z o.o., ul. Jana Kazimierza 3, 01-248 Warszawa, Poland	EPPO PP 1/50(3) 3 x 6=18 m ²	BBCH 00	n/a	1	300

SGS/2017/145/PL06	Pruszków/Poland maize/Prollog F N	SGS Polska Sp. z o.o., ul. Jana Kazimierza 3, 01-248 Warszawa, Poland	EPPO PP 1/50(3) 3 x 5=15 m ²	BBCH 00	n/a	1	200
SGS2017H001GER0 1	Medelby/Germany maize/P7524 F N	SGS Polska Sp. z o.o., ul. Jana Kazimierza 3, 01-248 Warszawa, Poland (SGS Insti- tut Fresenius GmbH, Europa Allec 12, 49685 Emstek, Germany)	EPPO PP 1/50(3) 3 x 7=21m ²	BBCH 05	n/a	1	200
SGS2017H001GER0 2	Storbeck/Germany maize/Zoey F N	SGS Polska Sp. z o.o., ul. Jana Kazimierza 3, 01-248 Warszawa, Poland (SGS Insti- tut Fresenius GmbH, Europa Allec 12, 49685 Emstek, Germany)	EPPO PP 1/50(3) 3 x 5=15 m ²	BBCH 00	n/a	1	200
SGS2017H001GER0 3	Bever- bruch/Germany maize/Amagrana F N	SGS Polska Sp. z o.o., ul. Jana Kazimierza 3, 01-248 Warszawa, Poland (SGS Insti- tut Fresenius GmbH, Europa Allec 12, 49685 Emstek, Germany)	EPPO PP 1/50(3) 3 x 5=15 m ²	BBCH 00	n/a	1	200
SGS2017H001GER0 4	Fahrdorf/Germany maize/LG 30225 F N	SGS Polska Sp. z o.o., ul. Jana Kazimierza 3, 01-248 Warszawa, Poland (SGS Insti- tut Fresenius GmbH, Europa Allec 12, 49685 Emstek, Germany)	EPPO PP 1/50(3) 3 x 7=21m ²	BBCH 05	n/a	1	200

SGS2017H001GER0 5	Lohne/Germany maize/DKC3409 F N	SGS Polska Sp. z o.o., ul. Jana Kazimierza 3, 01-248 Warszawa, Poland (SGS Insti- tut Fresenius GmbH, Europa Allec 12, 49685 Emstek, Germany)	EPPO PP 1/50(3) 3 x 5=15 m ²	BBCH 00	n/a	1	200
SGS2017H001CZ01	Sumperk - Hon c.5/Czech Republic maize/ES PALAZZO F N	SGS Polska Sp. z o.o., ul. Jana Kazimierza 3, 01-248 Warszawa, Poland (AGRITEC vyzku slechteni a sluzby s.r.o., Zemedelska 2520/16, 787 01 Sumperk/Olomoucky kraj, Czech Republic)	EPPO PP 1/50(3) 3 x 10=30 m ²	BBCH 00	n/a	1	200
AH/19/K/14/Ce/04	Cerekwica / Poland maize / Rosomak F N	Poznań University of Life Sciences, Research and Education Center Gorzyń, Agronomy Department; ul. Wojska Polskiego 28, 60-637 Poznań	EPPO PP 1/50(3) 1,5 x 12 = 18	BBCH 16	n/a	1	200
AH/19/K/14/Dziem/0 3	Dziembowo / Poland maize / MAS 21.E F N	Poznań University of Life Sciences, Research and Education Center Gorzyń, Agronomy Department; ul. Wojska Polskiego 28, 60-637 Poznań	EPPO PP 1/50(3) 1,5 x 12 = 18	BBCH 13	n/a	1	200

AH/19/K/14/Gr/01	Gorzyń / Poland maize / Kwintus F N	Poznań University of Life Sciences, Research and Education Center Gorzyń, Agronomy Department; ul. Wojska Polskiego 28, 60-637 Poznań	EPPO PP 1/50(3) 1,5 x 12 = 18	BBCH 13	n/a	1	200
AH/19/K/14/Nw/01	Kruchowo / Poland maize / Fammagic F N	Poznań University of Life Sciences, Research and Education Center Gorzyń, Agronomy Department; ul. Wojska Polskiego 28, 60-637 Poznań	EPPO PP 1/50(3) 1,5 x 12 = 18	BBCH 00 BBCH 14	n/a	1	200
AH/19/K/14/Nw/05	Niewolno / Poland maize / Famfancy F N	Poznań University of Life Sciences, Research and Education Center Gorzyń, Agronomy Department; ul. Wojska Polskiego 28, 60-637 Poznań	EPPO PP 1/50(3) 1,5 x 12 = 18	BBCH 13	n/a	1	200
AH/19/K/14/Ra/02	Rataje / Poland maize / P8150 F N	Poznań University of Life Sciences, Research and Education Center Gorzyń, Agronomy Department; ul. Wojska Polskiego 28, 60-637 Poznań	EPPO PP 1/50(3) 1,5 x 12 = 18	BBCH 14	n/a	1	200
SRPL19-148-336HE	Podlejki / Poland maize / MAS 21e F N	Syntech Research Poland Sp. z o.o., ul. Jagiellonska 69/1, 85-027 Bydgoszcz, Poland	EPPO PP 1/50(3) 3 x 7 = 21	BBCH 00-03 BBCH 12-14	n/a	1	300

SRPL19-147-336HE	Prusinowo / Poland maize / MAS 27 L F N	Syntech Research Poland Sp. z o.o., ul. Jagiellonska 69/1, 85-027 Bydgoszcz, Poland	EPPO PP 1/50(3) 3 x 6 = 18	BBCH 12-14	n/a	1	200
SRPL19-152-336HE	Izdebno / Poland maize / Glejt F N	Syntech Research Poland Sp. z o.o., ul. Jagiellonska 69/1, 85-027 Bydgoszcz, Poland	EPPO PP 1/50(3) 3 x 5 = 15	BBCH 12-13	n/a	1	300
SRPL19-149-336HE	Żółdowo / Poland maize / MAS 17 G F N	Syntech Research Poland Sp. z o.o., ul. Jagiellonska 69/1, 85-027 Bydgoszcz, Poland	EPPO PP 1/50(3) 3 x 5 = 15	BBCH 12-14	n/a	1	200
SRPL19-150-336HE	Ląki / Poland maize / Pioneer F N	Syntech Research Poland Sp. z o.o., ul. Jagiellonska 69/1, 85-027 Bydgoszcz, Poland	EPPO PP 1/50(3) 3 x 5 = 15	BBCH 12-13	n/a	1	200
SRPL19-151-336HE	Feliksów / Poland maize / San F N	Syntech Research Poland Sp. z o.o., ul. Jagiellonska 69/1, 85-027 Bydgoszcz, Poland	EPPO PP 1/50(3) 3 x 5 = 15	BBCH 14-16	n/a	1	300

SRPL19-153-336HE	Jankowice Wielkie / Poland maize / Talisman F N	Syntech Research Poland Sp. z o.o., ul. Jagiellonska 69/1, 85-027 Bydgoszcz, Poland	EPPO PP 1/50(3) 3 x 5 = 15	BBCH 13	n/a	1	300
SRPL19-154-336HE	Napachanie / Poland maize / Delitop F N	Syntech Research Poland Sp. z o.o., ul. Jagiellonska 69/1, 85-027 Bydgoszcz, Poland	EPPO PP 1/50(3) 3 x 7 = 21	BBCH 14-16	n/a	1	200
SRPL19-155-336HS	Gąbin / Poland maize / Pyroxenia 130 F N	Syntech Research Poland Sp. z o.o., ul. Jagiellonska 69/1, 85-027 Bydgoszcz, Poland	EPPO PP 1/135(4) 3 x 7 = 21	BBCH 00 BBCH 12-15	n/a	1	200
SRPL19-156-336HS	Łąki / Poland maize / Pioneer F N	Syntech Research Poland Sp. z o.o., ul. Jagiellonska 69/1, 85-027 Bydgoszcz, Poland	EPPO PP 1/135(4) 3 x 8 = 24	BBCH 00 BBCH 12-13	n/a	1	200
SRPL19-157-336HS	Baborówko / Poland maize / Angan F N	Syntech Research Poland Sp. z o.o., ul. Jagiellonska 69/1, 85-027 Bydgoszcz, Poland	EPPO PP 1/135(4) 3 x 8 = 24	BBCH 00 BBCH 12-16	n/a	1	200

SRPL19-158-336HS	Feliksów / Poland maize / San F N	Syntech Research Poland Sp. z o.o., ul. Jagiellonska 69/1, 85-027 Bydgoszcz, Poland	EPPO PP 1/135(4) 3 x 7 = 21	BBCH 00 BBCH 13-15	n/a	1	300
SRPL19-159-336HS	Szczepankowo / Poland maize / P 8400 F N	Syntech Research Poland Sp. z o.o., ul. Jagiellonska 69/1, 85-027 Bydgoszcz, Poland	EPPO PP 1/135(4) 3 x 7 = 21	BBCH 03-04 BBCH 12-13	n/a	1	300
AH/19/K/14/BR/2	Brody / Poland maize / PR39H32 F N	Poznań University of Life Sciences, Research and Education Center Gorzyń, Agronomy Department; ul. Wojska Polskiego 28, 60-637 Poznań	EPPO PP 1/135(4) 2,5 x 9 = 22,5	BBCH 00-09 BBCH 13	n/a	1	230
AH/19/K/14/GR/5	Gorzyń / Poland maize / Kwins F N	Poznań University of Life Sciences, Research and Education Center Gorzyń, Agronomy Department; ul. Wojska Polskiego 28, 60-637 Poznań	EPPO PP 1/135(4) 3 x 10 = 30	BBCH 03 BBCH 13	n/a	1	200
AH/19/K/14/NW/1	Cytrynowo / Poland maize / Farmgigant F N	Poznań University of Life Sciences, Research and Education Center Gorzyń, Agronomy Department; ul. Wojska Polskiego 28, 60-637 Poznań	EPPO PP 1/135(4) 3 x 10 = 30	BBCH 00-01 BBCH 13-14	n/a	1	200

AH/19/K/14/RA/4	Rataje / Poland maize / P8150 F N	Poznań University of Life Sciences, Research and Education Center Gorzyń, Agronomy Department; ul. Wojska Polskiego 28, 60-637 Poznań	EPPO PP 1/135(4) 2,5 x 8 = 20	BBCH 10 BBCH 14	n/a	1	250
AH/19/K/14/ZŁ/3	Złotniki/ Poland maizde / Farmfire F N	Poznań University of Life Sciences, Research and Education Center Gorzyń, Agronomy Department; ul. Wojska Polskiego 28, 60-637 Poznań	EPPO PP 1/135(4) 2,8 x 10 = 28	BBCH 00 BBCH 14-16	n/a	1	300

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 or- ganism/ weed species or intended use	Assessed part and variable (2) no / m²	Untreated BBCH (during applica- tion)	Efficacy treatments (3)				Remarks (4)
				Product		Standard (s)		
				name	Dose [l/ha]	name	dose [l /ha]	
SGS/2017/145/PL01	Maize/SY Symbolic CHEAL GALAP AMARE GERPU	<u>Application A:</u> CHEAL 00 GALAP 00 AMARE 00 GERPU 00 <u>Application B:</u> CHEAL 15 GALAP 5 AMARE 5 GERPU 7	Not applicable, applica- tion in BBCH 00 <u>Application B:</u> CHEAL 12 GALAP 12-14 AMARE 11-14 GERPU 12-14	1.Terbut 500 SC + Hydravance 100 LQ 2.Terbut 500 SC + Hydravance 100 LQ 3.Terbut 500 SC + Hydravance 100 LQ 4.Terbut 500 SC + Hydravance 100 LQ	0.8 0.2 % 1.0 0.2 % 1.2 0.2 % 1.5 0.2%	Lumax 537,5 SE	3,5	Application date: 17.05.2017 Assessment date: 25.05.2017 06.06.2017 20.06.2017 27.06.2017 12.07.2017
SGS/2017/145/PL02	Maize/Falcone CHEAL POLPE VIOAR POLCO	<u>Application A:</u> CHEAL 00 POLPE 00 VIOAR 00 POLCO 00 <u>Application B:</u> CHEAL 15 POLPE 5 VIOAR 5 POLCO 5	Not applicable, applica- tion in BBCH 00 <u>Application B:</u> CHEAL 12-14 POLPE 11-14 VIOAR 12-13 POLCO 12-14	1.Terbut 500 SC + Hydravance 100 LQ 2.Terbut 500 SC + Hydravance 100 LQ 3.Terbut 500 SC + Hydravance 100 LQ 4.Terbut 500 SC + Hydravance 100 LQ	0.8 0.2 % 1.0 0.2 % 1.2 0.2 % 1.5 0.2%	Lumax 537,5 SE	3,5	Application date: 11.05.2017 Assessment date: 23.05.2017 27.05.2017 06.06.2017 20.06.2017 24.07.2017
SGS/2017/145/PL03	Maize/Konkur ent ANTAR CENCY CHEAL GASPA	<u>Application A:</u> ANTAR 00 CENCY 00 CHEAL 00 GASPA 00 CAPBP 00	Not applicable, applica- tion in BBCH 00 <u>Application B:</u> ANTAR 19-31 CENCY 19-31	1.Terbut 500 SC + Hydravance 100 LQ 2.Terbut 500 SC + Hydravance 100 LQ 3.Terbut 500 SC + Hydravance 100 LQ	0.8 0.2 % 1.0 0.2 % 1.2 0.2 %	Lumax 537,5 SE	3,5	Application date: 06.05.2017 Assessment date: 26.05.2017 02.06.2017 16.06.2017

	CAPBP ECHCG POLCO	ECHCG 00 POLCO 00 <u>Application B:</u> ANTAR 30 CENCY 13 CHEAL 8 GASPA 6 CAPBP 7 ECHCG 13 POLCO 6	CHEAL 19-31 GASPA 19-29 CAPBP 19-31 ECHCG 22-25 POLCO 29-31	4.Terbut 500 SC + Hydravance 100 LQ	1.5 0.2%			30.06.2017 31.07.2017
SGS/2017/145/PL04	Maize/Kosmal CHEAL POLCO VIOAR ECHCG MATCH MATIN CENCY SETPF	<u>Application A:</u> CHEAL 00 POLCO 00 VIOAR 00 ECHCG 00 MATCH 00 MATIN 00 CENCY 00 SETPF 00 <u>Application B:</u> CHEAL 5 POLCO 15 VIOAR 8 ECHCG 6 MATIN 5 CENCY 6 SETPF 10	<u>Application A:</u> Not applicable, applica- tion in BBCH 00 <u>Application B:</u> CHEAL 19-22 POLCO 13-19 VIOAR 12-14 ECHCG 21-23 MATIN 14-15 CENCY 13-15 SETPF 21-23	1.Terbut 500 SC + Hydravance 100 LQ 2.Terbut 500 SC + Hydravance 100 LQ 3.Terbut 500 SC + Hydravance 100 LQ 4.Terbut 500 SC + Hydravance 100 LQ	0.8 0.2 % 1.0 0.2 % 1.2 0.2 % 1.5 0.2%	Lumax 537,5 SE	3,5	Application date: 26.04.2017 Assessment date: 20.05.2017 01.06.2017 12.06.2017 23.06.2017 24.07.2017
SGS/2017/145/PL05	Maize/San CHEAL VIOAR POLCO CENCY LYCAR	<u>Application A:</u> CHEAL 00 VIOAR 00 POLCO 00 CENCY 00 LYCAR 00 <u>Application B:</u> CHEAL 5 VIOAR 15 POLCO 5	<u>Application A:</u> Not applicable, applica- tion in BBCH 00 <u>Application B:</u> CHEAL 12-13 VIOAR 13-14 POLCO 13-14 CENCY 13-14 LYCAR 12-13	1.Terbut 500 SC + Hydravance 100 LQ 2.Terbut 500 SC + Hydravance 100 LQ 3.Terbut 500 SC + Hydravance 100 LQ 4.Terbut 500 SC + Hydravance 100 LQ	0.8 0.2 % 1.0 0.2 % 1.2 0.2 % 1.5 0.2%	Lumax 537,5 SE	3,5	Application date: 03.05.2017 Assessment date: 17.05.2017 25.05.2017 08.06.2017 21.06.2017 07.07.2017

		CENCY 5 LYCAR 5						
SGS/2017/145/PL06	Maize/Prollog CHEAL VIOAR GALAP MATIN AMARE GERPU	Application A: CHEAL 00 VIOAR 00 GALAP 00 MATIN 00 AMARE 00 GERPU 00 Application B: CHEAL 12 VIOAR 5 GALAP 5 MATIN 6 AMARE 10 GERPU 6	Application A: Not applicable, applica- tion in BBCH 00 Application B: CHEAL 10-14 VIOAR 10-14 GALAP 12-14 MATIN 10-12 AMARE 10-14 GERPU 10-14	1.Terbut 500 SC + Hydravance 100 LQ 2.Terbut 500 SC + Hydravance 100 LQ 3.Terbut 500 SC + Hydravance 100 LQ 4.Terbut 500 SC + Hydravance 100 LQ	0.8 0.2 % 1.0 0.2 % 1.2 0.2 % 1.5 0.2%	Lumax 537,5 SE	3,5	Application date: 18.05.2017 Assessment date: 25.05.2017 29.05.2017 12.06.2017 23.06.2017 12.07.2017
SGS2017H001GER 01	Maize/P7524 CHEAL POLLA CAPBP GERPU POLCO TTTTT	Application A: CHEAL 00 POLLA 00 CAPBP 00 GERPU 00 POLCO 00 TTTTT 00 Application B: CHEAL 67,7 POLLA 10,8 CAPBP 58 GERPU 7,3 POLCO 41,5	Application A: Not applicable, applica- tion in BBCH 00 Application B: CHEAL 12-14 POLLA 11-14 CAPBP 12-14 GERPU 11-12 POLCO 12-14	1.Terbut 500 SC + Hydravance 100 LQ 2.Terbut 500 SC + Hydravance 100 LQ 3.Terbut 500 SC + Hydravance 100 LQ 4.Terbut 500 SC + Hydravance 100 LQ	0.8 0.2 % 1.0 0.2 % 1.2 0.2 % 1.5 0.2%	Gardo Gold 500 SC	4,0	Application date: 15.05.2017 Assessment date: 30.05.2017 13.06.2017 27.06.2017 31.07.2017
SGS2017H001GER 02	Maize/Zoey CHEAL SOLNI CAPBP	Application A: CHEAL 00 SOLNI 00 CAPBP 00	Application A: Not applicable, applica- tion in BBCH 00	1.Terbut 500 SC + Hydravance 100 LQ 2.Terbut 500 SC + Hydravance 100 LQ	0.8 0.2 % 1.0 0.2 %	Gardo Gold 500 SC	4,0	Application date: 12/13.05.2017 Assessment date: 29.05.2017

	MATCH TTTTT	MATCH 00 TTTTT 00 Application B: CHEAL 25 SOLNI 15 CAPBP 10 MATCH 10	Application B: CHEAL 12-16 SOLNI 12-16 CAPBP 12-16 MATCH 12-16	3.Terbut 500 SC + Hydravance 100 LQ 4.Terbut 500 SC + Hydravance 100 LQ	1.2 0.2 % 1.5 0.2%			10.06.2017 24.06.2017 07.07.2017
SGS2017H001GER 03	Maize/Amagra na CHEAL POLCO GERDI ECHCG POAAN TTTTT	Application A: CHEAL 00 POLCO 00 GERDI 00 ECHCG 00 POAAN 00 TTTTT 00 Application B: CHEAL 10 POLCO 14 GERDI 15 ECHCG 9,5 POAAN 19,7	Application A: Not applicable, applica- tion in BBCH 00 Application B: CHEAL 12-13 POLCO 12-14 GERDI 12-14 ECHCG 12-14 POAAN 12-13	1.Terbut 500 SC + Hydravance 100 LQ 2.Terbut 500 SC + Hydravance 100 LQ 3.Terbut 500 SC + Hydravance 100 LQ 4.Terbut 500 SC + Hydravance 100 LQ	0.8 0.2 % 1.0 0.2 % 1.2 0.2 % 1.5 0.2%	Gardo Gold 500 SC	4,0	Application date: 05.05.2017 Assessment date: 18.05.2017 22.05.2017 05.06.2017 17.06.2017 17.07.2017
SGS2017H001GER 04	Maize/LG 30225 CHEAL POLAV CAPBP POLCO TTTTT VIOAR	Application A: CHEAL 00 POLAV 00 CAPBP 00 POLCO 00 TTTTT 00 VIOAR 00 Application B: CHEAL 25,3 POLAV 25,3 CAPBP 44,75 POLCO 14,25 VIOAR 14,25	Application A: Not applicable, applica- tion in BBCH 00 Application B: CHEAL 12-14 POLAV 12-14 CAPBP 11-12 POLCO 12-14 VIOAR 12-14	1.Terbut 500 SC + Hydravance 100 LQ 2.Terbut 500 SC + Hydravance 100 LQ 3.Terbut 500 SC + Hydravance 100 LQ 4.Terbut 500 SC + Hydravance 100 LQ	0.8 0.2 % 1.0 0.2 % 1.2 0.2 % 1.5 0.2%	Gardo Gold 500 SC	4,0	Application date: 17.05.2017 Assessment date: 30.05.2017 13.06.2017 27.06.2017 31.07.2017

SGS2017H001GER05	Maize/DKC3409 AMARE GERPU CHEAL MATIN GALAP SOLNI VIOAR TTTTT	<u>Application A:</u> AMARE 00 GERPU 00 CHEAL 00 MATIN 00 GALAP 00 SOLNI 00 VIOAR 00 TTTTT 00 <u>Application B:</u> AMARE 10 GERPU 6 CHEAL 40 MATIN 6 GALAP 5 SOLNI 5 VIOAR 5	<u>Application A:</u> Not applicable, application in BBCH 00 <u>Application B:</u> AMARE 11-16 GERPU 11-21 CHEAL 11-16 MATIN 09-12 GALAP 11-16 SOLNI 10-14 VIOAR 11-14	1.Terbut 500 SC + Hydravance 100 LQ 2.Terbut 500 SC + Hydravance 100 LQ 3.Terbut 500 SC + Hydravance 100 LQ 4.Terbut 500 SC + Hydravance 100 LQ	0.8 0.2 % 1.0 0.2 % 1.2 0.2 % 1.5 0.2%	Gardo Gold 500 SC	4,0	Application date: 03.05.2017 Assessment date: 25.05.2017 29.05.2017 12.06.2017 23.06.2017
SGS2017H001CZ01	Maize/ES PALAZZO ECHCG MATIN CHEAL GALAP CHEPO	<u>Application A:</u> ECHCG 00 MATIN 00 CHEAL 00 GALAP 00 CHEPO 00 <u>Application B:</u> ECHCG 15 MATIN 6 CHEAL 10 GALAP 5 CHEPO 5	<u>Application A:</u> Not applicable, application in BBCH 00 <u>Application B:</u> ECHCG 11-14 MATIN 12-16 CHEAL 12-18 GALAP 12-16 CHEPO 12-16	1.Terbut 500 SC + Hydravance 100 LQ 2.Terbut 500 SC + Hydravance 100 LQ 3.Terbut 500 SC + Hydravance 100 LQ 4.Terbut 500 SC + Hydravance 100 LQ	0.8 0.2 % 1.0 0.2 % 1.2 0.2 % 1.5 0.2%	Gardoprim Plus Gold 500 SC	4,0	Application date: 19.05.2017 Assessment date: 01.06.2017 16.06.2017 30.06.2017 19.07.2017
AH/19/K/14/Ce/04	maize / Roso-mak CHEAL VIOAR AMARE	CHEAL 8 VIOAR 6 AMARE 7 GALAP 6 MATIN 7	CHEAL BBCH 16 VIOAR BBCH 15 AMARE BBCH 16 GALAP BBCH 15 MATIN	1. Terbut 500 S.C. 2. Terbut 500 S.C. 3. Terbut 500 S.C. 4. Terbut 500 S.C. + Hydravance 100 LQ	0,8 1,0 1,20 1,00 + 0,20	Tezosar 500 SC	1,0	Application date: 07.06.2019 Assessment date: 21.06.2019 12.07.2019

	GALAP MATIN CAPBP VERAR	CAPBP 6 VERAR 5	CAPBP VERAR					
AH/19/K/14/Dziem/03	maize / MAS 21.E CHEAL VIOAR POLCO AMARE GALAP GALAP MATIN CAPBP SOLNI VERAR	CHEAL 7 VIOAR 6 POLCO 5 AMARE 5 GALAP 6 MATIN 5 CAPBP 6 SOLNI 5 VERAR 7	CHEAL BBCH 13 VIOAR BBCH 12 POLCO BBCH 12 AMARE BBCH 13 GALAP BBCH 13 MATIN BBCH 12 CAPBP BBCH 12 SOLNI BBCH 13 VERAR BBCH 12	1. Terbut 500 S.C. 2. Terbut 500 S.C. 3. Terbut 500 S.C. 4. Terbut 500 S.C. + Hydravance 100 LQ	0,8 1,0 1,20 1,00 + 0,20	Tezosar 500 SC	1,0	Application date: 29.05.2019 Assessment date: 12.06.2019 11.07.2019
AH/19/K/14/Gr/01	maize / Kwintus CHEAL VIOAR POLCO AMARE GALAP GALAP MATIN CAPBP VERAR	CHEAL 7 VIOAR 6 POLCO 6 AMARE 8 GALAP 6 MATIN 7 CAPBP 6 VERAR 5	CHEAL BBCH 14 VIOAR BBCH 13 POLCO BBCH 12 AMARE BBCH 14 GALAP BBCH 12 MATIN BBCH 13 CAPBP BBCH 12 VERAR BBCH 12	1. Terbut 500 S.C. 2. Terbut 500 S.C. 3. Terbut 500 S.C. 4. Terbut 500 S.C. + Hydravance 100 LQ	0,8 1,0 1,20 1,00 + 0,20	Tezosar 500 SC	1,0	Application date: 17.05.2019 Assessment date: 31.05.2019 12.07.2019
AH/19/K/14/Nw/01	maize / Fammagic STEME AMARE CHEAL MATIN MATCH	STEME 6 AMARE 7 CHEAL 7 MATIN 6 MATCH 6	STEME BBCH 14 AMARE BBCH 15 CHEAL BBCH 15 MATIN BBCH 14 MATCH BBCH 14	1. Terbut 500 S.C. Hydravance 100 LQ 2. Terbut 500 S.C. Hydravance 100 LQ 3. Tezosar 500 S.C. Hydravance 100 LQ 4. Terbut 500 S.C. 5. Terbut 500 S.C. 6. Terbut 500 S.C. 7. Terbut 500 S.C. 8. Terbut 500 S.C. Hydravance 100 LQ	0,80 0,2 1,0 0,2 1,2 0,2 1,0 0,8 1,0 1,20 1,00 0,20	Tezosar 500 SC	1,0	Application date: 30.04.2019 25.05.2019 Assessment date: 15.05.2019 07.06.2019 12.07.2019
AH/19/K/14/Nw/05	maize / Famfan- cy	CHEAL 6 VIOAR 6	CHEAL BBCH 13 VIOAR BBCH 12	1. Terbut 500 S.C. 2. Terbut 500 S.C.	0,8 1,0	Tezosar 500 SC	1,0	Application date: 08.06.2019

	CHEAL VIOAR POLCO AMARE GALAP MATIN CAPBP VERAR	POLCO 5 AMARE 7 GALAP 5 MATIN 6 CAPBP 6 VERAR 5	POLCO BBCH 12 AMARE BBCH 13 GALAP BBCH 12 MATIN BBCH 12 CAPBP BBCH 14 VERAR BBCH 12	3. Terbut 500 S.C. 4. Terbut 500 S.C. + Hydravance 100 LQ	1,20 1,00 + 0,20			Assessment date: 21.06.2019 15.07.2019
AH/19/K/14/Ra/02	maize / P8150 CHEAL VIOAR AMARE GALAP MATIN CAPBP VERAR	CHEAL 7 VIOAR 6 AMARE 7 GALAP 6 MATIN 5 CAPBP 6 VERAR 6	CHEAL BBCH 15 VIOAR BBCH 14 AMARE BBCH 15 GALAP BBCH 14 MATIN BBCH 14 CAPBP BBCH 14 VERAR BBCH 15	1. Terbut 500 S.C. 2. Terbut 500 S.C. 3. Terbut 500 S.C. 4. Terbut 500 S.C. + Hydravance 100 LQ	0,8 1,0 1,20 1,00 + 0,20	Tezosar 500 SC	1,0	Application date: 08.06.2019 Assessment date: 21.06.2019 15.07.2019
SRPL19-148-336HE	maize / MAS 21e MATCH STEME AMARE CENCY MATIN VIOAR	MATCH 6 STEME 15 AMARE 6,25 CENCY 9,5 MATIN 20 VIOAR 33,5	MATCH BBCH14-16 STEME BBCH 11-14 AMARE BBCH 10-13 CENCY BBCH 11-14 MATIN BBCH 11-14 VIOAR BBCH 11-14	1. Terbut 500 S.C. Hydravance 100 LQ 2. Terbut 500 S.C. Hydravance 100 LQ 3. Tezosar 500 S.C. Hydravance 100 LQ 4. Terbut 500 S.C. 5. Terbut 500 S.C. 6. Terbut 500 S.C. 7. Terbut 500 S.C. 8. Terbut 500 S.C. Hydravance 100 LQ	0,80 0,2 1,0 0,2 1,2 0,2 1,0 0,8 1,0 1,20 1,00 0,20	Tezosar 500 SC	1,0	Application date: 01.06.2019 17.06.2019 Assessment date: 17.06.2019 29.06.2019 15.07.2019 13.08.2019
SRPL19-147-336HE	maize / MAS 27 L CHEAL VIOAR POLCO GALAP CAPBP	CHEAL 12 VIOAR 5 POLCO 7 GALAP 6 CAPBP 8	CHEAL BBCH 13-15 VIOAR BBCH 12-16 POLCO BBCH 13-16 GALAP BBCH 13-15 CAPBP BBCH 13-16	1. Terbut 500 S.C. 2. Terbut 500 S.C. 3. Terbut 500 S.C. 4. Terbut 500 S.C. + Hydravance 100 LQ	0,8 1,0 1,20 1,00 + 0,20	Tezosar 500 SC	1,0	Application date: 28.05.2019 Assessment date: 11.06.2019 25.06.2019 23.07.2019
SRPL19-152-336HE	maize / Glejt CHEAL POLCO	CHEAL 81 POLCO 12 AMARE 14	CHEAL BBCH 10-12 POLCO BBCH 11-12 AMARE BBCH 10-12	1. Terbut 500 S.C. 2. Terbut 500 S.C. 3. Terbut 500 S.C.	0,8 1,0 1,20	Tezosar 500 SC	1,0	Application date: 29.05.2019 Assessment date:

	AMARE SOLNI GERPU GASPA	SOLNI 9 GERPU 6 GASPA 20	SOLNI BBCH 11-13 GERPU BBCH 12-13 GASPA BBCH 12	4. Terbut 500 S.C. + Hydravance 100 LQ	1,00 + 0,20			12.06.2019 26.06.2019 24.07.2019
SRPL19-149-336HE	maize / MAS 17 G CHEAL VIOAR GALAP MATIN VERAR	CHEAL 6 VIOAR 8 GALAP 6 MATIN 8 VERAR 4,5	CHEAL BBCH 12-14 VIOAR BBCH 13-15 GALAP BBCH 11-13 MATIN BBCH 15-17 VERAR BBCH 14-16	1. Terbut 500 S.C. 2. Terbut 500 S.C. 3. Terbut 500 S.C. 4. Terbut 500 S.C. + Hydravance 100 LQ	0,8 1,0 1,20 1,00 + 0,20	Tezosar 500 SC	1,0	Application date: 14.06.2019 Assessment date: 28.06.2019 12.07.2019 09.08.2019
SRPL19-150-336HE	maize / Pioneer POLCO SOLNI AMARE VIOAR CAPBP	POLCO 85, SOLNI 41 AMARE 15,5 VIOAR 21 CAPBP 9,5	POLCO BBCH 12-16 SOLNI BBCH 14-21 AMARE BBCH 12-31 VIOAR BBCH 12-21 CAPBP BBCH 12-18	1. Terbut 500 S.C. 2. Terbut 500 S.C. 3. Terbut 500 S.C. 4. Terbut 500 S.C. + Hydravance 100 LQ	0,8 1,0 1,20 1,00 + 0,20	Tezosar 500 SC	1,0	Application date: 12.06.2019 Assessment date: 26.06.2019 10.07.2019 07.08.2019
SRPL19-151-336HE	maize / San CHEAL VIOAR AMARE SOLNI	CHEAL 7 VIOAR 8 AMARE 15 SOLNI 8	CHEAL BBCH 10-11 VIOAR BBCH 10-11 AMARE BBCH 10-11 SOLNI BBCH 10-11	1. Terbut 500 S.C. 2. Terbut 500 S.C. 3. Terbut 500 S.C. 4. Terbut 500 S.C. + Hydravance 100 LQ	0,8 1,0 1,20 1,00 + 0,20	Tezosar 500 SC	1,0	Application date: 03.06.2019 Assessment date: 17.06.2019 01.07.2019 29.07.2019
SRPL19-153-336HE	maize / Talis- man CHEAL VIOAR MATIN SOLNI	CHEAL 12 VIOAR 24 MATIN 10 SOLNI 19	CHEAL BBCH 12-16 VIOAR BBCH 14-18 MATIN BBCH 14-18 SOLNI BBCH 15	1. Terbut 500 S.C. 2. Terbut 500 S.C. 3. Terbut 500 S.C. 4. Terbut 500 S.C. + Hydravance 100 LQ	0,8 1,0 1,20 1,00 + 0,20	Tezosar 500 SC	1,0	Application date: 27.05.2019 Assessment date: 10.06.2019 24.06.2019 22.07.2019
SRPL19-154-336HE	maize / Delitop CHEAL STEME MATCH VIOAR SOLNI CENCY	CHEAL 10 STEME 6 MATCH 6 VIOAR 8 SOLNI 6 CENCY 6	CHEAL BBCH 12-14 STEME BBCH 15-16 MATCH BBCH 15-16 VIOAR BBCH 12-14 SOLNI BBCH 16-17 CENCY BBCH 15-16	1. Terbut 500 S.C. 2. Terbut 500 S.C. 3. Terbut 500 S.C. 4. Terbut 500 S.C. + Hydravance 100 LQ	0,8 1,0 1,20 1,00 + 0,20	Tezosar 500 SC	1,0	Application date: 29.05.2019 Assessment date: 12.06.2019 26.06.2019 24.07.2019

Notes:

Applicant: Innvigo Sp. z.o.o.
Applicant Document ID Section 3 PART B Terbut 500 SC
Applicant Author: R.N.

Evaluator: IOŚ-PIB, PL
Date: 11.2021

- 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

Efficacy of Terbut 500 SC in maize in PL, GER, CZ in 2017-2019

Table 1a. The efficacy Terbut 500 SC in control AMARE in maize (pre-emergence application)

Part 1/2

Pest code				Amaranthus retroflexus AMARE							
report code				SGS/2017/145/PL01				SGS/2017/145/PL06			
DA-A/B				8 DA-A	0 DA-B	14 DA-B	21 DA-B	7 DA-A	0 DA-B	14 DA-B	25 DA-B
date				25.05.2017	06.06.2017	20.06.2017	27.06.2017	25.05.2017	29.05.2017	12.06.2017	23.06.2017
weeds m²				5,0	5,0	15,0	16,0	10,0	10,0	15,0	15,0
No.	Name	Rate (l, %/ha)	Application code								
1	Untreated Check										
2	Terbut 500 S.C.	0,80	A	96,00	88,80	88,80	86,30	96,00	100,00	60,00	100,00
	Hydravance 100 LQ	0,2									
3	Terbut 500 S.C.	1,0	A								
4	Terbut 500 S.C.	1,0	A	100,00	90,00	90,00	87,50	100,00	100,00	70,00	100,00
	Hydravance 100 LQ	0,2									
5	Terbut 500 S.C.	1,2	A	100,00	99,30	99,30	99,30	100,00	100,00	80,00	100,00
	Hydravance 100 LQ	0,2									
6	Terbut 500 S.C.	1,50	A	100,00	98,30	98,30	98,30	100,00	100,00	100,00	100,00
	Hydravance 100 LQ	0,2									
7	Lumax 537,5 SE; Gardo Gold 500 S.C	3,5; 4;	A	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00
	LSD (P=.05)			1,380	5,220	4,060	5,170	1,380		1,150	

Part 2/2

Pest code				Amaranthus retroflexus AMARE													
report code		SGS2017H001GER05				AH/19/K/14/Nw/01			SRPL19-148-336HE								
DA-A/B		7 DA-A		0 DA-B	14 DA-B	25 DA-B	15 DA-A	38/13 DA-A/B	73/48 DA-A/B	16 DA-A	28/12 DA-A/B	44/28 DA-A/B	73/57 DA-A/B	Average	Min.	Max.	
date		25.05.2017		29.05.2017	12.06.2017	23.06.2017	15.05.2019	07.06.2019	12.07.2019	17.06.2019	29.06.2019	15.07.2019	13.08.2019				
weeds m²		10,0		10,0	15,0	15,0	7,0	7,0	7,0	6,3	6,3	7,3	7,3	10,0	5,0	16,0	
No.	Name	Rate (l, %/ha)	Application code														
1	Untreated Check																
2	Terbut 500 S.C.	0,80	A	96,00	100,00	60,00	100,00	92,50	96,30	97,50	73,80	83,80	82,50	87,5	88,73	60	100,00
	Hydravance 100 LQ	0,2															
3	Terbut 500 S.C.	1,0	A					97,50	97,50	97,50	77,50	88,80	92,50	92,5	91,97	77,5	97,50
4	Terbut 500 S.C.	1,0	A	100,00	100,00	70,00	100,00	100,00	100,00	100,00	82,50	91,30	88,80	93,8	92,84	70	100,00
	Hydravance 100 LQ	0,2															
5	Terbut 500 S.C.	1,2	A	100,00	100,00	80,00	100,00	100,00	100,00	100,00	90,00	93,80	97,50	98,8	96,74	80	100,00
	Hydravance 100 LQ	0,2															
6	Terbut 500 S.C.	1,50	A	100,00	100,00	100,00	100,00								99,58	98,3	100,00
	Hydravance 100 LQ	0,2															
7	Lumax 537,5 SE; Gardo Gold 500 S.C.	3,5; 4	A	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,0	100,0	100,0	100,00
LSD (P=.05)				1,380		1,150		4,930	4,160	2,080	3,44	3,66	3,600				

Table 1b. The efficacy Terbut 500 SC in control AMARE in maize (post-emergence application)

Part 1/2

Pest code				Amaranthus retroflexus AMARE													
report code				SGS/2017/145/PL0 1		SGS/2017/145/PL0 6		SGS2017H001GER 05		AH/19/K/14/Ce/04		AH/19/K/14/Dziem 03		AH/19/K/14/Gr/01		AH/19/K/14/Nw/01	
DA-A/B				14 DA- B	21 DA- B	14 DA- B	25 DA- B	14 DA- B	25 DA- B	14 DA- A	35 DA- A	14 DA- A	43 DA- A	14 DA- A	56 DA- A	38/13 DA- A/B	73/48 DA- A/B
date				20.06.20 17	27.06.20 17	12.06.20 17	23.06.20 17	12.06.20 17	23.06.20 17	21.06.20 19	12.07.20 19	12.06.20 19	11.07.20 19	31.05.20 19	12.07.20 19	07.06.2019	12.07.2019
weeds m ²				15,0	16,0	15,0	15,0	15,0	15,0	7,0	7,0	5,0	5,0	8,0	8,0	7,0	7,0
No.	Name	Rate (l, %/ha)	Appli- cation code														
1	Untreated Check																
2	Terbut 500 S.C.	0,8	B							77,50	88,80	78,80	90,00	80,00	91,30	76,30	87,50
3	Terbut 500 S.C.	0,80	B	100,00	100,00	98,80	70,00	98,80	70,00								
	Hydravance 100 LQ	0,20															
4	Terbut 500 S.C.	1,0	B							82,50	93,80	86,30	97,50	82,50	93,80	83,80	93,80
5	Terbut 500 S.C.	1,20	B							88,80	100,00	90,00	100,00	87,50	98,80	90,00	100,00
6	Terbut 500 S.C.	1,00	B	100,00	100,00	100,00	80,00	100,00	80,00	90,00	100,00	88,80	100,00	86,30	97,50	86,30	97,50
	Hydravance 100 LQ	0,20															
7	Terbut 500 S.C.	1,2	B	100,00	100,00	100,00	100,00	100,00	100,00								
	Hydravance 100 LQ	0,2															
8	Terbut 500 S.C.	1,5	B	100,00	100,00	100,00	100,00	100,00	100,00								
	Hydravance 100 LQ	0,2															
9	Gardo Gold 500 SC	1,50	B	100,00	100,00	100,00	100,00	100,00	100,00	83,80	95,00	86,30	97,50	80,00	91,30	82,50	95,00
	LSD (P=.05)			4,060	5,170	1,150		1,150		5,150	4,770	4,770	4,490	3,530	3,460	4,930	4,160

Part 2/2

Pest code			Appli- cation	Amaranthus retroflexus AMARE																		
report code		AH/19/K/14/Nw/05		AH/19/K/14/Ra/02		SRPL19-148-336HE			SRPL19-152-336HE			SRPL19-151-336HE			SRPL19-150-336HE							
DA-A/B		13 DA-A		37 DA-A	13 DA-A	37 DA-A	28/12 DA-A/B	44/28 DA-A/B	73/57 DA-A/B	14 DA-A	28 DA-A	56 DA-A	14 DA-A	28 DA-A	56 DA-A	14 DA-A	28 DA-A	56 DA-A	Ave- rage	Min.	Max.	
date		21.06.2019		#####	21.06.2019	15.07.2019	29.06.2019	15.07.2019	13.08.2019	12.06.2019	26.06.2019	24.07.2019	17.06.2019	01.07.2019	29.07.2019	26.06.2019	10.07.2019	07.08.2019				
weeds m²		7,0		7,0	7,0	7,0	6,3	7,3	7,3	15,0	15,0	15,0	15,0	15,0	15,0	14,7	15,5	15,5	10,4	5,0	16,0	
No	Name	Rate																				
1	Untreated Check																					
2	Terbut 500 S.C.	0,8	B	77,50	88,80	78,80	86,30	53,80	77,50	82,50	82,50	85,00	86,25	83,80	93,80	93,80	45,00	68,75	73,75	80,34	45,00	93,80
3	Terbut 500 S.C.	0,8	B																	89,6	70,0	100
	Hydrav- ance 100	0,2																				
4	Terbut 500 S.C.	1,0	B	83,80	95,00	88,80	97,50	61,30	82,50	93,80	88,75	99,00	100,0	81,30	93,80	93,80	68,75	80,00	81,25	87,64	61,30	100,00
5	Terbut 500 S.C.	1,2	B	90,00	100,0	90,00	100,00	62,50	82,50	97,50	90,00	99,00	100,0	87,50	93,80	93,80	77,50	87,50	90,00	91,53	62,50	100,00
6	Terbut 500 S.C.	1,0	B	86,30	97,50	90,00	100,0	63,80	87,50	97,50	88,75	99,00	100,0	82,50	92,50	92,50	78,75	90,00	92,50	91,52	63,80	100,00
	Hydrav- ance	0,2																				
7	Terbut 500 S.C.	1,2	B																	100,00	100,00	100,00
	Hydrav- ance 100	0,2																				
8	Terbut 500 S.C.	1,5	B																	100,00	100,00	100,00
	Hydrav- ance 100	0,2																				
9	Gardo Gold 500 SC	1; 1,5	B	81,30	92,50	88,80	97,50	67,50	87,50	96,30	86,25	99,00	100,00	83,80	93,80	93,80	81,25	86,25	88,75	91,19	67,5	100,00
	LSD			4,810	5,600	2,600	5,250	3,44	3,66	3,600	6,560	2,511	2,945	4,040	4,100	4,100	15,779	8,253	6,680			

Table 2a. The efficacy Terbut 500 SC in control ANTAR in maize (pre-emergence application)

Pest code				Anthemis arvensis ANTAR						
report code				SGS/2017/145/PL03						
DA-A/B				20 DA-A	0 DA-B	14 DA-B	28 DA-B	Average	Min.	Max.
date				26.05.2017	02.06.2017	16.06.2017	30.06.2017			
weeds m²				30,0	30,0	30,0	30,0	30,0	30,0	30,0
No.	Name	Rate (l, %/ha)	Application code							
1	Untreated Check									
2	Terbut 500 S.C.	0,80	A	97,5	98,8	100,0	100,0	99,08	97,50	100,00
	Hydravance 100 LQ	0,2								
4	Terbut 500 S.C.	1,0	A	100,0	100,0	100,0	100,0	100,00	100,00	100,00
	Hydravance 100 LQ	0,2								
5	Terbut 500 S.C.	1,2	A	95,0	98,8	98,8	100,0	98,15	95,00	100,00
	Hydravance 100 LQ	0,2								
6	Terbut 500 S.C.	1,50	A	100,0	100,0	100,0	100,0	100,00	100,00	100,00
	Hydravance 100 LQ	0,2								
7	Lumax 537,5 SE	3,5	A	100,0	100,0	100,0	100,0	100,00	100,00	100,00
LSD (P=.05)				4,9	1,53	1,51	1,32			

Table 2b. The efficacy Terbut 500 SC in control ANTAR in maize (post-emergence application)

Pest code				Anthemis arvensis ANTAR				
report code				SGS/2017/145/PL03				
DA-A/B				14 DA-B	28 DA-B	Average	Min.	Max.
date				16.06.2017	30.06.2017			
weeds m²				30,0	30,0	30,0	30,0	30,0
No.	Name	Rate (l, %/ha)	Application code					
1	Untreated Check							
2	Terbut 500 S.C.	0,80	B	0,0	0,0	0,00	0,00	0,00
	Hydravance 100 LQ	0,20						
3	Terbut 500 S.C.	1,00	B	0,0	0,0	0,00	0,00	0,00
	Hydravance 100 LQ	0,20						
4	Terbut 500 S.C.	1,2	B	0,0	0,0	0,00	0,00	0,00
	Hydravance 100 LQ	0,2						
5	Terbut 500 S.C.	1,5	B	0,0	0,0	0,00	0,00	0,00
	Hydravance 100 LQ	0,2						
6	Bromoterb 500 S.C.	1,50	B	91,3	92,5	91,90	91,30	92,50
	LSD (P=.05)			1,51	1,32			

Table 3a. The efficacy Terbut 500 SC in control CAPBP in maize (pre-emergence application)

Pest code				Capsella bursa-pastoris CAPBP																
report code				SGS/2017/145/PL03				SGS2017H001GER01			SGS2017H001GER02				SGS2017H001GER04					
DA-A/B				20 DA-A	0 DA-B	14 DA-B	28 DA-B	0 DA-B	14 DA-B	28 DA-B	16 DA-A	0 DA-B	14 DA-B	27 DA-B	0 DA-B	14 DA-B	28 DA-B	Ave- rage	Min.	Max.
date				26.05.20 17	02.06.20 17	16.06.20 17	30.06.20 17	30.05.20 17	13.06.20 17	27.06.20 17	29.05.20 17	10.06.20 17	24.06.20 17	07.07.20 17	30.05.20 17	13.06.20 17	27.06.20 17			
weeds m²				7,0	7,0	7,0	7,0	58,0	48,7	45,5	10,0	5,9	5,0	5,0	44,8	47,5	45,0	24,5	5,0	58,0
N o.	Name	Rate (l, %/ha)	Applica- tion code																	
1	Untreated Check		A																	
2	Terbut 500 S.C. Hydravance 100 LQ	0,80 0,2	A	100,00	100,00	100,00	100,00	99,00	99,00	99,00	85,00	85,00	100,00	100,00	66,30	90,00	90,00	93,81	66,3 0	100, 00
4	Terbut 500 S.C. Hydravance 100 LQ	1,0 0,2	A	100,00	100,00	100,00	100,00	99,00	99,00	99,00	85,00	85,00	100,00	100,00	73,80	95,00	90,00	94,70	73,8 0	100, 00
5	Terbut 500 S.C. Hydravance 100 LQ	1,2 0,2	A	100,00	100,00	100,00	100,00	99,00	99,00	99,00	85,00	85,00	100,00	100,00	83,80	99,00	99,00	96,34	83,8 0	100, 00
6	Terbut 500 S.C. Hydravance 100 LQ	1,50 0,2	A	100,00	100,00	100,00	100,00	99,00	99,00	99,00	90,00	90,00	100,00	100,00	99,00	99,00	99,00	98,14	90,0 0	100, 00
7	Lumax 537,5 SE; Gardo Gold 500 S.C.	3,5; 4	A	100,00	100,00	100,00	100,00	99,00	99,00	99,00	90,00	90,00	100,00	100,00	93,80	88,80	86,30	96,14	86,3 0	100, 00
LSD (P=.05)						1,090								3,280	1,150	1,150				

Table 3b. The efficacy Terbut 500 SC in control CAPBP in maize (post-emergence application)

Part 1/2

Pest code				Capsella bursa-pastoris CAPBP													
report code				SGS/2017/145/PL03		SGS2017H001GER0 1		SGS2017H001GER0 2		SGS2017H001GER0 4		AH/19/K/14/Ce/04		AH/19/K/14/Dziem/ 03		AH/19/K/14/Gr/01	
DA-A/B				14 DA-B	28 DA-B	14 DA-B	28 DA-B	14 DA-B	27 DA-B	14 DA-B	28 DA-B	14 DA-A	35 DA-A	14 DA-A	43 DA-A	14 DA-A	56 DA-A
date				16.06.20 17	30.06.20 17	13.06.20 17	27.06.20 17	24.06.20 17	07.07.20 17	13.06.20 17	27.06.20 17	21.06.20 19	12.07.20 19	12.06.20 19	11.07.20 19	31.05.20 19	12.07.20 19
weeds m ²				7,0	7,0	48,7	45,5	5,0	5,0	47,5	45,0	6,0	6,0	6,0	6,0	6,0	6,0
No	Name	Rate (l, %/ha)	Applica- tion code														
1	Untreated Check																
2	Terbut 500 S.C.	0,8	B									78,80	90,00	87,50	100,00	82,50	95,00
3	Terbut 500 S.C.	0,80	B	98,80	100,00	99,00	99,00	100,00	100,00	99,00	99,00						
	Hydravance 100 LQ	0,20															
4	Terbut 500 S.C.	1,0	B									85,00	96,30	88,80	100,00	83,80	95,00
5	Terbut 500 S.C.	1,20	B									88,80	100,00	90,00	100,00	88,80	100,00
6	Terbut 500 S.C.	1,00	B	100,00	100,00	99,00	99,00	100,00	100,00	99,00	99,00	90,00	100,00	88,80	100,00	88,80	100,00
	Hydravance 100 LQ	0,20															
7	Terbut 500 S.C.	1,2	B	100,00	100,00	99,00	99,00	100,00	100,00	99,00	99,00						
	Hydravance 100 LQ	0,2															
8	Terbut 500 S.C.	1,5	B	100,00	100,00	99,00	99,00	100,00	100,00	99,00	99,00						
	Hydravance 100 LQ	0,2															
9	Tezosar 500 S.C.; Bromoterb 500 S.C.; Gardo Gold 500 SC	1,00; 1,50; 4,0	B	100,00	100,00	99,00	99,00	100,00	100,00	99,00	99,00	80,00	92,50	83,80	95,00	85,00	96,30
	LSD (P=.05)			1,090						1,150	1,150	6,050	7,090	7,400	6,150	4,940	4,330

Part 2/2

Pest code				Capsella bursa-pastoris CAPBP												
report code		AH/19/K/14/Nw/05		AH/19/K/14/Ra/02		SRPL19-147-336HE			SRPL19-150-336HE							
DA-A/B		13 DA-A		37 DA-A	13 DA-A	37 DA-A	14 DA-A	28 DA-A	56 DA-A	14 DA-A	28 DA-A	56 DA-A	Average	Min.	Max.	
date		21.06.2019		15.07.2019	21.06.2019	15.07.2019	11.06.2019	25.06.2019	23.07.2019	26.06.2019	10.07.2019	07.08.2019				
weeds m²		6,0		6,0	6,0	6,0	8,0	8,0	8,0	9,5	9,8	9,8	17,6	5,0	48,7	
N o.	Name	Rate (l, %/ha)	Applica- tion code													
1	Untreated Check															
2	Terbut 500 S.C.	0,8	B	72,50	83,80	80,00	90,00	80,00	90,00	91,25	73,75	87,50	95,00	86,1	72,5	100,00
3	Terbut 500 S.C.	0,80	B											99,35	98,80	100,00
	Hydravance 100 LQ	0,20														
4	Terbut 500 S.C.	1,0	B	87,50	98,80	88,80	100,00	85,00	99,00	100,00	76,25	88,75	100,00	92,6	76,25	100,00
5	Terbut 500 S.C.	1,20	B	90,00	100,00	90,00	100,00	86,25	99,00	100,00	82,50	95,00	100,00	94,4	82,50	100,00
6	Terbut 500 S.C.	1,00	B	88,80	100,00	90,00	100,00	87,50	99,00	100,00	83,75	96,25	100,00	96,2	83,75	100,00
	Hydravance 100 LQ	0,20														
7	Terbut 500 S.C.	1,2	B											99,50	99,00	100,00
	Hydravance 100 LQ	0,2														
8	Terbut 500 S.C.	1,5	B											99,50	99,00	100,00
	Hydravance 100 LQ	0,2														
9	Tezosar 500 S.C.; Bromo- terb 500 S.C.; Gardo Gold 500 SC	1,00; 1,50; 4,0	B	81,30	92,50	87,50	98,80	86,25	99,00	100,00	77,50	95,00	100,00	94,90	80,00	100,00
	LSD (P=.05)			4,420	4,830	2,210	1,540	4,831	2,511	2,945	11,705	6,048	0,000			

Table 4a. The efficacy Terbut 500 SC in control CENCY in maize (pre-emergence application)

Pest code				Centaurea cyanus CENCY																		
report code				SGS/2017/145/PL03				SGS/2017/145/PL04		SGS/2017/145/PL05				SRPL19-148-336HE								
DA-A/B				20 DA-A	0 DA-B	14 DA-B	28 DA-B	24 DA-A	0 DA-B	14 DA-A	0 DA-B	14 DA-B	27 DA-B	16 DA-A	28/12 DA-A/B	44/28 DA-A/B	73/57 DA-A/B	Average	Min	Max		
date				26.05.2017	02.06.2017	16.06.2017	30.06.2017	20.05.2017	01.06.2017	17.05.2017	25.05.2017	08.06.2017	21.06.2017	17.06.2019	29.06.2019	15.07.2019	13.08.2019					
weeds m²				13,0	13,0	13,0	13,0	10,0	6,0	5,0	5,0	5,0	5,0	9,5	9,5	11,0	21,5	10,0	5,0	21,5		
No.	Name	Rate (l, %/ha)	Applica-tion code																			
1	Untreated Check																					
2	Terbut 500 S.C.	0,80	A	78,80	88,80	67,50	100,00	15,00	15,00	98,00	99,80	97,00	95,80	57,50	78,80	82,50	82,50	75,50	15,00	100,00		
	Hydravance 100 LQ	0,2																				
3	Terbut 500 S.C.	1,0	A											66,30	87,50	88,80	90,00	83,15	66,30	90,00		
4	Terbut 500 S.C.	1,0	A	80,00	88,80	95,00	96,30	50,00	50,00	100,00	100,00	97,00	97,00	63,80	82,50	93,80	96,30	85,04	50,00	100,00		
	Hydravance 100 LQ	0,2																				
5	Terbut 500 S.C.	1,2	A	100,00	100,00	93,80	0,00	52,50	45,00	100,00	100,00	99,50	99,50	70,10	91,30	93,80	95,00	81,46	0,00	100,00		
	Hydravance 100 LQ	0,2																				
6	Terbut 500 S.C.	1,50	A	97,50	98,80	97,50	100,00	91,80	81,30	100,00	100,00	99,80	99,80					96,65	81,30	100,00		
	Hydravance 100 LQ	0,2																				
7	Lumax 537,5 SE;	3,5	A	100,00	100,00	100,00	100,00	88,80	89,50	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	98,45	88,80	100,00		
	LSD (P=,05)			8,130	6,890	6,980	1,150	10,010	11,220	1,380	0,340	2,920	3,780	1,970	4,020	3,270	4,000					

Table 4b. The efficacy Terbut 500 SC in control CENCY in maize (post-emergence application)

Pest code				Centaurea cyanus CENCY														
report code		SGS/2017/145/PL0 3		SGS/2017/145/PL0 4		SGS/2017/145/PL0 5		SRPL19-148-336HE			SRPL19-154-336HE							
DA-A/B		14 DA-B		28 DA-B	11 DA-B	22 DA-B	14 DA-B	27 DA-B	28/12 DA-A/B	44/28 DA-A/B	73/57 DA-A/B	14 DA-A	28 DA-A	56 DA-A	Ave- rage	Min.	Max.	
date		16.06.2017		30.06.2017	12.06.2017	23.06.2017	08.06.2017	21.06.2017	29.06.2019	15.07.2019	13.08.2019	12.06.2019	26.06.2019	24.07.2019				
weeds m²		13,0		13,0	18,0	15,0	5,0	5,0	9,5	11,0	21,5	6,0	6,0	6,0	10,8	5,0	21,5	
N o.	Name	Rate (l, %/ha)	Applica- tion code															
1	Untreated Check																	
2	Terbut 500 S.C.	0,8	B							42,50	62,50	75,00	55,00	80,00	87,50	67,08	42,50	87,50
3	Terbut 500 S.C.	0,80	B	97,50	100,00	25,00	26,30	100,00	100,00							74,80	25,00	100,00
	Hydravance 100 LQ	0,20																
4	Terbut 500 S.C.	1,0	B							47,50	68,80	80,00	60,00	85,00	90,00	71,88	47,50	90,00
5	Terbut 500 S.C.	1,20	B							58,80	77,50	82,50	67,53	90,00	95,00	78,56	58,80	95,00
6	Terbut 500 S.C.	1,00	B	100,00	100,00	18,80	17,50	100,00	100,00	56,30	78,80	86,30	72,54	92,50	99,00	76,81	17,50	100,00
	Hydravance 100 LQ	0,20																
7	Terbut 500 S.C.	1,2	B	100,00	100,00	50,00	45,00	100,00	100,00							82,50	45,00	100,00
	Hydravance 100 LQ	0,2																
8	Terbut 500 S.C.	1,5	B	100,00	100,00	88,80	89,80	100,00	100,00							96,43	88,80	100,00
	Hydravance 100 LQ	0,2																
9	Tezosar 500 S.C.; Bromo- terb 500 S.C.	1,00; 1,50	B	100,00	100,00	98,80	99,00	100,00	100,00	57,50	80,00	85,00	80,00	95,00	100,00	91,28	57,50	100,00
	LSD (P=.05)			6,980	1,150	8,270	8,930	2,920	3,780	4,020	3,270	4,000	1,726	1,776	1,776			

Table 5a. The efficacy Terbut 500 SC in control CHEAL in maize (pre-emergence application)

Part 1/3

Pest code				Chenopodium album CHEAL															
report code				SGS/2017/145/PL01		SGS/2017/145/PL02		SGS/2017/145/PL03				SGS/2017/145/PL04				SGS/2017/145/PL05			
DA-A/B					0 DA-B	12 DA-A	0 DA-B	20 DA-A	0 DA-B	14 DA-B	28 DA-B	24 DA-A	0 DA-B	11 DA-B	22 DA-B	14 DA-A	0 DA-B	14 DA-B	27 DA-B
date				25.05.2017	06.06.2017	23.05.2017	27.05.2017	26.05.2017	02.06.2017	16.06.2017	30.06.2017	20.05.2017	01.06.2017	12.06.2017	23.06.2017	17.05.2017	25.05.2017	08.06.2017	21.06.2017
weeds m²				5,0	15,0	10,0	15,0	8,0	8,0	8,0	8,0	5,0	5,0	5,0	5,0	5,0	5,0	7,0	7,0
No	Name	Rate (l, %/ha)	Appli- cation code																
1	Untreated Check																		
2	Terbut 500 S.C.	0,80	A	93,80	47,50	88,80	47,50	82,50	91,30	85,00	100,00	87,00	99,00	95,50	99,00	96,00	100,00	99,00	99,00
	Hydravance 100 LQ	0,2																	
3	Terbut 500 S.C.	1,0	A																
4	Terbut 500 S.C.	1,0	A	99,00	50,00	78,80	50,00	90,00	92,50	93,80	100,00	92,50	99,00	93,50	96,80	100,00	100,00	99,00	99,00
	Hydravance 100 LQ	0,2																	
5	Terbut 500 S.C.	1,2	A	100,00	60,00	87,50	60,00	87,50	91,30	92,50	100,00	90,00	99,00	86,30	92,30	100,00	100,00	99,50	99,50
	Hydravance 100 LQ	0,2																	
6	Terbut 500 S.C.	1,50	A	100,00	76,30	90,00	76,30	100,00	100,00	98,80	100,00	96,80	99,00	98,80	96,80	100,00	100,00	99,50	99,50
	Hydravance 100 LQ	0,2																	
7	Lumax 537,5 SE; Gardo Gold 500 S.C.; Gardoprim Plus Gold 500 S.C	3,5; 4; 4	A	100,00	100,00	88,80	100,00	100,00	100,00	100,00	100,00	90,00	99,00	99,00	99,00	100,00	100,00	100,00	100,00
	LSD (P=.05)			1,720	6,740	11,320	6,740	8,940	7,890	5,210		6,100		6,780	4,010	1,380		0,370	0,370

Part 2/3

Pest code				Chenopodium album CHEAL												
report code				SGS/2017/145/PL06				SGS2017H001GER01			SGS2017H001GER02				SGS2017H001GER03	
DA-A/B				7 DA-A	0 DA-B	14 DA-B	25 DA-B	0 DA-B	14 DA-B	28 DA-B	16 DA-A	0 DA-B	14 DA-B	27 DA-B	0 DA-B	26 DA-B
date				25.05.2017	29.05.2017	12.06.2017	23.06.2017	30.05.2017	13.06.2017	27.06.2017	29.05.2017	10.06.2017	24.06.2017	07.07.2017	22.05.2017	17.06.2017
weeds m ²				10,0	12,0	20,0	20,0	67,7	69,5	66,0	20,0	22,4	25,0	30,0	10,0	20,0
No.	Name	Rate (l, %/ha)	Applica- tion code													
1	Untreated Check															
2	Terbut 500 S.C.	0,80	A	93,80	98,80	100,00	100,00	46,30	58,80	46,30	60,00	75,00	100,00	100,00	90,00	76,30
	Hydravance 100 LQ	0,2														
3	Terbut 500 S.C.	1,0	A													
4	Terbut 500 S.C.	1,0	A	99,00	100,00	100,00	100,00	60,00	60,00	62,50	64,00	75,00	100,00	100,00	92,50	90,00
	Hydravance 100 LQ	0,2														
5	Terbut 500 S.C.	1,2	A	100,00	98,80	98,80	100,00	73,80	63,80	70,00	80,00	80,00	100,00	100,00	92,50	92,50
	Hydravance 100 LQ	0,2														
6	Terbut 500 S.C.	1,50	A	100,00	100,00	100,00	100,00	82,50	86,30	83,80	85,00	85,00	100,00	100,00	95,00	100,00
	Hydravance 100 LQ	0,2														
7	Lumax 537,5 SE; Gardo Gold 500 S.C.; Gardo-prim Plus Gold 500 S.C	3,5; 4; 4	A	100,00	100,00	100,00	100,00	62,50	95,30	93,00	85,00	85,00	100,00	100,00	93,80	50,00
	LSD (P=.05)			1,720	2,110	1,590	3,090	3,920	2,500	2,960	0,920				3,300	2,540

Part 3/3

Pest code				Chenopodium album CHEAL															
report code		SGS2017H001GE R04		SGS2017H001GER05					SGS2017H001CZO1				AH/19/K/14/Nw/01						
DA-A/B		0 DA-B		7 DA-A	0 DA-B	14 DA-B	25 DA-B	13 DA-A	13 DA-B	27 DA-B	46 DA-B	15 DA-A	38/13 DA-A/B	73/48 DA-A/B	Ave- rage	Min	Max.		
date		30.05.2017		25.05.2017	29.05.2017	12.06.2017	23.06.2017	01.06.2017	16.06.2017	30.06.2017	19.07.2017	15.05.2019	07.06.2019	12.07.2019					
weeds m²		25,3		10,0	12,0	20,0	20,0	10,0	10,0	10,0	10,0	6,0	6,0	6,0	16,1	5,0	69,5		
No	Name	Rate (l, %/ha)	Applica- tion code																
1	Untreated Check																		
2	Terbut 500 S.C.	0,80	A	99,00	93,80	98,80	100,00	100,00	58,80	61,30	62,50	65,00	92,50	95,00	96,30	84,86	46,30	100,00	
	Hydravance 100 LQ	0,2																	
3	Terbut 500 S.C.	1,0	A										97,50	97,50	97,50	97,50	97,50	97,50	
4	Terbut 500 S.C.	1,0	A	99,00	99,00	100,00	100,00	100,00	80,00	80,00	82,50	83,80	100,00	100,00	100,00	89,30	50,00	100,00	
	Hydravance 100 LQ	0,2																	
5	Terbut 500 S.C.	1,2	A	99,00	100,00	98,80	98,80	100,00	88,80	91,30	92,50	93,80	100,00	100,00	100,00	91,67	60,00	100,00	
	Hydravance 100 LQ	0,2																	
6	Terbut 500 S.C.	1,50	A	99,00	100,00	100,00	100,00	100,00	98,30	99,00	99,50	100,00				95,93	76,30	100,00	
	Hydravance 100 LQ	0,2																	
7	Lumax 537,5 SE; Gardo Gold 500 S.C.; Gardoprim Plus Gold 500 S.C	3,5; 4; 4	A	99,00	100,00	100,00	100,00	100,00	99,30	99,80	100,00	100,00	100,00	100,00	100,00	96,06	50,00	100,00	
	LSD (P=.05)				1,720	2,110	1,590	3,090	4,100	3,120	2,940	2,790	6,150	5,790	9,830				

Table 5b. The efficacy Terbut 500 SC in control CHEAL in maize (post-emergence application)

Part 1/5

Pest code				Chenopodium album CHEAL											
report code				SGS/2017/145/PL01		SGS/2017/145/PL02		SGS/2017/145/PL03		SGS/2017/145/PL04		SGS/2017/145/PL05		SGS/2017/145/PL06	
DA-A/B				14 DA-B	21 DA-B	10 DA-B	24 DA-B	14 DA-B	28 DA-B	11 DA-B	22 DA-B	14 DA-B	27 DA-B	14 DA-B	25 DA-B
date				20.06.2017	27.06.2017	06.06.2017	20.06.2017	16.06.2017	30.06.2017	12.06.2017	23.06.2017	08.06.2017	21.06.2017	12.06.2017	23.06.2017
weeds m²				20,0	24,0	60,0	60,0	8,0	8,0	5,0	5,0	7,0	7,0	20,0	20,0
No	Name	Rate (l, %/ha)	Applica-tion code												
1	Untreated Check														
2	Terbut 500 S.C.	0,8	B												
3	Terbut 500 S.C.	0,80	B	100,00	100,00	96,30	98,80	100,00	100,00	97,00	98,80	100,00	100,00	0,00	0,00
	Hydravance 100 LQ	0,20													
4	Terbut 500 S.C.	1,0	B												
5	Terbut 500 S.C.	1,20	B												
6	Terbut 500 S.C.	1,00	B	99,80	99,80	97,50	97,00	100,00	100,00	95,30	99,00	100,00	100,00	0,00	55,00
	Hydravance 100 LQ	0,20													
7	Terbut 500 S.C.	1,2	B	100,00	100,00	100,00	99,00	100,00	100,00	98,80	96,80	100,00	100,00	0,00	80,00
	Hydravance 100 LQ	0,2													
8	Terbut 500 S.C.	1,5	B	100,00	100,00	100,00	99,30	100,00	100,00	98,50	99,00	100,00	100,00	0,00	90,00
	Hydravance 100 LQ	0,2													
9	Tezosar 500 S.C.; Bromoterb 500 S.C.; Gardo Gold 500 S.C.; Gardoprim Plus Gold	1,00; 1,50; 4,0; 4,0	B	100,00	100,00	97,50	98,00	100,00	100,00	94,00	99,00	100,00	100,00	91,30	92,50
	LSD (P=.05)			4,750	4,220	12,450	10,170	5,210		6,780	4,010	0,370	0,370	1,590	3,090

Part 2/5

Pest code				Chenopodium album CHEAL													
report code				SGS2017H001GER01		SGS2017H001GER02		SGS2017H001GER03		SGS2017H001GER04		SGS2017H001GER05		SGS2017H001CZO1			
DA-A/B				14 DA-B	28 DA-B	14 DA-B	27 DA-B	14 DA-B	26 DA-B	14 DA-B	28 DA-B	14 DA-B	25 DA-B	13 DA-B	27 DA-B	46 DA-B	
date				13.06.201 7	27.06.201 7	24.06.201 7	07.07.201 7	05.06.201 7	17.06.201 7	13.06.201 7	27.06.201 7	12.06.201 7	23.06.201 7	16.06.201 7	30.06.201 7	19.07.201 7	
weeds m²				69,5	66,0	25,0	30,0	15,0	20,0	26,0	24,0	20,0	20,0	10,0	10,0	10,0	
No	Name	Rate (l, %/ha)	Applica- tion code														
1	Untreated Check																
2	Terbut 500 S.C.	0,8	B														
3	Terbut 500 S.C.	0,80	B	87,50	73,80	100,00	100,00	90,00	86,30	87,50	76,30	0,00	0,00	51,30	56,30	58,80	
	Hydravance 100 LQ	0,20															
4	Terbut 500 S.C.	1,0	B														
5	Terbut 500 S.C.	1,20	B														
6	Terbut 500 S.C.	1,00	B	90,00	80,00	100,00	100,00	90,00	95,00	90,00	86,30	0,00	55,00	70,00	73,80	76,30	
	Hydravance 100 LQ	0,20															
7	Terbut 500 S.C.	1,2	B	95,00	85,00	100,00	100,00	95,80	100,00	95,00	92,50	0,00	80,00	82,50	85,00	87,50	
	Hydravance 100 LQ	0,2															
8	Terbut 500 S.C.	1,5	B	99,00	96,00	100,00	100,00	98,00	100,00	99,00	97,00	0,00	90,00	92,50	96,80	99,00	
	Hydravance 100 LQ	0,2															
	Tezosar 500 S.C.; Bromo- terb 500 S.C.; Gardo Gold 500 S.C.; Gardoprim Plus Gold	1,00; 1,50; 4,0; 4,0	B	99,00	96,50	100,00	100,00	98,00	100,00	99,00	99,00	91,30	92,50	92,50	97,00	99,30	
9	LSD (P=.05)			2,500	2,960			6,300	2,540	2,900	3,070	1,590	3,090	3,120	2,940	2,790	

Part 3/5

Pest code				Chenopodium album CHEAL													
report code				AH/19/K/14/Ce/04		AH/19/K/14/Dziem/03		AH/19/K/14/Gr/01		AH/19/K/14/Nw/01			AH/19/K/14/Nw/05		AH/19/K/14/Ra/02		
DA-A/B				14 DA-A	35 DA-A	14 DA-A	43 DA-A	14 DA-A	56 DA-A	15 DA-A	38/13 DA-A/B	73/48 DA-A/B	13 DA-A	37 DA-A	13 DA-A	37 DA-A	
date				21.06.2019	12.07.2019	12.06.2019	11.07.2019	31.05.2019	12.07.2019	15.05.2019	07.06.2019	12.07.2019	21.06.2019	15.07.2019	21.06.2019	15.07.2019	
weeds m²				8,0	8,0	7,0	7,0	7,0	7,0	6,0	6,0	6,0	6,0	6,0	7,0	7,0	
No	Name	Rate (l, %/ha)	Application code														
1	Untreated Check																
2	Terbut 500 S.C.	0,8	B	78,80	91,30	78,80	92,50	78,80	90,00		78,80	90,00	78,80	82,50	80,00	87,50	
3	Terbut 500 S.C.	0,80	B														
	Hydravance 100 LQ	0,20															
4	Terbut 500 S.C.	1,0	B	83,80	93,80	83,80	97,50	83,80	95,00		83,80	93,80	83,80	93,80	86,30	100,00	
5	Terbut 500 S.C.	1,20	B	88,80	100,00	90,00	100,00	88,80	100,00		90,00	100,00	90,00	100,00	90,00	100,00	
6	Terbut 500 S.C.	1,00	B	87,50	100,00	86,30	100,00	86,30	97,50		86,30	88,50	86,30	97,50	87,50	100,00	
	Hydravance 100 LQ	0,20															
7	Terbut 500 S.C.	1,2	B														
	Hydravance 100 LQ	0,2															
8	Terbut 500 S.C.	1,5	B														
	Hydravance 100 LQ	0,2															
9	Tezosar 500 S.C.; Bromoterb 500 S.C.; Gardo Gold 500 S.C.; Gardoprime Plus Gold	1,00; 1,50; 4,0; 4,0	B	80,00	95,00	81,20	97,50	81,30	92,50		83,80	95,00	80,00	88,80	82,50	100,00	
	LSD (P=.05)			5,070	5,890	3,890	5,210	3,700	4,770	6,150	5,790	9,830	3,620	5,020	4,470	3,080	

Part 4/5

Pest code				Chenopodium album CHEAL											
report code		SRPL19-147-336HE			SRPL19-152-336HE			SRPL19-149-336HE			SRPL19-151-336HE				
DA-A/B		14 DA-A		28 DA-A	56 DA-A	14 DA-A	28 DA-A	56 DA-A	14 DA-A	28 DA-A	56 DA-A	14 DA-A	28 DA-A	56 DA-A	
date		11.06.2019		25.06.2019	23.07.2019	12.06.2019	26.06.2019	24.07.2019	28.06.2019	12.07.2019	09.08.2019	17.06.2019	01.07.2019	29.07.2019	
weeds m ²		9		9	9	9	9	9	9	9	9	9	9	9	
			12,0	12,0	12,0	83,0	82,0	82,0	6,0	6,0	6,0	8,0	15,0	9,0	
No	Name	Rate (l, %/ha)	Applica- tion code												
1	Untreated Check														
2	Terbut 500 S.C.	0,8	B	62,50	77,50	80,00	65,00	80,00	78,75	48,75	71,25	78,75	82,50	91,30	91,30
3	Terbut 500 S.C.	0,80	B												
	Hydravance 100 LQ	0,20													
4	Terbut 500 S.C.	1,0	B	67,50	81,25	82,50	82,50	97,00	97,50	62,50	76,25	81,25	83,80	95,00	95,00
5	Terbut 500 S.C.	1,20	B	75,00	89,25	91,75	83,75	99,00	100,00	67,50	82,50	87,50	80,00	95,00	95,00
6	Terbut 500 S.C.	1,00	B	77,50	96,00	98,00	86,25	99,00	100,00	71,25	82,50	99,00	85,00	95,00	95,00
	Hydravance 100 LQ	0,20													
7	Terbut 500 S.C.	1,2	B												
	Hydravance 100 LQ	0,2													
8	Terbut 500 S.C.	1,5	B												
	Hydravance 100 LQ	0,2													
9	Tezosar 500 S.C.; Bromoterb 500 S.C.; Gardo Gold 500 S.C.; Gardoprim Plus Gold	1,00; 1,50; 4,0; 4,0	B	75,00	92,50	94,75	80,00	87,50	86,25	82,50	95,00	100,00	83,80	95,00	95,00
	LSD (P=.05)			8,556	4,939	2,756	4,765	4,047	3,027	3,654	3,369	2,751	4,500	1,540	1,540

Part 5/5

Pest code				Chenopodium album CHEAL								
report code				SRPL19-153-336HE			SRPL19-154-336HE					
DA-A/B				14 DA-A	28 DA-A	56 DA-A	14 DA-A	28 DA-A	56 DA-A	Average	Min.	Max.
date				10.06.2019	24.06.2019	22.07.2019	12.06.2019	26.06.2019	24.07.2019			
weeds m²				12,8	12,8	16,8	10,0	10,0	10,0	19,3	5,0	83,0
No.	Name	Rate (l, %/ha)	Application code									
1	Untreated Check											
2	Terbut 500 S.C.	0,8	B	87,50	60,00	87,10	60,00	70,00	75,00	78,50	48,75	92,50
3	Terbut 500 S.C.	0,80	B							74,35	0,00	100,00
	Hydravance 100 LQ	0,20										
4	Terbut 500 S.C.	1,0	B	95,00	81,30	93,70	65,00	75,00	80,00	85,71	62,50	100,00
5	Terbut 500 S.C.	1,20	B	92,50	80,00	97,60	67,48	80,00	90,00	89,71	67,48	100,00
6	Terbut 500 S.C.	1,00	B	95,00	77,50	99,00	70,00	90,00	99,00	86,70	0,00	100,00
	Hydravance 100 LQ	0,20										
7	Terbut 500 S.C.	1,2	B							86,92	0,00	100,00
	Hydravance 100 LQ	0,2										
8	Terbut 500 S.C.	1,5	B							90,16	0,00	100,00
	Hydravance 100 LQ	0,2										
	Gardo Gold 500 S.C.; Tezosar 500 S.C.; Bromoterb 500 S.C. Gardo-pirm Plus Gold	1,00; 1,50	B	86,30	91,30	99,70	82,48	95,00	100,00	93,02	75,00	100,00
	LSD (P=.05)			11,470	43,650	23,761	0,130	0,000	0,000			

Table 6a. The efficacy Terbut 500 SC in control CHEPO in maize (pre-emergence application)

Pest code				Lipandra polysperma CHEPO						
report code				SGS2O17H0O1CZO1						
DA-A/B				13 DA-A	13 DA-B	27 DA-B	46 DA-B	Average	Min.	Max.
date				01.06.2017	16.06.2017	30.06.2017	19.07.2017			
weeds m²				5,0	5,0	5,0	5,0	5,0	5,0	5,0
No.	Name	Rate (l, %/ha)	Application code							
1	Untreated Check									
2	Terbut 500 S.C.	0,80	A	52,5	57,5	60,0	60,0	57,50	52,50	60,00
	Hydravance 100 LQ	0,2								
3	Terbut 500 S.C.	1,0	A	81,3	83,8	85,0	85,0	83,78	81,30	85,00
	Hydravance 100 LQ	0,2								
4	Terbut 500 S.C.	1,2	A	90,0	90,0	92,5	93,8	91,58	90,00	93,80
	Hydravance 100 LQ	0,2								
5	Terbut 500 S.C.	1,50	A	98,3	99,0	99,3	99,8	99,10	98,30	99,80
	Hydravance 100 LQ	0,2								
6	Gardoprim Plus Gold 500 S.C	4	A	99,8	100,0	100,0	100,0	99,95	99,80	100,00
	LSD (P=.05)			2,96	3,31	2,75	2,62			

Table 6b. The efficacy Terbut 500 SC in control CHEPO in maize (post-emergence application)

Pest code				Lipandra polysperma CHEPO					
report code				SGS2O17H001CZO1					
DA-A/B				13 DA-B	27 DA-B	46 DA-B	Average	Min.	Max.
date				16.06.2017	30.06.2017	19.07.2017			
weeds m²				5,0	5,0	5,0	5,0	5,0	5,0
No.	Name	Rate (l, %/ha)	Application code						
1	Untreated Check								
2	Terbut 500 S.C.	0,80	B	48,8	57,5	60,0	55,43	48,80	60,00
	Hydravance 100 LQ	0,20							
3	Terbut 500 S.C.	1,00	B	65	73,8	75,0	71,27	65,00	75,00
	Hydravance 100 LQ	0,20							
4	Terbut 500 S.C.	1,2	B	76,3	82,5	86,3	81,70	76,30	86,30
	Hydravance 100 LQ	0,2							
5	Terbut 500 S.C.	1,5	B	88,8	97,0	98,8	94,87	88,80	98,80
	Hydravance 100 LQ	0,2							
6	Gardoprim Plus	4,0	B	90	97,8	99,3	95,70	90,00	99,30
	LSD (P=.05)			3,31	2,75	2,62			

Table 7a. The efficacy Terbut 500 SC in control ECHCG in maize (pre-emergence application)

Pest code				Echinochloa crus-galli ECHCG												
report code				SGS/2017/145/PL04				SGS2017H001GER03		SGS2017H001CZO1						
DA-A/B				24 DA-A	0 DA-B	11 DA-B	22 DA-B	0 DA-B	14 DA-B	13 DA-A	13 DA-B	27 DA-B	46 DA-B	Average	Min.	Max.
date				20.05.2017	01.06.2017	12.06.2017	23.06.2017	22.05.2017	05.06.2017	01.06.2017	16.06.2017	30.06.2017	19.07.2017			
weeds m²				5,0	6,0	5,0	5,0	9,5	80,0	15,0	15,0	15,0	15,0	17,1	5,0	80,0
No.	Name	Rate (l, %/ha)	Applica- tion code													
1	Untreated Check		A													
2	Terbut 500 S.C.	0,80	A	25,0	26,3	2,5	0,0	90,0	40,0	42,5	45,0	48,8	50,0	37,01	0,00	90,0
	Hydravance 100 LQ	0,2	A													
3	Terbut 500 S.C.	1,0	A	52,5	52,5	41,3	35,0	92,5	45,0	71,3	75,0	76,3	76,3	61,77	35,0	92,5
	Hydravance 100 LQ	0,2	A													
4	Terbut 500 S.C.	1,2	A	88,8	93,0	97,3	99,0	92,5	68,8	83,8	85,0	85,0	87,5	88,07	68,8	99,0
	Hydravance 100 LQ	0,2	A													
5	Terbut 500 S.C.	1,50	A	92,5	94,5	95,0	95,8	95,0	90,0	92,5	94,3	96,5	97,5	94,36	90,0	97,5
	Hydravance 100 LQ	0,2	A													
6	Lumax 537,5 SE; Gardo Gold 500 S.C.; Gardoprim Plus Gold 500 S.C	3,5; 4; 4	A	88,8	97,0	94,5	99,0	93,8	45,0	97,5	98,3	98,8	99,3	91,20	45,0	99,3
	LSD (P=.05)			9,03	10,07	11,13	8,04	3,3	8	3,99	3,62	4,09	3,44			

Table 7b. The efficacy Terbut 500 SC in control ECHCG in maize (post-emergence application)

Pest code				Echinochloa crus-galli ECHCG											
report code				SGS/2017/145/PL03		SGS/2017/145/PL04		SGS2017H001GER03		SGS2017H001CZO1					
DA-A/B				14 DA-B	28 DA-B	11 DA-B	22 DA-B	14 DA-B	26 DA-B	13 DA-B	27 DA-B	46 DA-B	Average	Min.	Max.
date				16.06.2017	30.06.2017	12.06.2017	23.06.2017	05.06.2017	17.06.2017	16.06.2017	30.06.2017	19.07.2017			
weeds m²				13,0	13,0	5,0	5,0	80,0	80,0	15,0	15,0	15,0	26,8	5,0	80,0
No.	Name	Rate (l. %/ha)	Applica- tion code												
1	Untreated Check														
2	Terbut 500 S.C.	0,80	B	0,0	0,0	0,0	0,0	65,0	55,0	37,5	43,8	46,3	27,51	0,00	65,00
	Hydravance 100 LQ	0,20													
3	Terbut 500 S.C.	1,00	B	0,0	0,0	6,3	5,0	65,0	60,0	50,0	58,8	61,3	34,04	0,00	65,00
	Hydravance 100 LQ	0,20													
4	Terbut 500 S.C.	1,2	B	22,5	30,0	11,3	11,3	87,5	63,8	65,0	71,3	73,8	48,50	11,30	87,50
	Hydravance 100 LQ	0,2													
5	Terbut 500 S.C.	1,5	B	26,3	30,0	17,5	13,8	95,8	82,5	80,0	83,8	87,5	57,47	13,80	95,80
	Hydravance 100 LQ	0,2													
6	Bromoterb 500 S.C.; Gardo Gold 500 S.C.; Gardoprim Plus Gold	1,50; 3,5; 4,0	B	25,0	30,0	0,0	0,0	90	90,0	82,5	85,0	87,5	54,44	0,00	90,00
	LSD (P=.05)			3,09		11,13	8,04	8	4,82	3,62	4,09	3,44			

Table 8a. The efficacy Terbut 500 SC in control GALAP in maize (pre-emergence application)

Pest code				Galium aparine GALAP															
report code				SGS/2017/145/PL01			SGS/2017/145/PL06			SGS2017H001GER05			SGS2017H001CZO1						
DA-A/B				0 DA-B	14 DA-B	21 DA-B	0 DA-B	14 DA-B	25 DA-B	0 DA-B	14 DA-B	25 DA-B	13 DA-A	13 DA-B	27 DA-B	46 DA-B	Ave- rage	Min.	Max.
date				06.06.2017	20.06.2017	27.06.2017	29.05.2017	12.06.2017	23.06.2017	29.05.2017	12.06.2017	23.06.2017	01.06.2017	16.06.2017	30.06.2017	19.07.2017			
weeds m²				5,0	5,0	5,0	5,0	8,0	8,0	5,0	8,0	8,0	5,0	5,0	5,0	5,0	5,9	5,0	8,0
N o.	Name	Rate (l, %/ha)	Applica- tion code																
1	Untreated Check																		
2	Terbut 500 S.C.	0,80	A	97,00	97,00	95,80	91,30	80,00	100,00	91,30	80,00	100,00	46,30	48,80	50,00	50,00	79,04	46,30	100,00
	Hydravance 100 LQ	0,2																	
3	Terbut 500 S.C.	1,0	A	97,00	97,00	97,00	92,50	93,80	100,00	92,50	93,80	100,00	58,80	62,50	63,80	65,00	85,67	58,80	100,00
	Hydravance 100 LQ	0,2																	
4	Terbut 500 S.C.	1,2	A	99,50	99,50	99,50	91,30	92,50	100,00	91,30	92,50	100,00	68,80	71,30	72,50	73,80	88,65	68,80	100,00
	Hydravance 100 LQ	0,2																	
5	Terbut 500 S.C.	1,50	A	99,80	99,80	99,80	100,00	98,80	100,00	100,00	99,80	100,00	85,00	86,30	87,50	90,00	95,91	85,00	100,00
	Hydravance 100 LQ	0,2																	
6	Lumax 537,5 SE; Gardo Gold 500 S.C.; Gardoprim Plus Gold 500 S.C	3,5; 4; 4	A	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	88,80	90,00	90,00	91,30	96,93	88,80	100,00
	LSD (P=.05)			4,110	2,920	3,780	11,620	6,100		11,620	6,100		2,440	2,890	3,350	2,720			

Table 8b. The efficacy Terbut 500 SC in control GALAP in maize (post-emergence application)

Part 1/2

Pest code				Galium aparine GALAP													
report code				SGS/2017/145/PL01		SGS/2017/145/PL06		SGS2017H001GER05		SGS2017H001CZO1			AH/19/K/14/Ce/04		AH/19/K/14/Dziem/03		
DA-A/B				14 DA-B	21 DA-B	14 DA-B	25 DA-B	14 DA-B	25 DA-B	13 DA-B	27 DA-B	46 DA-B	14 DA-A	35 DA-A	14 DA-A	43 DA-A	
date				20.06.2017	27.06.2017	12.06.2017	23.06.2017	12.06.2017	23.06.2017	16.06.2017	30.06.2017	19.07.2017	21.06.2019	12.07.2019	12.06.2019	11.07.2019	
weeds m²				5,0	5,0	8,0	8,0	8,0	8,0	5,0	5,0	5,0	6,0	6,0	6,0	6,0	
No.	Name	Rate (l, %/ha)	Application code														
1	Untreated Check																
2	Terbut 500 S.C.	0,8	B										77,50	88,80	78,80	90,00	
3	Terbut 500 S.C.	0,80	B	100,00	100,00	100,00	70,00	100,00	70,00	41,30	45,00	47,50					
	Hydravance 100 LQ	0,20															
4	Terbut 500 S.C.	1,0	B										82,50	93,80	86,30	97,50	
5	Terbut 500 S.C.	1,20	B										88,80	100,00	90,00	100,00	
6	Terbut 500 S.C.	1,00	B	100,00	100,00	100,00	80,00	100,00	80,00	56,30	58,80	61,30	90,00	100,00	88,80	100,00	
	Hydravance 100 LQ	0,20															
7	Terbut 500 S.C.	1,2	B	100,00	100,00	100,00	100,00	100,00	100,00	67,50	68,80	71,30					
	Hydravance 100 LQ	0,2															
8	Terbut 500 S.C.	1,5	B	100,00	100,00	100,00	100,00	100,00	100,00	80,00	80,00	80,00					
	Hydravance 100 LQ	0,2															
9	Gardo Gold, Gardoprim Plus Gold, Tezosar 500 SC	1,50; 3,5; 4,0	B	100,00	100,00	100,00	100,00	100,00	100,00	80,00	80,00	80,00	80,00	92,50	83,80	95,00	
	LSD (P=.05)			2,920	3,780	6,100		6,100		2,890	3,350	2,720	5,820	7,150	7,320	7,060	

Part 2/2

Pest code				Galium aparine GALAP														
report code				AH/19/K/14/Gr/01		AH/19/K/14/Nw/05		AH/19/K/14/Ra/02		SRPL19-147-336HE			SRPL19-149-336HE					
DA-A/B				14 DA-A	56 DA-A	13 DA-A	37 DA-A	13 DA-A	37 DA-A	14 DA-A	28 DA-A	56 DA-A	14 DA-A	28 DA-A	56 DA-A	Ave- rage	Min.	Max.
date				31.05.20 19	12.07.20 19	21.06.20 19	15.07.20 19	21.06.20 19	15.07.20 19	11.06.20 19	25.06.20 19	23.07.20 19	28.06.20 19	12.07.20 19	09.08.20 19			
weeds m ²				6,0	6,0	5,0	5,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,0	8,0
No.	Name	Rate (l, %/ha)	Appli- cation code															
1	Untreated Check																	
2	Terbut 500 S.C.	0,8	B	77,50	90,00	78,80	90,00	78,80	85,00	72,50	83,75	82,57	53,75	77,50	82,50	80,49	53,75	90,00
3	Terbut 500 S.C.	0,80	B													74,87	41,30	100,00
	Hydravance 100 LQ	0,20																
4	Terbut 500 S.C.	1,0	B	86,30	97,50	83,80	95,00	88,80	97,50	77,50	87,50	90,00	61,25	83,75	88,75	87,36	61,25	97,50
5	Terbut 500 S.C.	1,20	B	88,80	100,00	90,00	100,00	90,00	100,00	85,00	99,00	99,75	67,50	88,75	95,00	92,66	67,50	100,00
6	Terbut 500 S.C.	1,00	B	86,30	97,50	86,30	97,50	90,00	100,00	87,50	99,00	99,94	72,50	92,50	99,00	88,93	56,30	100,00
	Hydravance 100 LQ	0,20																
7	Terbut 500 S.C.	1,2	B													89,73	67,50	100,00
	Hydravance 100 LQ	0,2																
8	Terbut 500 S.C.	1,5	B													93,33	80,00	100,00
	Hydravance 100 LQ	0,2																
9	Gardo Gold, Gardoprim Plus Gold, Tezosar 500 SC	1,50; 3,5; 4,0	B	81,30	91,30	80,00	92,50	87,50	96,30	85,00	99,00	99,44	78,75	95,00	100,00	91,10	78,75	100,00
	LSD (P=.05)			2,970	3,350	5,430	5,620	2,860	5,130	6,290	2,436	3,587	4,503	3,177	2,436			

Table 9a. The efficacy Terbut 500 SC in control GASPA in maize (pre-emergence application)

Pest code				Galinsoga parviflora GASPA						
report code				SGS/2017/145/PL03						
DA-A/B				20 DA-A	0 DA-B	14 DA-B	28 DA-B	Average	Min.	Max.
date				26.05.2017	02.06.2017	16.06.2017	30.06.2017			
weeds m²				6,0	6,0	6,0	6,0	6,0	6,0	6,0
No.	Name	Rate (l, %/ha)	Application code							
1	Untreated Check									
2	Terbut 500 S.C.	0,80	A	100,00	100,00	97,50	100,00	99,38	97,50	100,00
	Hydravance 100 LQ	0,2								
3	Terbut 500 S.C.	1,0	A	95,00	97,50	100,00	100,00	98,13	95,00	100,00
	Hydravance 100 LQ	0,2								
4	Terbut 500 S.C.	1,2	A	100,00	100,00	100,00	100,00	100,00	100,00	100,00
	Hydravance 100 LQ	0,2								
5	Terbut 500 S.C.	1,50	A	100,00	100,00	100,00	100,00	100,00	100,00	100,00
	Hydravance 100 LQ	0,2								
6	Lumax 537,5 SE	3,5	A	100,00	100,00	100,00	100,00	100,00	100,00	100,00
	LSD (P=,05)			4,590	2,290	2,140				

Table 9b. The efficacy Terbut 500 SC in control GASPA in maize (post-emergence application)

Pest code				Galinsoga parviflora GASPA							
report code				SGS/2017/145/PL03		SRPL19-152-336HE					
DA-A/B				14 DA-B	28 DA-B	14 DA-A	28 DA-A	56 DA-A	Average	Min.	Max.
date				16.06.2017	30.06.2017	12.06.2019	26.06.2019	24.07.2019			
weeds m²				6,0	6,0	21,0	20,0	20,0	14,6	6,0	21,0
No.	Name	Rate (l, %/ha)	Application code								
1	Untreated Check										
2	Terbut 500 S.C.	0,8	B			87,50	87,50	88,75	87,92	87,50	88,75
3	Terbut 500 S.C.	0,80	B	98,80	100,00				99,40	98,80	100,00
	Hydravance 100 LQ	0,20									
4	Terbut 500 S.C.	1,0	B			99,00	99,00	100,00	99,33	99,00	100,00
5	Terbut 500 S.C.	1,20	B			99,00	99,00	100,00	99,33	99,00	100,00
6	Terbut 500 S.C.	1,00	B	100,00	100,00	99,00	99,00	100,00	99,60	99,00	100,00
	Hydravance 100 LQ	0,20									
7	Terbut 500 S.C.	1,2	B	98,80	100,00				99,40	98,80	100,00
	Hydravance 100 LQ	0,2									
8	Terbut 500 S.C.	1,5	B	98,80	100,00				99,40	98,80	100,00
	Hydravance 100 LQ	0,2									
9	Tezosar 500 S.C.; Bromoterb 500 S.C.	1,00; 1,50	B	100,00	100,00	99,00	99,00	100,00	99,60	99,00	100,00
	LSD (P=.05)			2,140							

Table 10a. The efficacy Terbut 500 SC in control GERDI in maize (pre-emergence application)

report code				Geranium dissectum GERDI				
DA-A/B				SGS2017H001GER03				
date				0 DA-B	26 DA-B	Average	Min.	Max.
weeds m²				22.05.2017	17.06.2017			
No.	Name	Rate (l, %/ha)	Application code	15,0	15,0	15,0	15,0	15,0
1	Untreated Check							
2	Terbut 500 S.C.	0,80	A	90,00	75,00	82,50	75,00	90,00
	Hydravance 100 LQ	0,2						
3	Terbut 500 S.C.	1,0	A	92,50	81,30	86,90	81,30	92,50
	Hydravance 100 LQ	0,2						
4	Terbut 500 S.C.	1,2	A	92,50	90,00	91,25	90,00	92,50
	Hydravance 100 LQ	0,2						
5	Terbut 500 S.C.	1,50	A	95,00	100,00	97,50	95,00	100,00
	Hydravance 100 LQ	0,2						
6	Gardo Gold 500 S.C.	4,0	A	93,80	50,00	71,90	50,00	93,80
	LSD (P=.05)			3,300	3,440			

Table 10b. The efficacy Terbut 500 SC in control GERDI in maize (post-emergence application)

report code				Geranium dissectum GERDI				
DA-A/B				SGS2017H001GER03				
date				14 DA-B	26 DA-B	Average	Min.	Max.
weeds m²				05.06.2017	17.06.2017			
No.	Name	Rate (l, %/ha)	Application code	15,0	15,0	15,0	15,0	15,0
1	Untreated Check							
2	Terbut 500 S.C.	0,80	B	90,00	90,00	90,00	90,00	90,00
	Hydravance 100 LQ	0,20						
3	Terbut 500 S.C.	1,00	B	90,00	95,00	92,50	90,00	95,00
	Hydravance 100 LQ	0,20						
4	Terbut 500 S.C.	1,2	B	96,50	100,00	98,25	96,50	100,00
	Hydravance 100 LQ	0,2						
5	Terbut 500 S.C.	1,5	B	98,00	100,00	99,00	98,00	100,00
	Hydravance 100 LQ	0,2						
6	Gardo Gold 500 SC	4,0	B	98,00	100,00	99,00	98,00	100,00
	LSD (P=.05)			6,690	3,440			

Table 11a. The efficacy Terbut 500 SC in control GERPU in maize (pre-emergence application)

report code				Geranium pusillum GERPU														
DA-A/B				SGS/2017/145/PL01			SGS/2017/145/PL06			SGS2017H001GER01			SGS2017H001GER05					
date				0 DA-B	14 DA-B	21 DA-B	0 DA-B	14 DA-B	25 DA-B	0 DA-B	14 DA-B	28 DA-B	0 DA-B	14 DA-B	25 DA-B	Average	Min.	Max.
weeds m²				06.06.20 17	20.06.20 17	27.06.20 17	29.05.20 17	12.06.20 17	23.06.20 17	30.05.20 17	13.06.20 17	27.06.20 17	29.05.20 17	12.06.20 17	23.06.20 17			
No	Name	Rate (l, %/ha)	Applica- tion code												5,9	5,0	7,5	
1	Untreated Check			7,0	5,0	5,0	6,0	5,0	5,0	7,3	7,5	7,5	6,0	5,0	5,0			
2	Terbut 500 S.C.	0,80	A	93,50	93,50	93,50	86,30	40,00	65,00	10,00	26,30	25,00	86,30	40,00	65,00	60,37	10,00	
	Hydravance 100 LQ	0,2																
3	Terbut 500 S.C.	1,0	A	94,80	94,80	94,80	91,30	60,00	77,50	32,50	30,00	30,00	91,30	60,00	77,50	69,54	30,00	
	Hydravance 100 LQ	0,2																
4	Terbut 500 S.C.	1,2	A	97,30	97,30	96,00	97,50	70,00	87,50	41,30	30,00	30,00	97,50	70,00	87,50	75,16	30,00	
	Hydravance 100 LQ	0,2																
5	Terbut 500 S.C.	1,50	A	99,80	99,80	99,80	98,80	80,00	90,00	48,80	48,80	50,00	98,80	80,00	90,00	82,05	48,80	
	Hydravance 100 LQ	0,2																
6	Lumax 537,5 SE; Gardo Gold 500 S.C.	3,5; 4;	A	100,00	100,00	100,00	100,00	100,00	100,00	99,00	99,00	99,00	100,00	100,00	100,00	99,75	99,00	
	LSD (P=.05)			5,340	5,920	2,650	3,480	1,860		1,860			2,650	3,480				

Table 11b. The efficacy Terbut 500 SC in control GERPU in maize (post-emergence application)

Pest code				Geranium pusillum GERPU													
Report code				SGS/2017/145/PL01		SGS/2017/145/PL06		SGS2017H001GER01		SGS2017H001GER05		SRPL19-152-336HE					
Assesment				14 DA-B	21 DA-B	14 DA-B	25 DA-B	14 DA-B	28 DA-B	14 DA-B	25 DA-B	14 DA-A	28 DA-A	56 DA-A	Avera-ge	Min.	Max.
da-te				20.06.2017	27.06.2017	12.06.2017	23.06.2017	13.06.2017	27.06.2017	12.06.2017	23.06.2017	12.06.2019	26.06.2019	24.07.2019			
weeds m2				5,0	5,0	5,0	5,0	7,5	7,5	5,0	5,0	5,0	5,0	5,0	5,5	5,0	7,5
No.	Name	Rate l, %/ha	Applica-tion code														
1	Untreated Check																
2	Terbut 500 S.C.	0,8	B									62,50	77,50	76,25	72,08	62,50	77,50
3	Terbut 500 S.C.	0,80	B	100,00	100,00	0,00	70,00	35,00	35,00	0,00	70,00				51,25	0,00	100,00
	Hydravance 100 LQ	0,20															
4	Terbut 500 S.C.	1,0	B									77,50	83,75	85,00	82,08	77,50	85,00
5	Terbut 500 S.C.	1,20	B									81,25	88,75	88,75	86,25	81,25	88,75
6	Terbut 500 S.C.	1,00	B	100,00	100,00	55,00	80,00	61,30	60,00	55,00	80,00	82,50	90,00	91,25	77,73	55,00	100,00
	Hydravance 100 LQ	0,20															
7	Terbut 500 S.C.	1,2	B	100,00	100,00	80,00	90,00	99,00	99,00	80,00	90,00				92,25	80,00	100,00
	Hydravance 100 LQ	0,2															
8	Terbut 500 S.C.	1,5	B	100,00	100,00	80,00	80,00	99,00	99,00	80,00	80,00				89,75	80,00	100,00
	Hydravance 100 LQ	0,2															
9	Tezosar 500 S.C.	1,00	B	100,00	100,00	90,00	90,00	99,00	99,00	90,00	90,00	86,25	93,75	100,00	94,36	86,25	100,00
	LSD (P=.05)			5,340	5,920	2,650	3,480	1,860		2,650	3,480	5,120	5,022	4,258			

Table 12a. The efficacy Terbut 500 SC in control LYCAR in maize (pre-emergence application)

Pest code				LYCAR Anchusa arvensis					
report code				SGS/2017/145/PL05					
DA-A/B				0 DA-B	14 DA-B	27 DA-B	Average	Min.	Max.
date				25.05.2017	08.06.2017	21.06.2017			
weeds m²				5,0	5,0	5,0	5,0	5,0	5,0
No.	Name	Rate (l, %/ha)	Application code						
1	Untreated Check								
2	Terbut 500 S.C.	0,80	A	99,8	93,5	93,5	95,60	93,50	99,80
	Hydravance 100 LQ	0,2							
4	Terbut 500 S.C.	1,0	A	100,0	94,8	94,8	96,53	94,80	100,00
	Hydravance 100 LQ	0,2							
5	Terbut 500 S.C.	1,2	A	100,0	97,3	96,0	97,77	96,00	100,00
	Hydravance 100 LQ	0,2							
6	Terbut 500 S.C.	1,50	A	100,0	99,8	99,8	99,87	99,80	100,00
	Hydravance 100 LQ	0,2							
7	Lumax 537,5 SE	3,5; 4; 4	A	100,0	100,0	100,0	100,00	100,00	100,00
	LSD (P=.05)			0,34	5,34	5,92			

Table 12b. The efficacy Terbut 500 SC in control LYCAR in maize (post-emergence application)

Pest code				Anchusa arvensis LYCAR				
report code		SGS/2017/145/PL05						
DA-A/B		14 DA-B		27 DA-B	Average	Min.	Max.	
date		08.06.2017		21.06.2017				
weeds m²		5,0		5,0	5,0	5,0	5,0	
No.	Name	Rate (l, %/ha)	Application code					
1	Untreated Check							
2	Terbut 500 S.C.	0,80	B	100,0	100,0	100,00	100,00	100,00
	Hydravance 100 LQ	0,20						
3	Terbut 500 S.C.	1,00	B	100,0	100,0	100,00	100,00	100,00
	Hydravance 100 LQ	0,20						
4	Terbut 500 S.C.	1,2	B	100,0	100,0	100,00	100,00	100,00
	Hydravance 100 LQ	0,2						
5	Terbut 500 S.C.	1,5	B	100,0	100,0	100,00	100,00	100,00
	Hydravance 100 LQ	0,2						
6	Bromoterb 500 S.C.	1,50	B	100,0	100,0	100,00	100,00	100,00
	LSD (P=.05)			5,34	5,92			

Table 13a. The efficacy Terbut 500 SC in control MATCH in maize (pre-emergence application)

Pest code				Matricaria chamomilla MATCH														
report code				SGS/2017/145/PL 04	SGS2017H001GER02				AH/19/K/14/Nw/01			SRPL19-148-336HE						
DA-A/B				11 DA-B	16 DA-A	0 DA-B	14 DA-B	27 DA-B	15 DA-A	38/13 DA-A/B	73/48 DA-A/B	28/12 DA-A/B	44/28 DA-A/B	73/57 DA-A/B	Ave- rage	Min	Max.	
date				12.06.2017	29.05.2017	10.06.2017	24.06.2017	07.07.2017	15.05.2019	07.06.2019	12.07.2019	29.06.2019	15.07.2019	13.08.2019				
weeds m²				5,0	15,0	8,1	10,0	10,0	6,0	6,0	6,0	11,0	21,5	21,5	10,9	5,0	21,5	
No	Name	Rate (l, %/ha)	Appli- cation code															
1	Untreated Check																	
2	Terbut 500 S.C.	0,80	A	10,00	85,00	85,00	100,00	100,00	92,50	93,80	96,30	85,00	88,80	88,80	84,11	10,00	100,00	
	Hydravance 100 LQ	0,2																
3	Terbut 500 S.C.	1,0	A						95,00	95,00	95,00	90,00	93,00	96,80	94,13	90,00	96,80	
4	Terbut 500 S.C.	1,0	A	60,00	85,00	85,00	100,00	100,00	100,00	100,00	100,00	88,80	92,50	98,00	91,75	60,00	100,00	
	Hydravance 100 LQ	0,2																
5	Terbut 500 S.C.	1,2	A	73,80	85,00	85,00	100,00	100,00	100,00	100,00	100,00	92,50	98,00	100,00	94,03	73,80	100,00	
	Hydravance 100 LQ	0,2																
6	Terbut 500 S.C.	1,50	A	93,30	90,00	90,00	100,00	100,00							94,66	90,00	100,00	
	Hydravance 100 LQ	0,2																
7	Lumax 537,5 SE; Gardo Gold 500 S.C.	3,5; 4	A	99,00	90,00	90,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	98,09	90,00	100,00	
	LSD (P=.05)			16,640					6,300	5,680	4,880	3,660	3,370	2,880				

Table 13b. The efficacy Terbut 500 SC in control MATCH in maize (post-emergence application)

Pest				Matricaria chamomilla MATCH														
report code				SGS/2017/145/P L04		SGS2017H001G ER02		AH/19/K/14/Nw/01		SRPL19-148-336HE			SRPL19-154-336HE					
DA-A/B				11 DA-B	22 DA-B	14 DA-B	27 DA-B	38/13 DA-A/B	73/48 DA-A/B	28/12 DA-A/B	44/28 DA-A/B	73/57 DA-A/B	14 DA-A	28 DA-A	56 DA-A	Average	Min.	Max.
date				12.06.2017	23.06.2017	24.06.2017	07.07.2017	07.06.2019	12.07.2019	29.06.2019	15.07.2019	13.08.2019	12.06.2019	26.06.2019	24.07.2019			
weeds m²																		
				5,0	5,0	10,0	10,0	6,0	6,0	11,0	21,5	21,5	6,0	6,0	6,0	9,5	5,0	21,5
No.	Name	Rate (l, %/ha)	Appli- cation code															
1	Untreated Check																	
2	Terbut 500 S.C.	0,8	B					77,50	88,80	57,50	80,50	78,00	69,00	80,00	87,50	77,35	57,50	88,80
3	Terbut 500 S.C.	0,80	B	2,50	0,00	100,00	100,00									50,63	0,00	100,00
	Hydravance 100 LQ	0,20																
4	Terbut 500 S.C.	1,0	B					83,80	93,80	60,00	86,50	93,80	84,17	85,00	90,00	84,63	60,00	93,80
5	Terbut 500 S.C.	1,20	B					90,00	100,00	65,00	88,00	99,30	89,25	90,00	95,00	89,57	65,00	100,00
6	Terbut 500 S.C.	1,00	B	0,00	0,00	100,00	100,00	86,30	96,30	60,00	86,30	96,50	86,87	93,75	99,00	75,42	0,00	100,00
	Hydravance 100 LQ	0,20																
7	Terbut 500 S.C.	1,2	B	57,50	6,30	100,00	100,00									65,95	6,30	100,00
	Hydravance 100 LQ	0,2																
8	Terbut 500 S.C.	1,5	B	26,30	5,00	100,00	100,00									57,83	5,00	100,00
	Hydravance 100 LQ	0,2																
9	Tezosar 500 S.C.; Bromoterb 500 S.C.; Gardo Gold 500 SC	1,00; 1,50; 4,0	B	79,30	96,80	100,00	100,00	83,80	95,00	61,30	87,50	97,80	82,50	95,00	100,00	89,92	61,30	100,00
	LSD (P=.05)			16,64	9,940			5,680	4,880	3,660	3,370	2,880	3,223	1,538	1,776			

Table 14a. The efficacy Terbut 500 SC in control MATIN in maize (pre-emergence application)

Part 1/2

Pest code				Tripleurospermum inodorum MATIN											
report code		SGS/2017/145/PL04		SGS/2017/145/PL06			SGS2017H001GER05			SGS2017H001CZO1					
DA-A/B		24 DA-A		0 DA-B	0 DA-B	14 DA-B	25 DA-B	0 DA-B	14 DA-B	25 DA-B	13 DA-A	13 DA-B	27 DA-B	46 DA-B	
date		20.05.2017		01.06.2017	29.05.2017	12.06.2017	23.06.2017	29.05.2017	12.06.2017	23.06.2017	01.06.2017	16.06.2017	30.06.2017	19.07.2017	
weeds m²		5,0		5,0	6,0	8,0	8,0	6,0	8,0	8,0	6,0	6,0	6,0	6,0	
No.	Name	Rate (l, %/ha)	Applica-tion code												
1	Untreated Check														
2	Terbut 500 S.C.	0,80	A	60,00	47,50	100,00	97,50	100,00	100,00	97,50	100,00	67,50	71,30	71,30	73,80
	Hydravance 100 LQ	0,2													
3	Terbut 500 S.C.	1,0	A												
4	Terbut 500 S.C.	1,0	A	93,80	99,00	97,50	100,00	100,00	97,50	100,00	100,00	80,00	82,50	83,80	85,00
	Hydravance 100 LQ	0,2													
5	Terbut 500 S.C.	1,2	A	87,50	91,80	100,00	100,00	100,00	100,00	100,00	100,00	95,00	96,50	97,00	97,50
	Hydravance 100 LQ	0,2													
6	Terbut 500 S.C.	1,50	A	90,00	96,80	100,00	100,00	100,00	100,00	100,00	100,00	99,50	100,00	100,00	100,00
	Hydravance 100 LQ	0,2													
7	Lumax 537,5 SE; Gardo Gold 500 S.C.; Gardo-prim Plus Gold 500 S.C	3,5; 4; 4	A	93,30	99,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00
	LSD (P=.05)			4,530	7,990	3,450	2,240		3,450	2,240		2,030	2,860	2,810	3,120

Part 2/2

Pest code				Tripleurospermum inodorum MATIN									
report code				AH/19/K/14/Nw/01			SRPL19-148-336HE						
DA-A/B				15 DA-A	38/13 DA-A/B	73/48 DA-A/B	16 DA-A	28/12 DA-A/B	44/28 DA-A/B	73/57 DA-A/B	Average	Min.	Max.
date				15.05.2019	07.06.2019	12.07.2019	17.06.2019	29.06.2019	15.07.2019	13.08.2019			
weeds m²				7,0	7,0	7,0	20,0	20,0	21,5	21,5	9,6	5,0	21,5
No.	Name	Rate (l, %/ha)	Applica- tion code										
1	Untreated Check												
2	Terbut 500 S.C.	0,80	A	92,50	95,00	95,00	87,50	87,50	87,50	88,80	85,27	47,50	100,00
	Hydravance 100 LQ	0,2											
3	Terbut 500 S.C.	1,0	A	97,50	97,50	97,50	88,80	95,00	92,50	93,80	94,66	88,80	97,50
4	Terbut 500 S.C.	1,0	A	100,00	100,00	100,00	92,50	96,30	95,00	93,80	94,56	80,00	100,00
	Hydravance 100 LQ	0,2											
5	Terbut 500 S.C.	1,2	A	100,00	100,00	100,00	96,30	98,80	98,80	98,80	97,79	87,50	100,00
	Hydravance 100 LQ	0,2											
6	Terbut 500 S.C.	1,50	A								98,86	90,00	100,00
	Hydravance 100 LQ	0,2											
7	Lumax 537,5 SE; Gardo Gold 500 S.C.; Gardoprime Plus Gold 500 S.C	3,5; 4; 4	A	100,00	100,00	100,00	100,00	100,00	100,00	100,00	99,59	93,30	100,00
	LSD (P=.05)			6,550	6,450	4,160	2,270	4,630	3,870	21,500			

Table 14b. The efficacy Terbut 500 SC in control MATIN in maize (post-emergence application)

Part 1/2

Pest code				Tripleurospermum inodorum MATIN															
report code		SGS2017/145/PL0 6		SGS2017H001GER 05		SGS2017H001CZO1			AH/19/K/14/Ce/04		AH/19/K/14/Dziem/ 03		AH/19/K/14/Gr/01		AH/19/K/14/Nw/01				
DA-A/B		14 DA- B		25 DA- B	14 DA- B	25 DA- B	13 DA- B	27 DA- B	46 DA- B	14 DA- A	35 DA- A	14 DA- A	43 DA- A	14 DA- A	56 DA- A	38/13 DA-A/B	73/48 DA-A/B		
date		12.06.20 17		23.06.20 17	12.06.20 17	23.06.20 17	16.06.20 17	30.06.20 17	19.07.20 17	21.06.20 19	12.07.20 19	12.06.20 19	11.07.20 19	31.05.20 19	12.07.20 19	07.06.20 19	12.07.20 19		
weeds m ²		8,0		8,0	8,0	8,0	6,0	6,0	6,0	7,0	7,0	5,0	5,0	7,0	7,0	7,0	7,0		
N o.	Name	Rate (l. %/h a)	Applica- tion code																
1	Untreated Check																		
2	Terbut 500 S.C.	0,8	B								78,80	90,00	85,00	97,50	78,80	90,00	76,30	87,50	
3	Terbut 500 S.C.	0,80	B	98,80	70,00	98,80	70,00	58,80	66,30	71,30									
	Hydravance 100 LQ	0,20																	
4	Terbut 500 S.C.	1,0	B								82,50	93,80	86,30	97,50	82,50	93,80	83,80	93,80	
5	Terbut 500 S.C.	1,20	B								88,80	100,00	90,00	100,00	86,30	97,50	90,00	100,00	
6	Terbut 500 S.C.	1,00	B	100,00	80,00	100,00	80,00	75,00	81,30	85,00	90,00	100,00	88,80	100,00	83,80	95,00	86,30	97,50	
	Hydravance 100 LQ	0,20																	
7	Terbut 500 S.C.	1,2	B	98,80	100,00	98,80	100,00	87,50	92,50	94,80									
	Hydravance 100 LQ	0,2																	
8	Terbut 500 S.C.	1,5	B	98,80	100,00	98,80	100,00	95,00	97,50	99,30									
	Hydravance 100 LQ	0,2																	
	Tezosar 500 S.C.; Bromoterb 500 S.C.; Gardoprim Gold; Gardo Gold 500 SC	1,00 ; 1,50 ; 3,5; 4,0	B	100,00	100,00	100,00	100,00	93,80	97,30	99,00	82,50	95,00	86,30	97,50	81,30	92,50	80,00	95,00	
9	LSD (P=.05)			2,240		2,240		2,860	2,810	3,120	5,020	5,600	5,880	5,210	5,330	5,600	6,450	4,160	

Part 2/2

Pest code				Tripleurospermum inodorum MATIN															
report code				AH/19/K/14/Nw/0 5		AH/19/K/14/Ra/0 2		SRPL19-148-336HE			SRPL19-149-336HE			SRPL19-153-336HE					
DA-A/B				13 DA- A	37 DA- A	13 DA- A	37 DA- A	28/12 DA- A/B	44/28 DA- A/B	73/57 DA- A/B	14 DA- A	28 DA- A	56 DA- A	14 DA- A	28 DA- A	56 DA- A	Ave- rage	Min	Max.
date				21.06.2 019	15.07.2 019	21.06.2 019	15.07.2 019	29.06.2019	15.07.2019	13.08.2019	28.06.2 019	12.07.2 019	09.08.2 019	10.06.2 019	24.06.2 019	22.07.2 019			
weeds m²				6,0	6,0	5,0	5,0	20,0	21,5	21,5	7,0	7,0	7,0	10,5	11,3	15,0	8,7	5,0	21,5
N o.	Name	Rate (l, %/ha)	Appli- cation code																
1	Untreated Check																		
2	Terbut 500 S.C.	0,8	B	80,00	91,30	75,00	82,50	52,50	77,50	81,30	61,25	81,24	87,50	96,30	100,00	100,00	83,35	52,50	100,00
3	Terbut 500 S.C.	0,80	B														76,29	58,80	98,80
	Hydravance 100 LQ	0,20																	
4	Terbut 500 S.C.	1,0	B	83,80	95,00	88,80	97,50	56,30	87,50	95,00	62,50	85,00	91,25	97,50	100,00	100,00	88,29	56,30	100,00
5	Terbut 500 S.C.	1,20	B	90,00	100,00	90,00	100,00	60,00	87,50	97,50	67,50	90,00	95,00	98,80	100,00	100,00	91,85	60,00	100,00
6	Terbut 500 S.C.	1,00	B	88,80	100,00	90,00	100,00	62,50	91,30	97,50	82,50	93,74	99,00	98,80	100,00	100,00	90,96	62,50	100,00
	Hydravance 100 LQ	0,20																	
7	Terbut 500 S.C.	1,2	B														96,06	87,50	100,00
	Hydravance 100 LQ	0,2																	
8	Terbut 500 S.C.	1,5	B														98,49	95,00	100,00
	Hydravance 100 LQ	0,2																	
9	Tezosar 500 S.C.; Bromoterb 500 S.C.;	1,00; 1,50;	B	80,00	92,50	88,80	97,50	62,50	92,50	98,80	82,50	95,00	100,00	98,80	98,80	100,00	92,43	62,50	100,00

	Gardoprim Gold; Gardo Gold 500 SC	3,5; 4,0																	
	LSD (P=.05)			5,020	4,610	2,750	4,700	4,630	3,870	21,500	4,335	0,127	2,813	4,350	1,540	0,000			

Table 15a. The efficacy Terbut 500 SC in control POAAN in maize (pre-emergence application)

Pest code				Poa annua POAAN				
report code				SGS2017H001GER03				
DA-A/B				0 DA-B	14 DA-B	Average	Min.	Max.
date				22.05.2017	05.06.2017			
weeds m²				19,7	15,0	17,4	15,0	19,7
No.	Name	Rate (l, %/ha)	Application code					
1	Untreated Check							
2	Terbut 500 S.C.	0,80	A	90,0	40,0	65,00	40,00	90,00
	Hydravance 100 LQ	0,2						
3	Terbut 500 S.C.	1,0	A	92,5	45,0	68,75	45,00	92,50
	Hydravance 100 LQ	0,2						
4	Terbut 500 S.C.	1,2	A	92,5	68,8	80,65	68,80	92,50
	Hydravance 100 LQ	0,2						
5	Terbut 500 S.C.	1,50	A	95,0	90,0	92,50	90,00	95,00
	Hydravance 100 LQ	0,2						
6	Gardo Gold 500 S.C.	4	A	93,8	45,0	69,40	45,00	93,80
	LSD (P=.05)			7,52	2,38			

Table 15b. The efficacy Terbut 500 SC in control POAAN in maize (post-emergence application)

Pest code				Poa annua POAAN				
report code				SGS2017H001GER03				
DA-A/B				14 DA-B	26 DA-B	Average	Min.	Max.
date				05.06.2017	17.06.2017			
weeds m²				15,0	15,0	15,0	15,0	15,0
No.	Name	Rate (l, %/ha)	Application code					
1	Untreated Check							
2	Terbut 500 S.C.	0,80	B	63,8	60,0	61,90	60,00	63,80
	Hydravance 100 LQ	0,20						
3	Terbut 500 S.C.	1,00	B	63,8	62,5	63,15	62,50	63,80
	Hydravance 100 LQ	0,20						
4	Terbut 500 S.C.	1,2	B	92,5	70,0	81,25	70,00	92,50
	Hydravance 100 LQ	0,2						
5	Terbut 500 S.C.	1,5	B	97,3	82,5	89,90	82,50	97,30
	Hydravance 100 LQ	0,2						
6		4,00	B	94,5	97,5	96,00	94,50	97,50
	Gardo Gold 500 S.C.							
LSD (P=.05)				7,52	2,38			

Table 16a. The efficacy Terbut 500 SC in control POLAV in maize (pre-emergence application)

Pest code				Polygonum aviculare POLAV					
report code				SGS2017H001GER04					
DA-A/B				0 DA-B	14 DA-B	28 DA-B	Average	Min.	Max.
date				30.05.2017	13.06.2017	27.06.2017			
weeds m²				15,5	16,3	16,0	15,9	15,5	16,3
No.	Name	Rate (l, %/ha)	Application code						
1	Untreated Check								
2	Terbut 500 S.C.	0,80	A	99,0	41,3	40,0	60,10	40,00	99,00
	Hydravance 100 LQ	0,2							
3	Terbut 500 S.C.	1,0	A	99,0	60,0	60,0	73,00	60,00	99,00
	Hydravance 100 LQ	0,2							
4	Terbut 500 S.C.	1,2	A	99,0	70,0	70,0	79,67	70,00	99,00
	Hydravance 100 LQ	0,2							
5	Terbut 500 S.C.	1,50	A	99,0	99,0	99,0	99,00	99,00	99,00
	Hydravance 100 LQ	0,2							
6	Gardo Gold 500 S.C.	4	A	99,0	60,0	60,0	73,00	60,00	99,00
	LSD (P=.05)				1,15				

Table 16b. The efficacy Terbut 500 SC in control POLAV in maize (post-emergence application)

Pest code				Polygonum aviculare POLAV				
report code				SGS2017H001GER04				
DA-A/B				14 DA-B	28 DA-B	Average	Min.	Max.
date				13.06.2017	27.06.2017			
weeds m ²				16,3	16,0	16,2	16,0	16,3
No.	Name	Rate (l, %/ha)	Application code					
1	Untreated Check							
2	Terbut 500 S.C.	0,80	B	95,0	90,0	92,50	90,00	95,00
	Hydravance 100 LQ	0,20						
3	Terbut 500 S.C.	1,00	B	99,0	99,0	99,00	99,00	99,00
	Hydravance 100 LQ	0,20						
4	Terbut 500 S.C.	1,2	B	99,0	99,0	99,00	99,00	99,00
	Hydravance 100 LQ	0,2						
5	Terbut 500 S.C.	1,5	B	99,0	99,0	99,00	99,00	99,00
	Hydravance 100 LQ	0,2						
6	Guardo Gold 500 SC	4,0	B	99,0	99,0	99,00	99,00	99,00
	LSD (P=.05)			1,15				

Table 17a. The efficacy Terbut 500 SC in control POLCO in maize (pre-emergence application)

Pest code				Fallopia convolvulus POLCO																
report code		SGS/2017/145/PL02		SGS/2017/145/PL03			SGS/2017/145/PL04		SGS/2017/145/PL05		SGS2017H001GER01			SGS2017H001GER03						
DA-A/B		0 DA-B		24 DA-B	20 DA-A	0 DA-B	14 DA-B	28 DA-B	24 DA-A	0 DA-B	14 DA-A	0 DA-B	0 DA-B	14 DA-B	28 DA-B	17/0 DA-A/B	Ave- rage	Min	Max.	
date		27.05.2017		20.06.2017	26.05.2017	02.06.2017	16.06.2017	30.06.2017	20.05.2017	01.06.2017	17.05.2017	25.05.2017	30.05.2017	13.06.2017	27.06.2017	22.05.2017				
weeds m²		5,0		5,0	6,0	6,0	6,0	6,0	10,0	15,0	5,0	7,0	41,5	33,5	30,6	14,0	13,6	5,0	41,5	
N o.	Name	Rate (l, %/ha)	Appli- cation code																	
1	Untreated Check																			
2	Terbut 500 S.C.	0,80	A	97,00	72,50	82,50	86,30	95,00	100,00	21,30	3,80	93,50	86,30	0,00	35,00	20,00	90,00	63,09	0,00	100,00
	Hydravance 100 LQ	0,2																		
3	Terbut 500 S.C.	1,0	A	97,00	87,50	90,00	91,30	95,00	100,00	55,00	68,80	96,80	93,80	10,00	40,00	31,30	92,50	74,93	10,00	100,00
	Hydravance 100 LQ	0,2																		
4	Terbut 500 S.C.	1,2	A	99,50	95,00	97,50	97,50	96,30	100,00	56,30	63,80	95,80	95,80	10,00	38,80	60,00	92,50	78,49	10,00	100,00
	Hydravance 100 LQ	0,2																		
5	Terbut 500 S.C.	1,50	A	99,80	100,00	97,50	98,80	100,00	100,00	93,80	95,50	99,50	99,50	20,00	62,50	77,50	95,00	88,53	20,00	100,00
	Hydravance 100 LQ	0,2																		
6	Lumax 537,5 SE; Gardo Gold 500 S.C.	3,5; 4;	A	100,00	97,50	100,00	100,00	100,00	100,00	89,80	93,00	100,00	100,00	58,80	61,30	48,80	93,80	88,79	48,80	100,00
	LSD (P=.05)			4,110	5,570	5,570	6,240	4,840		11,520	9,760	4,300	3,590	1,720	2,540	3,110	3,300			

Table 17b. The efficacy Terbut 500 SC in control POLCO in maize (post-emergence application)

Part 1/2

Pest code				Fallopia convolvulus POLCO																					
report code				SGS/2017/145/PL0 2				SGS/2017/145/PL0 3				SGS/2017/145/PL0 4				SGS/2017/145/PL0 5				SGS2017H001GER 01		SGS2017H001GER 03		SGS2017H001GER04	
DA-A/B				10 DA-B	24 DA-B	14 DA-B	28 DA-B	11 DA-B	22 DA-B	14 DA-B	27 DA-B	14 DA-B	28 DA-B	14 DA-B	26 DA-B	14 DA-B	28 DA-B								
date				06.06.2017	20.06.2017	16.06.2017	30.06.2017	12.06.2017	23.06.2017	08.06.2017	21.06.2017	13.06.2017	27.06.2017	05.06.2017	17.06.2017	13.06.2017	27.06.2017								
weeds m²				5,0	5,0	6,0	6,0	15,0	15,0	20,0	20,0	33,5	30,6	30,0	30,0	12,5	14,0								
No	Name	Rate (l, %/ha)	Appli- cation code																						
1	Untreated Check																								
2	Terbut 500 S.C.	0,8	B																						
3	Terbut 500 S.C.	0,80	B	85,00	0,00	97,50	100,00	42,50	23,80	100,0	100,0	87,50	70,00	90,00	81,30	99,00	99,00								
	Hydravance 100 LQ	0,20																							
4	Terbut 500 S.C.	1,0	B																						
5	Terbut 500 S.C.	1,20	B																						
6	Terbut 500 S.C.	1,00	B	87,50	85,00	100,00	100,00	52,50	23,80	99,8	99,8	90,00	82,50	90,00	88,80	99,00	99,00								
	Hydravance 100 LQ	0,20																							
7	Terbut 500 S.C.	1,2	B	96,30	100,00	100,00	100,00	75,00	77,50	100,0	100,0	99,00	95,00	95,80	92,50	99,00	99,00								
	Hydravance 100 LQ	0,2																							
8	Terbut 500 S.C.	1,5	B	93,30	100,00	100,00	100,00	92,80	90,80	100,0	100,0	99,00	98,80	98,00	100,00	99,00	99,00								
	Hydravance 100 LQ	0,2																							
9	Tezosar 500 S.C.; Bromo- terb 500 S.C.; Gardo Gold 500 SC	1,00; 1,50	B	98,80	100,00	100,00	100,00	99,00	94,50	100,0	100,0	99,00	99,00	98,00	100,00	99,00	99,00								
	LSD (P=.05)			6,470	5,570	4,840		10,060	8,680	4,750	4,220	2,540	3,110	6,320	3,350										

Part 2/2

Pest code				Fallopia convolvulus POLCO																		
report code				AH/19/K/14/Dzie m/03			AH/19/K/14/Gr/0 1		AH/19/K/14/Nw/ 05		SRPL19-147-336HE			SRPL19-152-336HE			SRPL19-150-336HE					
DA-A/B				14 DA- A	43 DA- A	14 DA- A	26 DA- A	13 DA- A	37 DA- A	14 DA- A	28 DA- A	56 DA- A	14 DA- A	28 DA- A	56 DA- A	14 DA- A	28 DA- A	56 DA- A	Ave- rage	Min. n.	Max	
date				12.06.2 019	11.07.2 019	31.05.2 019	12.06.2 019	21.06.2 019	15.07.2 019	11.06.2 019	25.06.2 019	23.07.2 019	12.06.2 019	26.06.2 019	24.07.2 019	26.06.2 019	10.07.2 019	07.08.2 019				
weeds m²				5,0	5,0	6,0	6,0	5,0	5,0	7,0	7,0	7,0	12,0	10,0	10,0	8,5	8,8	8,8	12,2	5,0	33,5	
N o.	Name	Rate (l, %/ha)	Ap- plica- tion code																			
1	Untreated Check		B																			
2	Terbut 500 S.C.	0,8	B	73,80	85,00	77,50	90,00	76,30	87,50	70,00	85,00	83,75	78,75	83,75	82,50	65,00	77,50	78,75	79,67	65,00	90,00	
3	Terbut 500 S.C.	0,80	B																76,83	0,00	100,00	
	Hydravance 100 LQ	0,20																				
4	Terbut 500 S.C.	1,0	B	86,30	97,50	78,80	88,80	83,80	95,00	81,25	94,75	97,00	83,75	98,00	97,00	66,25	78,75	81,25	87,21	66,25	98,00	
5	Terbut 500 S.C.	1,20	B	90,00	100,00	81,30	91,30	90,00	100,00	86,25	99,00	100,00	85,00	99,00	100,00	76,25	87,50	90,00	91,71	76,25	100,00	
6	Terbut 500 S.C.	1,00	B	88,80	100,00	77,50	88,80	86,30	97,50	87,50	99,00	100,00	85,00	99,00	100,00	76,25	87,50	91,25	88,35	23,80	100,00	
	Hydravance 100 LQ	0,20																				
7	Terbut 500 S.C.	1,2	B																94,94	75,00	100,00	
	Hydravance 100 LQ	0,2																				
8	Terbut 500 S.C.	1,5	B																97,91	90,80	100,00	
	Hydravance 100 LQ	0,2																				
9	Guardo Gold 500 S.C.; Tezosar 500 S.C.; Bromoterb 500 S.C.	1,00; 1,50	B	86,30	97,50	81,30	91,30	77,50	88,80	86,25	99,00	100,00	87,50	99,00	100,00	80,00	85,00	87,50	94,25	77,50	100,00	
	LSD (P=.05)			5,500	5,370	4,540	6,350	5,070	6,340	7,311	3,029	3,029	6,171	3,231	2,040	9,356	7,172	6,407				

Table 18a. The efficacy Terbut 500 SC in control POLLA in maize (pre-emergence application)

Pest code				Persicaria lapathifoha POLLA					
report code				SGS2017H001GER01					
DA-A/B				0 DA-B	14 DA-B	28 DA-B	Average	Min.	Max.
date				30.05.2017	13.06.2017	27.06.2017			
weeds m²				10,8	7,7	7,2	8,6	7,2	10,8
No.	Name	Rate (l, %/ha)	Application code						
1	Untreated Check								
2	Terbut 500 S.C.	0,80	A	73,8	40,0	38,8	50,87	38,80	73,80
	Hydravance 100 LQ	0,2							
3	Terbut 500 S.C.	1,0	A	80,0	60,0	61,3	67,10	60,00	80,00
	Hydravance 100 LQ	0,2							
4	Terbut 500 S.C.	1,2	A	81,3	80,0	73,8	78,37	73,80	81,30
	Hydravance 100 LQ	0,2							
5	Terbut 500 S.C.	1,50	A	83,8	93,8	88,8	88,80	83,80	93,80
	Hydravance 100 LQ	0,2							
6	Gardo Gold 500 S.C.	4	A	81,3	99,0	99,0	93,10	81,30	99,00
LSD (P=.05)				3,85	2,76	3,28			

Table 18b. The efficacy Terbut 500 SC in control POLLA in maize (post-emergence application)

Pest code				Persicaria lapathifoha POLLA				
report code				SGS2017H001GER01				
DA-A/B				14 DA-B	28 DA-B	Average	Min.	Max.
date				13.06.2017	27.06.2017			
weeds m²				7,7	7,2	7,5	7,2	7,7
No.	Name	Rate (l, %/ha)	Application code					
1	Untreated Check							
2	Terbut 500 S.C.	0,80	B	57,5	60,0	58,75	57,50	60,00
	Hydravance 100 LQ	0,20						
3	Terbut 500 S.C.	1,00	B	80,0	70,0	75,00	70,00	80,00
	Hydravance 100 LQ	0,20						
4	Terbut 500 S.C.	1,2	B	83,8	71,3	77,55	71,30	83,80
	Hydravance 100 LQ	0,2						
5	Terbut 500 S.C.	1,5	B	99,0	98,5	98,75	98,50	99,00
	Hydravance 100 LQ	0,2						
6	Guardo Gold 500 SC	1,50	B	99,0	99,0	99,00	99,00	99,00
	LSD (P=.05)			2,76	3,28			

Table 19a. The efficacy Terbut 500 SC in control POLPE in maize (pre-emergence application)

Pest code				Persicaria maculosa POLPE			
report code				SGS/2017/145/PL02			
DA-A/B				0 DA-B	Average	Min.	Max.
date				27.05.2017			
weeds m²				5,0	5,0	5,0	5,0
No.	Name	Rate (l, %/ha)	Application code				
1	Untreated Check						
2	Terbut 500 S.C.	0,80	A	88,8	88,80	88,80	88,80
	Hydravance 100 LQ	0,2					
3	Terbut 500 S.C.	1,0	A	90,0	90,00	90,00	90,00
	Hydravance 100 LQ	0,2					
4	Terbut 500 S.C.	1,2	A	99,3	99,30	99,30	99,30
	Hydravance 100 LQ	0,2					
5	Terbut 500 S.C.	1,50	A	98,3	98,30	98,30	98,30
	Hydravance 100 LQ	0,2					
6	Lumax 537,5 SE	3,5	A	100,0	100,00	100,00	100,00
	LSD (P=.05)			5,22			

Table 19b. The efficacy Terbut 500 SC in control POLPE in maize (post-emergence application)

Pest code				Persicaria maculosa POLPE				
report code				SGS/2017/145/PL02				
DA-A/B				10 DA-B	24 DA-B	Average	Min.	Max.
date				06.06.2017	20.06.2017			
weeds m²				5,0	6,0	5,5	5,0	6,0
No.	Name	Rate (l, %/ha)	Application code					
1	Untreated Check							
2	Terbut 500 S.C.	0,80	B	85,0	85,0	85,00	85,00	85,00
	Hydravance 100 LQ	0,20						
3	Terbut 500 S.C.	1,00	B	87,5	87,5	87,50	87,50	87,50
	Hydravance 100 LQ	0,20						
4	Terbut 500 S.C.	1,2	B	96,3	96,3	96,30	96,30	96,30
	Hydravance 100 LQ	0,2						
5	Terbut 500 S.C.	1,5	B	93,3	93,3	93,30	93,30	93,30
	Hydravance 100 LQ	0,2						
6	Bromoterb 500 S.C.	1,50	B	98,8	98,8	98,80	98,80	98,80
	LSD (P=.05)			6,47	6,47			

Table 20a. The efficacy Terbut 500 SC in control SETPU in maize (pre-emergence application)

Pest code				Setaria pallidefusca SETPU						
report code				SGS/2017/145/PL04						
DA-A/B				24 DA-A	0 DA-B	11 DA-B	22 DA-B	Average	Min.	Max.
date				20.05.2017	01.06.2017	12.06.2017	23.06.2017			
weeds m²				5,0	10,0	8,0	5,0	7,0	5,0	10,0
No.	Name	Rate (l, %/ha)	Application code							
1	Untreated Check									
2	Terbut 500 S.C.	0,80	A	5,0	11,3	0,0	0,0	4,08	0,00	11,30
	Hydravance 100 LQ	0,2								
3	Terbut 500 S.C.	1,0	A	15,0	12,5	0,0	0,0	6,88	0,00	15,00
	Hydravance 100 LQ	0,2								
4	Terbut 500 S.C.	1,2	A	22,5	25,0	0,0	0,0	11,88	0,00	25,00
	Hydravance 100 LQ	0,2								
5	Terbut 500 S.C.	1,50	A	27,5	28,8	0,0	2,5	14,70	0,00	28,80
	Hydravance 100 LQ	0,2								
6	Lumax 537,5 SE	3,5	A	88,8	83,8	96,3	96,3	91,30	83,80	96,30
	LSD (P=.05)			11,55	8,87	8,07	5,34			

Table 20b. The efficacy Terbut 500 SC in control SETPU in maize (post-emergence application)

Pest code				Setaria pallidifusca SETPU				
report code				SGS/2017/145/PL04				
DA-A/B				11 DA-B	22 DA-B	Average	Min.	Max.
date				12.06.2017	23.06.2017			
weeds m²				8,0	5,0	6,5	5,0	8,0
No.	Name	Rate (l, %/ha)	Application code					
1	Untreated Check							
2	Terbut 500 S.C.	0,80	B	2,5	5,0	3,75	2,50	5,00
	Hydravance 100 LQ	0,20						
3	Terbut 500 S.C.	1,00	B	2,5	2,5	2,50	2,50	2,50
	Hydravance 100 LQ	0,20						
4	Terbut 500 S.C.	1,2	B	10,0	7,5	8,75	7,50	10,00
	Hydravance 100 LQ	0,2						
5	Terbut 500 S.C.	1,5	B	18,8	11,3	15,05	11,30	18,80
	Hydravance 100 LQ	0,2						
6	Bromoterb 500 S.C.	1,50	B	0,0	0,0	0,00	0,00	0,00
	LSD (P=.05)			8,07	5,34			

Table 21a. The efficacy Terbut 500 SC in control SOLNI in maize (pre-emergence application)

Pest code				Solanum nigrum SOLNI						
report code				SGS2017H001GER02						
DA-A/B				16 DA-A	0 DA-B	14 DA-B	27 DA-B	Average	Min.	Max.
date				29.05.2017	10.06.2017	24.06.2017	07.07.2017			
weeds m²				10,0	11,8	15,0	20,0	14,2	10,0	20,0
No.	Name	Rate (l, %/ha)	Application code							
1	Untreated Check									
2	Terbut 500 S.C.	0,80	A	70,00	70,00	100,00	100,00	85,00	70,00	100,00
	Hydravance 100 LQ	0,2								
4	Terbut 500 S.C.	1,0	A	70,00	70,00	100,00	100,00	85,00	70,00	100,00
	Hydravance 100 LQ	0,2								
5	Terbut 500 S.C.	1,2	A	81,30	81,30	98,80	100,00	90,35	81,30	100,00
	Hydravance 100 LQ	0,2								
6	Terbut 500 S.C.	1,50	A	82,50	82,50	100,00	100,00	91,25	82,50	100,00
	Hydravance 100 LQ	0,2								
7	Gardo Gold 500 S.C.;	4	A	85,00	85,00	100,00	100,00	92,50	85,00	100,00
	LSD (P=.05)			1,700	2,440	1,150				

Table 21b. The efficacy Terbut 500 SC in control SOLNI in maize (post-emergence application)

Part 1/2

Pest code				Solanum nigrum SOLNI												
report code		SGS2017H001GER0 2		AH/19/K/14/Dziem/0 3		SRPL19-152-336HE			SRPL19-152-336HE			SRPL19-151-336HE				
DA-A/B		14 DA-B		27 DA-B	14 DA-A	43 DA-A	14 DA-A	28 DA-A	56 DA-A	14 DA-A	28 DA-A	56 DA-A	14 DA-A	28 DA-A	56 DA-A	
date		24.06.20 17		07.07.20 17	12.06.20 19	11.07.20 19	12.06.20 19	26.06.20 19	24.07.20 19	26.06.20 19	10.07.20 19	07.08.20 19	17.06.20 19	01.07.20 19	29.07.20 19	
weeds m²		15,0		20,0	5,0	5,0	9,0	10,0	10,0	49,5	50,5	50,5	8,0	8,0	15,0	
No	Name	Rate (l, %/ha)	Applica- tion code													
1	Untreated Check															
2	Terbut 500 S.C.	0,8	B			78,80	90,00	68,75	78,75	78,91	66,25	77,50	81,25	83,80	91,30	91,30
3	Terbut 500 S.C.	0,80	B	95,00	100,00											
	Hydravance 100 LQ	0,20														
4	Terbut 500 S.C.	1,0	B			86,30	97,50	78,75	92,50	92,70	77,50	83,75	86,25	83,80	92,50	92,50
5	Terbut 500 S.C.	1,20	B			90,00	100,00	83,75	96,00	99,75	78,75	85,00	88,75	83,80	93,80	93,80
6	Terbut 500 S.C.	1,00	B	95,00	100,00	88,80	100,00	86,25	99,00	100,00	82,50	88,75	91,25	83,80	91,30	91,30
	Hydravance 100 LQ	0,20														
7	Terbut 500 S.C.	1,2	B	95,00	100,00											
	Hydravance 100 LQ	0,2														
8	Terbut 500 S.C.	1,5	B	95,00	100,00											
	Hydravance 100 LQ	0,2														
9	Gardo Gold 500 S.C.; Tezo- sar 500 S.C.	1,00; 1,50	B	95,00	100,00	86,30	97,50	86,25	99,00	100,00	78,75	81,25	85,00	81,30	93,80	93,80
	LSD (P=.05)			1,150		5,020	4,490	4,872	2,580	3,225	10,255	8,527	5,208	3,530	3,460	3,460

Part 2/2

Pest code				Application code	Solanum nigrum SOLNI												
report code		SRPL19-150-336HE			SRPL19-153-336HE			SRPL19-154-336HE									
DA-A/B		14 DA-A			28 DA-A	56 DA-A	14 DA-A	28 DA-A	56 DA-A	14 DA-A	28 DA-A	56 DA-A	Average	Min.	Max.		
date		26.06.2019			10.07.2019	07.08.2019	10.06.2019	24.06.2019	22.07.2019	12.06.2019	26.06.2019	24.07.2019					
weeds m²		49,5			50,5	50,5	19,0	19,0	24,0	6,0	6,0	6,0	20,7	5,0	50,5		
No.	Name	Rate (l, %/ha)															
1	Untreated Check		B														
2	Terbut 500 S.C.	0,8	B	66,25	77,50	81,25	72,50	73,80	78,80	50,00	75,00	82,50	77,21	50,00	91,30		
3	Terbut 500 S.C.	0,80	B										97,50	95,00	100,00		
	Hydravance 100 LQ	0,20															
4	Terbut 500 S.C.	1,0	B	77,50	83,75	86,25	95,00	95,00	98,80	60,00	80,00	85,00	86,27	60,00	98,80		
5	Terbut 500 S.C.	1,20	B	78,75	85,00	88,75	97,50	98,80	100,00	63,76	85,00	91,25	89,11	63,76	100,00		
6	Terbut 500 S.C.	1,00	B	82,50	88,75	91,25	98,80	98,80	100,00	68,77	85,00	95,00	91,22	68,77	100,00		
	Hydravance 100 LQ	0,20															
7	Terbut 500 S.C.	1,2	B										97,50	95,00	100,00		
	Hydravance 100 LQ	0,2															
8	Terbut 500 S.C.	1,5	B										97,50	95,00	100,00		
	Hydravance 100 LQ	0,2															
9	Tezosar 500 S.C.	1,00; 1,50	B	78,75	81,25	85,00	96,30	93,80	97,50	81,30	82,00	99,00	89,68	78,75	100,00		
	LSD (P=.05)			10,255	8,527	5,208	5,760	4,770	2,860	1,859	0,000	2,211					

Table 22a. The efficacy Terbut 500 SC in control STEME in maize (pre-emergence application)

Pest code				Stellaria media STEME									
report code				AH/19/K/14/Nw/01			SRPL19-148-336HE						
DA-B				15 DA-A	38/13 DA-A/B	73/48 DA-A/B	16 DA-A	28/12 DA-A/B	44/28 DA-A/B	73/57 DA-A/B	Average	Min.	Max.
date				15.05.2019	07.06.2019	12.07.2019	17.06.2019	29.06.2019	15.07.2019	13.08.2019			
weeds m²				6,0	6,0	6,0	15,0	15,0	15,3	11,0	10,6	6,0	15,3
No.	Name	Rate (l, %/ha)	Growth stage										
1	Untreated Check												
2	Terbut 500 S.C.	0,80	BBCH 00	92,5	95,0	97,5	63,8	77,5	80,0	82,5	84,1	63,8	97,5
	Hydravance 100 LQ	0,2											
3	Terbut 500 S.C.	1,0	BBCH 00	100,0	100,0	100,0	67,5	90,0	90,0	91,3	91,3	67,5	100,0
	Hydravance 100 LQ	0,2											
4	Tezosar 500 S.C.	1,2	BBCH 00	100,0	100,0	100,0	68,8	87,5	92,5	93,8	91,8	68,8	100,0
	Hydravance 100 LQ	0,2											
5	Terbut 500 S.C.	1,0	BBCH 00	97,5	97,5	97,5	65,0	85,0	87,5	90,0	88,6	65,0	97,5
6	Lumax 537,5 SE	3,5	BBCH 00	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
	LSD (P=.05)			4,87	4,81	3,65	3,49	4,06	2,751	1,538			

Table 22b. The efficacy Terbut 500 SC in control STEME in maize (post-emergence application)

Pest code				Stellaria media STEME										
report code				AH/19/K/14/Nw/01		SRPL19-148-336HE			SRPL19-154-336HE					
DA-B				38/13 DA-A/B	73/48 DA-A/B	28/12 DA-A/B	44/28 DA-A/B	73/57 DA-A/B	14 DA-A	28 DA-A	56 DA-A	Average	Min.	Max.
date				07.06.2019	12.07.2019	29.06.2019	15.07.2019	13.08.2019	12.06.2019	26.06.2019	24.07.2019			
weeds m²				6,0	6,0	15,0	15,3	11,0	6,0	6,0	6,0	8,9	6,0	15,3
No.	Name	Rate (l, %/ha)	Growth stage											
1	Untreated Check													
2	Terbut 500 S.C.	0,8	BBCH 12-16	78,8	81,3	52,5	78,8	87,5	60,0	80,0	87,5	75,8	52,5	87,5
3	Terbut 500 S.C.	1,0	BBCH 12-16	83,8	85,0	57,5	83,8	97,5	61,3	85,0	90,0	80,5	57,5	97,5
4	Terbut 500 S.C.	1,20	BBCH 12-16	90,0	90,0	60,0	85,0	98,8	66,3	90,0	95,0	84,4	60,0	98,8
5	Terbut 500 S.C.	1,00	BBCH 12-16	86,3	90,0	62,5	87,5	98,8	82,5	93,8	99,0	87,5	62,5	99,0
	Hydravance 100 LQ	0,20												
6	Tezosar 500 S.C.	1,0	BBCH 12-16	83,8	82,5	66,3	88,8	98,8	82,5	95,0	100,0	87,2	66,3	100,0
	LSD (P=.05)			4,87	4,81	3,65	3,49	4,06	2,751	1,538	1,8			

Table 23. The efficacy Terbut 500 SC in control VERAR in maize (post-emergence application)

Pest code				VERAR Veronica arvensis																
report code				AH/19/K/14/Ce/04		AH/19/K/14/Dziem/03		AH/19/K/14/Gr/01		AH/19/K/14/Nw/05		AH/19/K/14/Ra/02		SRPL19-149-336HE						
DA-B				14 DA-A	35 DA-A	14 DA-A	43 DA-A	14 DA-A	56 DA-A	13 DA-A	37 DA-A	13 DA-A	37 DA-A	14 DA-A	28 DA-A	56 DA-A	Average	Min.	Max.	
date				21.06.2019	12.07.2019	12.06.2019	11.07.2019	31.05.2019	12.07.2019	21.06.2019	15.07.2019	21.06.2019	15.07.2019	28.06.2019	12.07.2019	09.08.2019				
weeds m²				5,0	5,0	7,0	7,0	5,0	5,0	5,0	5,0	6,0	6,0	4,5	4,5	5,0	5,4	4,5	7,0	
No.	Name	Rate (l. %/ha)	Growth stage																	
1	Terbut 500 S.C.	0,8	BBCH 12-16	76,3	88,8	80,0	91,3	75,0	86,3	77,5	88,8	78,8	87,5	57,5	77,5	81,2	80,5	57,5	91,3	
2	Terbut 500 S.C.	1,0	BBCH 12-16	83,8	95,0	85,0	96,3	80,0	90,0	86,3	97,5	88,8	97,5	62,5	83,8	88,7	87,3	62,5	97,5	
3	Terbut 500 S.C.	1,20	BBCH 12-16	88,8	100,0	90,0	100,0	81,3	92,5	90,0	100,0	90,0	100,0	68,8	87,5	93,7	91,0	68,8	100,0	
4	Terbut 500 S.C.	1,00	BBCH 12-16	90,0	100,0	88,8	100,0	80,0	90,0	86,3	97,5	90,0	100,0	77,5	93,8	99,0	91,8	77,5	100,0	
	Hydravance 100 LQ	0,20																		
5	Tezosar 500 S.C.	1,0	BBCH 12-16	81,3	95,0	86,3	97,5	77,5	88,8	80,0	92,5	88,8	97,5	81,3	95,0	100,0	89,3	77,5	100,0	
	LSD (P=.05)			4,2	5,01	5,89	6	4,18	4,05	4,14	5,01	2,6	5,21	4,161	3,177	0,151				

Table 24a. The efficacy Terbut 500 SC in control VIOAR in maize (pre-emergence application)

Part 1/2

Pest code				Viola arvensis (VIOAR)														
report code				SGS/2017/145/PL02			SGS/2017/145/PL04				SGS/2017/145/PL05				SGS/2017/145/PL06			
DA-A/B				12 DA-A	0 DA-B	24 DA-B	24 DA-A	0 DA-B	11 DA-B	22 DA-B	14 DA-A	0 DA-B	14 DA-B	27 DA-B	0 DA-B	14 DA-B	25 DA-B	
date				23.05.20 17	27.05.20 17	20.06.20 17	20.05.20 17	01.06.20 17	12.06.20 17	23.06.20 17	17.05.20 17	25.05.20 17	08.06.20 17	21.06.20 17	29.05.20 17	12.06.20 17	23.06.20 17	
weeds m²				5,0	5,0	5,0	5,0	8,0	10,0	8,0	5,0	15,0	15,0	15,0	5,0	13,0	13,0	
No	Name	Rate (l, %/ha)	Appli- cation code															
1	Untreated Check		A															
2	Terbut 500 S.C.	0,80	A	80,00	99,00	85,00	55,50	71,30	10,00	12,50	93,80	94,50	88,80	86,30	88,80	67,50	70,00	
	Hydravance 100 LQ	0,2																
3	Terbut 500 S.C.	1,0	A															
4	Terbut 500 S.C.	1,0	A	76,30	99,00	95,00	90,00	96,80	50,00	72,50	99,00	99,00	90,00	87,50	88,80	95,00	85,00	
	Hydravance 100 LQ	0,2																
5	Terbut 500 S.C.	1,2	A	77,50	99,50	100,00	88,80	95,00	80,00	72,50	100,00	99,30	99,30	99,30	100,00	93,80	87,50	
	Hydravance 100 LQ	0,2																
6	Terbut 500 S.C.	1,50	A	86,30	99,50	100,00	94,50	96,80	91,80	96,50	100,00	99,80	98,30	98,30	98,80	97,50	100,00	
	Hydravance 100 LQ	0,2																
7	Lumax 537,5 SE; Gardo Gold 500 S.C.;	3,5; 4	A	82,50	100,00	100,00	92,30	89,30	98,80	99,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	
	LSD (P=.05)			8,810	0,560	6,880	10,010	8,920	6,740	6,620	1,720	3,620	4,060	5,170	10,550	7,370	3,090	

Part 2/2

Pest code				Viola arvensis (VIOAR)														
report code				SGS2017H001GER04			SGS2017H001GER05			SRPL19-148-336HE								
DA-A/B				0 DA-B	14 DA-B	28 DA-B	0 DA-B	14 DA-B	25 DA-B	16 DA-A	28/12 DA-A/B	44/28 DA-A/B	73/57 DA-A/B	Ave- rage	Min.	Max.		
date				30.05.2017	13.06.2017	27.06.2017	29.05.2017	12.06.2017	23.06.2017	17.06.2019	29.06.2019	15.07.2019	13.08.2019					
weeds m ²				14,3	15,0	16,0	5,0	13,0	13,0	20,0	33,5	33,5	37,5	13,7	5,0	37,5		
No.	Name	Rate (l, %/ha)	Applica- tion code															
1	Untreated Check		A	71,30	42,50	40,00	88,80	67,50	70,00	67,50	83,80	82,50	91,30	71,18	10,00	99,00		
	Hydravance 100 LQ	0,2																
3	Terbut 500 S.C.	1,0	A							78,80	93,80	95,00	97,50	91,28	78,80	97,50		
4	Terbut 500 S.C.	1,0	A	78,80	56,30	50,00	88,80	95,00	85,00	80,00	97,50	96,30	98,80	85,43	50,00	99,00		
	Hydravance 100 LQ	0,2																
5	Terbut 500 S.C.	1,2	A	82,50	80,00	80,00	100,00	93,80	87,50	82,50	100,00	100,00	100,00	91,62	72,50	100,00		
	Hydravance 100 LQ	0,2																
6	Terbut 500 S.C.	1,50	A	99,00	99,00	99,00	98,80	97,50	100,00					97,57	86,30	100,00		
	Hydravance 100 LQ	0,2																
7	Lumax 537,5 SE; Gardo Gold 500 S.C.	3,5; 4	A	83,80	70,00	65,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	95,03	65,00	100,00		
	LSD (P=.05)			3,370	2,110	1,150	10,550	7,370	3,090	2,010	4,280	3,570	3,070					

Table 24b. The efficacy Terbut 500 SC in control VIOAR in maize (post-emergence application)

Part 1/3

Pest code				Viola arvensis (VIOAR)													
report code		SGS/2017/145/PL02		SGS/2017/145/PL04		SGS/2017/145/PL05		SGS/2017/145/PL06		SGS2017H001GER04		SGS2017H001GER05		AH/19/K/14/Ce/04			
DA-A/B		10 DA-B		24 DA-B	11 DA-B	22 DA-B	14 DA-B	27 DA-B	14 DA-B	25 DA-B	14 DA-B	28 DA-B	14 DA-B	25 DA-B	14 DA-A	35 DA-A	
date		06.06.20		20.06.20	12.06.20	23.06.20	08.06.20	21.06.20	12.06.20	23.06.20	13.06.20	27.06.20	12.06.20	23.06.20	21.06.20	12.07.20	
		17		17	17	17	17	17	17	17	17	17	17	17	19	19	
weeds m²		7,0		5,0	10,0	8,0	15,0	15,0	13,0	13,0	15,0	16,0	13,0	13,0	6,0	6,0	
No	Name	Rate (l, %/ha)	Appli- cation code														
1	Untreated Check																
2	Terbut 500 S.C.	0,8	B												72,50	83,80	
3	Terbut 500 S.C.	0,80	B	90,00	97,50	68,80	92,30	100,00	100,00	97,50	70,00	92,50	86,30	97,50	70,00		
	Hydravance 100 LQ	0,20															
4	Terbut 500 S.C.	1,0	B												83,80	95,00	
5	Terbut 500 S.C.	1,20	B												88,80	100,00	
6	Terbut 500 S.C.	1,00	B	97,50	100,00	80,00	94,30	100,00	100,00	100,00	80,00	99,00	99,00	100,00	80,00	90,00	
	Hydravance 100 LQ	0,20															
7	Terbut 500 S.C.	1,2	B	100,00	100,00	96,30	98,00	100,00	100,00	100,00	100,00	99,00	99,00	100,00	100,00		
	Hydravance 100 LQ	0,2															
8	Terbut 500 S.C.	1,5	B	98,80	100,00	94,80	99,00	100,00	100,00	100,00	100,00	99,00	99,00	100,00	100,00		
	Hydravance 100 LQ	0,2															
9	Tezosar 500 S.C.; Bro- moterb 500 S.C.	1,00; 1,50	B	100,00	100,00	97,80	96,80	100,00	100,00	100,00	100,00	99,00	99,00	100,00	100,00	82,50	
	LSD (P=.05)			7,710	6,880	6,740	6,620	4,060	5,170	7,370	3,090	2,110	1,150	7,370	3,090	5,370	

Part 2/3

Pest code				Viola arvensis (VIOAR)																	
report code		AH/19/K/14/Dzi em/03		AH/19/K/14/Gr/ 01		AH/19/K/14/Nw /05		AH/19/K/14/Ra/ 02		SRPL19-148-336HE			SRPL19-147-336HE			SRPL19-149-336HE					
DA-A/B		14 DA-A		43 DA-A	14 DA-A	56 DA-A	13 DA-A	37 DA-A	13 DA-A	37 DA-A	28/12 DA-A/B	44/28 DA-A/B	73/57 DA-A/B	14 DA-A	28 DA-A	56 DA-A	14 DA-A	28 DA-A	56 DA-A		
date		12.06. 2019		11.07. 2019	31.05. 2019	12.07. 2019	21.06. 2019	15.07. 2019	21.06. 2019	15.07. 2019	29.06.201 9	15.07.201 9	13.08.201 9	11.06. 2019	25.06. 2019	23.07. 2019	28.06. 2019	12.07. 2019	09.08. 2019		
weeds m²		6,0		6,0	6,0	6,0	6,0	6,0	6,0	6,0	33,5	33,5	37,5	5,0	5,0	12,0	8,0	8,0	8,0		
No	Name	Rate (l. %/ha)		Appli- cation code																	
1	Untreated Check																				
2	Terbut 500 S.C.	0,8	B	83,80	95,00	81,30	92,50	76,30	87,50	80,00	90,00	55,00	86,30	92,50	72,50	86,50	85,00	57,50	77,50	83,74	
3	Terbut 500 S.C.	0,80	B																		
	Hydravance 100 LQ	0,20																			
4	Terbut 500 S.C.	1,0	B	83,80	95,00	81,30	92,50	83,80	95,00	88,80	97,50	58,80	88,80	97,50	80,00	97,37	98,00	67,50	82,50	88,74	
5	Terbut 500 S.C.	1,20	B	90,00	100,0 0	88,80	100,0 0	90,00	100,0 0	90,00	100,0 0	60,00	92,50	98,80	82,50	98,54	100,0 0	71,25	88,75	95,00	
6	Terbut 500 S.C.	1,00	B	88,80	100,0 0	83,80	95,00	86,30	97,50	90,00	100,0 0	62,50	93,80	98,80	83,75	99,00	100,0 0	77,50	87,50	99,00	
	Hydravance 100 LQ	0,20																			
7	Terbut 500 S.C.	1,2	B																		
	Hydravance 100 LQ	0,2																			
8	Terbut 500 S.C.	1,5	B																		
	Hydravance 100 LQ	0,2																			
9	Tezosar 500 S.C.; Bromoterb 500 S.C.	1,00; 1,50	B	86,30	97,50	81,30	92,50	78,80	91,30	88,80	97,50	60,00	93,80	98,80	82,50	98,78	100,0 0	83,75	95,00	100,0 0	
	LSD (P=.05)			6,600	5,890	4,470	5,560	4,200	5,930	1,950	5,250	4,280	3,570	3,070	4,475	3,784	3,891	3,654	3,529	0,105	

Part 3/3

Pest code				Viola arvensis (VIOAR)																	
report code		SRPL19-152-336HE			SRPL19-151-336HE			SRPL19-150-336HE			SRPL19-153-336HE			SRPL19-154-336HE							
DA-A/B		14 DA-A		28 DA-A	56 DA-A	14 DA-A	28 DA-A	56 DA-A	14 DA-A	28 DA-A	56 DA-A	14 DA-A	28 DA-A	56 DA-A	14 DA-A	28 DA-A	56 DA-A	Ave- rage	Min.	Max	
date		26.06.2019		10.07.2019	07.08.2019	17.06.2019	01.07.2019	29.07.2019	26.06.2019	10.07.2019	07.08.2019	10.06.2019	24.06.2019	22.07.2019	12.06.2019	26.06.2019	24.07.2019				
weeds m²		21,0		21,2	21,2	8,0	8,0	15,0	21,0	21,2	21,2	24,8	25,3	30,3	8,0	8,0	8,0	13,4	5,0	37,5	
N o.	Name	Rate (l. %/ha)	Appli- cation code																		
1	Untreated Check																				
2	Terbut 500 S.C.	0,8	B	71,25	80,00	83,75	80,00	93,80	93,80	71,25	80,00	83,75	98,80	100,00	100,00	60,00	80,00	81,25	82,26	55,00	100,00
3	Terbut 500 S.C.	0,80	B																88,53	68,80	100,00
	Hydravance 100 LQ	0,20																			
4	Terbut 500 S.C.	1,0	B	78,75	86,25	90,00	81,30	95,00	95,00	78,75	86,25	90,00	98,80	100,00	100,00	67,50	85,00	87,50	87,52	58,80	100,00
5	Terbut 500 S.C.	1,20	B	83,75	91,25	93,75	82,50	93,80	93,80	83,75	91,25	93,75	98,80	100,00	100,00	68,75	88,74	90,00	90,85	60,00	100,00
6	Terbut 500 S.C.	1,00	B	86,25	93,75	100,00	82,50	92,50	92,50	86,25	93,75	100,00	100,00	100,00	100,00	77,50	93,74	95,00	92,54	62,50	100,00
	Hydravance 100 LQ	0,20																			
7	Terbut 500 S.C.	1,2	B																99,36	96,30	100,00
	Hydravance 100 LQ	0,2																			
8	Terbut 500 S.C.	1,5	B																99,22	94,80	100,00
	Hydravance 100 LQ	0,2																			
9	Tezosar 500 S.C.; Bromoterb 500 S.C.	1,00; 1,50	B	76,25	87,50	97,50	82,50	92,50	92,50	76,25	87,50	97,50	100,00	98,80	100,00	83,75	95,00	99,00	92,68	60,00	100,00
	LSD (P=.05)			9,006	5,022	3,971	2,940	3,550	3,550	9,006	7,172	3,971	2,600	1,540	0,000	3,725	0,118	2,436			

Appendix 6 Summary of phytotoxicity trials data in summary form

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
SGS/2017/145/PL01	SGS Polska Sp. z o.o., ul. Jana Kazimierza 3, 01-248 Warszawa, Poland	Poland/ Wąsy-Wieś	T: 16.05.2017 BBCH 00	Maize/SY Symbolic F N	Randomized blocks EPPO PP 1/135 (4)	Soil type: Sandy clay pH 6,1
SGS/2017/145/PL02	SGS Polska Sp. z o.o., ul. Jana Kazimierza 3, 01-248 Warszawa, Poland	Poland/ Piskorzówek	T: 11.05.2017 BBCH 00	Maize/Falcone F N	Randomized blocks EPPO PP 1/135 (4)	Soil type: Clay pH 6,2
SGS/2017/145/PL03	SGS Polska Sp. z o.o., ul. Jana Kazimierza 3, 01-248 Warszawa, Poland	Poland/ Dąbrowka	T: 06.05.2017 BBCH 00	Maize/Konkurent F N	Randomized blocks EPPO PP 1/135 (4)	Soil type: Loamy sand pH 4,3
SGS/2017/145/PL04	SGS Polska Sp. z o.o., ul. Jana Kazimierza 3, 01-248 Warszawa, Poland	Poland/ Białozewin	T: 26.04.2017 BBCH 00	Maize/Kosmal F N	Randomized blocks EPPO PP 1/135 (4)	Soil type: Sandy silt pH 6,9
SGS/2017/145/PL05	SGS Polska Sp. z o.o., ul. Jana Kazimierza 3, 01-248 Warszawa, Poland	Toboła/ Poland	T: 02.05.2017 BBCH 00	Maize/San F N	Randomized blocks EPPO PP 1/135 (4)	Soil type: Sandy loam pH 6,7
SGS/2017/145/PL06	SGS Polska Sp. z o.o., ul. Jana Kazimierza 3, 01-248 Warszawa, Poland	Pruszków/ Poland	T: 16.05.2017 BBCH 00	Maize/Prollog F N	Randomized blocks EPPO PP 1/135 (4)	Soil type: Sandy clay pH 6,0
SGS2017H001GER01	SGS Polska Sp. z o.o., ul. Jana Kazimierza 3, 01-248 Warszawa, Poland (SGS Institut Fresenius GmbH, Europa Allee 12, 49685 Emstek, Germany)	Germany/ Medelby	T: 06.05.2017 BBCH 00	Maize/P7524 F N	Randomized blocks EPPO PP 1/135 (4)	Soil type: Sandy loam pH 5,4
SGS2017H001GER02	SGS Polska Sp. z o.o., ul. Jana Kazimierza 3, 01-248 Warszawa, Poland	Germany/ Storbeck	T: 09.05.2017 BBCH 00	Maize/Zoey F	Randomized blocks EPPO PP 1/135 (4)	Soil type: Sandy loam pH 7,1

	Poland (SGS Institut Fresenius GmbH, Europa Allee 12, 49685 Emstek, Germany)			N		
SGS2017H001GER03	SGS Polska Sp. z o.o., ul. Jana Kazimierza 3, 01-248 Warszawa, Poland (SGS Institut Fresenius GmbH, Europa Allee 12, 49685 Emstek, Germany)	Germany/ Beverbruch	T: 03.05.2017 BBCH 00	Maize/Amagrana F N	Randomized blocks EPPO PP 1/135 (4)	Soil type: Fine sand pH 5,8
SGS2017H001GER04	SGS Polska Sp. z o.o., ul. Jana Kazimierza 3, 01-248 Warszawa, Poland (SGS Institut Fresenius GmbH, Europa Allee 12, 49685 Emstek, Germany)	Germany/ Fahrdorf	T: 10.05.2017 BBCH 00	Maize/LG 30225 F N	Randomized blocks EPPO PP 1/135 (4)	Soil type: Sandy loam pH 6,1
SGS2017H001GER05	SGS Polska Sp. z o.o., ul. Jana Kazimierza 3, 01-248 Warszawa, Poland (SGS Institut Fresenius GmbH, Europa Allee 12, 49685 Emstek, Germany)	Germany/ Lohne	T: 01.05.2017 BBCH 00	Maize/DKC3409 F N	Randomized blocks EPPO PP 1/135 (4)	Soil type: Humanic sand pH 5,3
SGS2017H001CZ01	SGS Polska Sp. z o.o., ul. Jana Kazimierza 3, 01-248 Warszawa, Poland (AGRITEC vyzku slecht-eni a sluzby s.r.o., Zemedelska 2520/16, 787 01 Sumperk/Olomoucky kraj, Czech Republic)	Czech Republic/ Sumperk - Hon c.5	T: 18.05.2017 BBCH 00	Maize/ES PALAZZO F N	Randomized blocks EPPO PP 1/135 (4)	Soil type: Clay loam pH 6,32
SRPL19-155-336HS	Syntech Research Sp. z o.o. ul Jagiellonska 69/1, 85-027 Bydgoszcz, Poland	Gąbin / Poland	01.08.2019 15.08.2019 BBCH 00 BBCH 12-15	maize / Pyroxenia 130	Randomized blocks EPPO PP 1/135 (4)	Soil type: sandy clay loam pH 6,6
SRPL19-156-336HS	Syntech Research Sp. z o.o. ul Jagiellonska 69/1, 85-027 Bydgoszcz, Poland	Łąki / Poland	16.05.2019 12.06.2019 BBCH 00 BBCH 12-13	maize / Pioneer	Randomized blocks EPPO PP 1/135 (4)	Soil type: sandy clay loam pH 6,9
SRPL19-157-336HS	Syntech Research Sp. z o.o. ul	Baborówko / Poland	29.04.2019	maize / Angan	Randomized blocks	Soil type: sandy loam

	Jagiellonska 69/1, 85-027 Bydgoszcz, Poland		22.05.2019 BBCH 00 BBCH 12-16		EPPO PP 1/135 (4)	pH 5,6
SRPL19-158-336HS	Syntech Research Sp. z o.o. ul Jagiellonska 69/1, 85-027 Bydgoszcz, Poland	Feliksów / Poland	10.05.2019 03.06.2019 BBCH 00 BBCH 13-15	maize / San	Randomized blocks EPPO PP 1/135 (4)	Soil type: clayay sand pH 6,2
SRPL19-159-336HS	Syntech Research Sp. z o.o. ul Jagiellonska 69/1, 85-027 Bydgoszcz, Poland	Szczepankowo / Poland	10.05.2019 28.05.2019 BBCH 03-04 BBCH 12-13	maize / P 8400	Randomized blocks EPPO PP 1/135 (4)	Soil type: loamy sand pH 6,3
AH/19/K/14/BR/2	Syntech Research Sp. z o.o. ul Jagiellonska 69/1, 85-027 Bydgoszcz, Poland	Brody / Poland	25.04.2019 21.05.2019 BBCH 00-09 BBCH 13	maize / PR39H32	Randomized blocks EPPO PP 1/135 (4)	Soil type: sandy loam pH 6,3
AH/19/K/14/GR/5	Syntech Research Sp. z o.o. ul Jagiellonska 69/1, 85-027 Bydgoszcz, Poland	Gorzyń / Poland	26.04.2019 17.05.2019 BBCH 03 BBCH 13	maize / Kwins	Randomized blocks EPPO PP 1/135 (4)	Soil type: sandy loam pH 6,2
AH/19/K/14/NW/1	Syntech Research Sp. z o.o. ul Jagiellonska 69/1, 85-027 Bydgoszcz, Poland	Cytrynowo / Poland	08.05.2019 08.06.2019 BBCH 00-01 BBCH 13-14	maize / Farmgi- gant	Randomized blocks EPPO PP 1/135 (4)	Soil type: loamy sand pH 6,5
AH/19/K/14/RA/4	Syntech Research Sp. z o.o. ul Jagiellonska 69/1, 85-027 Bydgoszcz, Poland	Rataje / Poland	18.05.2019 08.06.2019 BBCH 10 BBCH14	maize / P8150	Randomized blocks EPPO PP 1/135 (4)	Soil type: oamy sand pH 6,7
AH/19/K/14/ZŁ/3	Syntech Research Sp. z o.o. ul Jagiellonska 69/1, 85-027 Bydgoszcz, Poland	Złotniki/ Poland	30.04.2019 27.05.2019 BBCH 00 BBCH 14-16	maizde / Farm- fire	Randomized blocks EPPO PP 1/135 (4)	Soil type: sandy loam pH 6,9

Notes:

- (1): test report number
- (2): Trial responsible entity/ officially recognized organization
- (3): precise place of the trial followed by the country

Applicant: Innvigo Sp. z.o.o.
Applicant Document ID Section 3 PART B Terbut 500 SC
Applicant Author: R.N.

Evaluator: IOŚ-PIB, PL
Date: 11.2021

- (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

Table 1 – data from phytotoxicity trials – maize Poland 2017 (efficacy trials)

Report code	Treatment	Dose [l/ha]	Phytotoxicity in %						
SGS/2017/145/PL01	Timing of assessment	DA-A/B	8 DA-A	8 DA-A	8 DA-A	0 DA-B	14 DA-B	21 DA-B	36 DA-B
	date		25.05.2017	25.05.2017	25.05.2017	06.06.2017	20.06.2017	27.06.2017	12.07.2017
	Untreated Check		0,0	0,0	0,0	0,0	0,0	0,0	0,0
	Lumax 537,5 SE	3,5	0,0	0,0	0,0	0,0	0,0	0,0	0,0
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	1,5	0,0	0,0	0,0	0,0	0,0	0,0	0,0
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	1,2	0,0	0,0	0,0	0,0	0,0	0,0	0,0
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	1,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	0,8	0,0	0,0	0,0	0,0	0,0	0,0	0,0
	LSD (P=.05)								
SGS/2017/145/PL02	Timing of assessment	DA-A/B	12 DA-A	12 DA-A	12 DA-A	0 DA-B	10 DA-B	24 DA-B	58 DA-B
	date		23.05.2017	23.05.2017	23.05.2017	27.05.2017	06.06.2017	20.06.2017	24.07.2017
	Untreated Check		0,0	0,0	0,0	0,0	0,0	0,0	0,0
	Lumax 537,5 SE	3,5	0,0	0,0	0,0	0,0	0,0	0,0	0,0
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	1,5	0,0	0,0	0,0	0,0	0,0	0,0	0,0
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	1,2	0,0	0,0	0,0	0,0	0,0	0,0	0,0
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	1,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	0,8	0,0	0,0	0,0	0,0	0,0	0,0	0,0
	LSD (P=.05)								
SGS/2017/145/PL03	Timing of assessment	DA-A/B	20 DA-A	20 DA-A	20 DA-A	14 DA-B	14 DA-B	59 DA-B	
	date		26.05.2017	26.05.2017	26.05.2017	16.06.2017	16.06.2017	31.07.2017	

	Untreated Check		0,0	0,0	0,0	0,0	0,0	0,0	
	Lumax 537,5 SE	3,5	0,0	0,0	0,0	0,0	0,0	0,0	
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	1,5	0,0	0,0	0,0	0,0	0,0	0,0	
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	1,2	0,0	0,0	0,0	0,0	0,0	0,0	
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	1,0	0,0	0,0	0,0	0,0	0,0	0,0	
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	0,8	0,0	0,0	0,0	0,0	0,0	0,0	
	LSD (P=.05)								
SGS/2017/145/PL04	Timing of assessment	DA-A/B	24 DA-A	24 DA-A	24 DA-A	11 DA-B	53 DA-B		
	date		20.05.2017	20.05.2017	20.05.2017	12.06.2017	24.07.2017		
	Untreated Check		0,0	0,0	0,0	0,0	0,0		
	Lumax 537,5 SE	3,5	0,0	0,0	0,0	0,0	0,0		
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	1,5	0,0	0,0	0,0	0,0	0,0		
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	1,2	0,0	0,0	0,0	0,0	0,0		
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	1,0	0,0	0,0	0,0	0,0	0,0		
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	0,8	0,0	0,0	0,0	0,0	0,0		
	LSD (P=.05)								
SGS/2017/145/PL05	Timing of assessment	DA-A/B	14 DA-A	14 DA-A	14 DA-A	14 DA-B	43 DA-B		
	date		17.05.2017	17.05.2017	17.05.2017	08.06.2017	07.07.2017		
	Untreated Check		0,0	0,0	0,0	0,0	0,0		
	Lumax 537,5 SE	3,5	0,0	0,0	0,0	0,0	0,0		
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	1,5	0,0	0,0	0,0	0,0	0,0		
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	1,2	0,0	0,0	0,0	0,0	0,0		
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	1,0	0,0	0,0	0,0	0,0	0,0		
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	0,8	0,0	0,0	0,0	0,0	0,0		
	LSD (P=.05)								
SGS/2017/145/PL06	Timing of assessment	DA-A/B	7 DA-A	7 DA-A	7 DA-A	0 DA-B	14 DA-B	25 DA-B	44 DA-B
	date		25.05.2017	25.05.2017	25.05.2017	29.05.2017	12.06.2017	23.06.2017	12.07.2017
	Untreated Check		0,0	0,0	0,0	0,0	0,0	0,0	0,0
	Lumax 537,5 SE	3,5	0,0	0,0	0,0	0,0	0,0	0,0	0,0
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	1,5	0,0	0,0	0,0	0,0	0,0	0,0	0,0
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	1,2	0,0	0,0	0,0	0,0	0,0	0,0	0,0
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	1,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	1,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0

	Terbut 500 SC + Hydravance 100 LQ 0,2 %	0,8	0,0	0,0	0,0	0,0	0,0	0,0	0,0
	LSD (P=,05)								

Table 2 – data from phytotoxicity trials – maize Germany 2017 (efficacy trials)

Report code	Treatment	Dose [l/ha]	Phytotoxicity in %						
SGS2O17H001GERO1	Timing of assessment	DA-B	0 DA-B	0 DA-B	0 DA-B	14 DA-B	14 DA-B	62 DA-B	
	date		30.05.2017	30.05.2017	30.05.2017	13.06.2017	13.06.2017	31.07.2017	
	Untreated Check		0,0	0,0	0,0	0,0	0,0	0,0	
	Gardo Gold 500 SC	4,0	0,0	0,0	0,0	0,0	0,0	0,0	
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	1,5	0,0	0,0	0,0	0,0	0,0	0,0	
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	1,2	0,0	0,0	0,0	0,0	0,0	0,0	
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	1,0	0,0	0,0	0,0	0,0	0,0	0,0	
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	0,8	0,0	0,0	0,0	0,0	0,0	0,0	
	LSD (P=,05)								
SGS2O17H001GERO2	Timing of assessment	DA-A/B	16 DA-A	16 DA-A	16 DA-A	14 DA-B	38 DA-B		
	date		29.05.2017	29.05.2017	29.05.2017	24.06.2017	18.07.2017		
	Untreated Check		0,0	0,0	0,0	0,0	0,0		
	Gardo Gold 500 SC	4,0	0,0	0,0	0,0	0,0	0,0		
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	1,5	0,0	0,0	0,0	0,0	0,0		
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	1,2	0,0	0,0	0,0	0,0	0,0		
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	1,0	0,0	0,0	0,0	0,0	0,0		
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	0,8	0,0	0,0	0,0	0,0	0,0		
	LSD (P=,05)								
SGS2O17H001GERO3	Timing of assessment	DA-A/B	13 DA-A	13 DA-A	13 DA-A	14 DA-B	26 DA-B	56 DA-B	
	date		18.05.2017	18.05.2017	18.05.2017	05.06.2017	17.06.2017	17.07.2017	

	Untreated Check		0,0	0,0	0,0	0,0	0,0	0,0	
	Gardo Gold 500 SC	4,0	0,0	0,0	0,0	0,0	0,0	0,0	
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	1,5	0,0	0,0	0,0	0,0	0,0	0,0	
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	1,2	0,0	0,0	0,0	0,0	0,0	0,0	
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	1,0	0,0	0,0	0,0	0,0	0,0	0,0	
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	0,8	0,0	0,0	0,0	0,0	0,0	0,0	
	LSD (P=.05)								
SGS2O17H001GERO4	Timing of assessment	DA-B	0 DA-B	0 DA-B	0 DA-B	14 DA-B	14 DA-B	62 DA-B	
	date		30.05.2017	30.05.2017	30.05.2017	13.06.2017	13.06.2017	31.07.2017	
	Untreated Check		0,0	0,0	0,0	0,0	0,0	0,0	
	Gardo Gold 500 SC	4,0	0,0	0,0	0,0	0,0	0,0	0,0	
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	1,5	0,0	0,0	0,0	0,0	0,0	0,0	
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	1,2	0,0	0,0	0,0	0,0	0,0	0,0	
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	1,0	0,0	0,0	0,0	0,0	0,0	0,0	
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	0,8	0,0	0,0	0,0	0,0	0,0	0,0	
	LSD (P=.05)								
SGS2O17H001GERO5	Timing of assessment	DA-A/B	7 DA-A	7 DA-A	7 DA-A	0 DA-B	14 DA-B	25 DA-B	44 DA-B
	date		25.05.2017	25.05.2017	25.05.2017	29.05.2017	12.06.2017	23.06.2017	12.07.2017
	Untreated Check		0,0	0,0	0,0	0,0	0,0	0,0	0,0
	Gardo Gold 500 SC	4,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	1,5	0,0	0,0	0,0	0,0	0,0	0,0	0,0
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	1,2	0,0	0,0	0,0	0,0	0,0	0,0	0,0
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	1,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	0,8	0,0	0,0	0,0	0,0	0,0	0,0	0,0
	LSD (P=.05)								

Table 3 – data from phytotoxicity trials – maize Czech Republic 2017 (efficacy trials)

Report code	Treatment	Dose [l/ha]	Phytotoxicity in %					
SGS2O17H001CZO1	Timing of assessment	DA-A/B	13 DA-A	13 DA-A	13 DA-B	27 DA-B	27 DA-B	46 DA-B
	date		01.06.2017	01.06.2017	16.06.2017	30.06.2017	30.06.2017	19.07.2017
	Untreated Check		0,0	0,0	0,0	0,0	0,0	0,0

	Gardoprim Plus Gold 500 SC	4,0	0,0	0,0	0,0	0,0	0,0	0,0	
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	1,5	0,0	0,0	0,0	0,0	0,0	0,0	
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	1,2	0,0	0,0	0,0	0,0	0,0	0,0	
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	1,0	0,0	0,0	0,0	0,0	0,0	0,0	
	Terbut 500 SC + Hydravance 100 LQ 0,2 %	0,8	0,0	0,0	0,0	0,0	0,0	0,0	
	LSD (P=,05)								

Table 3 – data from phytotoxicity trials – maize Poland 2019 (phytotoxicity trials)

Report code	Treatment	Dose [l, %/ha]	Appl Code	Phyto-toxicity in %									
SRPL19-155-336HS	Timing of assessment			7 DA-A	14 DA-A	21/7 DA-A/B	28/14 DA-A/B	42/28 DA-A/B	56/42 DA-A/B	70/56 DA-A/B			
	date			08.08.2019	15.08.2019	22.08.2019	29.08.2019	12.09.2019	26.09.2019	10.10.2019			
	Untreated Check	0,00	A	0,0	0,0	0,0	0,0	0,0	0,0	0,0			
	Terbut 500 SC	1,00	A	0,0	0,0	0,0	0,0	0,0	0,0	0,0			
	Hydravance 100 LQ	0,20%											
	Terbut 500 SC	2,00	A	0,0	0,0	0,0	0,0	0,0	0,0	0,0			
	Hydravance 100 LQ	0,40%											
	Terbut 500 SC	1,00	A	0,0	0,0	0,0	0,0	0,0	0,0	0,0			
	Terbut 500 SC	2,00	A	0,0	0,0	0,0	0,0	0,0	0,0	0,0			
	Lumax 537,5 SE	3,50	A	0,0	0,0	0,0	0,0	0,0	0,0	0,0			
	Lumax 537,5 SE	7,00	A	0,0	0,0	0,0	0,0	0,0	0,0	0,0			
	Terbut 500 SC	1,00	B			0,0	0,0	0,0	0,0	0,0			
	Hydravance 100 LQ	0,20%											
	Terbut 500 SC	2,00	B			0,0	0,0	0,0	0,0	0,0			
Hydravance 100 LQ	0,40%												
Terbut 500 SC	1,00	B			0,0	0,0	0,0	0,0	0,0				

	Terbut 500 SC	2,00	B			0,0	0,0	0,0	0,0	0,0			
	Tezosar 500 SC	1,00	B			0,0	0,0	0,0	0,0	0,0			
	Tezosar 500 SC	2,00	B			0,0	0,0	0,0	0,0	0,0			
LSD(P=.05)													
SRPL19-156-336HS	Timing of assessment			7 DA-A	14 DA-A	21 DA-A	27 DA-A	34/7 DA-A/B	41/14 DA-A/B	48/21 DA-A/B	55/28 DA-A/B	81/54 DA-A/B	
	date				30.05.2019	06.06.2019	12.06.2019	19.06.2019	26.06.2019	03.07.2019	10.07.2019	05.08.2019	
	Untreated Check	0,00	A	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
	Terbut 500 SC	1,00	A	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
	Hydravance 100 LQ	0,20%											
	Terbut 500 SC	2,00	A	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
	Hydravance 100 LQ	0,40%											
	Terbut 500 SC	1,00	A	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
	Terbut 500 SC	2,00	A	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
	Lumax 537,5 SE	3,50	A	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
	Lumax 537,5 SE	7,00	A	0,0	1,0	5,0	0,0	0,0	0,0	0,0	0,0	0,0	
	Terbut 500 SC	1,00	B					0,0	0,0	0,0	0,0	0,0	
	Hydravance 100 LQ	0,20%											
	Terbut 500 SC	2,00	B					0,0	0,0	0,0	0,0	0,0	
	Hydravance 100 LQ	0,40%											
LSD(P=.05)													
SRPL19-157-336HS	Timing of assessment			7 DA-A	14 DA-A	21 DA-A	28/5 DA-A/B	30/7 DA-A/B	37/14 DA-A/B	44/21 DA-A/B	51/28 DA-A/B	79/56 DA-A/B	
	date			06.05.2019	13.05.2019	20.05.2019	27.05.2019	29.05.2019	05.06.2019	12.06.2019	19.06.2019	17.07.2019	

	Untreated Check	0,00	A	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
	Terbut 500 SC	1,00	A	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
	Hydravance 100 LQ	0,20%											
	Terbut 500 SC	2,00	A	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
	Hydravance 100 LQ	0,40%											
	Terbut 500 SC	1,00	A	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
	Terbut 500 SC	2,00	A	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
	Lumax 537,5 SE	3,50	A	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
	Lumax 537,5 SE	7,00	A	0,0	1,0	5,0	0,0	0,0	0,0	0,0	0,0	0,0	
	Terbut 500 SC	1,00	B				0,0	0,0	0,0	0,0	0,0	0,0	
	Hydravance 100 LQ	0,20%											
	Terbut 500 SC	2,00	B				0,0	0,0	0,0	0,0	0,0	0,0	
	Hydravance 100 LQ	0,40%											
	Terbut 500 SC	1,00	B				0,0	0,0	0,0	0,0	0,0	0,0	
	Terbut 500 SC	2,00	B				0,0	0,0	0,0	0,0	0,0	0,0	
	Tezosar 500 SC	1,00	B				0,0	0,0	0,0	0,0	0,0	0,0	
	Tezosar 500 SC	2,00	B				0,0	0,0	0,0	0,0	0,0	0,0	
LSD(P=.05)													
SRPL19-158-336HS	Timing of assessment			7 DA-A	14 DA-A	21 DA-A	24/0 DA-A/B	31/7 DA-A/B	38/14 DA-A/B	45/21 DA-A/B	52/28 DA-A/B	80/56 DA-A/B	
	date			17.05.2019	24.05.2019	31.05.2019	03.06.2019	10.06.2019	17.06.2019	24.06.2019	01.07.2019	29.07.2019	
	Untreated Check	0,00	A	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
	Terbut 500 SC	1,00	A	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
	Hydravance 100 LQ	0,20%											
	Terbut 500 SC	2,00	A	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
	Hydravance 100 LQ	0,40%											
	Terbut 500 SC	1,00	A	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	

	Terbut 500 SC	2,00	A	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
	Lumax 537,5 SE	3,50	A	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
	Lumax 537,5 SE	7,00	A	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
	Terbut 500 SC Hydravance 100 LQ	1,00 0,20%	B	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
	Terbut 500 SC Hydravance 100 LQ	2,00 0,40%	B	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
	Terbut 500 SC	1,00	B	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
	Terbut 500 SC	2,00	B	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
	Tezosar 500 SC	1,00	B	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
	Tezosar 500 SC	2,00	B	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
LSD(P=.05)													
SRPL19-159-336HS	Timing of assessment			7 DA-A	14 DA-A	21 DA-A	25/7 DA-A/B	28/10 DA-A/B	32/14 DA-A/B	39/21 DA-A/B	46/28 DA-A/B	56/38 DA-A/B	74/56 DA-A/B
	date			17.05.2019	24.05.2019	31.05.2019	04.06.2019	07.06.2019	11.06.2019	18.06.2019	25.06.2019	05.07.2019	23.07.2019
	Untreated Check	0,00	A	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
	Terbut 500 SC Hydravance 100 LQ	1,00 0,20%	A	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
	Terbut 500 SC Hydravance 100 LQ	2,00 0,40%	A	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
	Terbut 500 SC	1,00	A	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
	Terbut 500 SC	2,00	A	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
	Lumax 537,5 SE	3,50	A	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
	Lumax 537,5 SE	7,00	A	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
	Terbut 500 SC Hydravance 100 LQ	1,00 0,20%	B				0,0	0,0	0,0	0,0	0,0	0,0	0,0
	Terbut 500 SC	2,00	B				0,0	0,0	0,0	0,0	0,0	0,0	0,0

	Hydravance 100 LQ	0,40%											
	Terbut 500 SC	1,00	B				0,0	0,0	0,0	0,0	0,0	0,0	0,0
	Terbut 500 SC	2,00	B				0,0	0,0	0,0	0,0	0,0	0,0	0,0
	Tezosar 500 SC	1,00	B				0,0	0,0	0,0	0,0	0,0	0,0	0,0
	Tezosar 500 SC	2,00	B				0,0	0,0	0,0	0,0	0,0	0,0	0,0
LSD(P=.05)													
AH/19/K/14/BR/2	Timing of assessment					25 DA-A	32/6 DA-A/B	53/27 DA-A/B	95/69 DA-A/B	116/90 DA-A/B			
	date					20.05.2019	27.05.2019	17.06.2019	29.07.2019	19.08.2019			
	Untreated Check	0,00	A			0,0	0,0	0,0	0,0	0,0			
	Terbut 500 SC	1,00	A			0,0	0,0	0,0	0,0	0,0			
	Hydravance 100 LQ	0,20%											
	Terbut 500 SC	2,00	A			0,0	0,0	0,0	0,0	0,0			
	Hydravance 100 LQ	0,40%											
	Terbut 500 SC	1,00	A			0,0	0,0	0,0	0,0	0,0			
	Terbut 500 SC	2,00	A			0,0	0,0	0,0	0,0	0,0			
	Lumax 537,5 SE	3,50	A			0,0	0,0	0,0	0,0	0,0			
	Lumax 537,5 SE	7,00	A			0,0	0,0	0,0	0,0	0,0			
	Terbut 500 SC	1,00	B			0,0	0,0	0,0	0,0	0,0			
	Hydravance 100 LQ	0,20%											
	Terbut 500 SC	2,00	B			0,0	0,0	0,0	0,0	0,0			
	Hydravance 100 LQ	0,40%											
	Terbut 500 SC	1,00	B			0,0	0,0	0,0	0,0	0,0			
	Terbut 500 SC	2,00	B			0,0	0,0	0,0	0,0	0,0			
	Tezosar 500 SC	1,00	B			0,0	0,0	0,0	0,0	0,0			
	Tezosar 500 SC	2,00	B			0,0	0,0	0,0	0,0	0,0			
LSD(P=.05)													

AH/19/K/14/GR/5	Timing of assessment					23/4 DA-A	35/14 DA-A/B	53/32 DA-A/B	91/70 DA-A/B	126/105 DA-A/B			
	date					20.05.2019	31.05.2019	18.06.2019	26.07.2019	30.08.2019			
	Untreated Check	0,00	A			0,0	0,0	0,0	0,0	0,0			
	Terbut 500 SC	1,00	A			0,0	0,0	0,0	0,0	0,0			
	Hydravance 100 LQ	0,20%											
	Terbut 500 SC	2,00	A			0,0	0,0	0,0	0,0	0,0			
	Hydravance 100 LQ	0,40%											
	Terbut 500 SC	1,00	A			0,0	0,0	0,0	0,0	0,0			
	Terbut 500 SC	2,00	A			0,0	0,0	0,0	0,0	0,0			
	Lumax 537,5 SE	3,50	A			0,0	0,0	0,0	0,0	0,0			
	Lumax 537,5 SE	7,00	A			0,0	0,0	0,0	0,0	0,0			
	Terbut 500 SC	1,00	B			0,0	0,0	0,0	0,0	0,0			
	Hydravance 100 LQ	0,20%											
	Terbut 500 SC	2,00	B			0,0	0,0	0,0	0,0	0,0			
	Hydravance 100 LQ	0,40%											
	Terbut 500 SC	1,00	B			0,0	0,0	0,0	0,0	0,0			
	Terbut 500 SC	2,00	B			0,0	0,0	0,0	0,0	0,0			
	Tezosar 500 SC	1,00	B			0,0	0,0	0,0	0,0	0,0			
	Tezosar 500 SC	2,00	B			0,0	0,0	0,0	0,0	0,0			
LSD(P=.05)													
AH/19/K/14/NW/1	Timing of assessment					10 DA-A	17 DA-A	24 DA-A	31 DA-A	45/14 DA-A/B			
	date					18.05.2019	25.05.2019	01.06.2019	08.06.2019	22.06.2019			
	Untreated Check	0,00	A			0,0	0,0	0,0	0,0	0,0			
	Terbut 500 SC	1,00	A			0,0	0,0	0,0	0,0	0,0			
	Hydravance 100 LQ	0,20%											
	Terbut 500 SC	2,00	A			0,0	0,0	0,0	0,0	0,0			

	Hydravance 100 LQ	0,40%											
	Terbut 500 SC	1,00	A		0,0	0,0	0,0	0,0	0,0				
	Terbut 500 SC	2,00	A		0,0	0,0	0,0	0,0	0,0				
	Lumax 537,5 SE	3,50	A		0,0	0,0	0,0	0,0	0,0				
	Lumax 537,5 SE	7,00	A		0,0	0,0	0,0	0,0	0,0				
	Terbut 500 SC Hydravance 100 LQ	1,00 0,20%	B		0,0	0,0	0,0	0,0	0,0				
	Terbut 500 SC Hydravance 100 LQ	2,00 0,40%	B		0,0	0,0	0,0	0,0	0,0				
	Terbut 500 SC	1,00	B		0,0	0,0	0,0	0,0	0,0				
	Terbut 500 SC	2,00	B		0,0	0,0	0,0	0,0	0,0				
	Tezosar 500 SC	1,00	B		0,0	0,0	0,0	0,0	0,0				
	Tezosar 500 SC	2,00	B		0,0	0,0	0,0	0,0	0,0				
LSD(P=.05)													
AH/19/K/14/RA/4	Timing of assessment			7 DA-A	14 DA-A	21 DA-A	30/9 DA-A/B	65/44 DA-A/B					
	date			25.05.2019	01.06.2019	08.06.2019	17.06.2019	22.07.2019					
	Untreated Check	0,00	A	0,0	0,0	0,0	0,0	0,0					
	Terbut 500 SC	1,00	A	0,0	0,0	0,0	0,0	0,0					
	Hydravance 100 LQ	0,20%											
	Terbut 500 SC	2,00	A	0,0	0,0	0,0	0,0	0,0					
	Hydravance 100 LQ	0,40%											
	Terbut 500 SC	1,00	A	0,0	0,0	0,0	0,0	0,0					
	Terbut 500 SC	2,00	A	0,0	0,0	0,0	0,0	0,0					
	Lumax 537,5 SE	3,50	A	0,0	0,0	0,0	0,0	0,0					
	Lumax 537,5 SE	7,00	A	0,0	0,0	0,0	0,0	0,0					
	Terbut 500 SC	1,00	B	0,0	0,0	0,0	0,0	0,0					

	Hydravance 100 LQ	0,20%											
	Terbut 500 SC	2,00	B	0,0	0,0	0,0	0,0	0,0					
	Hydravance 100 LQ	0,40%											
	Terbut 500 SC	1,00	B	0,0	0,0	0,0	0,0	0,0					
	Terbut 500 SC	2,00	B	0,0	0,0	0,0	0,0	0,0					
	Tezosar 500 SC	1,00	B	0,0	0,0	0,0	0,0	0,0					
	Tezosar 500 SC	2,00	B	0,0	0,0	0,0	0,0	0,0					
LSD(P=.05)													
AH/19/K/14/ZL/3	Timing of assessment					27 DA-A	34/7 DA-A/B	55/28 DA-A/B	90/63 DA-A/B	119/92 DA-A/B			
	date					27.05.2019	03.06.2019	24.06.2019	29.07.2019	27.08.2019			
	Untreated Check	0,00	A			0,0	0,0	0,0	0,0	0,0			
	Terbut 500 SC	1,00	A			0,0	0,0	0,0	0,0	0,0			
	Hydravance 100 LQ	0,20%											
	Terbut 500 SC	2,00	A			0,0	0,0	0,0	0,0	0,0			
	Hydravance 100 LQ	0,40%											
	Terbut 500 SC	1,00	A			0,0	0,0	0,0	0,0	0,0			
	Terbut 500 SC	2,00	A			0,0	0,0	0,0	0,0	0,0			
	Lumax 537,5 SE	3,50	A			0,0	0,0	0,0	0,0	0,0			
	Lumax 537,5 SE	7,00	A			0,0	0,0	0,0	0,0	0,0			
	Terbut 500 SC	1,00	B			0,0	0,0	0,0	0,0	0,0			
	Hydravance 100 LQ	0,20%											
	Terbut 500 SC	2,00	B			0,0	0,0	0,0	0,0	0,0			
	Hydravance 100 LQ	0,40%											
	Terbut 500 SC	1,00	B			0,0	0,0	0,0	0,0	0,0			
	Terbut 500 SC	2,00	B			0,0	0,0	0,0	0,0	0,0			
	Tezosar 500 SC	1,00	B			0,0	0,0	0,0	0,0	0,0			

Product code: Terbut 500 SC
Product name: La Zina 500 S.C. / Tekno 500 S.C.
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	Tezosar 500 SC	2,00	B			0,0	0,0	0,0	0,0	0,0			
LSD(P=.05)													

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

None

Appendix 8 Summary of data on succeeding crop

None