

# FINAL REGISTRATION REPORT

## **Part B**

### **Section 3**

#### **Efficacy Data and Information**

Concise summary

Product code: M-100SC-OR2-C

Product name(s): JUZAN EXTRA 100 SC

Chemical active substance:

Mesotrione, 100 g/L

Central Zone

Zonal Rapporteur Member State: Poland

CORE ASSESSMENT

(new authorisation)

Applicant: CIECH Sarzyna S.A.

Submission date: 05/2022

MS Finalisation date: 12/2022; 05/2023

## Version history

When	What
May 2022	First submission for the product authorisation
December 2022	ZRMs evaluated dRR submitted by Applicant
May 2023	ZRMs change dRR according to ecotox assessment for acceptable doses

## Table of Contents

<b>3</b>	<b>Efficacy Data and Information (including Value Data) on the Plant Protection Product (KCP 6) .....</b>	<b>4</b>
3.1	Summary and conclusions of zRMS on Section 3: Efficacy (KCP 6).....	4
3.2	Efficacy data (KCP 6) .....	6
3.2.1	Preliminary tests (KCP 6.1) .....	13
3.2.2	Minimum effective dose tests (KCP 6.2).....	15
3.2.2.1	Materials and methods .....	16
3.2.2.2	Summary and evaluation of trial results .....	16
3.2.2.3	Overall conclusions – Dose justification for control of weeds in maize .....	32
3.2.3	Efficacy tests (KCP 6.2) .....	33
3.3	Information on the occurrence or possible occurrence of the development of resistance (KCP 6.3) .....	162
3.3.1	Mode of action .....	169
3.3.2	Evidence of resistance.....	169
3.3.3	Mechanism of resistance .....	171
3.3.4	Cross-resistance .....	172
3.3.5	Risk of resistance development .....	173
3.3.6	Resistance risk assessment.....	173
3.4	Adverse effects on treated crops (KCP 6.4).....	176
3.4.1	Phytotoxicity to host crop (KCP 6.4.1).....	184
3.4.1.1	Summary and evaluation of trial results .....	185
3.4.2	Effect on the yield of treated plants or plant product (KCP 6.4.2) .....	196
3.4.2.1	Crop yield in maize (in the absence of weeds) .....	196
3.4.3	Effects on the quality of plants or plant products (KCP 6.4.3).....	203
3.4.3.1	Effects on the weight of thousand kernel (TKW).....	203
3.4.3.2	Effects on the grain hectolitre weight (HLW) .....	205
3.4.3.3	Effects on the dry matter content (WTS).....	208
3.4.4	Effects on transformation processes (KCP 6.4.4).....	213
3.4.5	Impact on treated plants or plant products to be used for propagation (KCP 6.4.5) .....	214
3.5	Observations on other undesirable or unintended side-effects (KCP 6.5). .....	214
3.5.1	Impact on succeeding crops (KCP 6.5.1).....	214
3.5.2	Impact on other plants including adjacent crops (KCP 6.5.2) .....	214
3.5.3	Effects on beneficial and other non-target organisms (KCP 6.5.3) .....	218
3.6	Other/special studies .....	220
3.7	List of test facilities including the corresponding certificates .....	221
<b>Appendix 1</b>	<b>Lists of data considered in support of the evaluation .....</b>	<b>244</b>

### **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). <b>Changes were marked by yellow.</b>
-------------------	--

#### **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)**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Use- No. *	Member state(s)	Crop and/ or situation  (crop destination / purpose of crop)	F, Fn, G, Gn, Gnp or I **	Pests or Group of pests controlled  (additionally: develop- mental 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 (efficacy)
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	kg or L product / ha a) max. rate per appl. b) max. total rate per crop/season	g or kg as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha  min / max			
Zonal uses (field or outdoor uses, certain types of protected crops)														
1	PL	Maize (ZEAMX)	F	Monotyledonous weeds (TTDMS); Dicotyledonous weeds (TTDSS)	spraying	BBCH 12 - 18	a) 1 b) 1	n.a.	a) <del>1,5</del> 1.0 L/ha b) <del>1,5</del> 1.0 L/ha	a) 100 <del>150</del> g as/ha b) 100 <del>150</del> g as/ha	200 / 400	n.a.	Dose range: <del>0,75</del> <del>1,5</del> 0.75-1.0 l/ha	Acceptable max dose change in line to Ecotos assessment.
Minor uses according to Article 51 (field uses)														
2	PL	sugar maize (ZEAMS); Popcorn (ZEA-ME);	F	Monotyledonous weeds (TTDMS); Dicotyledonous weeds (TTDSS)	spraying	BBCH 12 - 18	a) 1 b) 1	n.a.	a) <del>1,5</del> 1.0 L/ha b) <del>1,5</del> 1.0 L/ha	a) 100 <del>150</del> g as/ha b) 100 <del>150</del> g as/ha	200 / 400	n.a.	Dose range: <del>0,75</del> <del>1,5</del> 0.75-1.0 l/ha	Acceptable max dose change in line to Ecotos assessment.

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

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

Column 15: zRMS conclusion.

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

## 3.2 Efficacy data (KCP 6)

### Introduction

This document summarises the information related to the efficacy of the plant protection product tested under product code M-100SC-OR2-C and intended product name JUZAN EXTRA 100 SC containing mesotrione.

This document will be evaluated by Poland as zonal Rapporteur Member State (zRMS).

The objective of this Biological Assessment Dossier is to provide data on the efficacy, crop safety and other Annex III Section 3 data points in support of the registration of JUZAN EXTRA 100 SC, a Suspension concentrate (SC) formulation containing 100 g/L mesotrione in Poland for use as a herbicide for control of annual broad-leaved and grass weeds in maize and minor crops: sugar maize and popcorn.

The GAP table for the intended uses of JUZAN EXTRA 100 SC are included in Table 3.2-1 of this document.

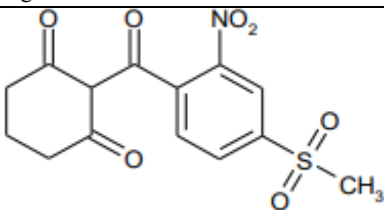
### Description of active substance

Mesotrione is classified by HRAC within group 27 -Inhibition of 4-hydroxyphenyl-pyruvate-dioxygenase (4-HPPD) (Legacy F2). It belongs to the chemical group of triketones. Its mode of action is disrupting the development of plant pigments which are essential for photosynthesis. This inhibition causes leaf chlorosis and eventual death of sensitive weed species. It acts as a bleaching herbicide.

Mesotrione is a systemic herbicide for control of annual broadleaf and annual grass weed species in maize. It is taken up via roots and shoots and translocated rapidly in both the xylem and phloem into all plant parts. In sensitive plants symptoms of white chlorosis become visible within a few days after application in actively growing tissues being in the cell elongation phase. Complete death of sensitive plants may occur up to 2 weeks after application. Maize has a natural tolerance against mesotrione as it can detoxify the herbicide into inactive compounds. This detoxification is mediated by cytochrome-P450-oxygenase and is so rapid in maize that mesotrione is not translocated away from the treated zone to the point of action. Sensitive weed species cannot detoxify mesotrione in this way.

The physical and chemical properties of mesotrione are summarised below.

**Table 3.2-1: Details of active substance**

Chemical name (IUPAC)	2-(4-mesyl-2-nitrobenzoyl) cyclohexane -1,3-dione
Chemical name (CAS)	2-[4-(methylsulfonyl)-2-nitrobenzoyl]-1-3-cyclohexanedione
CIPAC No	625
CAS No	104206-82-8
EEC No	609-064-00
Molecular formula	C <sub>14</sub> H <sub>13</sub> NO <sub>7</sub> S
Molecular mass	339.3 g/mol
Structural formula	

### **Description of the plant protection product**

JUZAN EXTRA 100 SC is a suspension concentration (SC) formulation containing 100 g/L mesotrione intended to give effective control of annual broad-leaved and some grass weeds in foliar post-emergence application in maize and minor crops: sugar maize and popcorn.

**Table 3.2-2: Simplified table of currently registered uses and requested uses for JUZAN EXTRA 100 SC**

Uses		Member States	Application timing season	Requested rates	Comments / Other relevant details on GAPs
Crop(s)	Target(s)				
Maize (ZEAMX)	Monotyledonous weeds (TTDMS); Dicotyledonous weeds (TTDSS)	Poland,	Spring (BBCH 12-18)	0,75 -1,5 l/ha	
sugar maize (ZEAMS); Popcorn (ZEAME);	Monotyledonous weeds (TTDMS); Dicotyledonous weeds (TTDSS)	Poland	Spring (BBCH 12-18)	0,75 -1,5 l/ha	

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

### **Description of the target organisms and significance**

The control of weeds in maize cultivation is a necessity regardless of its later use (silage, grain, other purposes). Due to the fact that it is a crop grown in wide rows and, additionally, characterized by a slow growth rate at the beginning, competition from weeds should be eliminated as soon as possible. This is extremely important because, despite of competing for nutrients and light, weeds also compete with maize for water, which is crucial, especially in dry years, which we face more and more often. The visual impact of weed competition is most often deformation of maize plants (leaf rolling into tubes), and also due to strong competition from undesirable plants, weaker and slower growth of the crop.

The main goal of the proper protection of maize is to keep the plantation free from weeds, from the moment of emergence of the plant until it reaches 8-10 leaves, because in this period weeds are the most harmful to maize. The pressure from undesirable plants in maize causes the deterioration of the parameters of all elements of the yield structure and its quality, and the reduction of the amount of harvested grain by up to 50%.

All weeds that have been evaluated for this dossier are summarized by EPPO code, scientific and common name in Table 3.2-3. On the following pages, all target weeds are shortly described.

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

EPPO code	Scientific name	Common name
ABUTH	<i>Abutilon theophrasti</i>	Butter print
AGRRE	<i>Elymus repens</i>	Common couch
AMABL	<i>Amaranthus blitoides</i>	Mat amaranth
AMARE	<i>Amaranthus retroflexus</i>	Redroot amaranth
AMBEL	<i>Ambrosia artemisiifolia</i>	American wormwood
ANGAR	<i>Anagallis arvensis</i>	Common pimpernel
AVEFA	<i>Avena fatua</i>	Common wild oat
BRSNN	<i>Brassica napus</i>	Volunteer rape
CHEAL	<i>Chenopodium album</i>	Fat-hen

EPPO code	Scientific name	Common name
CHEPO	<i>Lipandra polysperma</i>	Allseed
CIRAR	<i>Cirsium arvense</i>	Canada thistle
DATST	<i>Datura stramonium</i>	Thorn apple
ECHCG	<i>Echinochloa crus-galli</i>	Barnyard grass
GALAP	<i>Galium aparine</i>	Cleavers
GASPA	<i>Galinsoga parviflora</i>	Kew weed
HIBTR	<i>Hibiscus trionum</i>	Bladder hibiscus
LAMPU	<i>Lamium purpureum</i>	Purple deadnettel
MATCH	<i>Matricaria chamomilla</i>	Scented mayweed
MATIN	<i>Tripleurospermum inodorum</i>	Scentless mayweed
PANMI	<i>Panicum miliaceum</i>	Broomcorn millet
POLAM	<i>Persicaria amphibia</i>	Devil's shoestring
POLAV	<i>Polygonum aviculare</i>	Common knotgrass
POLCO	<i>Fallopia convolvulus</i>	Black bindweed
POLLA	<i>Persicaria lapathifolia</i>	Green smartweed
POLPE	<i>Persicaria maculosa</i>	Red leg
SETVI	<i>Setaria viridis</i>	bottlegrass
SOLNI	<i>Solanum nigrum</i>	Black nightshade
SORHA	<i>Sorghum halepense</i>	Aleppo grass
STEME	<i>Stellaria media</i>	Common chickweed
VIOAR	<i>Viola arvensis</i>	Field pansy
XANST	<i>Xanthium strumarium</i>	Rough cocklebur

### Importance of the target crop

According to EUROSTAT the production area with maize in EU was approximately 15 million ha in 2021. The production area in selected European countries is shown in Table 3.2-4.

**Table 3.2-4: Maize production area in 2021 (1000 ha)**

	Grain maize and corn-cob-mix	Green maize
<b>European Union</b>	<b>9 197,43</b>	<b>6 052,78</b>
Belgium	48,20	183,20
Bulgaria	573,00	31,00
Czechia	90,93	228,49
Germany	430,70	2 219,60
Greece	112,02	103,67
Spain	347,02	110,25
France	1 496,54	1 308,04
Croatia	285,00	28,00
Italy	588,60	383,29
Hungary	1 058,84	63,93
Austria	218,20	85,13
<b>Poland</b>	<b>1 011,52</b>	<b>619,99</b>
Portugal	73,45	71,23
Romania	2 572,56	47,57
Slovakia	202,97	66,54
Serbia	1 023,17	33,12

In the north-western part of Europe with a temperate coastal climate maize is primarily grown for silage production. In the central part of Europe with a warmer temperate climate both green maize and grain

maize are grown whereas in the subtropical parts of Europe maize is primarily grown for grain production. Recently maize is also grown as a bioenergy crop.

The geographical area covers temperate coastal and continental climate and Mediterranean subtropical climate areas as well. The different climate and soil characteristics in the production area together with different cultivation practices influence the weed biodiversity in maize cropping.

In maize cultivation presents over 100 weed species, while ca. 40 species are common. One of the most important weed species in maize are AMARE, CHEAL, ECHCG and POLCO.

In Poland maize is grown since 50's of 20<sup>th</sup> century. Nowadays maize, next to cereals and oilseed rape, is the most important agricultural crops with production area in 2021 above 1 million hectares.

Depends on soil and climatic conditions, regional differentiation in production is observed. In southern regions grain production is dominant, while in northern regions silage maize.

**Table 3.2-5: Major / minor status of intended uses (for all cMS and zRMS).**

Crop and/or situation	Crop status		Pests or group of pests controlled	Pest status	
	Major	minor		Major	minor
Maize (ZEAMX)	PL	-	Annual monocotyledonous and dicotyledonous weeds	PL	-
sugar maize (ZEAMS); Popcorn (ZEAME);	-	PL	Annual monocotyledonous and dicotyledonous weeds	PL	-

### Compliance with the Uniform Principles

All efficacy trials presented in this BAD were carried out by contractor companies which follow the EP-PO standard guidelines and are officially recognized by the competent authorities to carry out field registration trials in accordance with the principles of Good Experimental Practices (GEP).

The list of testing facilities is presented in the following table.

GEP certificates are presented in the chapter 3.7.

**Table 3.2-6: Testing organisations**

Test facility	Address	Certificate (Yes or No)
SGS Polska Sp. z o.o.	ul. Jana Kazimierza 3 01-248 Warszawa Poland	Yes
Fertico Sp. z o.o	Goliany 43, 05-620 Błędów POLAND	Yes
Eurofins Agrosience Services GmbH	Carl-Goerdeler-Weg 5 21684 Stade Germany	Yes
Eurofins Agrosience Services sp. z o.o	Kaźmierz, Parkowa street 6, PL-64-530 Kaźmierz Poland	Yes
AGRITEC, research, breeding and services Ltd.	Zemědělská 2520/16 787 01 Šumperk Czech Republic	Yes
Fyse, Ltd. Dep. Agrolab	Skolska 88 Kolare 99109	Yes

Test facility	Address	Certificate (Yes or No)
	Slovakia	
Eurofins Agrosience Services S.R.L.	Str.Academician Petre P Negulescu No.1, 300263 Timișoara, Timiș Romania	Yes
Eurofins Agrosience Services Kft.	Új Váralka sor 16. 8000 Székesfehérvár Hungary	Yes
Hetterich Fieldwork GbR	Bamberger Straße 50 97359 Schwarzach GERMANY	Yes
SynTech Research Czech Republic s.r.o.	Semčice 245 294 46 Semčice, Czech Republic	Yes
SynTech Research Hungary Kft	Török Ignác u. 30. Szombathely Hungary	Yes
AgroProspect SRL	Fantana No.1, Jud. Brasov, Romania	Yes

### Information on trials submitted (3.1 Efficacy data)

A total of 18 trials investigating the minimum effective dose and the effectiveness of JUZAN EXTRA 100 SC against annual broadleaf and grass weeds were implemented in maize in 2016 (5 trials) and 2019 (13 trials).

Trials were located in the North-Eastern EPPO zone in Poland (6 trials), in the Maritime EPPO zone in Germany (2 trials) and Czech Republic (3 trials), and in the South-Eastern EPPO zone in Hungary (2 trials), in Romania (4 trials) and in Slovakia (1 trial).

**Table 3.2-7: Presentation of trials (efficacy trials, preliminary trials...)**

Crop(s) *	Target(s)*	Country	Years	Type of trial**	Number of trials (number of valid trials)			GEP, non- GEP, official***	Comments (any other relevant information)
					Maritime zone	North- eastern zone	South- eastern zone		
Maize	annual broadleaf and grass weeds	Poland	2016, 2019	MED + E	-	6 (6)	-	GEP	
		Germany	2019	MED + E	2 (2)	-	-	GEP	
		Czech Republic	2016, 2019	MED + E	3 (3)	-	-	GEP	
		Slovakia	2016	MED + E	-	-	1(1)	GEP	
		Romania	2016, 2019	MED + E	-	-	4 (4)	GEP	
		Hungary	2019	MED + E	-	-	2 (2)	GEP	
	<b>TOTAL</b>	-	<b>2016 - 2019</b>	-	<b>5 (5)</b>	<b>6 (6)</b>	<b>7 (7)</b>	-	

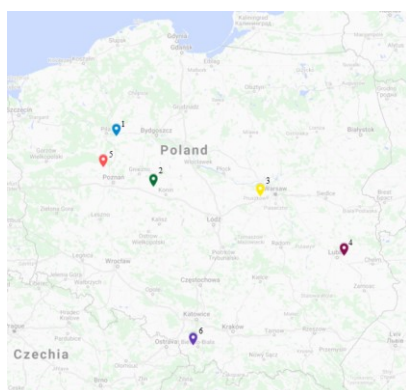
\* According to the GAP table. Timing of the application(s) can be added if relevant (e.g. Pre-emergence vs post-emergence,

- spring vs autumn).
- \*\* M = minimum effective dose, E = Efficacy trial, Y = trial with yield assessment, Q = trial with quality assessment, P = trial with phytotoxicity assessment.
- \*\*\* GEP: Good Experimental Practices. Official: carried out by a national official organisation.

The geographical breakdown of efficacy trials is given in the following maps.

#### North-Eastern EPPO zone

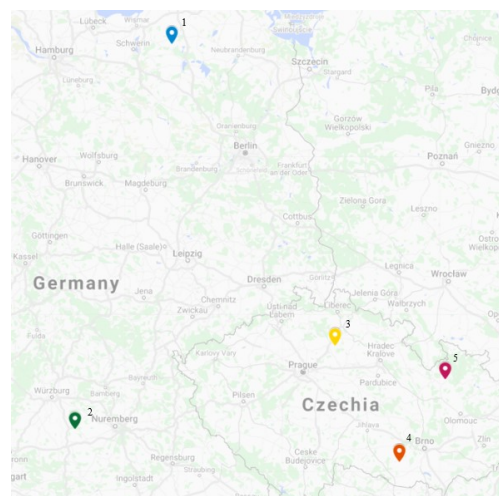
**Figure 3.2-1: Trial map – Efficacy trials performed in maize in the North-Eastern EPPO zone**



Number on the map	Test report	Year	Trial location
1	155_01_F19_276	2019	Grabiennie 51, 89-350 Miasteczko Krajeński, Wielkopolskie, Poland
2	156_01_F19_277	2019	Marcewo 21, 62-400 Słupca, Wielkopolskie, Poland
3	157_01_F19_278	2019	Błonie ul. Łąki 23, 05-870 Błonie, Mazowieckie, Poland
4	158_01_F19_279	2019	Janówek 86, 21-007 Mełgiew, Lubelskie, Poland
5	S16-02947-01	2016	Popówko 64-606, Wielkopolskie, Poland
6	S16-02949-01	2016	Jasienica 43-385, Śląskie, Poland

#### Maritime EPPO zone

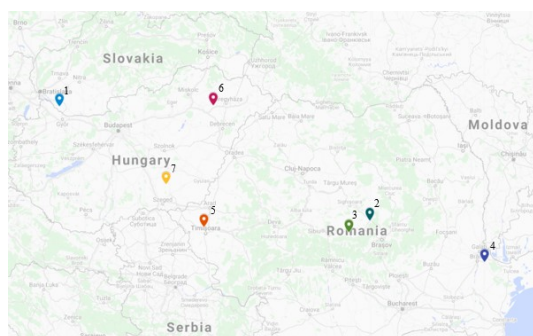
**Figure 3.2-2: Trial map – Efficacy trials performed in maize in the Maritime EPPO zone**



Number on the map	Test report	Year	Trial location
1	M-100SC-OR2-C DE19 EFF01	2019	Lüssow 18276 Mecklenburg-Vorpommern, Germany
2	M-100SC-OR2-C DE19 EFF03	2019	Poppenbach 91598 Bayern, Germany
3	SRCZ19-055-428HE	2019	Semčice 29446 Středočeský kraj, Czech Republic
4	SRCZ19-057-428HE	2019	Horní Kounice 67140, Jihomoravský kraj, Czech Republic
5	S16-02952-01	2016	Sumperk 787 01, Olomoucký kraj, Czech Republic

### South-Eastern EPPO zone

**Figure 3.2-3: Trial map – Efficacy trials performed in maize in the South-Eastern EPPO zone**



Number on the map	Test report	Year	Trial location
1	S16-02953-01	2016	Gabcikovo 93005, Dunajska Streda/Trnavský, Slovakia
2	M-100SC-OR2-C RO19 EFF01	2019	Fantana 507099, Brasov, Romania
3	M-100SC-OR2-C RO19 EFF02	2019	Dragus 507251, Brasov, Romania
4	M-100SC-OR2-C RO19 EFF03	2019	Macin 825300, Tulcea, Romania
5	S16-02954-01	2016	Sinandrei 307375, Timis, Romania
6	SRHU19-598-428HE	2019	Hajdúnánás-Tedej 4085, Hajdú-Bihar, Hungary
7	SRHU19-599-428HE	2019	Szegvár 6635, Csongrád, Hungary



**Table 3.2-8: Presentation of reference standards (efficacy trials, preliminary trials...)**

Crop(s)	Reference standard	Country(ies) where the product is used <sup>(1)</sup>	Authorization number	Active substance(s)	Formulation		Registered application rate <sup>(3)</sup>	Application rate in trials (per treatment)	Remark <sup>(4)</sup>
					Type <sup>(2)</sup>	Concentration of a.s.			
maize	Callisto 100 SC	Poland	R-25/2009	mesotrione	SC	100 g/L	1,0-1,5 L/ha	1,5 L/ha	
	Juzan 100 SC	Poland	R-45/2018	mesotrione	SC	100 g/L	0,75-1,5 L/ha	1,5 L/ha	
	Callisto	Germany	024660-00	mesotrione	SC	100 g/L	1,5 L/ha	1,5 L/ha	
	Callisto 100 SC	Czech Republic	4514-0	mesotrione	SC	100 g/L	1,2-1,5 L/ha	1,5 L/ha	
	Temsa SC	Slovakia	15-11-1642	mesotrione	SC	100 g/L	1,5 L/ha	1,5 L/ha	
	Barracuda	Romania	267PC	mesotrione	SC	100 g/L	0,75-1,5 L/ha	1,5 L/ha	
	Callisto 480 SC	Romania	2156	mesotrione	SC	480 g/L	0,25-0,35 L/ha	0,35 L/ha	
	Callisto 4 SC	Hungary	6300/67-2/2020	mesotrione	SC	480 g/L	0,25-0,35 L/ha	0,35 L/ha	

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

(2) e.g. WP (wetable powder), EC (emulsifiable concentrate), etc.

(3) dose(s) / dose range authorized on that use in the country.

(4) Other relevant information (e.g. uses, number of applications, spray volume, method of application, etc.). Preliminary tests (KCP 6.1)

Comments of zRMS:	<p>This document summarizes the information related to the efficacy of the plant protection product – Juzan Extra 100 SC (product code: M-100SC-OR2-C). The formulation of this product is a suspension concentrate (SC) and it is containing one active substance: mesotrione (100 g/L). For now, this active compound is on the list of approved active substance. Products based on this compound (mesotrione) are known for years and are described in some publications.</p> <p>The specific mode of action of mesotrione is a competitive inhibition of 4-hydroxylphenyl pyruvate dioxygenase (HPPD) in the plastoquinone biosynthesis pathway, which in turn disrupts carotenoid biosynthesis. Mesotrione competes with, and is structurally like, the substrate (p-hydroxyphenyl pyruvate) of the target enzyme HPPD. The disruption of the carotenoid biosynthesis leads to a disruption of chlorophyll synthesis causing bleaching and death in susceptible species (HRAC classification: F2). Uptake of mesotrione by weeds is mainly foliar with limited root uptake. Once in the plant, mesotrione moves in both the xylem and phloem, exchanges between them and will distribute within the plant.</p> <p>In Poland 56 herbicides with mesotrione are registered and used to control weeds in crops. Juzan Extra 100 SC is a selective herbicide used for the control of the many important weeds in maize. Juzan Extra 100 SC is used for foliar application.</p> <p>The product – Juzan Extra 100 SC by Ciech Sarzyna S.A. has not been previously evaluated in any country according to Uniform Principles. Poland is a ZRMs.</p>
-------------------	--

### 3.2.1 Preliminary tests (KCP 6.1)

No preliminary trials with JUZAN EXTRA 100 SC are submitted with this dossier. Active substance mesotrione and products containing this active substance, either in co-formulation or as the sole active

ingredient, have been approved for the control of a wide range of weed species in maize for many years and are well known from practical use, the principal spectrum of efficacy and target weeds.

Multiple plant protection products containing mesotrione are registered in Poland and all over the Europe. In the Table 3.2.1-1 are presented the examples of currently registered herbicides containing exclusively mesotrione in maize in Poland.

The activity of this compound has been widely researched and proven in commercial use in countries across the EU, as well as the chemistry and biology of mesotrione is already well known.

Hence, no pre-eliminary tests were conducted have been undertaken.

**Table 3.2.1-1: Presentation of products containing mesotrione currently registered in Poland**

Prooduct name	Authorization number	Active substance content	Crop	Pest	Dose
Ashoka 100 SC	R-80/2017	mesotrione 100 g/L	maize	Annual monocotyledonous and dicotyledonous weeds	0,5-1,5 L/ha
Barracuda	R-139/2017	mesotrione 100 g/L	maize	Annual monocotyledonous and dicotyledonous weeds	0,75-1,5 L/ha
Border 100 SC	R-118/2016	mesotrione 100 g/L	maize	Annual monocotyledonous and dicotyledonous weeds	1,0-1,5 L/ha
Callisto 100 SC	R-25/2009	mesotrione 100 g/L	maize	Annual monocotyledonous and dicotyledonous weeds	1,0-1,5 L/ha
Calluna	R-18/2021 h.r.	mesotrione 100 g/L	maize	Annual monocotyledonous and dicotyledonous weeds	0,5-1,5 L/ha
Cobber 100 SC	R-207/2019	mesotrione 100 g/L	maize	Annual monocotyledonous and dicotyledonous weeds	0,75-1,5 L/ha
Cuter	R-32/2018	mesotrione 100 g/L	maize	Annual monocotyledonous and dicotyledonous weeds	0,75-1,5 L/ha
Daneva 100 SC	R-211/2017	mesotrione 100 g/L	maize	Annual monocotyledonous and dicotyledonous weeds	0,75-1,5 L/ha
Faktor	R-165/2017	mesotrione 100 g/L	maize	Annual monocotyledonous and dicotyledonous weeds	0,75-1,5 L/ha
Juzan 100 SC	R-45/2018	mesotrione 100 g/L	maize	Annual monocotyledonous and dicotyledonous weeds	0,75-1,0 L/ha
Kideka 100 SC	R-6/2017	mesotrione 100 g/L	maize	Annual monocotyledonous and dicotyledonous weeds	0,5-1,5 L/ha
Madoka 100 SC	R-81/2017	mesotrione 100 g/L	maize	Annual monocotyledonous and dicotyledonous weeds	0,5-1,5 L/ha
Maisot 100 SC	R-206/2019	mesotrione 100 g/L	maize	Annual monocotyledonous and dicotyledonous weeds	0,75-1,5 L/ha
Malton 200 SE	R-12/2021	mesotrione 200 g/L	maize	Annual monocotyledonous and dicotyledonous weeds	0,6-0,75 L/ha

Maran 100 SC	R-197/2019	mesotrione 100 g/L	maize	Annual monocotyledonous and dicotyledonous weeds	1,0-1,5 L/ha
MesotriGuard	R-45/2019	mesotrione 100 g/L	maize	Annual monocotyledonous and dicotyledonous weeds	0,75-1,5 L/ha
Mestar 100 SC	R-259/2017	mesotrione 100 g/L	maize	Annual monocotyledonous and dicotyledonous weeds	0,75-1,5 L/ha
Notos 100 SC	R-200/2016	mesotrione 100 g/L	maize	Annual monocotyledonous and dicotyledonous weeds	1,5 L/ha
Osorno SC	R-38/2016	mesotrione 100 g/L	maize	Annual monocotyledonous and dicotyledonous weeds	1,5 L/ha
Raikiri 100 SC	R-164/2017	mesotrione 100 g/L	maize	Annual monocotyledonous and dicotyledonous weeds	0,75-1,5 L/ha
Rumezo 200 SE	R-80/2020	mesotrione 200 g/L	maize	Annual monocotyledonous and dicotyledonous weeds	0,6-0,75 L/ha
Serena 100 SC	R-66/2021 h.r.	mesotrione 100 g/L	maize	Annual monocotyledonous and dicotyledonous weeds	0,75-1,5 L/ha
Simba 100 SC	R-210/2017	mesotrione 100 g/L	maize	Annual monocotyledonous and dicotyledonous weeds	0,75-1,5 L/ha
Solis 100 SC	R-151/2015	mesotrione 100 g/L	maize	Annual monocotyledonous and dicotyledonous weeds	1,5 L/ha
Starship 100 SC	R-45/2020wu	mesotrione 100 g/L	maize	Annual monocotyledonous and dicotyledonous weeds	0,75-1,5 L/ha
Temsa SC	R-190/2015	mesotrione 100 g/L	maize	Annual monocotyledonous and dicotyledonous weeds	1,5 L/ha
Tyrion 200 SE	R-13/2021	mesotrione 200 g/L	maize	Annual monocotyledonous and dicotyledonous weeds	0,6-0,75 L/ha
Visigoth 100 SC	R-5/2018	mesotrione 100 g/L	maize	Annual monocotyledonous and dicotyledonous weeds	0,75-1,5 L/ha
Wolfram 100 SC	R-6/2018	mesotrione 100 g/L	maize	Annual monocotyledonous and dicotyledonous weeds	0,75-1,5 L/ha

Comments of zRMS:	<p>The active substance of Juzan Extra 100 SC (product code: M-100SC-OR2-C) – mesotrione 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. ZRMs agree with Applicant that preliminary tests are not described and not required. In Poland 56 plant protection products with mesotrione as active compound are registered and used. Applicant submitted in table above list of products containing mesotrione currently registered in Poland. For example, at least 15 products are registered and used at the same of proposed doses (0.75-1.0 <del>1.5</del> L/ha) for tested product (Juzan Extra 100SC). So, the effectiveness of its active compound (mesotrione) has certainly been confirmed. Max. accepted dose was changed due to assessment made by Ecotox section.</p>
-------------------	--

### 3.2.2 Minimum effective dose tests (KCP 6.2)

A total of 18 trials investigating the minimum effective dose and the effectiveness of JUZAN EXTRA 100 SC against annual broadleaf and grass weeds were implemented in maize in 2016 (5 trials) and 2019 (13 trials).

Trials were located in the North-Eastern EPPO zone in Poland (6 trials), in the Maritime EPPO zone in Germany (2 trials) and Czech Republic (3 trials), and in the South-Eastern EPPO zone in Hungary (2 trials), in Romania (4 trials) and in Slovakia (1 trial).

Across these 18 trials, JUZAN EXTRA 100 SC was applied at a single timing made post-emergence of the crop.

A summary of mean percentage efficacy against weeds in maize at three assessment timings: 7-16 DAA, 24-35 DAA and 40-142 DAA across these 18 trials is given in Table 3.2.2-1 – Table 3.2.2-3 (#Grey data are justified as minimum effective dose rate at which efficacy JUZAN EXTRA 100 SC reached  $\geq 85\%$  (if not reached, the highest rate was chosen)).

Individual data from all assessment timings on each trial are included in Section 3.2.3 Efficacy tests and in the individual trial reports.

Data are only summarized in this dossier where mean populations or densities of individual broad-leaved and grass weed species in the untreated control were  $\geq 4$  weeds per  $m^2$  or  $\geq 1\%$  ground cover (GC) at the time of application and at assessment timing.

Data for individual weed species are grouped per EPPO Zone. Additionally special grouping for neighbouring countries (Poland, Germany, Czech Republic and Slovakia) and all EPPO zones summarized together in order to overall conclusions are presented.

#### 3.2.2.1 Materials and methods

The materials and methods used in the efficacy trials from which data are summarized to justify minimum effective dose for control of weeds in maize are given in Section 3.2.3.

#### 3.2.2.2 Summary and evaluation of trial results

##### North-east climatic zone

##### 1<sup>st</sup> assessment timing – 7-16 DAA

Against 2 weed species (STEME – based on at least 2 trial results, SOLNI based on 1 trial), JUZAN EXTRA 100 SC applied at the rate of **0,75 L/ha** (75 g.a.s./ha) gave an overall superior control than 0,6 L/ha with a mean above 85% and generally comparable to those achieved by the higher rates of 0,8-1,5 L/ha in terms of giving good levels of weed control.

Against 2 weed species (CHEAL – based on at least 2 trial results, ANGAR based on 1 trial), JUZAN EXTRA 100 SC applied at the rate of **0,8 L/ha** (80 g.a.s./ha) gave an overall superior control than 0,6-0,75 L/ha with a mean above 85% and generally comparable to those achieved by the higher rates of 1,0-1,5 L/ha in terms of giving good levels of weed control.

Against 2 weed species (LAMPU – based on at least 2 trial results, CIRAR based on 1 trial), JUZAN EXTRA 100 SC applied at the rate of **1,0 L/ha** gave an overall superior control with a mean above 85% compared to that given by the lower rate of 0,6-0,8L/ and generally comparable to those achieved by the higher rates of 1,5 L/ha in terms of giving good levels of weed control.

Against 4 weed species (GALAP, POLAV, POLCO, VIOAR), JUZAN EXTRA 100 SC applied at the rate of **1,5 L/ha** gave an overall superior control with a mean above 85% compared to that given by the lower rates of 0,6-1,0 L/ha .

#### 2<sup>nd</sup> assessment timing – 24-35 DAA

Against 5 weed species (CHEAL, GASPA, LAMPU, SOLNI, STEME), JUZAN EXTRA 100 SC applied at the rate of **0,75 L/ha** (75 g.a.s./ha) gave an overall superior control than 0,6 L/ha with a mean above 85% (at 24-35 DAA) from at least 2 trials and generally comparable to those achieved by the higher rates of 0,8-1,5 L/ha in terms of giving good levels of weed control.

Against 1 weed specie ANGAR, JUZAN EXTRA 100 SC applied at the rate of **0,8 L/ha** (80 g.a.s./ha) gave an overall control 100% (at 24-35 DAA) at one trial, similarly as those achieved by the higher rates of 1,0-1,5 L/ha in terms of giving good levels of weed control.

Against 4 weed species (AMARE, VIOAR – based on more than 2 trial results, CIRAR, MATCH based on 1 trial) , JUZAN EXTRA 100 SC applied at the rate of **1,0 L/ha** gave an overall superior control with a mean above 85% (at 24-35 DAA) compared to that given by the lower rate of 0,6-0,8L/ and generally comparable to those achieved by the higher rates of 1,5 L/ha in terms of giving good levels of weed control.

Against 4 weed species (ECHCG, GALAP, POLAV, POLCO), JUZAN EXTRA 100 SC applied at the rate of **1,5 L/ha** gave an overall superior control with a mean above 85% (at 24-35 DAA) from at least 2 trials compared to that given by the lower rates of 0,6-1,0 L/ha.

#### 3<sup>rd</sup> assessment timing – 40-142 DAA

Against 1 weed specie (CHEAL), JUZAN EXTRA 100 SC applied at the rate of **0,75 L/ha** (75 g.a.s./ha) gave an overall superior control than 0,6 L/ha with a mean above 85% and generally comparable to those achieved by the higher rates of 0,8-1,5 L/ha in terms of giving good levels of weed control.

Against 5 weed species (GALAP, VIOAR – based on at least 2 trial results, ANGAR, LAMPU, SOLNI based on 1 trial), JUZAN EXTRA 100 SC applied at the rate of **0,8 L/ha** (80 g.a.s./ha) gave an overall superior control than 0,6-0,75 L/ha with a mean above 85% and generally comparable to those achieved by the higher rates of 1,0-1,5 L/ha in terms of giving good levels of weed control.

Against 4 weed species (AMARE – based on at least 2 trial results, GASPA, MATCH, POLAV based on 1 trial) , JUZAN EXTRA 100 SC applied at the rate of **1,0 L/ha** gave an overall superior control with a mean above 85% compared to that given by the lower rate of 0,6-0,8L/ and generally comparable to those achieved by the higher rates of 1,5 L/ha in terms of giving good levels of weed control.

Against 2 weed species (ECHCG – based on at least 2 trial results, POLCO based on 1 trial), JUZAN EXTRA 100 SC applied at the rate of **1,5 L/ha** gave an overall superior control with a mean above 85% compared to that given by the lower rates of 0,6-1,0 L/ha .

### **Maritime climatic zone**

#### 1<sup>st</sup> assessment timing – 7-16 DAA

Against 3 weed species (CHEAL based on more than 2 trials, BRSNN, VIOAR – based on one trial), JUZAN EXTRA 100 SC applied at the rate of **0,6 L/ha** (60 g.a.s./ha) gave an overall control with a mean above 85% (at 24-35 DAA) and generally comparable to those achieved by the higher rates of 0,75-1,5 L/ha in terms of giving good levels of weed control.

Against 2 weed specie (CHEPO, POLLA based on 1 trial), JUZAN EXTRA 100 SC applied at the rate of **0,8 L/ha** (80 g.a.s./ha) gave an overall superior control than 0,6-0,75 L/ha with a mean above 85% and generally comparable to those achieved by the higher rates of 1,0-1,5 L/ha in terms of giving good levels of weed control.

Against 1 weed specie (LAMPU), JUZAN EXTRA 100 SC applied at the rate of **1,0 L/ha** gave an overall superior control with a mean above 85% compared to that given by the lower rate of 0,6-0,8L/ and

generally comparable to those achieved by the higher rates of 1,5 L/ha in terms of giving good levels of weed control.

Against 4 weed species (ECHCG, MATCH, MATIN, POLCO), JUZAN EXTRA 100 SC applied at the rate of **1,5 L/ha** gave an overall superior control with a mean above 85% compared to that given by the lower rates of 0,6-1,0 L/ha.

#### 2<sup>nd</sup> assessment timing – 24-35 DAA

Against 4 weed species (CHEAL based on more than 2 trials, BRSNN, LAMPU, VIOAR – based on one trial), JUZAN EXTRA 100 SC applied at the rate of **0,6 L/ha** (60 g.a.s./ha) gave an overall control with a mean above 85% and generally comparable to those achieved by the higher rates of 0,75-1,5 L/ha in terms of giving good levels of weed control.

Against 2 weed species (CHEPO, POLLA – based on 1 trial), JUZAN EXTRA 100 SC applied at the rate of **0,8 L/ha** (80 g.a.s./ha) gave an overall control with a mean above 85% and generally comparable to those achieved by the higher rates of 1,01,5 L/ha in terms of giving good levels of weed control.

Against 4 weed species (MATCH, POLCO) JUZAN EXTRA 100 SC applied at the rate of **1,5 L/ha** gave an overall superior control with a mean above 85% (at 24-35 DAA) compared to that given by the lower rates of 0,6-1,0 L/ha.

#### 3<sup>rd</sup> assessment timing – 40-142 DAA

Against 4 weed species (CHEAL based on more than 2 trials, BRSNN, LAMPU, VIOAR – based on one trial), JUZAN EXTRA 100 SC applied at the rate of **0,6 L/ha** (60 g.a.s./ha) gave an overall control with a mean above 85% (at 24-35 DAA) and generally comparable to those achieved by the higher rates of 0,75-1,5 L/ha in terms of giving good levels of weed control.

Against 2 weed specie (CHEPO, POLLA based on 1 trial), JUZAN EXTRA 100 SC applied at the rate of **0,8 L/ha** (80 g.a.s./ha) gave an overall superior control than 0,6-0,75 L/ha with a mean above 85% and generally comparable to those achieved by the higher rates of 1,0-1,5 L/ha in terms of giving good levels of weed control.

Against 1 weed specie (LAMPU), JUZAN EXTRA 100 SC applied at the rate of **1,0 L/ha** gave an overall superior control with a mean above 85% compared to that given by the lower rate of 0,6-0,8L/ and generally comparable to those achieved by the higher rates of 1,5 L/ha in terms of giving good levels of weed control.

Against 1 weed specie (MATIN), JUZAN EXTRA 100 SC applied at the rate of **1,5 L/ha** gave an overall superior control with a mean above 85% compared to that given by the lower rates of 0,6-1,0 L/ha.

### **South-east climatic zone**

#### 1<sup>st</sup> assessment timing – 7-16 DAA

Against 3 weed species (ABUTH, AMABL, SOLNI – based on one trial), JUZAN EXTRA 100 SC applied at the rate of **0,6 L/ha** (60 g.a.s./ha) gave an overall control with a mean above 85% and generally comparable to those achieved by the higher rates of 0,75-1,5 L/ha in terms of giving good levels of weed control.

Against 2 weed species (AMARE based on at least 2 trials, AMBEL – based on one trial), JUZAN EXTRA 100 SC applied at the rate of **0,75 L/ha** (75 g.a.s./ha) gave an overall superior control than 0,6 L/ha with a mean above 85% and generally comparable to those achieved by the higher rates of 0,8-1,5 L/ha in terms of giving good levels of weed control.

Against 4 weed species (CHEAL – based on at least 2 trials, DATST– based on 1 trial), JUZAN EXTRA 100 SC applied at the rate of **0,8 L/ha** (80 g.a.s./ha) gave an overall control above 85% and generally comparable to those achieved by the higher rates of 1,0-1,5 L/ha in terms of giving good levels of weed control.

Against 4 weed species (POLPE – based on more than 2 trial results, PANMI, POLAM, XANST based on 1 trial) , JUZAN EXTRA 100 SC applied at the rate of **1,0 L/ha** gave an overall superior control with a mean above 85% compared to that given by the lower rate of 0,6-0,8L/ha and generally comparable to those achieved by the higher rates of 1,5 L/ha in terms of giving good levels of weed control.

#### 2<sup>nd</sup> assessment timing – 24-35 DAA

Against 2 weed species (ABUTH, AMABL, SOLNI – based on one trial), JUZAN EXTRA 100 SC applied at the rate of **0,6 L/ha** (60 g.a.s./ha) gave an overall control with a mean above 85% (at 24-35 DAA) and generally comparable to those achieved by the higher rates of 0,75-1,5 L/ha in terms of giving good levels of weed control.

Against 2 weed species (AMARE based on at least 2 trials, POLAM – based on one trial), JUZAN EXTRA 100 SC applied at the rate of **0,75 L/ha** (75 g.a.s./ha) gave an overall superior control than 0,6 L/ha with a mean above 85% (at 24-35 DAA) and generally comparable to those achieved by the higher rates of 0,8-1,5 L/ha in terms of giving good levels of weed control.

Against 4 weed species (CHEAL – based on at least 2 trials, AMBEL, DATST, PANMI – based on 1 trial), JUZAN EXTRA 100 SC applied at the rate of **0,8 L/ha** (80 g.a.s./ha) gave an overall control above 85% (at 24-35 DAA), and generally comparable to those achieved by the higher rates of 1,0-1,5 L/ha in terms of giving good levels of weed control.

Against 2 weed species (POLPE – based on more than 2 trial results, XANST based on 1 trial) , JUZAN EXTRA 100 SC applied at the rate of **1,0 L/ha** gave an overall superior control with a mean above 85% (at 24-35 DAA) compared to that given by the lower rate of 0,6-0,8L/ha and generally comparable to those achieved by the higher rates of 1,5 L/ha in terms of giving good levels of weed control.

#### 3<sup>rd</sup> assessment timing – 40-142 DAA

Against 1 weed species (ABUTH – based on one trial), JUZAN EXTRA 100 SC applied at the rate of **0,6 L/ha** (60 g.a.s./ha) gave an overall control with a mean above 85% and generally comparable to those achieved by the higher rates of 0,75-1,5 L/ha in terms of giving good levels of weed control.

Against 1 weed species (POLAM – based on one trial), JUZAN EXTRA 100 SC applied at the rate of **0,75 L/ha** (75 g.a.s./ha) gave an overall superior control than 0,6 L/ha with a mean above 85% and generally comparable to those achieved by the higher rates of 0,8-1,5 L/ha in terms of giving good levels of weed control.

Against 5 weed species (CHEAL – based on at least 2 trials, AMBEL, DATST, PANMI, SOLNI – based on 1 trial), JUZAN EXTRA 100 SC applied at the rate of **0,8 L/ha** (80 g.a.s./ha) gave an overall control above 85% and generally comparable to those achieved by the higher rates of 1,0-1,5 L/ha in terms of giving good levels of weed control.

Against 3 weed species (AMARE, POLPE – based on more than 2 trial results, XANST based on 1 trial) , JUZAN EXTRA 100 SC applied at the rate of **1,0 L/ha** gave an overall superior control with a mean above 85% compared to that given by the lower rate of 0,6-0,8L/ha and generally comparable to those achieved by the higher rates of 1,5 L/ha in terms of giving good levels of weed control.

### **Special grouping neighbouring countries**

#### 1<sup>st</sup> assessment timing – 7-16 DAA

Against 1 weed specie (BRNN – based on one trial), JUZAN EXTRA 100 SC applied at the rate of **0,6 L/ha** (60 g.a.s./ha) gave an overall control with a mean above 85% and generally comparable to those achieved by the higher rates of 0,75-1,5 L/ha in terms of giving good levels of weed control.

Against 2 weed species (STEME – based on at least 2 trial results, SOLNI based on 1 trial), JUZAN EXTRA 100 SC applied at the rate of **0,75 L/ha** (75 g.a.s./ha) gave an overall superior control than 0,6 L/ha with a mean above 85% and generally comparable to those achieved by the higher rates of 0,8-1,5 L/ha in terms of giving good levels of weed control.

Against 5 weed species (CHEAL, LAMPU – based on at least 2 trial results, ANGAR, CHEPO, POLLA based on 1 trial), JUZAN EXTRA 100 SC applied at the rate of **0,8 L/ha** (80 g.a.s./ha) gave an overall superior control than 0,6-0,75 L/ha with a mean above 85% and generally comparable to those achieved by the higher rates of 1,0-1,5 L/ha in terms of giving good levels of weed control.

Against 1 weed specie (CIRAR based on 1 trial) , JUZAN EXTRA 100 SC applied at the rate of **1,0 L/ha** gave an overall superior control with a mean above 85% compared to that given by the lower rate of 0,6-0,8L/ and generally comparable to those achieved by the higher rates of 1,5 L/ha in terms of giving good levels of weed control.

Against 5 weed species (GALAP, MATIN, POLAV, POLCO, VIOAR), JUZAN EXTRA 100 SC applied at the rate of **1,5 L/ha** gave an overall superior control with a mean above 85% compared to that given by the lower rates of 0,6-1,0 L/ha.

#### 2<sup>nd</sup> assessment timing – 24-35 DAA

Against 2 weed species (ABUTH, AMABL – based on one trial), JUZAN EXTRA 100 SC applied at the rate of **0,6 L/ha** (60 g.a.s./ha) gave an overall control with a mean above 85% (at 24-35 DAA) and generally comparable to those achieved by the higher rates of 0,75-1,5 L/ha in terms of giving good levels of weed control.

Against 6 weed species (CHEAL, GASPA, LAMPU, SOLNI, STEME – based on at least 2 trials, POLAM– based on 1 trial), JUZAN EXTRA 100 SC applied at the rate of **0,75 L/ha** (75 g.a.s./ha) gave an overall superior control than 0,6 L/ha with a mean above 85% (at 24-35 DAA) and generally comparable to those achieved by the higher rates of 0,8-1,5 L/ha in terms of giving good levels of weed control.

Against 4 weed species (AMBEL, ANGAR – based on at least 2 trials, CHEPO, DATST– based on 1 trial), JUZAN EXTRA 100 SC applied at the rate of **0,8 L/ha** (80 g.a.s./ha) gave an overall control above 85%, and generally comparable to those achieved by the higher rates of 1,0-1,5 L/ha in terms of giving good levels of weed control.

Against 4 weed specie (AMARE, VIOAR – based on at least 2 trials, CIRAR, XANST based on 1 trial),, JUZAN EXTRA 100 SC applied at the rate of **1,0 L/ha** gave an overall superior control with a mean above 85% compared to that given by the lower rate of 0,6-0,8L/ha and generally comparable to those achieved by the higher rates of 1,5 L/ha in terms of giving good levels of weed control.

Against 7 weed species (ECHCG, GALAP, HIBTR, MATCH, MATIN, POLAV, POLCO – based on at least 2 trials), JUZAN EXTRA 100 SC applied at the rate of **1,5 L/ha** gave an overall superior control with a mean above 85% compared to that given by the lower rates of 0,6-1,0 L/ha.

#### 3<sup>rd</sup> assessment timing – 40-142 DAA

Against 3 weed species (CHEAL – based on at least 2 trial results, BRSNN, LAMPU – based on one trial), JUZAN EXTRA 100 SC applied at the rate of **0,6 L/ha** (60 g.a.s./ha) gave an overall control with a mean above 85% and generally comparable to those achieved by the higher rates of 0,75-1,5 L/ha in terms of giving good levels of weed control.

Against 1 weed specie (VIOAR), JUZAN EXTRA 100 SC applied at the rate of **0,75 L/ha** (75 g.a.s./ha) gave an overall superior control than 0,6 L/ha with a mean above 85% and generally comparable to those achieved by the higher rates of 0,8-1,5 L/ha in terms of giving good levels of weed control.

Against 5 weed species (GALAP,– based on at least 2 trial results, ANGAR, CHEPO, POLLA, SOLNI based on 1 trial), JUZAN EXTRA 100 SC applied at the rate of **0,8 L/ha** (80 g.a.s./ha) gave an overall superior control than 0,6-0,75 L/ha with a mean above 85% and generally comparable to those achieved by the higher rates of 1,0-1,5 L/ha in terms of giving good levels of weed control.

Against 1 weed specie (POLAV) , JUZAN EXTRA 100 SC applied at the rate of **1,0 L/ha** gave an overall superior control with a mean above 85% compared to that given by the lower rate of 0,6-0,8L/ and generally comparable to those achieved by the higher rates of 1,5 L/ha in terms of giving good levels of weed control.



Against 5 weed species (AMARE, ECHCG, MATCH, MATIN, POLCO), JUZAN EXTRA 100 SC applied at the rate of **1,5 L/ha** gave an overall superior control with a mean above 85% compared to that given by the lower rates of 0,6-1,0 L/ha .

### **ALL EPPO Zones**

#### 1<sup>st</sup> assessment timing – 7-16 DAA

Against 3 weed species (ABUTH, AMABL, BRSNN – based on one trial), JUZAN EXTRA 100 SC applied at the rate of **0,6 L/ha** (60 g.a.s./ha) gave an overall control with a mean above 85% and generally comparable to those achieved by the higher rates of 0,75-1,5 L/ha in terms of giving good levels of weed control.

Against 3 weed species (SOLNI, STEME – based on at least 2 trial results, AMBEL based on 1 trial), JUZAN EXTRA 100 SC applied at the rate of **0,75 L/ha** (75 g.a.s./ha) gave an overall superior control than 0,6 L/ha with a mean above 85% and generally comparable to those achieved by the higher rates of 0,8-1,5 L/ha in terms of giving good levels of weed control.

Against 6 weed species (CHEAL, LAMPU – based on at least 2 trial results, ANGAR, CHEPO, DATST, POLLA based on 1 trial), JUZAN EXTRA 100 SC applied at the rate of **0,8 L/ha** (80 g.a.s./ha) gave an overall superior control than 0,6-0,75 L/ha with a mean above 85% and generally comparable to those achieved by the higher rates of 1,0-1,5 L/ha in terms of giving good levels of weed control.

Against 3 weed species (POLPE – based on at least 2 trial results, CIRAR, PANMI based on 1 trial) , JUZAN EXTRA 100 SC applied at the rate of **1,0 L/ha** gave an overall superior control with a mean above 85% compared to that given by the lower rate of 0,6-0,8L/ and generally comparable to those achieved by the higher rates of 1,5 L/ha in terms of giving good levels of weed control.

Against 6 weed species (AMARE, GALAP, MATIN, POLAV, POLCO, VIOAR), JUZAN EXTRA 100 SC applied at the rate of **1,5 L/ha** gave an overall superior control with a mean above 85% compared to that given by the lower rates of 0,6-1,0 L/ha .

#### 2<sup>nd</sup> assessment timing – 24-35 DAA

Against 4 weed species (CHEAL, , LAMPU, STEME – based on at least 2 trials, SOLNI – based on 1 trial), JUZAN EXTRA 100 SC applied at the rate of **0,75 L/ha** (75 g.a.s./ha) gave an overall superior control than 0,6 L/ha with a mean above 85% (at 24-35 DAA) and generally comparable to those achieved by the higher rates of 0,8-1,5 L/ha in terms of giving good levels of weed control.

Against 1 weed specie VIOAR – based on more than 2 trials, JUZAN EXTRA 100 SC applied at the rate of **1,0 L/ha** gave an overall superior control with a mean above 85% (at 24-35 DAA) compared to that given by the lower rate of 0,6-0,8L/ha and generally comparable to those achieved by the higher rates of 1,5 L/ha in terms of giving good levels of weed control.

Against 6 weed species (AMARE, ECHCG, MATCH, MATIN, POLAV, POLCO), JUZAN EXTRA 100 SC applied at the rate of **1,5 L/ha** gave an overall superior control with a mean above 85% (at 24-35 DAA) from at least 2 trials compared to that given by the lower rates of 0,6-1,0 L/ha.

#### 3<sup>rd</sup> assessment timing – 40-142 DAA

Against 3 weed species (SOLNI– based on at least 2 trial results, ABUTH, AMABL, LAMPU – based on one trial), JUZAN EXTRA 100 SC applied at the rate of **0,6 L/ha** (60 g.a.s./ha) gave an overall control with a mean above 85% and generally comparable to those achieved by the higher rates of 0,75-1,5 L/ha in terms of giving good levels of weed control.

Against 2 weed species (CHEAL, VIOAR – based on at least 2 trial results), JUZAN EXTRA 100 SC applied at the rate of **0,75 L/ha** (75 g.a.s./ha) gave an overall superior control than 0,6 L/ha with a mean above 85% and generally comparable to those achieved by the higher rates of 0,8-1,5 L/ha in terms of giving good levels of weed control.

Against 7 weed species (GALAP – based on at least 2 trial results, AMBEL, ANGAR, CHEPO, DATST, PANMI, POLLA based on 1 trial), JUZAN EXTRA 100 SC applied at the rate of **0,8 L/ha** (80 g.a.s./ha) gave an overall superior control than 0,6-0,75 L/ha with a mean above 85% and generally comparable to those achieved by the higher rates of 1,0-1,5 L/ha in terms of giving good levels of weed control.

Against 3 weed species (AMARE, POLAV – based on at least 2 trial results, GASPA, XANST based on 1 trial) , JUZAN EXTRA 100 SC applied at the rate of **1,0 L/ha** gave an overall superior control with a mean above 85% compared to that given by the lower rate of 0,6-0,8L/ and generally comparable to those achieved by the higher rates of 1,5 L/ha in terms of giving good levels of weed control.

Against 6 weed species (ECHCG, MATCH MATIN, POLAV, POLCO, POLPE), JUZAN EXTRA 100 SC applied at the rate of **1,5 L/ha** gave an overall superior control with a mean above 85% compared to that given by the lower rates of 0,6-1,0 L/ha .

**Table 3.2.2-1: Dose justification; minimum effective dose of JUZAN EXTRA 100 SC at assessment 7-16 DAA applied at a range of rates against weeds in maize**

Target weed	Grouping	% control														
		JUZAN EXTRA 100 SC 0,6 L/ha			JUZAN EXTRA 100 SC 0,75L/ha			JUZAN EXTRA 100 SC 0,8 L/ha			JUZAN EXTRA 100 SC 1,0 L/ha			JUZAN EXTRA 100 SC 1,5 L/ha		
		No of trials	Mean	Min & Max	No of trials	Mean	Min & Max	No of trials	Mean	Min & Max	No of trials	Mean	Min & Max	No of trials	Mean	Min & Max
ABUTH	SE zone	1	86,3	-	1	97,5	-	-	-	-	1	100	-	1	100	-
AGREE	NE zone	-	-	-	-	-	-	1	36,25	-	1	43,75	-	1	52,5	-
AMABL	SE zone	1	89,3	-	1	90,0	-	-	-	-	1	96,5	-	1	100	-
AMARE	NE zone	1	35,0	-	1	41,25	-	1	100	-	2	74,38	48,75-100	2	76,25	52,5-100
	MAR zone	1	52,5	-	1	53,8	-	-	-	-	1	56,3	-	1	56,3	-
	SE zone	4	80,4	77,5-85,0	4	85,4	83,0-89,5	-	-	-	4	91,85	87,0-99,8	4	98,38	97,0-100
	Special grouping neighbouring countries	2	43,75	35,0-52,5	2	47,53	41,25-53,8	1	100	-	3	68,35	48,75-100	3	69,6	52,5-100
	ALL zones	6	68,18	35,0-85,0	6	72,78	41,25-89,5	1	100	-	7	81,78	48,75-100	7	86,04	52,5-100
AMBEL	SE zone	1	80,0	-	1	88,0	-	1	90,0	-	2	91,75	90,0-93,5	2	93,5	927-94,3
ANGAR	NE zone	-	-	-	-	-	-	1	100	-	1	100	-	1	100	-
AVEFA	MAR zone	1	33,8	-	1	43,8	-	-	-	-	1	56,3	-	1	71,3	-
BRSNN	MAR zone	1	100,0	-	1	100	-	-	-	-	1	100	-	1	100	-
CHEAL	NE zone	4	64,38	32,5-78,75	4	73,31	38,75-91,25	2	98,38	96,75-100	6	83,15	43,75-100	6	88,75	48,75-100
	MAR zone	4	95,13	87,5-100	4	95,75	87,5-100	1	90,0	-	5	97,41	90,0-100	5	97,95	90,0-100
	SE zone	4	74,98	73,3-76,3	4	82,33	80,5-86,3	2	88,75	85,0-92,5	6	91,63	87,3-100	6	97,43	94,8-100
	Special grouping neighbouring countries	8	79,75	32,5-100	8	84,53	38,75-100	3	95,58	90,0-100	11	91,17	43,75-100	11	92,93	48,75-100
	ALL zones	12	78,16	32,5-100	12	83,8	38,75-100	5	92,85	85,0-100	17	91,33	43,75-100	17	94,52	48,75-100
CHEPO	MAR zone	-	-	-	-	-	-	1	87,61	-	1	96,83	-	1	99,75	-
CIRAR	NE zone	1	73,75	-	1	81,5	-	-	-	-	1	85,00	-	1	90,5	-
DATST	SE zone	-	-	-	-	-	-	1	85,0	-	1	85,0	-	1	90,0	-
ECHCG	NE zone	4	53,75	22,5-67,5	4	61,88	27,5-77,5	2	65,21	62,5-67,92	6	70,53	32,5-87,5	6	81,36	43,75-100
	MAR zone	2	59,4	55,0-63,8	2	68,75	67,5-70,0	1	93,9	-	3	81,42	72,5-99,27	3	86,67	77,5-100

Target weed	Grouping	% control														
		JUZAN EXTRA 100 SC 0,6 L/ha			JUZAN EXTRA 100 SC 0,75L/ha			JUZAN EXTRA 100 SC 0,8 L/ha			JUZAN EXTRA 100 SC 1,0 L/ha			JUZAN EXTRA 100 SC 1,5 L/ha		
		No of trials	Mean	Min & Max	No of trials	Mean	Min & Max	No of trials	Mean	Min & Max	No of trials	Mean	Min & Max	No of trials	Mean	Min & Max
	SE zone	5	54,48	30,0-65,5	5	62,42	32,5-76,8	1	86,25	-	6	75,12	46,3-90,0	6	84,98	70,0-93,3
	Special grouping neighbouring countries	6	55,63	22,5-63,75	6	64,17	27,5-77,5	3	74,77	62,5-93,9	9	74,16	32,5-99,27	10	83,13	43,75-100
	ALL zones	11	55,11	22,5-67,5	11	63,37	27,5-77,5	4	77,64	62,5-93,9	15	74,54	32,5-99,27	15	83,87	43,75-100
GALAP	NE zone	2	61,25	58,75-63,75	2	70,63	70,0-71,25	2	68,7	37,33-100	4	80,02	66,32-100,0	4	86,48	74,65-100,0
GASPA	NE zone	3	58,75	33,75-75,00	3	68,33	41,25-82,5	-	-	-	3	77,08	45,0-100,0	3	79,75	47,5-100,0
HIBTR	SE zone	2	31,9	31,3-32,5	2	40,0	35,0-45,0	2	83,75	82,5-85,0	4	65,95	38,8-92,5	4	68,78	41,3-97,5
LAMPU	NE zone	2	70,0	58,75-81,25	2	77,13	63,75-90,5	1	78,39	-	3	89,14	73,75-99,16	3	92,45	85,0-97,5
	MAR zone	1	21,3	-	1	22,5	-	1	92,7	-	2	92,51	87,5-97,52	2	99,72	99,44-100
	Special grouping neighbouring countries /// ALL zones	3	77,83	58,75-87,5	3	80,58	63,75-90,5	2	85,55	78,39-92,7	5	90,49	73,75-99,16	5	95,36	85,0-100
MATCH	NE zone	1	41,25	-	1	43,75	-	-	-	-	1	45,0	-	1	47,5	-
	MAR zone	1	21,3	-	1	22,5	-	-	-	-	1	25,0	-	1	87,3	-
	Special grouping neighbouring countries /// ALL zones	2	31,28	21,3-41,25	2	33,13	22,5-43,75	-	-	-	2	35,0	25,0-45,0	2	67,4	47,5-87,3
MATIN	MAR zone	1	68,8	-	1	67,5	-	1	83,8	-	2	83,85	73,8-93,9	2	89,93	83,8-96,06
PANMI	SE zone	-	-	-	-	-	-	1	82,5	-	1	87,5	-	1	90,0	-
POLAM	SE zone	1	61,3	-	1	82,5	-	-	-	-	1	89,3	-	1	95,8	-
POLAV	NE zone	2	48,75	38,75-58,75	2	63,13	60,0-66,25	1	78,75	-	3	80,83	75,0-87,5	3	89,17	82,5-95,0
	MAR zone	1	0	-	1	0	-	-	-	-	1	0	-	1	0	-
POLCO	NE zone	2	50,0	42,5-57,5	2	66,88	62,5-71,25	1	63,75	-	3	76,67	71,25-82,5	3	87,92	81,25-100
	MAR zone	3	61,27	10,0-100	3	64,17	15,0-100	-	-	-	3	69,6	30,0-100	3	91,27	83,8-100
	Special grouping neighbouring countries /// ALL zones	5	56,76	10,0-100	5	65,25	15,0-100	1	63,75	-	6	73,13	30,0-100	6	89,59	81,25-100

Target weed	Grouping	% control														
		JUZAN EXTRA 100 SC 0,6 L/ha			JUZAN EXTRA 100 SC 0,75L/ha			JUZAN EXTRA 100 SC 0,8 L/ha			JUZAN EXTRA 100 SC 1,0 L/ha			JUZAN EXTRA 100 SC 1,5 L/ha		
		No of trials	Mean	Min & Max	No of trials	Mean	Min & Max	No of trials	Mean	Min & Max	No of trials	Mean	Min & Max	No of trials	Mean	Min & Max
POLLA	MAR zone	-	-	-	-	-	-	1	96,83	-	1	99,94	-	1	100	-
POLPE	SE zone	3	72,33	67,5-75,0	3	78,0	73,0-81,0	1	85,0	-	4	85,08	79,0-87,8	4	91,7	87,0-96,8
SETVI	SE zone	-	-	-	-	-	-	1	11,25	-	1	18,75	-	1	20,0	-
SOLNI	NE zone	1	72,5	-	1	87,5	-	1	97,5	-	2	99,13	98,25-100	2	100	-
	SE zone	1	100	-	1	100	-	-	-	-	1	100	-	1	100	-
	ALL zones	2	86,25	72,5-100	2	93,75	87,5-100	1	97,5	-	3	99,42	98,25-100	3	100	-
STEME	NE zone	2	73,75	65,0-82,5	2	86,25	72,5-100	-	-	-	2	90,63	81,25-100	2	93,13	86,25-100
VIOAR	NE zone	4	60,31	33,75-75,0	4	68,13	41,25-81,25	2	69,38	52,5-86,25	6	78,54	41,25-100	6	85,0	46,25-100
	MAR zone	1	100	-	1	100	-	-	-	-	1	100	-	1	100	-
	Special grouping neighbouring countries /// ALL zones	5	68,25	33,75-100	5	74,5	41,25-100	2	69,38	52,5-86,25	7	81,61	41,25-100	7	87,14	46,25-100
XANST	SE zone	1	33,8	-	1	73,8	-	-	-	-	1	86,3	-	1	94,3	-

**Table 3.2.2-2: Dose justification; minimum effective dose of JUZAN EXTRA 100 SC at assessment 24-35 DAA applied at a range of rates against weeds in maize**

Target weed	Grouping	% control														
		JUZAN EXTRA 100 SC 0,6 L/ha			JUZAN EXTRA 100 SC 0,75L/ha			JUZAN EXTRA 100 SC 0,8 L/ha			JUZAN EXTRA 100 SC 1,0 L/ha			JUZAN EXTRA 100 SC 1,5 L/ha		
		No of trials	Mean	Min & Max	No of trials	Mean	Min & Max	No of trials	Mean	Min & Max	No of trials	Mean	Min & Max	No of trials	Mean	Min & Max
ABUTH	SE zone	1	85,0	-	1	96,3	-	-	-	-	1	100	-	1	100	-
AGREE	NE zone	-	-	-	-	-	-	1	42,5	-	1	47,5	-	1	56,25	-
AMABL	SE zone	1	91,0	-	1	92,8	-	-	-	-	1	97,0	-	1	100	-
AMARE	NE zone	1	61,25	-	1	77,5	-	1	100	-	2	91,88	83,75-100	2	94,38	88,75-100
	MAR zone	1	56,3	-	1	58,8	-	-	-	-	1	61,3	-	1	67,5	-
	SE zone	4	80,2	79,5-81,3	4	85,48	83,8-88,3	-	-	-	4	91,78	87,8-99,0	4	98,88	98,5-100
	Special grouping neighbouring countries	2	58,78	56,3-61,25	2	68,15	58,8-77,5	1	100	-	3	81,68	61,3-100	3	85,42	67,5-100
	ALL zones	6	73,06	56,3-81,3	6	73,06	58,8-88,3	1	100	-	7	87,45	61,3-100	7	91,11	67,5-100
AMBEL	SE zone	1	71,3	-	1	81,3	-	1	91,4	-	2	88,85	85,0-92,7	2	93,0	91,0-95,0
ANGAR	NE zone	-	-	-	-	-	-	1	100	-	1	100	-	1	100	-
AVEFA	MAR zone	1	31,3	-	1	35,0	-	-	-	-	1	48,8	-	1	61,3	-
BRSNN	MAR zone	1	97,0	-	1	100	-	-	-	-	1	100	-	1	100	-
CHEAL	NE zone	4	75,63	62,5-83,75	4	87,81	78,75-95,0	2	100	-	6	94,96	82,5-100	6	96,67	90,0-100
	MAR zone	4	91,4	77,0-97,5	4	98,58	95,0-100	1	95,55	-	5	99,31	98,5-100	5	99,5	97,5-100
	SE zone	4	75,2	73,5-78,5	4	82,65	80,8-85,0	2	88,87	86,33-91,4	6	92,55	87,3-100	6	97,97	94,5-100
	Special grouping neighbouring countries	8	83,51	62,5-97,5	8	93,19	78,75-100	3	98,52	95,55-100	11	96,94	82,5-100	11	97,95	90,0-100
	ALL zones	12	80,74	62,5-97,5	12	89,68	78,75-100	5	94,66	86,33-100	17	95,39	82,5-100	17	97,96	90,0-100
CHEPO	MAR zone	-	-	-	-	-	-	1	93,9	-	1	98,34	-	1	100	-
CIRAR	NE zone	1	65,0	-	1	80,5	-	-	-	-	1	90,75	-	1	96,75	-
DATST	SE zone	-	-	-	-	-	-	1	90,0	-	1	91,25	-	1	95,0	-
ECHCG	NE zone	4	64,06	53,75-71,25	4	73,75	61,25-80,0	2	61,25	57,5-65,0	6	78,96	65,0-91,25	6	90,46	86,25-100

Target weed	Grouping	% control														
		JUZAN EXTRA 100 SC 0,6 L/ha			JUZAN EXTRA 100 SC 0,75L/ha			JUZAN EXTRA 100 SC 0,8 L/ha			JUZAN EXTRA 100 SC 1,0 L/ha			JUZAN EXTRA 100 SC 1,5 L/ha		
		No of trials	Mean	Min & Max	No of trials	Mean	Min & Max	No of trials	Mean	Min & Max	No of trials	Mean	Min & Max	No of trials	Mean	Min & Max
	MAR zone	2	68,8	63,8-73,8	2	76,25	70,0-82,5	1	96,5	-	3	82,02	63,8-99,75	3	84,6	67,5-100
	SE zone	5	49,88	10,0-66,8	5	57,72	10,0-78,5	1	86,25	-	6	73,24	36,3-91,25	6	83,56	60,0-93,75
	Special grouping neighbouring countries	6	65,64	53,75-73,8	6	74,58	61,25-80,0	3	73,0	57,5-96,5	9	79,98	63,8-99,75	9	88,51	67,5-100
	ALL zones	11	58,48	10,0-73,8	11	66,92	10,0-82,5	4	76,31	57,5-96,5	15	77,28	36,3-99,75	15	86,53	60,0-100
GALAP	NE zone	2	60,63	50,0-71,25	2	68,75	60,0-77,5	2	69,89	39,78-100	4	80,5	64,51-100,0	4	85,0	57,74-100,0
GASPA	NE zone	3	71,08	62,5-83,25	3	85,25	80,0-93,25	-	-	-	3	93,92	85,0-100,0	3	95,42	88,75-100,0
HIBTR	SE zone	2	26,25	25,0-27,5	2	33,8	28,8-38,8	2	81,88	80,0-83,75	4	63,76	33,8-91,25	4	68,13	37,5-97,5
LAMPU	NE zone	2	72,88	61,25-84,25	2	88,38	80,0-96,75	1	95,0	-	3	94,58	85,0-100	3	95,17	87,5-100
	MAR zone	1	87,5	-	1	87,5	-	1	96,06	-	2	93,57	87,5-99,63	2	99,97	99,94-100
	Special grouping neighbouring countries /// ALL zones	3	77,75	61,25-87,5	3	88,08	80,0-96,75	2	95,53	95,0-96,06	5	94,18	85,0-100	5	97,09	87,5-100
MATCH	NE zone	1	63,75	-	1	75,0	-	-	-	-	1	88,75	-	1	90,0	-
	MAR zone	1	13,8	-	1	22,5	-	-	-	-	1	35,0	-	1	87,0	-
	Special grouping neighbouring countries /// ALL zones	2	38,78	13,8-63,75	2	48,75	22,5-75,0	-	-	-	2	61,88	35,0-88,75	2	88,5	87,0-90,0
MATIN	MAR zone	1	56,3	-	1	57,7	-	1	88,83	-	2	78,56	60,0-97,11	2	88,92	68,8-99,27
PANMI	SE zone	-	-	-	-	-	-	1	86,25	-	1	91,25	-	1	93,75	-
POLAM	SE zone	1	66,3	-	1	87,5	-	-	-	-	1	92,3	-	1	98,3	-
POLAV	NE zone	2	38,13	30,0-46,25	2	60,0	57,5-62,5	1	80,0	-	3	81,32	68,75-92,7	3	91,55	88,0-96,66
	MAR zone	1	0	-	1	0	-	-	-	-	1	0	-	1	0	-
POLCO	NE zone	2	46,88	33,75-60,0	2	63,75	61,25-66,25	1	70,0	-	3	80,83	76,25-85,0	3	92,08	86,25-100
	MAR zone	3	55,33	10,0-98,5	3	61,67	12,5-100	-	-	-	3	65,0	30,0-100	3	85,43	66,3-100
	Special grouping neighbouring	5	51,95	10,0-98,5	5	62,5	12,5-100	1	70,0	-	6	72,92	30,0-100	6	88,76	66,3-100

Target weed	Grouping	% control														
		JUZAN EXTRA 100 SC 0,6 L/ha			JUZAN EXTRA 100 SC 0,75L/ha			JUZAN EXTRA 100 SC 0,8 L/ha			JUZAN EXTRA 100 SC 1,0 L/ha			JUZAN EXTRA 100 SC 1,5 L/ha		
		No of trials	Mean	Min & Max	No of trials	Mean	Min & Max	No of trials	Mean	Min & Max	No of trials	Mean	Min & Max	No of trials	Mean	Min & Max
	countries /// ALL zones															
POLLA	MAR zone	-	-	-	-	-	-	1	99,0	-	1	100	-	1	100	-
POLPE	SE zone	3	74,17	67,0-79,0	3	79,2	72,0-82,8	1	85,0	-	4	86,03	78,3-89,5	4	92,13	86,0-98,5
SETVI	SE zone	-	-	-	-	-	-	1	6,25	-	1	12,5	-	1	13,75	-
SOLNI	NE zone	1	72,5	-	1	87,5	-	1	100	-	2	100	-	2	100	-
	SE zone	1	100	-	1	100	-	-	-	-	1	100	-	1	100	-
	ALL zones	2	86,25	72,5-100	2	93,75	87,5-100	1	100	-	3	100	-	3	100	-
STEME	NE zone	2	75,63	68,75-82,5	2	92,5	85,0-100	-	-	-	2	93,5	87,0-100	2	95,63	91,25-100
VIOAR	NE zone	4	70,31	63,75-82,5	4	80,44	72,5-88,0	2	76,63	57,5-95,75	6	91,38	78,75-100	6	93,92	86,25-100
	MAR zone	1	95,0	-	1	100	-	-	-	-	1	100	-	1	100	-
	Special grouping neighbouring countries /// ALL zones	5	75,25	63,75-95,0	5	84,35	72,5-100	2	76,63	57,5-95,75	7	92,61	78,75-100	7	94,79	86,25-100
XANST	SE zone	1	22,5	-	1	61,3	-	-	-	-	1	85,0	-	1	93,5	-



**Table 3.2.2-3: Dose justification; minimum effective dose of JUZAN EXTRA 100 SC at assessment 40-142 DAA applied at a range of rates against weeds in maize**

Target weed	Grouping	% control														
		JUZAN EXTRA 100 SC 0,6 L/ha			JUZAN EXTRA 100 SC 0,75L/ha			JUZAN EXTRA 100 SC 0,8 L/ha			JUZAN EXTRA 100 SC 1,0 L/ha			JUZAN EXTRA 100 SC 1,5 L/ha		
		No of trials	Mean	Min & Max	No of trials	Mean	Min & Max	No of trials	Mean	Min & Max	No of trials	Mean	Min & Max	No of trials	Mean	Min & Max
ABUTH	SE zone	1	85,0	-	1	95,8	-	-	-	-	1	100	-	1	100	-
AGREE	NE zone	-	-	-	-	-	-	1	31,25	-	1	38,75	-	1	50,0	-
AMARE	NE zone	1	68,75	-	1	82,5	-	1	100	-	2	93,75	87,5-100	2	95,0	90,0-100
	MAR zone	1	50,0	-	1	56,3	-	-	-	-	1	60,0	-	1	67,5	-
	SE zone	4	78,23	74,3-81,3	4	83,83	80,0-87,5	-	-	-	4	90,08	84,3-99,0	4	96,63	92,5-100
	Special grouping neighbouring countries	2	59,38	50,0-68,75	2	69,4	56,3-82,5	1	100	-	3	82,5	60,0-100	3	85,83	67,5-100
	ALL zones	6	71,94	50,0-81,3	6	79,02	56,3-87,5	1	100	-	7	86,83	60,0-100	7	92,0	67,5-100
AMBEL	SE zone	-	-	-	-	-	-	1	91,4	-	1	92,7	-	1	95,0	-
ANGAR	NE zone	-	-	-	-	-	-	1	100	-	1	100	-	1	100	-
AVEFA	MAR zone	1	26,3	-	1	32,5	-	-	-	-	1	42,5	-	1	55,0	-
BRSNN	MAR zone	1	96,0	-	1	100	-	-	-	-	1	100	-	1	100	-
CHEAL	NE zone	1	66,25	-	1	86,25	-	2	100	-	3	97,08	91,25-100	3	97,5	92,5-100
	MAR zone	4	90,5	82,0-95,0	4	97,33	95,0-100	1	96,83	-	5	98,69	95,0-100	5	100	-
	SE zone	4	73,25	71,0-77,0	4	80,45	76,3-84,5	2	86,29	86,24-86,33	6	91,27	84,8-100	6	97,22	93,8-100
	Special grouping neighbouring countries	5	85,65	66,25-95,0	5	95,11	86,25-100	3	98,94	96,83-100	8	98,09	91,25-100	8	99,06	92,5-100
	ALL zones	9	80,14	66,25-95,0	9	88,59	76,3-100	5	93,88	86,24-100	14	95,16	84,8-100	14	98,27	92,5-100
CHEPO	MAR zone	-	-	-	-	-	-	1	96,06	-	1	99,63	-	1	100	-
DATST	SE zone	-	-	-	-	-	-	1	90,0	-	1	91,25	-	1	95,0	-
ECHCG	NE zone	1	65,0	-	1	75,0	-	2	70,0	60,0-80,0	3	78,33	71,25-85,0	3	88,0	78,75-97,75
	MAR zone	2	65,65	52,5-78,8	2	73,15	62,5-83,8	1	98,0	-	3	80,83	55,0-100	3	84,17	65,0-100
	SE zone	4	48,95	5,0-66,5	4	57,53	5,0-77,5	1	86,25	-	5	74,11	30,0-91,25	5	83,01	52,5-93,75
	Special grouping	3	65,43	52,5-78,8	3	73,77	62,5-83,8	3	79,33	60,0-98,0	6	79,58	55,0-100	6	86,08	65,0-100

Target weed	Grouping	% control														
		JUZAN EXTRA 100 SC 0,6 L/ha			JUZAN EXTRA 100 SC 0,75L/ha			JUZAN EXTRA 100 SC 0,8 L/ha			JUZAN EXTRA 100 SC 1,0 L/ha			JUZAN EXTRA 100 SC 1,5 L/ha		
		No of trials	Mean	Min & Max	No of trials	Mean	Min & Max	No of trials	Mean	Min & Max	No of trials	Mean	Min & Max	No of trials	Mean	Min & Max
	neighbouring countries															
	ALL zones	7	56,01	52,5-78,8	7	64,49	5,0-83,8	4	81,06	60,0-98,0	11	77,1	30,0-100	11	85,55	52,5-100
GALAP	NE zone	-	-	-	-	-	-	2	86,25	72,5-100	2	90,0	80,0-100,0	2	91,25	82,5-100,0
GASPA	NE zone	1	68,75	-	1	82,5	-	-	-	-	1	86,25	-	1	90,0	-
HIBTR	SE zone	1	21,3	-	1	21,3	-	2	81,25	80,0-82,5	3	67,92	85,0-91,25	3	72,52	90,0-96,25
LAMPU	NE zone	-	-	-	-	-	-	1	92,5	-	1	100	-	1	100	-
	MAR zone	1	87,5	-	1	87,5	-	1	97,25	-	2	93,63	87,5-99,75	2	100	-
	Special grouping neighbouring countries /// ALL zones	1	87,5	-	1	87,5	-	2	94,88	92,5-97,25	3	95,75	87,5-100	3	100	-
MATCH	NE zone	1	71,25	-	1	78,75	-	-	-	-	1	88,75	-	1	90,0	-
	MAR zone	1	8,8	-	1	22,5	-	-	-	-	1	27,5	-	1	82,5	-
	Special grouping neighbouring countries /// ALL zones	2	40,03	8,8-71,25	2	50,63	22,5-78,75	-	-	-	2	58,13	27,5-88,75	2	86,25	82,5-90,0
MATIN	MAR zone	1	51,3	-	1	53,8	-	1	90,0	-	2	78,28	58,8-97,75	2	86,4	73,8-99,0
PANMI	SE zone	-	-	-	-	-	-	1	86,25	-	1	91,25	-	1	93,75	-
POLAV	NE zone	-	-	-	-	-	-	1	72,5	-	1	95,0	-	1	98,75	-
	MAR zone	1	0	-	1	0	-	-	-	-	1	0	-	1	0	-
POLCO	NE zone	-	-	-	-	-	-	1	57,5	-	1	78,75	-	1	86,25	-
	MAR zone	3	51,93	10,0-97,0	3	59,17	12,5-100	-	-	-	3	62,93	30,0-100	3	84,6	63,8-100
	Special grouping neighbouring countries /// ALL zones	3	51,93	10,0-97,0	3	59,17	12,5-100	1	57,5	-	4	66,89	30,0-100	4	85,01	63,8-100
POLLA	MAR zone	-	-	-	-	-	-	1	99,5	-	1	100	-	1	100	-
POLPE	SE zone	3	71,0	65,0-75,5	3	75,97	69,8-81,8	1	91,25	-	4	84,78	75,8-95,0	4	90,39	84,0-95,75
SETVI	SE zone	-	-	-	-	-	-	1	0	-	1	7,5	-	1	8,75	-

Target weed	Grouping	% control														
		JUZAN EXTRA 100 SC 0,6 L/ha			JUZAN EXTRA 100 SC 0,75L/ha			JUZAN EXTRA 100 SC 0,8 L/ha			JUZAN EXTRA 100 SC 1,0 L/ha			JUZAN EXTRA 100 SC 1,5 L/ha		
		No of trials	Mean	Min & Max	No of trials	Mean	Min & Max	No of trials	Mean	Min & Max	No of trials	Mean	Min & Max	No of trials	Mean	Min & Max
SOLNI	NE zone	-	-	-	-	-	-	1	100	-	1	100	-	1	100	-
	SE zone	1	100	-	1	100	-	-	-	-	1	100	-	1	100	-
	ALL zones	1	100	-	1	100	-	1	100	-	2	100	-	2	100	-
VIOAR	NE zone	1	70,0	-	1	81,25	-	2	87,84	78,17-97,5	3	94,96	87,5-100	3	93,47	90,0-100
	MAR zone	1	95,0	-	1	100	-	-	-	-	1	100	-	1	100	-
	Special grouping neighbouring countries /// ALL zones	2	82,5	70,0-95,0	2	90,63	81,25-100	2	87,84	78,17-97,5	4	96,22	87,5-100	4	95,11	90,0-100
XANST	SE zone	1	20,0	-	1	52,5	-	-	-	-	1	85,0	-	1	92,5	-

### 3.2.2.3 Overall conclusions – Dose justification for control of weeds in maize

A total of 18 trials carried out in the Maritime, North-East and South-East climatic zones in 2016-2019 generated dose response data against a wide range of weed species in maize. Data are therefore presented from countries across Europe to fully reflect the range of climatic conditions and agronomic practices in Poland - country relevant to this submission and others Central Zone countries considered for solid JUZAN EXTRA 100 SC product performance overview.

Overall conclusions regarding minimum effective dose are presented on Table 3.2.2-4 based on the most representative 2<sup>nd</sup> assessment timing, carried out about one month after application (24-35 DAA), when optimum efficacy results are expected.

**Table 3.2.2-4: Dose justification; mean overall percentage efficacy of JUZAN EXTRA 100 SC at assessment 24-35 DAA applied at a range of rates against weeds in maize**

EPPO Zone	0,6 L/ha (60 g ai/ha)	0,75 L/ha (75 g ai/ha)	0,8 L/ha (80 g ai/ha)	1.0 L/ha (100 g ai/ha)	1.5 L/ha (150 g ai/ha)
NE Zone		CHEAL, GASPA, LAMP, SOLNI, STEME	ANGAR*	AMARE, CI- RAR*, MATCH*, VIOAR	ECHCG, GALAP, POLAV, POLCO
MAR Zone	BRSNN*, CHEAL, LAM- PU*, VIOAR*		CHEPO*, POL- LA*, SOLNI		ECHCG, MATCH*, MATIN, POLAV*, POLCO
SE Zone	ABUTH*, AM- ABL*, SOLNI*	AMARE, POLAM*	AMBEL*, CHEAL, DATST*, PAN- MI*	POLPE, XANST*	ECHCG, HIBTR, SETVI*
Special group- ing neighbour- ing contries		CHEAL, LAMP, SOLNI*, STEME		VIOAR	AMARE, ECHCG, MATCH, MATIN, POLAV, POLCO
ALL Zones	ABUTH*, AM- ABL	CHEAL, GASPA, LAMP, POLAM*, SOLNI, STEME	AMBEL, AN- GAR, CHEPO*, DATST*, PAN- MI*, POLLA*	AMARE, CI- RAR*, VIOAR, XANST*	ECHCG, GALAP, HIBTR, MATCH, MATIN, POLAV, POLCO,

\*based only on 1 trial

On the basis of the data generated in the trials conducted in Maritime, North-East and South-East climatic zones on the different weeds species, the rate of 1,5 L product/ha provided the optimum overall control and can therefore be considered as the minimum effective dose for general control of broad-leaved and grass weeds in most of situations. In some cases when the conditions are known and more conducive to higher effectiveness of the herbicide (susceptible flora, less advanced weed development and density, favourable weather conditions...) the rate can be lowered down to 0,75 L product/ha. Based on the available data set, it is not recommended to go below 0,75 L product/ha.

**A range of 0,75-1,5 L product/ha can therefore be claimed for control of weeds by JUZAN EXTRA 100 SC in maize.**

Comments of zRMS:	Statement accepted. To provide information to establish the minimum effective dose, some of the trials conducted to demonstrate efficacy should include at least one lower dose(s) (for example 60–80% of the recommended dose) to that which would be recommended. It is utilized to achieve the desired effect.  During field tests Applicant used different doses of herbicide – Juzan Extra 100
-------------------	---

	<p>SC (product code: M-100SC-OR2-C). So, in the appropriate research of efficacy were tested differ doses and to register was chosen the lowest effective, which is in accordance with EPPO 1/225 (2).</p> <p>Efficacy was tested under a range of environmental conditions to fully challenge the product. Applicant submitted in total 18 trials carried out on maize: 5 trials Maritime EPPO zone (DE-2, CZ-3); 6 trials N-E (PL) and 7 trials S-E (SK-1, RO-4, HU-2). During trials different doses were studied: 0.6 L/ha; 0.75 L/ha; 0.8 L/ha; 1.0 L/ha and 1.5 L/ha.</p> <p>MED results were presented in chapter of MED tests in tables: Table 3.2.2-2; Table 3.2.2-3 and Table 3.2.2-4.</p> <p><b>Based on results achieved on weeds in maize trials, it can be concluded that to consistently control frequently occurring weeds in maize, Juzan Extra 100 SC should be applied early post-emergence (BBCH 12-18) at dose 0.75 – 1.0 L/ha. Higher dose (1.0 L/ha) should be used at higher level of infestation or in the case of worst weather or habitat conditions (ex. susceptible flora, less advanced weed development and density, favourable weather conditions). Max. accepted dose was changed due to assessment made by Ecotox section. Ecotox accepted max. 100 g.a.s./ha of mesotrione, so only max dose 1.0 L/ha can be accepted by section efficacy as it was studied during field trials.</b></p> <p>Mesotrione is a well-known substance for controlling weevils in corn for years. It is most often found in the company of other compounds (sulfonyleurea and terbutylazine). In 2016, Belchim Crop Protection introduced Temsa SC, a new corn weed control herbicide containing this substance solo. Since then, we already have more than a dozen measures registered in Poland based only on this substance.</p>
--	--

### 3.2.3 Efficacy tests (KCP 6.2)

A total of 18 trials investigating the minimum effective dose and the effectiveness of JUZAN EXTRA 100 SC against annual broadleaf and grass weeds were implemented in maize in 2016 (5 trials) and 2019 (13 trials).

Trials were located in the North-Eastern EPPO zone in Poland (6 trials), in the Maritime EPPO zone in Germany (2 trials) and Czech Republic (3 trials), and in the South-Eastern EPPO zone in Hungary (2 trials), in Romania (4 trials) and in Slovakia (1 trial).

All trials were carried out by officially recognized organisations, in accordance with the Principles of Good Experimental Practices (GEP).

Data are only summarized in this dossier where mean populations or densities of individual weeds in the untreated control reached  $\geq 4$  weeds per  $m^2$  or  $\geq 1\%$  ground cover (GC) following application.

#### Materials and methods

##### Testing facilities

All efficacy trials were carried out by organisations that are officially recognised as competent to carry out efficacy testing in accordance with Regulation (EU) 284/2013 by the authorities in the relevant countries.

Copies of the GEP certificates for all trials organisations are included in Section **Błąd! Nie można odnaleźć źródła odwołania..**

Summaries of trial site and application details for all trials used to demonstrate the efficacy of JUZAN EXTRA 100 SC for the control of annual and perennial broad-leaved and grass weeds in maize are given in BAD in Appendix 2.

### **Sites**

Efficacy trials were implemented in fields sowed with commercial cereal cultivars where those crops are produced commercially, and with a history of infection of the target weeds.

The geographical locations and distribution of all efficacy trials are included in Figure 3.2-1 - Figure 3.2-3 and in BAD in Appendix 2.

### **Agronomic practices**

Agronomic practices in the cultivation of maize are considered to be sufficiently similar across countries within the Central Registration zone for data generated across all trials to be fully supportive of demonstrating the efficacy of JUZAN 100 SC in Poland.

### **Weeds populations**

Populations of annual broad-leaved and grass weeds are considered to be sufficiently similar between EU countries relevant to this submission for the data generated in all trials to be fully representative and supportive of demonstrating the efficacy of JUZAN 100 SC across the all EU Central Registration zone countries for the purpose of submission in Poland.

### **Standard methodologies**

The design, analysis of results, reporting and field work of all efficacy trials were carried out in accordance with the relevant guidelines listed in Table 3.2.3-1.

**Table 3.2.3-1: Guidelines followed in efficacy trials against annual and perennial broad-leaved and grass weeds in maize**

<b>Guideline</b>	<b>Title</b>
EPPO PP1/152 (4)	Design and analysis of efficacy evaluation trials
EPPO PP1/225 (2)	Minimum effective dose
EPPO PP1/50 (3)	Weeds in maize
EPPO PP1/135 (4)	Phytotoxicity assessment
EPPO PP1/181 (4)	Conduct and reporting of efficacy evaluation trials including GEP

### **Experimental design**

In all trials the plots were arranged in a randomised block design with 4 replicates. In all trials, the untreated control was included in the experimental design.

The plot size ranged between trials from 15m<sup>2</sup> to 36m<sup>2</sup>.

In all 24 trials the disease infestation was natural.

### **Treatments**

Products included in all efficacy trials carried out in maize are listed in Table 3.2.3-2.

JUZAN EXTRA 100 SC were tested in all trials under code name M-100SC-OR2-C.

Details and data for additional candidate formulations included in trials, which are not relevant to this application for the approval of JUZAN EXTRA 100 SC, have not been summarised or included in this dossier but are in the individual trial reports.

**Table 3.2.3-2: Products included in efficacy trials against annual broad-leaved and grass weeds in maize**

Product	a.i.(s)	Conc'n of a.i.(s)	Form'n type	Rates included in trials		Countries where included in trials	National label rate		Registration no.
				Product/ha	g a.i./ha		(prod/ha)	g a.i./ha	
Test product									
JUZAN EXTRA 1100 SC	mesotrione	100 g/L	SC	0.6 L, 0.75 L, 0.8 L, 1.0 L, 1.5 L	60,75, 80,100,150	PL, DE, CZ, SK, RO, HU	n/a	n/a	n/a
Standard reference products									
Callisto 100 SC	mesotrione	100 g/L	SC	1,5 L/ha	150	PL	1,0-1,5 L/ha	100-150	R-25/2009
Juzan 100 SC	mesotrione	100 g/L	SC	1,5 L/ha	150	DE	0,75-1,5 L/ha	75-150	R-45/2018
Callisto	mesotrione	100 g/L	SC	1,5 L/ha	150	CZ	1,5 L/ha	150	024660-00
Callisto 100 SC	mesotrione	100 g/L	SC	1,5 L/ha	150	SK	1,2-1,5 L/ha	120-150	4514-0
Temsa SC	mesotrione	100 g/L	SC	1,5 L/ha	150	CZ	1,5 L/ha	150	15-11-1642
Barracuda	mesotrione	100 g/L	SC	1,5 L/ha	150	RO	0,75-1,5 L/ha	75-150	267PC
Callisto 480 SC	mesotrione	480 g/L	SC	0,35 L/ha	168	RO	0,25-0,35 L/ha	120-168	2156
Callisto 4 SC	mesotrione	480 g/L	SC	0,35 L/ha	168	HU	0,25-0,35 L/ha	120-168	6300/67-2/2020

### **Application details**

Applications on all efficacy trials were made using small plot sprayers designed to simulate application using commercial sprayers representative of those used to apply herbicides in maize.

On all trials, a single application of the treatments was made post-emergence of the crop and therefore representative of the proposed label range for the application of JUZAN EXTRA 100 SC.

Across trials, treatments were applied in water volumes within the range of 200-400 l/ha and therefore fully representative and supportive of the proposed 200-400 l/ha range for the application of JUZAN EXTRA 100 SC.

### **Assessments**

Growth stages, populations (by counting the number of individual species in 4 x 0.25 m<sup>2</sup> quadrats) and/or % ground cover of each individual weed species in untreated control plots were recorded at each assessment timing.

Weed control was assessed as visual percentage control relative to the ground cover and vigour of each weed species in the untreated control and/or by estimating the percentage ground cover of individual plots at regular intervals after application.

Phytotoxicity symptoms (general phytotoxic symptoms, chlorosis and necrosis) were assessed on an overall plot basis at regular intervals after application as the mean percentage area of specified plant parts affected by individual symptom.

Differences in crop vigour were assessed on an overall plot basis either using a 0-100 scale where 0 = no crop and 100 = plots with most vigorous crop in each replicate within the trial, or as mean % reduction in comparison to the untreated control at regular intervals after application.

### **Statistics**

Statistical analysis was conducted using the Agriculture Research Manager (ARM) software (Gylling Data Management, Inc.).

For all data, the homogeneity of variance was tested by Bartlett's or Levene's Test. If this test indicated no homogeneity of variance the transformed values were used for analysis of variance. If still no homogeneity of variance was obtained by the transformation, this transformation was cancelled and the statistical analysis should be treated with caution.

Assessment data were then analysed using a two-way analysis of variance (ANOVA) on untransformed and transformed data. The probability of no significant differences occurring between treatment means is calculated as the F probability value (p(F)). Significant differences implied between means where the p(F) value is greater than 0.05 should be interpreted with caution as these are derived at correspondingly lower levels of confidence than the generally accepted 95% confidence limit.

A mean comparison test was only performed when the treatment probability of F that is calculated during analysis of variance was significant at the observed significance level specified for the mean comparison test. The mean separation letter "a" is assigned to each treatment mean in an assessment data column when a non-significant treatment P(F) is detected.

Student Newman-Keuls' multiple comparison test was applied to separate any treatment differences that may be implied by the ANOVA TEST and these are indicated by a letter test; treatment means with no letters in common are significantly different according to the test initiated at the 95% confidence level.

When the tested product was compared to the reference product in the summary tables; for each trial, when P (Bartlett's X<sup>2</sup>) or 'Levene's Prob(F) was below 0.05 statistics were not taken into account in the comparison with the reference product (it was therefore indicated n.a.). The numerical value was kept for the mean calculation.

Further details on the method and timing of application used in individual trials are summarized in individual trial reports.

The main details on trial methodology for efficacy trials are summarized in Table 3.2.3-3.

**Table 3.2.3-3: Details on trial methodology – Efficacy trials**

		North-Eastern EPPO zone	Maritime EPPO zone	South-Eastern EPPO zone
<b>Guidelines</b>	General guidelines	PP 1/135(4) Phytotoxicity assessment PP 1/152(4) Design and analysis of efficacy evaluation trials PP 1/181(4) Conduct and reporting of efficacy evaluation trials including GEP PP 1/225(2) Minimum effective dose		
	Specific guidelines	PP 1/50(3) Weeds in maize		
<b>Experimental design</b>	Plot design	Randomized complete block (UTC included)		
	Plot size	18 – 21 m <sup>2</sup>	15 – 36 m <sup>2</sup>	21 – 30 m <sup>2</sup>
	Number of replications	4 replications in all trials		
<b>Crop</b>	Trials per crop	6 trials	5 trials	7 trials
	Varieties per crop	Beatus, Keltikus, LG 30.189, Silvinio, Touran, Ulan,	Babexx, DKC 3730, Grizzly, Legion, SY Kardona	DKC3939, DKC4490, DKC 5222, GKT 211, GW8001 (Unimeza), LG2244, P9074
	Sowing period	April-May	April-June	April-July
<b>Application</b>	Crop stage (BBCH)* at application	BBCH 12 – BBCH 18	BBCH 12 – BBCH 17	BBCH 13 – BBCH 17



	Timing Pest stage at application (1)	Depending on the weed considered: From BBCH 11 to BBCH 61		
	Number of applications Intervals between applications	-		
	Spray volumes	200 – 400 l/ha	200 – 400 l/ha	200 – 400 l/ha
<b>Assessment</b>	Assessment types	Visual efficacy (%), Phytotoxicity (%), vigor (%), groundcover (%), density of weeds (plants/m <sup>2</sup> )		
	Assessment dates	0 DA-A, 7-16 DA-A, 24-35 DA-A, 35-54 DA-A, 106-142 DA-A		
<b>Other relevant information</b>	e.g. Natural / artificial innoculation...	Natural infestation		
	e.g. Field / Greenhouse...	Field trials		

## **Data groupings**

### **Validity**

Only valid trials / assessments are presented to support the minimum effective dose and the efficacy evaluations of the test product.

Validity criteria were defined in order to select data to present. The first criterion is the absence of major deviation from the GAP table. The second validity criterion relates to the weed density both at application and at assessment, a threshold of  $\geq 4$  plants/m<sup>2</sup> or  $\geq 1\%$  ground cover (GC) was chosen as a sufficient weed infestation to assess efficacy of the test product and standard references. If the weed density was under this threshold, possibly pre-emerged, at application then it was considered that the test product had mainly a pre-emergence effect. Thereby, these data were not presented in the analysis as it intended to evaluate efficacy of post-emergence application only, however they are available in individual trial reports.

### **Data presentation**

Efficacy data in this Section are summarized across trials from representative assessment timings carried out 7-16 days after treatment, 24-35 days after treatment and 40-142 DAA.

For a given assessment timing, individual data from the different countries are presented in a single table and the following colour code identifies the countries: Poland (green), Germany (dark blue), Czech Republic (light blue), Slovakia (yellow), Hungary (orange) and Romania (red).

For each assessment timing, data were grouped by EPPO zone.

- North-Eastern EPPO zone: data from Polish trials were grouped together
- Maritime EPPO zone: data from Germany and Czech Republic were grouped together
- South-Eastern EPPO zone: data from Slovakia, Hungary and Romania were grouped together

An additional Special grouping was made to group data from Poland, Germany, Czech Republic and Slovakia together. This grouping is relevant for neighbouring countries having very similar climatic conditions and accepting data from neighbouring countries out of the EPPO Zones mutually.

Moreover summary of data results from all EPPO zones together is presented for overall conclusions.

In the 2016 trials, the lowest dose that were tested was 0.8 L/ha, which is a deviation of ca. 6.7 % from the target rate of 0.75 L/ha; this deviation is considered to be negligible. Therefore, the efficacy results of doses 0,75 and 0,8 L/ha were grouped together in following tables summarizing the efficacy of the product, especially that only 5 out of 18 efficacy trials included dose 0,8 L/ha, while 13 trials were conducted with dose 0,75 L/ha. In tables with individual trial results for each weed specie, the results for dose 0,8 L/ha are marked with “\*\*”.

### **Summary and evaluation of trial results**

Efficacy data in this Section are summarized across trials from representative assessment timings carried out 7-16 days after treatment, 24-35 days after treatment and 40-142 DAA.

Efficacy data in the overall conclusions section were summarized across trials from the representative assessment timing carried out about one month after application, when optimum efficacy results are expected.

Detailed individual data from all assessment timings on each trial are included in individual trial reports.

#### ***Abutilon theophrasti* (ABUTH)**

*Abutilon theophrasti* was observed in 1 trial carried out in Hungary investigating the minimum effective dose and the effectiveness of JUZAN EXTRA 100 SC applied post-emergence of maize.

In this trial 3 efficacy assessments were conducted (7, 28 and 50 DAA).

Sufficient pest density before the application and during efficacy assessments were observed.

At all assessment timings, all tested doses of JUZAN EXTRA 100 SC provided very high level of control : 0,6 L/ha achieved 85-86,30%, 0,75 L/ha 85,80-97,50%, 1,0 and 1,5 L/ha provided 100% what was numerically and statistically equivalent to the reference product (100%).

Details of efficacy assessments are available in Table 3.2.3-4 - Table 3.2.3-6 and in individual trial reports.

**Considering all elements presented above, it is justified to claim that ABUTH is highly susceptible to JUZAN EXTRA 100 SC at 0,75 L/ha (75 g/ha of mesotrione) when applied post-emergence in maize.**

**Table 3.2.3-4: Individual data – Efficacy trials – 1<sup>st</sup> assessment – Short-term effect – ABUTH**

Crops: Maize																
Assessment timing: 7 days after application																
Harmful organism: ABUTH																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants /m <sup>2</sup> )	Percentage of ground cover	Treatment Active ingredient Dose FP /ha Dose g a.i./ha	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
								mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
								0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
								60	75-80	100	150	150	150	150	150	168
SRHU19-598-428HE	Maize - GKT 211	1 18/07/19 (BBCH 13)	25/07/19 (7 DA-A) - BBCH 15	BBCH 10	4,94	0,138%	% N & K 5%	86,30 c	97,50 b	100 a	100 a	-	100 a	-	-	-

**Table 3.2.3-5: Individual data – Efficacy trials – 2<sup>nd</sup> assessment — ABUTH**

Crops: Maize																
Assessment timing: 28 days after application																
Harmful organism: ABUTH																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants /m <sup>2</sup> )	Percentage of ground cover	Treatment Active ingredient Dose FP /ha Dose g a.i./ha	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
								mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
								0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
								60	75-80	100	150	150	150	150	150	168
SRHU19-598-428HE	Maize - GKT 211	1 18/07/19 (BBCH 13)	55/08/19 (28DA-A) - BBCH 15	BBCH 10	5	1,13%	% N & K 5%	85,0 c	96,30 b	100 a	100 a	-	100 a	-	-	-

**Table 3.2.3-6: Individual data – Efficacy trials – 3<sup>rd</sup> assessment — long-term effect ABUTH**

Crops: Maize																
Assessment timing: 50 days after application																
Harmful organism: ABUTH																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants /m²)	Percentage of ground cover	Treatment  Active ingredient Dose FP /ha Dose g a.i./ha	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
								mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
								0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	0,35	
SRHU19-598-428HE	Maize - GKT 211	1 18/07/19 (BBCH 13)	06/09/19 (50 DA-A) - BBCH 15	BBCH 10	5	2,38%	% N & K 5%	60	75-80	100	150	150	150	150	150	168
								85,0 c	95,80 b	100 a	100 a	- a	100 a	-	-	-

### ***Elymus repens* (AGRRE)**

*Elymus repens* was observed in 1 trial carried out in Poland investigating the minimum effective dose and the effectiveness of JUZAN EXTRA 100 SC applied post-emergence of maize.

In this trial 3 efficacy assessments were conducted (14, 27 and 116 DAA).

Sufficient pest density before the application and during efficacy assessments were observed (5,5-7 plants/m<sup>2</sup>).

At all assessment timings, all tested doses of JUZAN EXTRA 100 SC provided low level of control : 0,8 L/ha achieved 31,25-42,50%, 1,0L/ha 38,75-47,50% and 1,5 L/ha provided 50,0-56,25% what was numerically and statistically equivalent to the reference product (48,75-56,25%) at 1<sup>st</sup> and 3<sup>rd</sup> assessment timing. At 2<sup>nd</sup> assessment 1,5 L/ha of JUZAN EXTRA 100 SC achieved numerically and statistically higher result than reference product Callisto 100 SC.

Details of efficacy assessments are available in Table 3.2.3-7 - Table 3.2.3-9 and in individual trial reports.

**Considering all elements presented above, it is justified to claim that AGRRE is moderately tolerant to JUZAN EXTRA 100 SC at 1,5 L/ha (150 g/ha of mesotrione) when applied post-emergence in maize.**

**Table 3.2.3-7: Individual data – Efficacy trials – 1<sup>st</sup> assessment – Short-term effect – AGRRE**

Crops: Maize																
Assessment timing: 14 days after application																
Harmful organism: AGRRE																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants /m²)	Percentage of ground cover	Treatment  Active ingredient Dose FP /ha Dose g a.i./ha	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
								mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
								0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
S16-02947-01	Maize - LG 30.189	1 21/04/16 (BBCH 13)	02/06/16 (14 DA-A) - BBCH 18	BBCH 16	6	1%	% N & K 5%	-	36,25* e	43,75 d	52,50 c	-	56,25 c	-	-	-

\*dose rate 0,8 L/ha

**Table 3.2.3-8: Individual data – Efficacy trials – 2<sup>nd</sup> assessment — AGREE**

Crops: Maize																
Assessment timing: 27 days after application																
Harmful organism: AGREE																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants /m²)	Percentage of ground cover	Treatment  Active ingredient Dose FP /ha Dose g a.i./ha	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
								mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
								0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
S16-02947-01	Maize - LG 30.189	1 21/04/16 (BBCH 13)	15/06/16 (27 DA-A) - BBCH 35	BBCH 16	6	1%	% N & K 5%	-	42,5* e	47,5 d	56,25 c	-	51,25 d	-	-	-

\*dose rate 0,8 L/ha

**Table 3.2.3-9: Individual data – Efficacy trials – 3<sup>rd</sup> assessment — long-term effect AGRE**

Crops: Maize																
Assessment timing: 116 days after application																
Harmful organism: AGRE																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants/m <sup>2</sup> )	Percentage of ground cover	Treatment  Active ingredient Dose FP /ha Dose g a.i./ha	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
								mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
								0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
								60	75-80	100	150	150	150	150	150	168
S16-02947-01	Maize - LG 30.189	1 21/04/16 (BBCH 13)	12/09/16 (116 DA-A) - BBCH 87	BBCH 13	7	1%	% N & K 5%	-	31,25* e	38,75 d	50,0 c	-	48,75 c	-	-	-

\*dose rate 0,8 L/ha

***Amaranthus blitoides* (AMABL)**

*Amaranthus blitoides* was observed in 1 trial carried out in Hungary investigating the minimum effective dose and the effectiveness of JUZAN EXTRA 100 SC applied post-emergence of maize.

In this trial 2 efficacy assessments were conducted (14 and 28 DAA).

Sufficient pest density before the application and during efficacy assessments were observed.

At all assessment timings, all tested doses of JUZAN EXTRA 100 SC provided very high level of control : 0,6 L/ha achieved 89,3-91,0%, 0,75 L/ha 90,0-92,8%, 1,0 L/ha 96,5-97% and 1,5 L/ha provided 100% what was numerically and statistically equivalent to the reference product (100%).

Details of efficacy assessments are available in Table 3.2.3-10 - Table 3.2.3-11 and in individual trial reports.

**Considering all elements presented above, it is justified to claim that AMABL is susceptible to JUZAN EXTRA 100 SC at 0,75 L/ha (75 g/ha of mesotrione) when applied post-emergence in maize.**



**Table 3.2.3-10: Individual data – Efficacy trials – 1<sup>st</sup> assessment – Short-term effect – AMABL**

Crops: Maize																
Assessment timing: 14 days after application																
Harmful organism: AMABL																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants /m <sup>2</sup> )	Percentage of ground cover	Treatment  Active ingredient Dose FP /ha Dose g a.i./ha	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
								mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
								0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
SRHU19-599-428HE	Maize - LG2244	1 15/06/19 (BBCH 17)	29/07/19 (14 DA-A) - BBCH 18	BBCH 15	5,1	2,63%	%  N & K 5%	89,3	90,0	96,5	100	-	100	-	-	-
								b	b	a	a		a			

**Table 3.2.3-11: Individual data – Efficacy trials – 2<sup>nd</sup> assessment — AMABL**

Crops: Maize																
Assessment timing: 28 days after application																
Harmful organism: AMABL																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants /m <sup>2</sup> )	Percentage of ground cover	Treatment  Active ingredient Dose FP /ha Dose g a.i./ha	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
								mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
								0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
SRHU19-599-428HE	Maize - LG2244	1 15/06/19 (BBCH 17)	12/08/16/9 (28 DA-A) - BBCH 55	BBCH 15	6,3	5,5%	%  N & K 5%	91,0	92,8	97,0	100	-	100	-	-	-
								d	c	b	a		a			

### ***Amaranthus retroflexus* (AMARE)**

*Amaranthus retroflexus* was observed in 7 trials carried out in Poland (2), Czech Republic (1), Hungary (1) and Romania (3) investigating the minimum effective dose and the effectiveness of JUZAN EXTRA 100 SC applied post-emergence of maize.

#### 1<sup>st</sup> assessment timing (7-14 days after application)

At the first assessment timing, sufficient density of AMARE (5,69 – 82,8 plants/m<sup>2</sup>) was observed in the 7 trials (2 PL, 1 CZ, 1 HU, 3 RO) which are considered valid for this assessment timing.

In the **North-eastern EPPO zone**, JUZAN EXTRA 100 SC at all tested rates provided a low control of AMARE about 7-14 days after application, with mean efficacy value between 35% for the lowest rate and 52,5% for 1,5 L/ha what was statistically equivalent to the reference product performance (53,75% efficacy) (Table 3.2.3-12).

In the **Maritime EPPO zone**, the effectiveness of JUZAN EXTRA 100 SC at 1,5 L/ha was also limited with in average 56,3% efficacy observed against AMARE and also was equivalent to the reference (Table 3.2.3-12).

In the **South-eastern EPPO zone**, the performance of JUZAN EXTRA 100 SC was better than observed in North-eastern and Maritime EPPO zones, achieving average efficacy 80,4% for 0,6 L/ha, 85,4% 0,75 L/ha, 91,85% 1,0 L/ha and almost complete efficacy 98,38% at 1,5 L/ha against AMARE shortly after application, what was equivalent to the reference product (98,33%) (Table 3.2.3-12).

In **Special grouping of neighbouring countries (Poland and Czech Republic)** average efficacy was at level 69,60% for the heist dose 1,5 L/ha, what was comparable to the reference product (71,25%).

When taking into account **all EPPO Zones** together, the average efficacy for maximum tested dose was 86,4%, what was equivalent of reference product (86,72%).

#### 2<sup>nd</sup> assessment timing (about 24-28 days after application)

At the second spring assessment timing, sufficient density of AMARE (5,69 – 24,93 plants/m<sup>2</sup>) was observed in all trials (2 PL, 1 CZ, 1 HU, 3 RO) which are considered valid for this assessment timing.

About one month after application, the effectiveness of JUZAN EXTRA 100 SC largely increased in all EPPO zones.

In the **North-eastern EPPO zone**, the control of the target weed was high already at 0,75-0,8 L/ha dose - 88,75% efficacy was recorded. The highest rate of JUZAN EXTRA 100 SC achieved almost complete control as well as reference product with results respectively 94,38% and 93,75%. (Table 3.2.3-13).

In the **Maritime EPPO zone**, the herbicidal activity of JUZAN EXTRA 100 SC at 1,5 L/ha was a little higher than at the first assessment and was at level 67,5% and statistically and numerically equivalent to the one provided by the reference (Table 3.2.3-13).

In the **South-eastern EPPO zone**, the effectiveness of JUZAN EXTRA 100 SC was at similar very high level as at previous assessment with almost complete efficacy for the highest dose and the reference product (98,88% both). (Table 3.2.3-13).

In **Special grouping of neighbouring countries (Poland and Czech Republic)** average efficacy increased to 85,42% for 1,5 L/ha dose of JUZAN EXTRA 100 SC, what was comparable to the reference product (85%).

When taking into account **all EPPO Zones** together, the average efficacy for maximum tested dose was

83,11%, what was equivalent of reference product (92,93%).

3<sup>rd</sup> assessment timing – long term effect (35-116 days after application)

At last assessment timing level of efficacy of JUZAN EXTRA 100 SC against AMARE was comparable to the previous one in all EPPO zones. (Table 3.2.3-14)

**Considering all elements presented above, it is justified to claim that AMARE is susceptible for JUZAN EXTRA 100 SC at 1,0 L/ha (100 g/ha of mesotrione) when applied post-emergence in maize.**

**Table 3.2.3-12: Grouped data – Efficacy trials – 1<sup>st</sup> assessment – AMARE**

Crops: Maize									
Assessment timing: About 7 - 14 days after application									
Harmful organism: AMARE									
Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
Active ingredient	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
Dose FP /ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
Dose g a.i./ha	60	75-80	100	150	150	150	150	150	168
NORTH EASTERN EPPO ZONE									
Data grouping (PL)	Number of values	1	2	2	2	1	1	-	-
	Minimum value	35,0	41,25	48,75	52,50	53,75		-	-
	Maximum value	35,0	100,0	100,0	100,0	100,0		-	-
	Mean	35,0	70,63	74,38	76,25	76,88		-	-
Data grouping (PL)	Nb of dose effects compared to 1,5 L/ha	1/1	1/2	1/2	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC is >, = or < compared to standard	-	-	-	0 trial > 1 trials = 1 trial <	-	-	-	-
SOUTH EASTERN EPPO ZONE									
Data grouping (HU, RO)	Number of values	4	4	4	4	-	1	-	3
	Minimum value	77,5	83,0	87,0	97,0	-	97,5		-
	Maximum value	77,8	89,5	99,8	100	-	100		-
	Mean	80,4	85,4	91,85	98,38	-	98,33		-
Data grouping (HU, RO)	Nb of dose effects compared to 1,5 L/ha	4/4	4/4	1/4	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC is >, = or < compared to standard	-	-	-	1 trial > 2 trials = 1 trials <	-	-	-	-
SPECIAL GROUPING - NEIGHBORING COUNTRIES (POLAND + CZECH REPUBLIC)									
Data grouping (PL, CZ)	Number of values	2	3	3	3	1	2	-	-
	Minimum value	35,0	41,25	48,75	52,50	53,75		-	-
	Maximum value	52,5	100,0	100,0	100,0	100,0		-	-
	Mean	43,75	65,02	68,35	69,60	71,25		-	-
Data grouping (PL, CZ)	Nb of dose effects compared to 1,5 L/ha	1/2	1/3	1/3	-	-	-	-	-

	Nb of trials where JUZAN EXTRA 100 SC is >, = or < compared to stand- ard	-	-	-	0 trial > 1 trials = 2 trial <	-	-	-	-	-
<b>ALL EPPO ZONES</b>										
<b>Data grouping</b> ALL	Number of values	6	7	7	7	1	3	-	3	-
	Minimum value	35,0	41,25	48,75	52,50			53,75		
	Maximum value	85,0	100,0	100,0	100,0			100,0		
	Mean	<b>68,18</b>	<b>76,60</b>	<b>81,78</b>	<b>86,04</b>	<b>86,72</b>				
	Nb of <b>dose effects</b> compared to 1,5 L/ha	5/6	5/7	2/7	-	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC is >, = or < compared to stand- ard	-	-	-	1 trial > 3 trials = 3 trials <	-	-	-	-	-

**Table 3.2.3-13: Grouped data – Efficacy trials – 2<sup>nd</sup> assessment – AMARE**

		Crops: Maize								
		Assessment timing: About 7 - 14 days after application								
		Harmful organism: AMARE								
		Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda
Active ingredient		mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
Dose FP /ha		0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
Dose g a.i./ha		60	75-80	100	150	150	150	150	150	168
NORTH EASTERN EPPO ZONE										
Data grouping (PL)	Number of values	1	2	2	2	1	1	-	-	-
	Minimum value	61,25	77,5	83,75	88,75	87,5		-	-	-
	Maximum value	61,25	100,0	100,0	100,0	100,0		-	-	-
	Mean	61,25	88,75	91,88	94,38	93,75		-	-	-
	Nb of dose effects compared to 1,5 L/ha	1/1	1/2	0/2	-	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC is >, = or < compared to stand- ard	-	-	-	1 trial > 1 trials = 0 trial <	-	-	-	-	-
SOUTH EASTERN EPPO ZONE										
Data grouping (HU, RO)	Number of values	4	4	4	4	-	1	-	3	-
	Minimum value	79,5	83,8	87,8	98,5	-	98,5		-	-
	Maximum value	81,3	88,3	99,0	100	-	100		-	-
	Mean	80,2	85,48	91,78	98,88	-	98,88		-	-
	Nb of dose effects compared to 1,5 L/ha	4/4	4/4	1/4	-	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC is >, = or < compared to stand- ard	-	-	-	1 trial > 2 trials = 1 trials <	-	-	-	-	-
SPECIAL GROUPING - NEIGHBORING COUNTRIES (POLAND + CZECH REPUBLIC)										
Data grouping (PL, CZ)	Number of values	2	3	3	3	1	2	-	-	-
	Minimum value	56,30	58,8	61,30	67,50	67,5		-	-	-
	Maximum value	61,25	100,0	100,0	100,0	100,0		-	-	-
	Mean	58,78	78,77	81,68	85,42	85,00		-	-	-
	Nb of dose effects compared to 1,5	1/2	1/3	0/3	-	-	-	-	-	-

	L/ha									
	Nb of trials where JUZAN EXTRA 100 SC is >, = or < compared to stand- ard	-	-	-	1 trial > 2 trials = 0 trial <	-	-	-	-	-
<b>ALL EPPO ZONES</b>										
<b>Data grouping</b> ALL	Number of values	6	7	7	7	1	3	-	3	-
	Minimum value	56,30	58,8	61,30	67,50			67,5		
	Maximum value	81,30	100,0	100,0	100,0			100,0		
	Mean	<b>73,06</b>	<b>82,60</b>	<b>87,45</b>	<b>93,11</b>			<b>92,93</b>		
	Nb of <b>dose effects</b> compared to 1,5 L/ha	5/6	5/7	1/7	-	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC is >, = or < compared to stand- ard	-	-	-	2 trial > 4 trials = 1 trials <	-	-	-	-	-

**Table 3.2.3-14: Grouped data – Efficacy trials – 3<sup>rd</sup> assessment – long-term effect - AMARE**

Crops: Maize									
Assessment timing: About 7 - 14 days after application									
Harmful organism: AMARE									
Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
Active ingredient	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
Dose FP /ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
Dose g a.i./ha	60	75-80	100	150	150	150	150	150	168
NORTH EASTERN EPPO ZONE									
Data grouping (PL)	Number of values	1	2	2	2	1	1	-	-
	Minimum value	68,75	82,5	87,5	90,0	90,0		-	-
	Maximum value	68,75	100,0	100,0	100,0	100,0		-	-
	Mean	68,75	91,25	93,75	95,0	95,0		-	-
								-	-
	Nb of dose effects compared to 1,5 L/ha	1/1	1/2	1/2	-	-	-	-	-
Data grouping (HU, RO)	Nb of trials where JUZAN EXTRA 100 SC is >, = or < compared to standard	-	-		0 trial > 2 trials = 0 trial <	-	-	-	-
SOUTH EASTERN EPPO ZONE									
Data grouping (HU, RO)	Number of values	4	4	4	4	-	1	-	3
	Minimum value	74,3	80,0	84,3	92,5	-		93,8	-
	Maximum value	81,3	87,5	99,0	100	-		100	-
	Mean	78,23	83,3	90,08	96,63	-		97,03	-
	Nb of dose effects compared to 1,5 L/ha	4/4	4/4	1/4	-	-	-	-	-
Data grouping (PL, CZ)	Nb of trials where JUZAN EXTRA 100 SC is >, = or < compared to standard	-	-	-	1 trial > 2 trials = 1 trials <	-	-	-	-
SPECIAL GROUPING - NEIGHBORING COUNTRIES (POLAND + CZECH REPUBLIC)									
Data grouping (PL, CZ)	Number of values	2	3	3	3	1	2	-	-
	Minimum value	50,0	56,3	60,0	67,5	67,5			
	Maximum value	68,75	100,0	100,0	100,0	100,0			
	Mean	59,38	79,60	82,50	85,83	85,83			



	Nb of <b>dose effects</b> compared to 1,5 L/ha	1/2	1/3	1/3	-	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC is >, = or < compared to standard	-	-	-	0 trial > 3 trials = 0 trial <	-	-	-	-	-
<b>ALL EPPO ZONES</b>										
<b>Data grouping</b> ALL	Number of values	6	7	7	7	1	3	-	3	-
	Minimum value	50,0	56,3	60,0	67,5			67,5		
	Maximum value	81,3	100,0	100,0	100,0			100,0		
	Mean	<b>71,94</b>	<b>82,01</b>	<b>86,83</b>	<b>92,0</b>	<b>92,23</b>				
	Nb of <b>dose effects</b> compared to 1,5 L/ha	5/6	5/7	2/7	-	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC is >, = or < compared to standard	-	-	-	1 trial > 5 trials = 1 trials <	-	-	-	-	-

***Ambrosia artemisiifolia* (AMBEL)**

AMBEL was observed in 2 trials carried out in Hungary (1) and Slovakia (1) investigating the minimum effective dose and the effectiveness of JUZAN EXTRA 100 SC applied post-emergence of maize.

1<sup>st</sup> assessment timing (13-14 days after application)

At the first spring assessment timing, sufficient density of AMBEL (5.8 – 8.8 plants/m<sup>2</sup>) was observed in both trials, which are considered valid for this assessment timing.

In the **South-eastern EPPO zone**, JUZAN EXTRA 100 SC at all tested rates provided high level of control of AMBEL about 13-14 days after application, with mean efficacy value between 80% for the lowest rate and mean 93,5% for 1,5 L/ha what was statistically equivalent to the reference product performance (average 94,65% efficacy) (Table 3.2.3-15).

2<sup>nd</sup> assessment timing (28 days after application)

At the second spring assessment timing, sufficient density of AMBEL (6,1 – 9 plants/m<sup>2</sup>) was observed in both trials which are considered valid for this assessment timing.

About one month after application, the effectiveness of JUZAN EXTRA 100 SC only at lowest rate 0.6 L/ha decreased to 71,3%, while other rates achieved similar results between 86,35% and 93% in average. Reference product also presented comparable results at level 94,25%. ()

3<sup>rd</sup> assessment timing (142 days after application)

**Only at one trial was performed longterm efficacy assessment before harvest, however the results above 90% for all treatments confirmed good control of AMBEL by JUZAN EXTRA 100 SC (Table 3.2.3-17).**

**Considering all elements presented above, it is justified to claim that AMBEL is susceptible for JUZAN EXTRA 100 SC at 0,75 L/ha (75 g/ha of mesotrione) when applied post-emergence in maize.**

**Table 3.2.3-15: Grouped data – Efficacy trials – 1<sup>st</sup> assessment – AMBEL**

	<b>Crops:</b> Maize								
	<b>Assessment timing:</b> About 13 - 14 days after application								
	<b>Harmful organism:</b> AMBEL								
Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
Active ingredient	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
Dose FP /ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
Dose g a.i./ha	60	75-80	100	150	150	150	150	150	168
<b>SOUTH EASTERN EPPO ZONE</b>									
<b>Data grouping</b> <b>(HU, RO)</b>	Number of values	1	2	2	2	-	1	1	-
	Minimum value	80,0	85,0	90,0	92,7	-	94,3		
	Maximum value	80,0	90,0	93,5	94,3	-	95,0		
	Mean	<b>80,0</b>	<b>89,0</b>	<b>91,75</b>	<b>93,5</b>	<b>-</b>	<b>94,65</b>		
	Nb of dose effects compared to 1,5 L/ha	1/1	1/2	0/2	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	0 trial > 1 trials = 1 trial <	-	-	-	-

**Table 3.2.3-16: Grouped data – Efficacy trials – 2<sup>nd</sup> assessment – AMBEL**

<b>Crops:</b> Maize									
<b>Assessment timing:</b> About 13 - 14 days after application									
<b>Harmful organism:</b> AMBEL									
<b>Treatment</b>	<b>JUZAN EXTRA 100 SC</b>	<b>JUZAN EXTRA 100 SC</b>	<b>JUZAN EXTRA 100 SC</b>	<b>JUZAN EXTRA 100 SC</b>	<b>JUZAN 100 SC</b>	<b>Callisto 100 SC</b>	<b>Temsa SC</b>	<b>Barracuda</b>	<b>Callisto 480 SC</b>
<b>Active ingredient</b>	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
<b>Dose FP /ha</b>	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
<b>Dose g a.i./ha</b>	60	75-80	100	150	150	150	150	150	168
<b>SOUTH EASTERN EPPO ZONE</b>									
<b>Data grouping</b> <b>(HU, RO)</b>	Number of values	1	2	2	2	-	1	1	-
	Minimum value	71,3	81,3	85,0	91,0	-	90,5		
	Maximum value	71,3	91,4	92,7	95,0	-	98,0		
	Mean	<b>71,3</b>	<b>86,35</b>	<b>88,85</b>	<b>93,0</b>	-	<b>94,25</b>		
	Nb of <b>dose effects</b> compared to 1,5 L/ha	1/1	2/2	1/2	-	-	-	-	-
Nb of trials where JUZAN EXTRA	-	-	-	1 trial > 0 trials =	-	-	-	-	-

	100 SC C is >, = or < compared to standard				1 trial <					
--	--	--	--	--	-----------	--	--	--	--	--

**Table 3.2.3-17: Individual data – Efficacy trials – 3<sup>rd</sup> assessment — long-term effect AMBEL**

Crops: Maize																
Assessment timing: About 142 days after application																
Harmful organism: AMBEL																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observa- tion date - Crop stage	Weed stage at applica- tion	Weed density (plants/ m <sup>2</sup> )	Percent- age of ground cover	Treat- ment  Active ingredi- ent Dose FP /ha Dose g a.i./ha	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZA N EXTR A 100 SC	JUZA N EXTR A 100 SC	JU- ZAN 100 SC	Callis- to 100 SC	Temsa SC	Barrac uda	Callis- to 480 SC
								mesotrion	mesotri- on	meso- trion	meso- trion	meso- trion	meso- trion	meso- trion	mesotri- on	meso- trion
								0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
								60	75-80	100	150	150	150	150	150	168
<b>S16-02953-01</b>	Maize - DKC 5222	1 18/05/16 (BBCH 15)	07/10/16 (142 DA-A) - BBCH 89	BBCH 13	9	6,8%	% N & K 5%	-	91,4* d	92,7 cd	95,0 bc	-	-	98,0 a	-	-

\*dose rate 0,8 L/ha

***Anagallis arvensis* (ANGAR)**

ANGAR was observed in 1 trial carried out in Poland investigating the minimum effective dose and the effectiveness of JUZAN EXTRA 100 SC applied post-emergence of maize.

At all assessment timings, sufficient density of ANGAR (7-8 plants/m<sup>2</sup>) was observed, which are considered valid for this assessment timing.

JUZAN EXTRA 100 SC at 3 conducted efficacy assessments achieved total control (100%) against ANGAR at all tested doses as well as reference product. (Table 3.2.3-18 - Table 3.2.3-20)

**Considering all elements presented above, it is justified to claim that ANGAR is susceptible for JUZAN EXTRA 100 SC at 0,8 L/ha (80 g/ha of mesotrione) when applied post-emergence in maize.**

**Table 3.2.3-18: Individual data – Efficacy trials – 1<sup>st</sup> assessment – Short-term effect – ANGAR**

Crops: Maize																
Assessment timing: About 14 days after application																
Harmful organism: ANGAR																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants/m <sup>2</sup> )	Percentage of ground cover	Treatment  Active ingredient Dose FP /ha Dose g a.i./ha	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
								mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
								0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
								60	75-80	100	150	150	150	150	150	168
S16-02947-01	Maize - LG 30.189	1 25/04/17 (BBCH 25)	19/05/16 (14 DA-A) - BBCH 13	BBCH 13	7	1%	% N & K 5%	-	100* a	100 a	100 a	-	100 a	-	-	-

\*dose rate 0,8 L/ha

**Table 3.2.3-19: Individual data – Efficacy trials – 2<sup>nd</sup> assessment — ANGAR**

Crops: Maize																
Assessment timing: About 27 days after application																
Harmful organism: ANGAR																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants/m <sup>2</sup> )	Percentage of ground cover	Treatment  Active ingredient Dose FP /ha Dose g a.i./ha	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
								mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
								0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
								60	75-80	100	150	150	150	150	150	168
S16-02947-01	Maize - LG 30.189	1 25/04/17 (BBCH 25)	05/06/16 (27 DA-A) - BBCH 35	BBCH 13	8	2%	% N & K 5%	-	100* a	100 a	100 a	-	100 a	-	-	-

\*dose rate 0,8 L/ha

**Table 3.2.3-20: Individual data – Efficacy trials – 3<sup>rd</sup> assessment — long-term effect ANGAR**

Crops: Maize																
Assessment timing: About 116 days after application																
Harmful organism: ANGAR																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants/m <sup>2</sup> )	Percentage of ground cover	Treatment  Active ingredient Dose FP /ha Dose g a.i./ha	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
								mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
								0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
								60	75-80	100	150	150	150	150	150	168
S16-02947-01	Maize - LG 30.189	1 25/04/17 (BBCH 25)	12/03/16 (116 DA-A) - BBCH 87	BBCH 13	7	2%	% N & K 5%	-	100* a	100 a	100 a	-	100 a	-	-	-

\*dose rate 0,8 L/ha

### ***Avena fatua* (AVEFA)**

AVEFA was observed in 1 trials carried out in Czech Republic investigating the minimum effective dose and the effectiveness of JUZAN EXTRA 100 SC applied post-emergence of maize.

At all assessment timings, sufficient density of AVEFA (10 plants/m<sup>2</sup>) were observed, which is considered valid for this assessment timing.

#### 1<sup>st</sup> assessment timing (14 days after application)

In the **Maritime EPPO zone**, all treatment showed clear dose response. The effectiveness of JUZAN EXTRA 100 SC was between 33,8% for the lowest rate 0,6 L/ha and 71,30% for dose 1,5 L/ha, what was numerically and statistically equivalent to the reference product (Table 3.2.3-21).

#### 2<sup>nd</sup> assessment timing (28 days after application)

**About one month after application, the effectiveness of JUZAN EXTRA 100 SC decreased at all tested doses with results 31,3%- 42,5% for doses 0,6-1,0 L/ha and 61,3% for 1,5 L/ha what was statistically comparable to the reference product (67,5%) (Table 3.2.3-22).**

#### 3<sup>rd</sup> assessment timing (47 days after application)

At last efficacy assessment results of JUZAN EXTRA 100 SC decreased again to 32,5-55,0% efficacy level, reference product achieved 62,5% (Table 3.2.3-23).

**Considering all elements presented above, it is justified to claim that ~~AMARE~~ AVEFA is moderately tolerant for JUZAN EXTRA 100 SC at 1,5 L/ha (150 g/ha of mesotrione) when applied post-emergence in maize.**



**Table 3.2.3-21: Individual data – Efficacy trials – 1<sup>st</sup> assessment – Short-term effect – AVEFA**

Crops: Maize																
Assessment timing: 14 days after application																
Harmful organism: AVEFA																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants/m <sup>2</sup> )	Percentage of ground cover	Treatment  Active ingredient Dose FP /ha Dose g a.i./ha	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
								mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
								0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
								60	75-80	100	150	150	150	150	150	168
SRCZ19-057-428HE	Maize - Legion	1 25/04/17 (BBCH 25)	05/06/19 (14 DA-A) - BBCH 16	BBCH 22	10	5,38%	% N & K 5%	33,8 d	43,8 c	56,3 b	71,3 a	- a	71,3 a	-	-	-

**Table 3.2.3-22: Individual data – Efficacy trials – 2<sup>nd</sup> assessment — AVEFA**

Crops: Maize																
Assessment timing: 28 days after application																
Harmful organism: AVEFA																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants/m <sup>2</sup> )	Percentage of ground cover	Treatment  Active ingredient Dose FP /ha Dose g a.i./ha	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
								mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
								0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
								60	75-80	100	150	150	150	150	150	168
SRCZ19-057-428HE	Maize - Legion	1 25/04/17 (BBCH 25)	03/07/19 (28 DA-A) - BBCH 33	BBCH 22	10	8,8%	% N & K 5%	31,3 c	35,0 c	48,8 b	61,3 a	-	67,5 a	-	-	-

**Table 3.2.3-23: Individual data – Efficacy trials – 3<sup>rd</sup> assessment — long-term effect AVEFA**

Crops: Maize																
Assessment timing: 47 days after application																
Harmful organism: AVEFA																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants/m <sup>2</sup> )	Percentage of ground cover	Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
							Active ingredient	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
							Dose FP /ha Dose g a.i./ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
								60	75-80	100	150	150	150	150	150	168
SRCZ19-057-428HE	Maize - Legion	1 25/04/17 (BBCH 25)	22/07/19 (47 DA-A) - BBCH 51	BBCH 22	10	8,8%	%	26,3	32,5	42,5	55,0	-	62,5	-	-	-
							N & K 5%	d	d	c	b		a			

***Brassica napus (BRSNN)***

BRSNN was observed in 1 trial carried out in Germany investigating the minimum effective dose and the effectiveness of JUZAN EXTRA 100 SC applied post-emergence of maize.

At all assessment timings, sufficient density of BRSNN (8-11,57 plants/m<sup>2</sup>) was observed, which are considered valid for this assessment timing.

JUZAN EXTRA 100 SC at 3 conducted efficacy assessments achieved total control (100%) against BRSNN at doses 0,75-1,5 L/ha as well as reference product. Only dose 0,6 L/ha at 2<sup>nd</sup> and 3<sup>rd</sup> assessment achieved 96-97% of control. (Table 3.2.3-24 - Table 3.2.3-26)

**Considering all elements presented above, it is justified to claim that ~~ANGAR~~ BRSNN is susceptible for JUZAN EXTRA 100 SC at 0,75 L/ha (75 g/ha of mesotrione) when applied post-emergence in maize.**

**Table 3.2.3-24: Individual data – Efficacy trials – 1<sup>st</sup> assessment – Short-term effect – BRSNN**

Crops: Maize																
Assessment timing: 16 days after application																
Harmful organism: BRSNN																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants/m <sup>2</sup> )	Percentage of ground cover	Treatment  Active ingredient Dose FP /ha Dose g a.i./ha	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
								mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
								0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
								60	75-80	100	150	150	150	150	150	168
M-100SC-OR2-C_DE19_EF F01	Maize - Babexx	1 27/05/19 (BBCH 14)	12/06/19 (16 DA-A) - BBCH 14	BBCH 12	8	40%	%  N & K 5%	100	100	100	100	-	100	-	-	-
								a	a	a	a	a	a			

**Table 3.2.3-25: Individual data – Efficacy trials – 2nd assessment — BRSNN**

Crops: Maize																
Assessment timing: 30 days after application																
Harmful organism: BRSNN																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants/m <sup>2</sup> )	Percentage of ground cover	Treatment  Active ingredient Dose FP /ha Dose g a.i./ha	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
								mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
								0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
								60	75-80	100	150	150	150	150	150	168
M-100SC-OR2-C_DE19_EF F01	Maize - Babexx	1 27/05/19 (BBCH 14)	26/06/19 (30 DA-A) - BBCH 35	BBCH 12	10,26	80%	%  N & K 5%	97,0	100	100	100	-	100	-	-	-
								b	a	a	a	a	a			

**Table 3.2.3-26: Individual data – Efficacy trials – 3<sup>rd</sup> assessment — long-term effect BRSNN**

Crops: Maize																
Assessment timing: 16 days after application																
Harmful organism: BRSNN																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants/m <sup>2</sup> )	Percentage of ground cover	Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
							Active ingredient	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
							Dose FP /ha Dose g a.i./ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
M-100SC-OR2-C_DE19_EF F01	Maize - Babexx	1 27/05/19 (BBCH 14)	26/06/19 (30 DA-A) - BBCH 35	BBCH 12	10,59	90%	%	96,0	100	100	100	-	100	-	-	-
							N & K 5%	b	a	a	a		a			

### ***Chenopodium album* (CHEAL)**

~~Papaver rhoeas~~ *Chenopodium album* was observed in 17 trials carried out in Poland (6), Germany (2), Czech Republic (3), Hungary (1), Romania (4) and Slovakia (1) investigating the minimum effective dose and the effectiveness of JUZAN EXTRA 100 SC applied post-emergence of maize.

#### 1<sup>st</sup> assessment timing (7-16 days after application)

At the first assessment timing, sufficient density of CHEAL (5,8 – 181 plants/m<sup>2</sup>) was observed in the 16 trials. In one trial 4 pla/m<sup>2</sup> were recorded, however the ground cover was at level 5%, which is considered valid for this assessment timing.

In the **North-eastern EPPO zone**, JUZAN EXTRA 100 SC provided high level of control of in with mean efficacy value between 64,38% for the lowest rate 0,6 L/ha 81,67% for dose range 0,75-0,8L/ha, 85,96% for 1,0 L/ha and mean 88,75% for 1,5 L/ha what was comparable to the reference product performance (average 89,71% efficacy) (Table 3.2.3-27).

In the **Maritime EPPO zone**, the effectiveness of JUZAN EXTRA 100 SC was very high in all 5 conducted trials at all tested doses with in average 95,13-97,95% efficacy what also was equivalent to the reference (Table 3.2.3-27).

In the **South-eastern EPPO zone**, the performance of JUZAN EXTRA 100 SC presented clear dose response, achieving average efficacy 74,98% for 0,6 L/ha, 84,47% 0,75-0,8 L/ha, 91,63% 1,0 L/ha and almost complete efficacy 97,43% at 1,5 L/ha against CHEAL shortly after application, what was equivalent to the reference product (96,63%) (Table 3.2.3-27).

In **Special grouping of neighbouring countries (Poland and Czech Republic)** average efficacy was at level 90,86% for the highest dose 1,5 L/ha, what was comparable to the reference product (93,19%). Also doses 0,75-1,0 L/ha achieved high results above 85% (Table 3.2.3-27).

When taking into account **all EPPO Zones** together, the good control of CHEAL was observed at dose 0,75-0,8 L/ha (86,46%) increasing to 94,52% at the highest dose 1,5 L/ha, what was equivalent to the reference product's results (94,59%) (Table 3.2.3-27).

#### 2<sup>nd</sup> assessment timing (about 24-30 days after application)

At the second spring assessment timing, sufficient density of CHEAL (5,5 – 181 plants/m<sup>2</sup>) was observed in the 16 trials. In one trial 4 pla/m<sup>2</sup> were recorded, however the ground cover was at level 10%, which is considered valid for this assessment timing.

In the **North-eastern EPPO zone**, the control of the target weed was very high already at 0,75-0,8 L/ha dose – 91,88% efficacy was recorded. The highest rate of JUZAN EXTRA 100 SC achieved almost complete control as well as reference product with results 96,67% (Table 3.2.3-28).

In the **Maritime EPPO zone**, the herbicidal activity of JUZAN EXTRA 100 SC all tested doses achieved very high control level between 91,4% and 99,5%, what was statistically equivalent to the one provided by the reference product which provided total control of CHEAL at all trials (Table 3.2.3-28).

In the **South-eastern EPPO zone**, the effectiveness of JUZAN EXTRA 100 SC presented clear dose response, achieving almost the same results as in the first assessment timing with average

efficacy 75,2% for 0,6 L/ha, 84,72% 0,75-0,8 L/ha, 92,55% 1,0 L/ha and almost complete efficacy 97,97% at 1,5 L/ha against CHEAL shortly after application, what was equivalent to the reference product (98,11%) (Table 3.2.3-28).

In **Special grouping of neighbouring countries (Poland and Czech Republic)** average efficacy for doses 0,75-1,5 L/ha dose of JUZAN EXTRA 100 SC was higher than 90% showed almost complete control at highest dose 1,5 L/ha (97,71%), what was comparable to the reference product (98,06%) (Table 3.2.3-28).

When taking into account **all EPPO Zones** together, the average efficacy results was at similar level achieving results above 90% for dose range 0,75-1,5 L/ha of JUZAN EXTRA 100 SC (Table 3.2.3-28).

3<sup>rd</sup> assessment timing – long term effect (35-142 days after application)

At last assessment timing level of efficacy of JUZAN EXTRA 100 SC against CHEAL results at all EPPO Zones was almost the same as in previous assessment, with very high efficacy level at dose range 0,75-1,5 L/ha (

Table 3.2.3-29).

**Considering all elements presented above, it is justified to claim that CHEAL is susceptible for JUZAN EXTRA 100 SC at 0,75 L/ha (75 g/ha of mesotrione) when applied post-emergence in maize.**

**Table 3.2.3-27: Grouped data – Efficacy trials – 1<sup>st</sup> assessment –CHEAL**

Crops: Maize									
Assessment timing: 7 - 16 days after application									
Harmful organism: CHEAL									
Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
Active ingredient	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
Dose FP /ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
Dose g a.i./ha	60	75-80	100	150	150	150	150	150	168
NORTH EASTERN EPPO ZONE									
Data grouping (PL)	Number of values	4	6	6	6	4	2	-	-
	Minimum value	32,5	38,75	43,75	48,75	52,5		-	-
	Maximum value	78,75	100	100	100	100		-	-
	Mean	64,38	81,67	85,96	88,75	89,71		-	-
Data grouping (PL)	Nb of dose effects compared to 1,5 L/ha	4/4	4/6	2/6	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	0 trial > 3 trials = 3 trial <	-	-	-	-
MARITIME EPPO ZONE									
Data grouping (DE, CZ)	Number of values	4	5	5	5	-	5	-	-
	Minimum value	87,5	87,5	90,0	90,0	-	90,0	-	-
	Maximum value	100	100	100	100	-	100	-	-
	Mean	95,13	94,60	97,41	97,95	-	98,0	-	-
						-		-	-
Data grouping (DE, CZ)	Nb of dose effects compared to 1,5 L/ha	1/4	3/5	1/5	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	0 trial > 3 trials = 2 trials <	-	-	-	-
SOUTH EASTERN EPPO ZONE									
Data grouping (HU, RO, SK)	Number of values	4	6	6	6	-	1	1	3
	Minimum value	73,3	80,5	87,5	91,25	-	94,0		
	Maximum value	75,0	92,5	100	100	-	100		
	Mean	74,98	84,47	91,63	97,43	-	96,63		
						-			
Data grouping (HU, RO, SK)	Nb of dose effects compared to 1,5 L/ha	4/4	6/6	4/6	-	-	-	-	-



	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	2 trial > 3 trials = 1 trial <	-	-	-	-	-
<b>SPECIAL GROUPING NEIGHBORING COUNTRIES (POLAND + GERMANY+ CZECH REPUBLIC+SLOVAKIA)</b>										
<b>Data grouping</b> (PL, DE, CZ, SK)	Number of values	8	12	12	12	4	7	1	-	-
	Minimum value	32,5	38,75	43,75	48,75		52,5		-	-
	Maximum value	100	100	100	100		100		-	-
	Mean	79,75	87,33	90,86	92,79		93,19		-	-
	Nb of dose effects compared to 1,5 L/ha	5/8	12/12	3/12	-	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	1 trial > 6 trials = 5 trials <	-	-	-	-	-
<b>ALL EPPO ZONES</b>										
<b>Data grouping</b> (ALL)	Number of values	12	17	17	17	4	8	1	3	1
	Minimum value	32,5	38,75	43,75	48,75			52,5		
	Maximum value	100	100	100	100			100		
	Mean	78,16	86,46	91,33	94,52			94,59		
	Nb of dose effects compared to 1,5 L/ha	9/12	13/17	7/17	-	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	2 trial > 9 trials = 6 trials <	-	-	-	-	-

**Table 3.2.3-28: Grouped data – Efficacy trials – 2<sup>nd</sup> assessment – CHEAL**

Crops: Maize									
Assessment timing: 24-30 days after application									
Harmful organism: CHEAL									
Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
Active ingredient	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
Dose FP /ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
Dose g a.i./ha	60	75-80	100	150	150	150	150	150	168
NORTH EASTERN EPPO ZONE									
Data grouping (PL)	Number of values	4	6	6	6	4	2	-	-
	Minimum value	62,5	78,75	82,5	90,0	91,25		-	-
	Maximum value	83,75	100	100	100	100		-	-
	Mean	75,63	91,88	94,96	96,67	96,67		-	-
	Nb of dose effects compared to 1,5 L/ha	4/4	3/6	1/6	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	1 trial > 4 trials = 1 trial <	-	-	-	-
MARITIME EPPO ZONE									
Data grouping (DE, CZ)	Number of values	4	5	5	5	-	5	-	-
	Minimum value	77,0	95,0	98,5	97,5	-	100	-	-
	Maximum value	97,5	100	100	100	-	100	-	-
	Mean	91,40	97,97	99,31	99,50	-	100	-	-
	Nb of dose effects compared to 1,5 L/ha	2/4	2/5	1/5	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	0 trial > 4 trials = 1 trials <	-	-	-	-
SOUTH EASTERN EPPO ZONE									
Data grouping (HU, RO, SK)	Number of values	4	6	6	6	-	1	1	3
	Minimum value	73,5	80,8	87,3	94,5	-	94,0		
	Maximum value	78,5	91,4	100	100	-	100		
	Mean	75,20	84,72	92,55	97,97	-	98,11		
	Nb of dose effects compared to 1,5 L/ha	4/4	6/6	4/6	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	-	-	-	-	-

	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	2 trial > 2 trials = 2 trial <	-	-	-	-	-
<b>SPECIAL GROUPING NEIGHBORING COUNTRIES (POLAND + GERMANY+ CZECH REPUBLIC+SLOVAKIA)</b>										
<b>Data grouping</b> (PL, DE, CZ, SK)	Number of values	8	12	12	12	4	7	1	-	-
	Minimum value	62,5	78,75	82,5	90,0		91,25		-	-
	Maximum value	97,5	100	100	100		100		-	-
	Mean	<b>83,51</b>	<b>93,95</b>	<b>96,59</b>	<b>97,71</b>		<b>98,06</b>		-	-
	Nb of dose effects compared to 1,5 L/ha	6/8	6/12	5/12	-	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	1 trial > 8 trials = 3 trials <	-	-	-	-	-
<b>ALL EPPO ZONES</b>										
<b>Data grouping</b> (ALL)	Number of values	12	17	17	17	4	8	1	3	1
	Minimum value	62,5	78,75	82,5	90,0			91,25		
	Maximum value	97,5	100	100	100			100		
	Mean	<b>80,74</b>	<b>91,14</b>	<b>95,39</b>	<b>97,96</b>			<b>98,16</b>		
	Nb of dose effects compared to 1,5 L/ha	10/12	11/17	6/17	-	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	3 trial > 10 trials = 4 trials <	-	-	-	-	-

**Table 3.2.3-29: Grouped data – Efficacy trials – 3<sup>rd</sup> assessment – long-term effect – CHEAL**

		Crops: Maize								
		Assessment timing: 35-142 days after application								
		Harmful organism: CHEAL								
		Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda
Active ingredient		mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
Dose FP /ha		0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
Dose g a.i./ha		60	75-80	100	150	150	150	150	150	168
NORTH EASTERN EPPO ZONE										
Data grouping (PL)	Number of values	1	3	3	3	1	2	-	-	-
	Minimum value	66,25	86,25	91,25	92,5	93,75		-	-	-
	Maximum value	66,25	100	100	100	100		-	-	-
	Mean	66,25	95,42	97,08	97,50	97,92		-	-	-
	Nb of dose effects compared to 1,5 L/ha	1/1	1/3	0/3	-	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	0 trial > 2 trials = 1 trial <	-	-	-	-	-
MARITIME EPPO ZONE										
Data grouping (DE, CZ)	Number of values	4	5	5	5	-	5	-	-	-
	Minimum value	82,0	95,0	95,0	100	-	100	-	-	-
	Maximum value	95,0	100	100	100	-	100	-	-	-
	Mean	90,50	97,23	98,69	100	-	100	-	-	-
	Nb of dose effects compared to 1,5 L/ha	2/4	2/5	0/5	-	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	0 trial > 5 trials = 0 trials <	-	-	-	-	-
SOUTH EASTERN EPPO ZONE										
Data grouping (HU, RO, SK)	Number of values	4	6	6	6	-	1	1	3	1
	Minimum value	71,0	81,5	84,8	93,8	-	93,5		-	-
	Maximum value	77,0	86,33	100	100	-	100		-	-
	Mean	73,25	82,40	91,27	97,22	-	97,29			
	Nb of dose effects compared to 1,5 L/ha	4/4	6/6	4/6	-	-	-	-	-	-

	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	3 trial > 2 trials = 1 trial <	-	-	-	-	-
<b>SPECIAL GROUPING NEIGHBORING COUNTRIES (POLAND + GERMANY+ CZECH REPUBLIC+SLOVAKIA)</b>										
<b>Data grouping</b> (PL, DE, CZ, SK)	Number of values	5	9	9	9	1	7	1	-	-
	Minimum value	66,25	86,25	91,25	92,5		93,75		-	-
	Maximum value	95,0	100	100	100		100		-	-
	Mean	83,51	95,41	97,49	98,61		98,80		-	-
	Nb of dose effects compared to 1,5 L/ha	3/5	4/9	0/9	-	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	1 trial > 6 trials = 2 trials <	-	-	-	-	-
<b>ALL EPPO ZONES</b>										
<b>Data grouping</b> (ALL)	Number of values	9	14	14	14	4	8	1	3	1
	Minimum value	66,25	76,30	84,8	92,5			93,5		
	Maximum value	95,0	100	100	100			100		
	Mean	80,14	90,48	95,16	98,27			98,31		
	Nb of dose effects compared to 1,5 L/ha	7/9	9/14	4/14	-	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	3 trial > 9 trials = 2 trials <	-	-	-	-	-

### ***Lipandra polysperma* (CHEPO)**

CHEPO was observed in 1 trial carried out in Czech Republic investigating the minimum effective dose and the effectiveness of JUZAN EXTRA 100 SC applied post-emergence of maize.

At all assessment timings, sufficient density of CHEPO (12-12,5 plants/m<sup>2</sup>) was observed, which are considered valid for this assessment timing.

#### 1<sup>st</sup> assessment timing (14 days after application)

In the **Maritime Eppo zone**, the effectiveness of JUZAN EXTRA 100 SC at all tested doses was very high varying between 87,61% for the lowest rate 0,8 L/ha, 96,83% for 1,0 L/ha and complete control for the highest rate 1,5 L/ha 99.75% what was statistically equivalent to the reference (99,94%)(Table 3.2.3-30).

#### 2<sup>nd</sup> assessment timing (28 days after application)

In the **Maritime Eppo zone**, the herbicidal activity of JUZAN EXTRA 100 SC was also high as in previous assessment with increased efficacy at lowest rate to 93,9%, at 1,0 L/ha – 98,34% and achieving at the highest rate 100% as well as the reference (Table 3.2.3-31).

#### 3<sup>rd</sup> assessment timing (50 days after application)

Last assessment timing shortly before harvest, confirmed very high efficacy results against CHEPO at all tested rates (Table 3.2.3-32).

**Considering all elements presented above, it is justified to claim that CHEPO is highly susceptible for JUZAN EXTRA 100 SC at 0,8 L/ha (80 g/ha of mesotrione) when applied post-emergence in maize.**

**Table 3.2.3-30: Individual data – Efficacy trials – 1<sup>st</sup> assessment – Short-term effect – CHEPO**

Crops: Maize																
Assessment timing: 14 days after application																
Harmful organism: CHEPO																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants/m <sup>2</sup> )	Percentage of ground cover	Treatment  Active ingredient Dose FP /ha Dose g a.i./ha	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
								mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
								0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
								60	75-80	100	150	150	150	150	150	168
S16-02952-01	Maize - Grizzly	1 09/06/16 (BBCH 14)	23/06/16 (14 DA-A) - BBCH 37	BBCH 16	12,3	4%	% N & K 5%	-	87,61* c	96,83 b	99,75 a	-	99,94 a	-	-	-

\*dose rate 0,8 L/ha

**Table 3.2.3-31: Individual data – Efficacy trials – 2<sup>nd</sup> assessment — CHEPO**

Crops: Maize																
Assessment timing: 28 days after application																
Harmful organism: CHEPO																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants/m <sup>2</sup> )	Percentage of ground cover	Treatment  Active ingredient Dose FP /ha Dose g a.i./ha	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
								mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
								0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
								60	75-80	100	150	150	150	150	150	168
S16-02952-01	Maize - Grizzly	1 09/06/16 (BBCH 14)	07/07/16 (28 DA-A) - BBCH 65	BBCH 16	12	6%	% N & K 5%	-	93,9* d	98,34 b	100 a	-	100 a	-	-	-

\*dose rate 0,8 L/ha

**Table 3.2.3-32: Individual data – Efficacy trials – 3<sup>rd</sup> assessment — long-term effect CHEPO**

Crops: Maize																
Assessment timing: 127 days after application																
Harmful organism: CHEPO																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants/m <sup>2</sup> )	Percentage of ground cover	Treatment  Active ingredient Dose FP /ha Dose g a.i./ha	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
								mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
								0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
								60	75-80	100	150	150	150	150	150	168
S16-02952-01	Maize - Grizzly	1 09/06/16 (BBCH 14)	14/10/16 (127 DA-A) - BBCH 85	BBCH 16	12,5	8%	% N & K 5%	-	96,06* c	96,63 a	99,75 a	-	99,94 a	-	-	-

\*dose rate 0,8 L/ha



### ***Cirsium arvense* (CIRAR)**

CIRAR was observed in 18 trials carried out in investigating the minimum effective dose and the effectiveness of JUZAN EXTRA 100 SC applied post-emergence of maize.

At all assessment timings sufficient pest density was observed (5,35-8,04 plants/m<sup>2</sup>).

#### 1<sup>st</sup> assessment timing (14 days after application)

In the **North-eastern EPPO zone**, JUZAN EXTRA 100 SC achieved level of efficacy for rate 0,6 L/ha 73,75% for 0,75L/ha, 81,25%, for 1,0 L/ha 85% and for 1,5 L/ha 90,5%, what was comparable to the reference product (89,75%) (Table 3.2.3-33).

#### 2<sup>nd</sup> assessment timing (28 days after application)

At the second assessment timing, JUZAN EXTRA 100 SC achieved level of efficacy for rate 0,6 L/ha 65% for 0,75L/ha, 80,5%, for 1,0 L/ha 85% and for 1,5 L/ha 90,75%, what was comparable to the reference product (96,75%) (Table 3.2.3-34).

**Considering all elements presented above, it is justified to claim that CIRAR is susceptible for JUZAN EXTRA 100 SC at 1,0 L/ha (100 g/ha of mesotrione) when applied post-emergence in maize.**

**Table 3.2.3-33: Individual data – Efficacy trials – 1<sup>st</sup> assessment – Short-term effect –CIRAR**

Crops: Maize																
Assessment timing: 14 days after application																
Harmful organism: CIRAR																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants/m <sup>2</sup> )	Percentage of ground cover	Treatment  Active ingredient Dose FP /ha Dose g a.i./ha	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
								mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
								0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
								60	75-80	100	150	150	150	150	150	168
157_01_F19_278	Maize - Keltikus	1 10/06/19 (BBCH 14)	24/06/19 (14 DA-A) - BBCH 32	BBCH 33	5,35	5,5%	% N & K 5%	73,75 c	81,25 b	85,0 b	90,5 a	89,75 a	-	-	-	-

**Table 3.2.3-34: Individual data – Efficacy trials – 2<sup>nd</sup> assessment — CIRAR**

Crops: Maize																
Assessment timing: 28 days after application																
Harmful organism: CIRAR																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants/m <sup>2</sup> )	Percentage of ground cover	Treatment  Active ingredient Dose FP /ha Dose g a.i./ha	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
								mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
								0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
								60	75-80	100	150	150	150	150	150	168
157_01_F19_278	Maize - Keltikus	1 10/06/19 (BBCH 14)	08/07/19 (28 DA-A) - BBCH 51	BBCH 33	8,04	11,5%	% N & K 5%	65,0 c	80,5 b	90,75 ab	96,75 a	95,75 a	-	-	-	-

### ***Datura stramonium* (DATST)**

DATST was observed in 1 trial carried out in Slovakia investigating the minimum effective dose and the effectiveness of JUZAN EXTRA 100 SC applied post-emergence of maize.

At all assessment timings, sufficient density of DATST (7,3-8,3 plants/m<sup>2</sup>) was observed, which are considered valid for this assessment timing.

#### 1<sup>st</sup> assessment timing (13 days after application)

In the **South-eastern EPPO zone**, JUZAN EXTRA 100 SC at all tested doses provided high control of DATST. Efficacy recorded for doses 0,8-1,0 L/ha was at level 85% and 90% for 1,5 L/ha and reference product as well. (Table 3.2.3-35).

#### 2<sup>nd</sup> assessment timing (28 days after application)

About one month after application, the effectiveness of JUZAN EXTRA 100 SC increased against Papaver at all tested doses to 90% for 0,8 L/ha, 91,25% for 1,0 L/ha, 95% for 1,5 L/ha and 95,75 for reference product (Table 3.2.3-36).

#### 3<sup>rd</sup> assessment timing (142 days after application)

Final assessments shortly before harvest, confirmed results achieved at 2<sup>nd</sup> assessment (Table 3.2.3-37).

**Considering all elements presented above, it is justified to claim that DATST is susceptible for JUZAN EXTRA 100 SC at 0,8 L/ha (80 g/ha of mesotrione) when applied post-emergence in maize.**

**Table 3.2.3-35: Individual data – Efficacy trials – 1<sup>st</sup> assessment – Short-term effect – DATST**

Crops: Maize																
Assessment timing: 13 days after application																
Harmful organism: DATST																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants/m <sup>2</sup> )	Percentage of ground cover	Treat-ment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZA N EXTR A 100 SC	JUZA N EXTR A 100 SC	JU-ZAN 100 SC	Callis-to 100 SC	Temsa SC	Barrac-uda	Callis-to 480 SC
							Active ingredi-ent	mesotrion	mesotri-on	meso-trion	meso-trion	meso-trion	meso-trion	meso-trion	mesotri-on	meso-trion
							Dose FP /ha Dose g a.i./ha	0,6 60	0,75-0,8 75-80	1,0 100	1,5 150	1,5 150	1,5 150	1,5 150	1,5 150	0,35 168
S16-02953-01	Maize – DKC 5222	1 18/05/16 (BBCH 15)	31/05/16 (13 DA-A) - BBCH 31	BBCH 14	7,8	6,5%	% N & K 5%	-	85,0* b	85,0 b	90,0 a	-	-	90,0 a	-	-

\*dose rate 0,8 L/ha

**Table 3.2.3-36: Individual data – Efficacy trials – 2<sup>nd</sup> assessment — DATST**

Crops: Maize																
Assessment timing: 28 days after application																
Harmful organism: DATST																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants/m <sup>2</sup> )	Percentage of ground cover	Treat-ment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZA N EXTR A 100 SC	JUZA N EXTR A 100 SC	JU-ZAN 100 SC	Callis-to 100 SC	Temsa SC	Barrac-uda	Callis-to 480 SC
							Active ingredi-ent	mesotrion	mesotri-on	meso-trion	meso-trion	meso-trion	meso-trion	meso-trion	mesotri-on	meso-trion
							Dose FP /ha Dose g a.i./ha	0,6 60	0,75-0,8 75-80	1,0 100	1,5 150	1,5 150	1,5 150	1,5 150	1,5 150	0,35 168
S16-02953-01	Maize – DKC 5222	1 18/05/16 (BBCH 15)	15/06/176 (13 DA-A) - BBCH 33	BBCH 14	8,3	6,5%	% N & K 5%	-	90,0* bcd	91,25 bc	95,0 a	-	-	95,75 a	-	-

\*dose rate 0,8 L/ha

**Table 3.2.3-37: Individual data – Efficacy trials – 3<sup>rd</sup> assessment — long-term effect DATST**

Crops: Maize																
Assessment timing: 142 days after application																
Harmful organism: DATST																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants/m <sup>2</sup> )	Percentage of ground cover	Treatment  Active ingredient Dose FP /ha Dose g a.i./ha	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
								mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
								0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
								60	75-80	100	150	150	150	150	150	168
S16-02953-01	Maize – DKC 5222	1 18/05/16 (BBCH 15)	07/10/16 (142 DA-A) - BBCH 89	BBCH 14	8,3	6,5%	% N & K 5%	-	90,0* bcd	91,25 bc	95,0 a	-	-	95,75 a	-	-

\*dose rate 0,8 L/ha

### ***Echinochloa crus-galli* (ECHCG)**

ECHCG was observed in 15 trials carried out in Poland (6), Czech Republic (3), Hungary (2), Romania (3) and Slovakia (1) investigating the minimum effective dose and the effectiveness of JUZAN EXTRA 100 SC applied post-emergence of maize.

#### 1<sup>st</sup> assessment timing (7-14 days after application)

At the first assessment timing, sufficient density of ECHCG (5,75 – 190 plants/m<sup>2</sup>) was observed in the 15 trials.

In the **North-eastern EPPO zone**, JUZAN EXTRA 100 SC showed clear dose response in all 6 trials, with moderate level of control between 53,75% for the lowest rate 0,6 L/ha 62,99% for dose range 0,75-0,8L/ha, 70,53% for 1,0 L/ha and mean 81,36% for 1,5 L/ha what was comparable to the reference product performance (average 83,42% efficacy) (Table 3.2.3-38).

In the **Maritime EPPO zone**, the effectiveness of JUZAN EXTRA 100 SC in 3 trials achieved results clearly dose depended: for 0,6 L/ha 59,40%, 0,75-0,8 L/ha – 77,13%, 1,0 L/ha – 81,42% and for 1,5L/ha very good control at level 86,67%. Exactly the same average efficacy was presented by the reference product (Table 3.2.3-38).

In the **South-eastern EPPO zone**, the performance of JUZAN EXTRA 100 SC presented as well as in other EPPO zones clear dose response and very similar results, achieving average efficacy 54,48% for 0,6 L/ha, 66,39% 0,75-0,8 L/ha, 75,12% 1,0 L/ha and 84,98 % at 1,5 L/ha against ECHCG shortly after application, what was equivalent to the reference product (84,53%) (Table 3.2.3-38).

In **Special grouping of neighbouring countries (Poland and Czech Republic)** average efficacy was at level between 55,63% for the lowest dose 0,6 L/ha and 83,94% for the highest dose 1,5 L/ha, what was comparable to the reference product (84,93%) (Table 3.2.3-38).

When taking into account **all EPPO Zones** together, the results are practically the same as in each EPPO zone and special grouping reaching 83,94% at the highest dose 1,5 L/ha of JUZAN EXTRA 100 SC what was comparable to the reference product (84,93%) (Table 3.2.3-38).

#### 2<sup>nd</sup> assessment timing (about 24-28 days after application)

At the second spring assessment timing, sufficient density of ~~CHEAL~~ ECHCG (6,75– 189.5 plants/m<sup>2</sup>) was observed in the 15 trials.

About one month after application, the effectiveness of JUZAN EXTRA 100 SC at most of trials were higher than at first assessment. Clear dose response still was visible whatever EPPO zone was considered.

In the **North-eastern EPPO zone**, the control of the target weed was at level 64,06% at dose 0,6 L/ha, 69,58% at 0,75L/ha, 78,96% at 1,0 L/ha and 90,46% at 1,5L/ha what was comparable to the reference product which achieved in average 88,25% (Table 3.2.3-39).

In the **Maritime EPPO zone**, the herbicidal activity of JUZAN EXTRA 100 SC almost all tested doses achieved high level: 68,8% - 0,6 L/ha, 83,0% - 0,75-1,0 L/ha, 82,02% 1,0 L/ha and 84,6% - 1,5 L/ha. The reference product achieved 87,53% efficacy what was comparable to the highest dose of JUZAN EXTRA 100 SC (Table 3.2.3-39).

In the **South-eastern EPPO zone**, the effectiveness of JUZAN EXTRA 100 SC presented average efficacy 49,88% for 0,6 L/ha, 62,48% 0,75-0,8 L/ha, 73,24% 1,0 L/ha and 83,56% at 1,5 L/ha against ECHCG, what was equivalent to the reference product (83,5%). In one trial in HUNGARY the results were lower than in other trials, however it was probably caused by very high weed population (189,8 pla/m<sup>2</sup>) (Table 3.2.3-39).

In **Special grouping of neighbouring countries (Poland and Czech Republic)** was at level 65,64% for 0.6 L/ha, 75,28% - 0,75-0,8L/ha, 81,11% -1,0L/ha and 89,03% for 1,5L/ha what was comparable to the reference (88,46%) (Table 3.2.3-39).

When taking into account **all EPPO Zones** together, the average efficacy results was at similar level achieving results 89,03% for dose range the highest rate 1,5 L/ha of JUZAN EXTRA 100 SC (Table 3.2.3-39).

3<sup>rd</sup> assessment timing – long term effect (35-142 days after application)

At last assessment timing level of efficacy of JUZAN EXTRA 100 SC against ECHCG results at all EPPO Zones was very similar as in previous assessment, achieving approximately 85% efficacy at 1,5 L/ha similarly to the reference product (Table 3.2.3-40).

Summing up, clear dose response were visible at all trials and no significant differences between results at particular dose rate were noted across all EPPO zones.

**Considering all elements presented above, it is justified to claim that ECHCG is susceptible for JUZAN EXTRA 100 SC at 1,5 L/ha (150 g/ha of mesotrione) when applied post-emergence in maize.**

**Table 3.2.3-38: Grouped data – Efficacy trials – 1<sup>st</sup> assessment – ECHCG**

<b>Crops: Maize</b>									
<b>Assessment timing: 7-14 days after application</b>									
<b>Harmful organism: ECHCG</b>									
<b>Treatment</b>	<b>JUZAN EXTRA 100 SC</b>	<b>JUZAN EXTRA 100 SC</b>	<b>JUZAN EXTRA 100 SC</b>	<b>JUZAN EXTRA 100 SC</b>	<b>JUZAN 100 SC</b>	<b>Callisto 100 SC</b>	<b>Temsa SC</b>	<b>Barracuda</b>	<b>Callisto 480 SC</b>
<b>Active ingredient</b>	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
<b>Dose FP /ha</b>	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
<b>Dose g a.i./ha</b>	60	75-80	100	150	150	150	150	150	168
<b>NORTH EASTERN EPPO ZONE</b>									
<b>Data grouping (PL)</b>	Number of values	4	6	6	6	4	2	-	-
	Minimum value	22,5	27,5	32,5	43,75	51,25	-	-	-
	Maximum value	67,5	77,5	87,5	100	100	-	-	-
	Mean	53,75	62,99	70,53	81,36	83,42	-	-	-
	Nb of dose effects compared to 1,5 L/ha	4/4	6/6	5/6	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	2 trial > 2 trials = 2 trial <	-	-	-	-
<b>MARITIME EPPO ZONE</b>									
<b>Data grouping (DE, CZ)</b>	Number of values	2	3	3	3	-	3	-	-
	Minimum value	55,0	67,5	72,5	77,5	-	77,5	-	-
	Maximum value	63,8	93,9	99,27	100	-	100	-	-
	Mean	59,40	77,13	81,42	86,67	-	86,67	-	-
	Nb of dose effects compared to 1,5 L/ha	2/2	2/3	1/3	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	0 trial > 3 trials = 0 trials <	-	-	-	-
<b>SOUTH EASTERN EPPO ZONE</b>									
<b>Data grouping (HU, RO, SK)</b>	Number of values	5	6	6	6	-	2	1	3
	Minimum value	30,0	32,5	46,3	70,0	-	-	70,0	-
	Maximum value	65,3	86,25	90,0	93,3	-	-	91,8	-
	Mean	54,48	66,39	75,12	84,98	-	-	84,53	-
	Nb of dose effects compared to 1,5 L/ha	4/5	6/6	5/6	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	-	-	-	-	-



	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	2 trial > 3 trials = 1 trial <	-	-	-	-	-
<b>SPECIAL GROUPING NEIGHBORING COUNTRIES (POLAND + GERMANY+ CZECH REPUBLIC+SLOVAKIA)</b>										
<b>Data grouping</b> (PL, DE, CZ, SK)	Number of values	6	10	10	10	4	5	1	-	-
	Minimum value	22,5	27,5	32,5	43,75	51,25			-	-
	Maximum value	67,5	93,9	99,27	100	100			-	-
	Mean	55,63	69,56	75,74	83,94	84,93			-	-
	Nb of dose effects compared to 1,5 L/ha	6/6	9/10	6/10	-	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	3 trial > 5 trials = 2 trials <	-	-	-	-	-
<b>ALL EPPO ZONES</b>										
<b>Data grouping</b> (ALL)	Number of values	11	15	15	15	4	7	1	3	1
	Minimum value	22,5	27,5	32,5	43,75	51,25				
	Maximum value	67,5	93,9	99,27	100	100				
	Mean	55,11	67,18	74,54	83,87	84,51				
	Nb of dose effects compared to 1,5 L/ha	10/11	14/15	11/15	-	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	4 trial > 8 trials = 3 trials <	-	-	-	-	-

**Table 3.2.3-39: Grouped data – Efficacy trials – 2<sup>nd</sup> assessment – ECHCG**

	Crops: Maize									
	Assessment timing: 24-28 days after application									
	Harmful organism: ECHCG									
	Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
Active ingredient	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	
Dose FP /ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35	
Dose g a.i./ha	60	75-80	100	150	150	150	150	150	168	
NORTH EASTERN EPPO ZONE										
Data grouping (PL)	Number of values	4	6	6	6	4	2	-	-	-
	Minimum value	53,75	57,5	65,0	86,25		70,0	-	-	-
	Maximum value	71,25	77,5	91,25	100		100	-	-	-
	Mean	64,06	69,58	78,96	90,46		88,25	-	-	-
	Nb of dose effects compared to 1,5 L/ha	4/4	6/6	5/6	-	-	-	-	-	-
Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	2 trial > 2 trials = 2 trial <	-	-	-	-	-	
MARITIME EPPO ZONE										
Data grouping (DE, CZ)	Number of values	2	3	3	3	-	3	-	-	-
	Minimum value	63,8	70,0	63,8	67,5		71,3	-	-	-
	Maximum value	73,8	96,5	99,75	100		100	-	-	-
	Mean	68,8	83,0	82,02	84,6		87,53	-	-	-
	Nb of dose effects compared to 1,5 L/ha	1/2	2/3	1/3	-	-	-	-	-	-
Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	0 trial > 1 trials = 2 trials <	-	-	-	-	-	
SOUTH EASTERN EPPO ZONE										
Data grouping (HU, RO, SK)	Number of values	5	6	6	6	-	2	1	3	-
	Minimum value	10,0	10,0	36,3	60,0	-			58,8	
	Maximum value	66,8	86,25	91,25	93,75	-			92,5	
	Mean	49,88	62,48	73,24	83,56	-			83,50	
	Nb of dose effects	4/5	6/6	5/6	-	-	-	-	-	-

	compared to 1,5 L/ha									
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	2 trial > 3 trials = 1 trial <	-	-	-	-	-
<b>SPECIAL GROUPING NEIGHBORING COUNTRIES (POLAND + GERMANY+ CZECH REPUBLIC+SLOVAKIA)</b>										
<b>Data grouping</b> (PL, DE, CZ, SK)	Number of values	6	10	10	10	4	5	1	-	-
	Minimum value	53,75	57,5	63,8	67,5		70,0		-	-
	Maximum value	73,8	96,5	99,75	100		100		-	-
	Mean	<b>65,64</b>	<b>75,28</b>	<b>81,11</b>	<b>89,03</b>		<b>88,46</b>		-	-
	Nb of <b>dose effects</b> compared to 1,5 L/ha	6/6	9/10	6/10	-	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	3 trial > 5 trials = 2 trials <	-	-	-	-	-
<b>ALL EPPO ZONES</b>										
<b>Data grouping</b> (ALL)	Number of values	11	15	15	15	4	7	1	3	1
	Minimum value	10,0	10,0	36,3	60,0			58,8		
	Maximum value	73,8	96,5	99,75	100			100		
	Mean	<b>58,48</b>	<b>69,42</b>	<b>77,28</b>	<b>86,53</b>			<b>86,21</b>		
	Nb of <b>dose effects</b> compared to 1,5 L/ha	9/11	14/15	11/15	-	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	4 trial > 6 trials = 5 trials <	-	-	-	-	-

**Table 3.2.3-40: Grouped data – Efficacy trials – 3<sup>rd</sup> assessment – long-term effect - ECHCG**

Crops: Maize										
Assessment timing: 35-142 days after application										
Harmful organism: ECHCG										
Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC	
Active ingredient	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	
Dose FP /ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35	
Dose g a.i./ha	60	75-80	100	150	150	150	150	150	168	
NORTH EASTERN EPPO ZONE										
Data grouping (PL)	Number of values	1	3	3	3	1	2	-	-	-
	Minimum value	65,0	60,0	71,25	78,75	67,5		-	-	-
	Maximum value	65,0	80,0	85,00	97,75	99,5		-	-	-
	Mean	65,0	71,67	78,33	88,0	84,83		-	-	-
	Nb of dose effects compared to 1,5 L/ha	1/1	2/3	2/3	-	-	-	-	-	-
Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	1 trial > 1 trials = 1trial <	-	-	-	-	-	
MARITIME EPPO ZONE										
Data grouping (DE, CZ)	Number of values	2	3	3	3	-	3	-	-	-
	Minimum value	52,5	62,5	55,0	65,0		68,8	-	-	-
	Maximum value	78,8	98,0	100	100		100	-	-	-
	Mean	65,65	81,43	80,83	84,17		87,53	-	-	-
	Nb of dose effects compared to 1,5 L/ha	2/2	1/3	1/3	-	-	-	-	-	-
Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	0 trial > 1 trials = 2 trials <	-	-	-	-	-	
SOUTH EASTERN EPPO ZONE										
Data grouping (HU, RO, SK)	Number of values	4	5	5	5	-	1	1	3	-
	Minimum value	5,0	5,0	30,0	52,5	-	52,5			
	Maximum value	66,5	86,25	91,25	93,75	-	92,5			
	Mean	48,95	63,27	74,11	83,01	-	82,46			
	Nb of dose effects	4/4	5/5	4/5	-	-	-	-	-	-

	compared to 1,5 L/ha									
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	4 trial > 1 trials = 0 trial <	-	-	-	-	-
<b>SPECIAL GROUPING NEIGHBORING COUNTRIES (POLAND + GERMANY+ CZECH REPUBLIC+SLOVAKIA)</b>										
<b>Data grouping</b> (PL, DE, CZ, SK)	Number of values	3	7	7	7	1	5	1	-	-
	Minimum value	52,5	60,0	55,0	65,0		67,5		-	-
	Maximum value	78,8	98,0	100	100		100		-	-
	Mean	<b>65,43</b>	<b>77,94</b>	<b>81,25</b>	<b>87,18</b>		<b>87,09</b>		-	-
	Nb of <b>dose effects</b> compared to 1,5 L/ha	3/3	4/7	3/7	-	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	2 trial > 2 trials = 3 trials <	-	-	-	-	-
<b>ALL EPPO ZONES</b>										
<b>Data grouping</b> (ALL)	Number of values	7	11	11	11	1	6	1	3	1
	Minimum value	5,0	5,0	30,0	52,5			52,5		
	Maximum value	78,8	98,0	100	100			100		
	Mean	<b>56,01</b>	<b>70,51</b>	<b>77,10</b>	<b>84,69</b>			<b>84,49</b>		
	Nb of <b>dose effects</b> compared to 1,5 L/ha	7/7	8/11	7/11	-	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	5 trial > 3trials = 3trials <	-	-	-	-	-

### ***Galium aparine* (GALAP)**

GALAP was observed in 4 trials carried out in Poland investigating the minimum effective dose and the effectiveness of JUZAN EXTRA 100 SC applied post-emergence of maize.

#### 1<sup>st</sup> assessment timing (7-14 days after application)

At the first assessment timing, sufficient density of ~~ECHCG~~ GALAP (5,5 – 10 plants/m<sup>2</sup>) was observed in the 15 trials.

In the **North-eastern EPPO zone**, JUZAN EXTRA 100 SC showed clear dose response in most of the trials, with level of 61,25% for the lowest rate 0,6 L/ha 69,65% for dose range 0,75-0,8L/ha, 80,02% for 1,0 L/ha and mean 86,48% for 1,5 L/ha what was comparable to the reference product performance (average 90,95% efficacy) (Table 3.2.3-41).

#### 2<sup>nd</sup> assessment timing (about 27-28 days after application)

At the second spring assessment timing, sufficient density of ~~CHEAL~~ GALAP (5,5– 11 plants/m<sup>2</sup>) was observed in the 15 trials.

In the **North-eastern EPPO zone**, the control of the target weed was at level 60,63% at dose 0,6 L/ha, 69,32% at 0,75-0,8 L/ha, 80,5% at 1,0 L/ha and good control 85,0% at 1,5L/ha what was comparable to the reference product which achieved in average 89,86% (Table 3.2.3-42).

#### 3<sup>rd</sup> assessment timing – long term effect (110-116 days after application)

At last assessment timing shortly before harvest level of efficacy of JUZAN EXTRA 100 SC was assessed in 2 trials. The results confirmed very good control of JUZAN EXTRA 100 SC against GALAP which achieved at 0,8 L/ha 86,25%, 90% at 1,0 L/ha and 91,25% at 1,5 L/ha what was comparable to the reference product (96,88%) (Table 3.2.3-43).

**Considering all elements presented above, it is justified to claim that GALAP is susceptible for JUZAN EXTRA 100 SC at 1,5 L/ha (150 g/ha of mesotrione) when applied post-emergence in maize.**

**Table 3.2.3-41: Grouped data – Efficacy trials – 1<sup>st</sup> assessment – GALAP**

Crops: Maize									
Assessment timing: 10-14 days after application									
Harmful organism: GALAP									
Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
Active ingredient	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
Dose FP /ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
Dose g a.i./ha	60	75-80	100	150	150	150	150	150	168
NORTH EASTERN EPPO ZONE									
Data grouping (PL)	Number of values	2	4	4	4	2	2	-	-
	Minimum value	58,75	37,33	66,32	74,65	85,0		-	-
	Maximum value	63,75	100	100	100	100		-	-
	Mean	61,25	69,65	80,02	86,48	90,95		-	-
	Nb of dose effects compared to 1,5 L/ha	4/2	6/4	5/4	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	0 trial > 3 trials = 1 trial <	-	-	-	-

**Table 3.2.3-42: Grouped data – Efficacy trials – 2<sup>nd</sup> assessment – GALAP**

Crops: Maize									
Assessment timing: 27-28 days after application									
Harmful organism: GALAP									
Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
Active ingredient	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
Dose FP /ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
Dose g a.i./ha	60	75-80	100	150	150	150	150	150	168
NORTH EASTERN EPPO ZONE									
Data grouping (PL)	Number of values	2	4	4	4	2	2	-	-
	Minimum value	50,0	39,78	64,51	57,74	85,18		-	-
	Maximum value	71,25	100	100	100	100		-	-
	Mean	60,63	69,32	80,50	85,00	89,86		-	-
	Nb of dose effects compared to 1,5 L/ha	2/2	2/4	2/4	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	2 trial > 1 trial = 1 trial <	-	-	-	-



**Table 3.2.3-43: Grouped data – Efficacy trials – 3<sup>rd</sup> assessment – long-term effect - GALAP**

Crops: Maize									
Assessment timing: 110-116 days after application									
Harmful organism: GALAP									
Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
Active ingredient	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
Dose FP /ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
Dose g a.i./ha	60	75-80	100	150	150	150	150	150	168
NORTH EASTERN EPPO ZONE									
Data grouping (PL)	Number of values	-	2	2	2	-	2	-	-
	Minimum value		72,5	80,0	82,5		93,75	-	
	Maximum value		100	100	100		100	-	
	Mean		86,25	90,0	91,25		96,88	-	
	Nb of dose effects compared to 1,5 L/ha	-	1/2	0/2	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	0 trial > 1 trial = 1 trial <	-	-	-	-

### ***Galinsoga parviflora* (GASPA)**

GASPA was observed in 3 trials carried out in Poland investigating the minimum effective dose and the effectiveness of JUZAN EXTRA 100 SC applied post-emergence of maize.

#### 1<sup>st</sup> assessment timing (13-14 days after application)

At the first spring assessment timing, sufficient density of GASPA (6,35 – 38,11 plants/m<sup>2</sup>) was observed in the all the trials which are considered valid for this assessment timing.

In the **North-eastern EPPO zone**, JUZAN EXTRA 100 SC showed clear dose response in most of the trials. Two of three trials presented very good level of control at dose 1,0 L/ha (above 85%), while in one trial the results were at low level with maximum efficacy 47,5%. In all trials the efficacy results of maximum dose 1,5 L/ha was comparable to the reference product (Table 3.2.3-44).

#### 2<sup>nd</sup> assessment timing (about 27-28 days after application)

At the second spring assessment timing, sufficient density of GASPA (6,35– 40,05 plants/m<sup>2</sup>) was observed in all the trials.

In the **North-eastern EPPO zone**, the control of the target weed was higher than in previous assessment and was at level 71,08% at dose 0,6 L/ha, 85,25% at 0,75L/ha, 93,92% at 1,0 L/ha and 95,42% at 1,5L/ha what was comparable to the reference product which achieved in average 95,08%. (Table 3.2.3-45).

#### 3<sup>rd</sup> assessment timing – long term effect (44 days after application)

Only at one trial was performed long-term efficacy assessment, however the confirmed good control of GASPA by JUZAN EXTRA 100 SC (Table 3.2.3-46).

**Considering all elements presented above, it is justified to claim that GASPA is susceptible for JUZAN EXTRA 100 SC at 0,75 L/ha (75 g/ha of mesotrione) when applied post-emergence in maize.**

**Table 3.2.3-44: Grouped data – Efficacy trials – 1<sup>st</sup> assessment – GASPA**

		Crops: Maize								
		Assessment timing: 13-14 days after application								
		Harmful organism: GASPA								
Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC	
Active ingredient	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	
Dose FP /ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35	
Dose g a.i./ha	60	75-80	100	150	150	150	150	150	168	
NORTH EASTERN EPPO ZONE										
Data grouping (PL)	Number of values	3	3	3	3	3	-	-	-	-
	Minimum value	33,75	41,25	45,0	47,5	47,5	-	-	-	-
	Maximum value	75,0	82,5	100	100	100	-	-	-	-
	Mean	58,75	68,33	77,08	79,75	79,17	-	-	-	-
	Nb of dose effects compared to 1,5 L/ha	3/3	2/3	1/3	-	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	1 trial > 2 trial = 0 trial <	-	-	-	-	-

**Table 3.2.3-45: Grouped data – Efficacy trials – 2<sup>nd</sup> assessment – GASPA**

		Crops: Maize								
		Assessment timing: 13-14 days after application								
		Harmful organism: GASPA								
	Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
	Active ingredient	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
	Dose FP /ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
	Dose g a.i./ha	60	75-80	100	150	150	150	150	150	168
NORTH EASTERN EPPO ZONE										
Data grouping (PL)	Number of values	3	3	3	3	3	-	-	-	-
	Minimum value	62,5	80,0	85,0	88,75	88,75	-	-	-	-
	Maximum value	83,25	93,25	100	100	100	-	-	-	-
	Mean	71,08	85,25	93,92	95,42	95,08	-	-	-	-
	Nb of dose effects compared to 1,5 L/ha	3/3	2/3	0/3	-	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	1 trial > 2 trial = 0 trial <	-	-	-	-	-

**Table 3.2.3-46: Individual data – Efficacy trials – 3<sup>rd</sup> assessment — long-term effect GASPA**

Crops: Maize																
Assessment timing: 44 days after application																
Harmful organism: GASPA																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants/m <sup>2</sup> )	Percentage of ground cover	Treatment  Active ingredient Dose FP /ha Dose g a.i./ha	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
								mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
								0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
								60	75-80	100	150	150	150	150	150	168
156_01_F19_277	Maize - Ulan	1 06/06/19 (BBCH 18)	05/08/19 (44 DA-A) - BBCH 55	BBCH 18	6,74	2%	% N & K 5%	68,75 c	82,5 b	86,25 b	90 a	90 a	-	-	-	-

### ***Hibiscus trionum* (HIBTR)**

HIBTR was observed in 4 trials in South Eastern EPPO zone, carried out Slovakia (1), Hungary (2) and Romania (1) investigating the minimum effective dose and the effectiveness of JUZAN EXTRA 100 SC applied post-emergence of maize.

#### 1<sup>st</sup> assessment timing (7-14 days after application)

At the first spring assessment timing, sufficient density of HIBTR (4.88 – 20,3 plants/m<sup>2</sup>) was observed in all the trials which are considered valid for this assessment timing.

In the **South-eastern EPPO zone**, the performance of JUZAN EXTRA 100 SC was differential between the trials. In 2 Hungarian trials the results were low 41,3-51.3% for the highest dose 1,5 L/ha, while two other trials presented very high results of control HIBTR between 85-97,5% for 1,5 L/ha. In all trials the reference product was fully comparable to the highest dose 1,5 L/ha of JUZAN EXTRA 100 SC (Table 3.2.3-47).

#### 2<sup>nd</sup> assessment timing (about 28-29 days after application)

At the second spring assessment timing, sufficient density of ~~GASPA~~ HIBTR (4,88– 20,03 plants/m<sup>2</sup>) was observed in all the trials.

About one month after application, the effectiveness of JUZAN EXTRA 100 SC the results were very similar to that achieved at first assessment with average efficacy 26,25% for 0,6b L/ha, 57,84% for 0,75-0,8 L/ha, 63,76 for 1,0mL/ha and 68,13% for 1,5 L/ha, what was comparable to the results of reference product (67,5%) (Table 3.2.3-48).

#### 3<sup>rd</sup> assessment timing – long term effect (50-142 days after application)

This assessment was conducted in 3 trials. The results achieved confirmed similar level of control HIBTR as in previous assessments with level of control at highest dose 72,52% and comparable results to reference (72,08%) (Table 3.2.3-49).

**Considering all elements presented above, it is justified to claim that HIBTR is moderatl tolerant for JUZAN EXTRA 100 SC at 1,5 L/ha (150 g/ha of mesotrione) when applied post-emergence in maize.**

**Table 3.2.3-47: Grouped data – Efficacy trials – 1<sup>st</sup> assessment – HIBTR**

Crops: Maize										
Assessment timing: About 7 - 14 days after application										
Harmful organism: HIBTR										
Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC	
Active ingredient	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	
Dose FP /ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35	
Dose g a.i./ha	60	75-80	100	150	150	150	150	150	168	
SOUTH EASTERN EPPO ZONE										
Data grouping (HU, RO, SK)	Number of values	2	4	4	4	-	2	1	-	1
	Minimum value	31,3	35,0	38,8	41,3	-	42,5			
	Maximum value	32,5	85,0	92,5	97,5	-	91,25			
	Mean	31,9	61,88	65,95	68,78	-	67,83			
	Nb of dose effects compared to 1,5 L/ha	2/2	3/4	1/4	-	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	1 trial > 1 trials = 2 trial <	-	-	-	-	-	-

**Table 3.2.3-48: Grouped data – Efficacy trials – 2<sup>nd</sup> assessment – HIBTR**

Crops: Maize										
Assessment timing: About 7 - 14 days after application										
Harmful organism: HIBTR										
Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC	
Active ingredient	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	
Dose FP /ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35	
Dose g a.i./ha	60	75-80	100	150	150	150	150	150	168	
SOUTH EASTERN EPPO ZONE										
Data grouping (HU, RO, SK)	Number of values	2	4	4	4	-	2	1	-	1
	Minimum value	25,0	28,8	33,8	37,5	-		37,5		
	Maximum value	27,5	83,75	91,25	97,5	-		95,0		
	Mean	26,25	57,84	63,76	68,13	-		67,5		
Data grouping (HU, RO, SK)	Nb of dose effects compared to 1,5 L/ha	2/2	4/4	1/4	-	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	1 trial > 3 trials = 0 trial <	-	-	-	-	-	-



**Table 3.2.3-49: Grouped data – Efficacy trials – 3<sup>rd</sup> assessment – long-term effect - HIBTR**

Crops: Maize										
Assessment timing: About 50 - 142 days after application										
Harmful organism: HIBTR										
Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC	
Active ingredient	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	
Dose FP /ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35	
Dose g a.i./ha	60	75-80	100	150	150	150	150	150	168	
SOUTH EASTERN EPPO ZONE										
Data grouping (HU, RO, SK)	Number of values	1	3	3	3	-	1	1	-	1
	Minimum value	21,3	21,3	27,5	31,3	-		32,5		
	Maximum value	21,3	82,5	91,25	96,25	-		93,75		
	Mean	21,3	61,27	67,92	72,52	-	72,08			
	Nb of dose effects compared to 1,5 L/ha	1/1	3/3	1/1	-	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	1 trial > 1 trials = 1 trial <	-	-	-	-	-	-

### ***Lamium purpureum* (LAMPU)**

LAMPU was observed in 5 trials in North-Eastern and Maritime EPPO zone, carried out in Poland (3), Germany (1) and Czech republic (1) investigating the minimum effective dose and the effectiveness of JUZAN EXTRA 100 SC applied post-emergence of maize.

#### 1<sup>st</sup> assessment timing (14-16 days after application)

At the first assessment timing, sufficient density of LAMPU (5,8 – 20,75 plants/m<sup>2</sup>) was observed in the 15 trials.

In the **North-eastern EPPO zone**, JUZAN EXTRA 100 SC showed clear dose response with high efficacy level across 3 trials of 70,0% for the lowest rate 0,6 L/ha 77,5% for dose range 0,75-0,8L/ha, 89,14% for 1,0 L/ha and mean 92,45% for 1,5 L/ha what was comparable to the reference product performance (average 93,5% efficacy) (Table 3.2.3-50).

In the **Maritime EPPO zone**, the effectiveness of JUZAN EXTRA 100 SC in 2 trials achieved very high efficacy results: 0,6 L/ha 87,5%, 0,75-0,8 L/ha – 90,1%, 1,0 L/ha – 92,51% and for 1,5L/ha almost complete control 99,72%, similarly as the reference product, which achieved 93,5% (Table 3.2.3-50).

In **Special grouping of neighbouring countries (Poland and Czech Republic)** average efficacy was at level between 75,83% for the lowest dose 0,6 L/ha, 82,57% at 0,75-0,8 L/ha, 90,49% at 1,0 L/ha and 95,36% for the highest dose 1,5 L/ha, what was comparable to the reference product (95,55%) (Table 3.2.3-50).

#### 2<sup>nd</sup> assessment timing (about 24-30 days after application)

At the second spring assessment timing, sufficient density of ~~GASPA~~ LAMPU (5,8– 20,75 plants/m<sup>2</sup>) was observed in all the trials.

In the **North-eastern EPPO zone**, the control of the target weed was higher than in previous assessment and was at level 72,88% at dose 0,6 L/ha, 90,58% at 0,75-0,8L/ha, 94,58% at 1,0 L/ha and 95,17% at 1,5L/ha what was comparable to the reference product which achieved in average 95,5% (Table 3.2.3-51).

In the **Maritime EPPO zone**, the herbicidal activity of JUZAN EXTRA 100 SC all tested doses achieved high efficacy level: 87,5% - 0,6 L/ha, 91,78% - 0,75-1,0 L/ha, 93,57% 1,0 L/ha and 99,97% - 1,5 L/ha. The reference product achieved 98,75% efficacy what was comparable to the highest dose of JUZAN EXTRA 100 SC (Table 3.2.3-51).

In **Special grouping of neighbouring countries (Poland and Czech Republic)** efficacy was at level 77,75% for 0.6 L/ha, 91,06% - 0,75-0,8L/ha, 94,18% -1,0L/ha and 97,09% for 1,5L/ha what was comparable to the reference (96,8%) (Table 3.2.3-51).

#### 3<sup>rd</sup> assessment timing – long term effect (40-127 days after application)

This assessment was conducted in 3 trials. The results achieved confirmed very high level of control LAMPU as in previous assessments with level of control at highest dose between 87,5 for the lowest rate and total control 100% at the highest dose 1,5 L/ha and comparable results to reference (99,17%) (Table 3.2.3-52).

**Considering all elements presented above, it is justified to claim that LAMPU is highly susceptible for JUZAN EXTRA 100 SC at 0,75 L/ha (75 g/ha of mesotrione) when applied post-emergence in maize.**

**Table 3.2.3-50: Grouped data – Efficacy trials – 1<sup>st</sup> assessment –LAMPU**

Crops: Maize									
Assessment timing: 14-16 days after application									
Harmful organism: LAMPU									
Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
Active ingredient	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
Dose FP /ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
Dose g a.i./ha	60	75-80	100	150	150	150	150	150	168
NORTH EASTERN EPPO ZONE									
Data grouping (PL)	Number of values	2	3	3	3	2	1	-	-
	Minimum value	58,75	63,75	73,75	85,0	83,75		-	-
	Maximum value	81,25	90,5	99,16	97,5	99,5		-	-
	Mean	70,0	77,5	89,14	92,45	93,5		-	-
	Nb of dose effects compared to 1,5 L/ha	2/2	3/3	1/3	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	2 trial > 0 trials = 1 trial <	-	-	-	-
MARITIME EPPO ZONE									
Data grouping (DE, CZ)	Number of values	1	2	2	2	-	2	-	-
	Minimum value	87,5	87,5	87,5	99,4	97,5		-	-
	Maximum value	87,5	92,7	97,52	100	99,75		-	-
	Mean	87,5	90,1	92,51	99,72	98,63		-	-
	Nb of dose effects compared to 1,5 L/ha	1/1	1/2	1/2	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	1 trial > 0 trials = 1 trials <	-	-	-	-
SPECIAL GROUPING NEIGHBORING COUNTRIES (POLAND + GERMANY+ CZECH REPUBLIC) /// ALL EPPO ZONES									
Data grouping (PL, DE, CZ)	Number of values	3	5	5	5	2	3	-	-
	Minimum value	58,75	63,75	73,75	85,0	83,75		-	-
	Maximum value	87,5	92,7	99,16	100	99,75		-	-
	Mean	75,83	82,57	90,49	95,36	95,55		-	-
	Nb of dose effects compared to 1,5 L/ha	3/3	4/5	2/5	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	-	-	-	-	-

	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	3 trial > 0 trials = 2 trials <	-	-	-	-	-
--	---	---	---	---	---------------------------------------	---	---	---	---	---

**Table 3.2.3-51: Grouped data – Efficacy trials – 2<sup>nd</sup> assessment – LAMPU**

<b>Crops:</b> Maize
<b>Assessment timing:</b> 24-30 days after application
<b>Harmful organism:</b> LAMPU

Treatment		JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
Active ingredient		mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
Dose FP /ha		0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
Dose g a.i./ha		60	75-80	100	150	150	150	150	150	168
NORTH EASTERN EPPO ZONE										
Data grouping (PL)	Number of values	2	3	3	3	2	1	-	-	-
	Minimum value	61,25	80,0	85,0	87,5	88,75		-	-	-
	Maximum value	84,5	96,75	100	100	100		-	-	-
	Mean	72,88	90,58	94,58	95,17	95,5		-	-	-
	Nb of dose effects compared to 1,5 L/ha	2/2	1/3	0/3	-	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	1 trial > 1 trials = 1 trial <	-	-	-	-	-
MARITIME EPPO ZONE										
Data grouping (DE, CZ)	Number of values	1	2	2	2	-	2	-	-	-
	Minimum value	87,5	87,5	87,5	99,94	97,5		-	-	-
	Maximum value	87,5	96,06	99,63	100	100		-	-	-
	Mean	87,5	91,78	93,57	99,97	98,75		-	-	-
	Nb of dose effects compared to 1,5 L/ha	1/1	1/2	1/2	-	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	1 trial > 0 trials = 1 trials <	-	-	-	-	-
SPECIAL GROUPING NEIGHBORING COUNTRIES (POLAND + GERMANY+ CZECH REPUBLIC) /// ALL EPPO ZONES										
Data grouping (PL, DE, CZ)	Number of values	3	5	5	5	2	3	-	-	-
	Minimum value	61,25	80,0	85,0	87,5	88,75		-	-	-
	Maximum value	87,5	96,75	100	100	100		-	-	-
	Mean	77,75	91,06	94,18	97,09	96,8		-	-	-
	Nb of dose effects compared to 1,5 L/ha	3/3	2/5	1/5	-	-	-	-	-	-
	Nb of trials where	-	-	-	2 trial >	-	-	-	-	-

	JUZAN EXTRA 100 SC C is >, = or < compared to standard				1 trials = 2 trials <					
--	---	--	--	--	--------------------------	--	--	--	--	--

**Table 3.2.3-52: Grouped data – Efficacy trials – 3<sup>rd</sup> assessment – long-term effect - LAMPU**

Crops: Maize									
Assessment timing: 40-127 days after application									
Harmful organism: LAMPU									
Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
Active ingredient	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
Dose FP /ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35

Dose g a.i./ha		60	75-80	100	150	150	150	150	150	168
MARITIME EPPO ZONE										
Data grouping (DE, CZ)	Number of values	1	1	2	2	-	2	-	-	-
	Minimum value	87,5	87,5	87,5	100		97,5	-	-	-
	Maximum value	87,5	97,25	99,75	100		100	-	-	-
	Mean	87,5	92,38	93,53	100		98,75	-	-	-
	Nb of dose effects compared to 1,5 L/ha	0/1	1/2	0/2	-	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	1 trial > 0 trials = 1 trials <	-	-	-	-	-
SPECIAL GROUPING NEIGHBORING COUNTRIES (POLAND + GERMANY+ CZECH REPUBLIC) /// ALL EPPO ZONES										
Data grouping (PL, DE, CZ)	Number of values	3	3	3	3	-	3		-	-
	Minimum value	87,5	87,5	87,5	100		97,5		-	-
	Maximum value	87,5	97,25	100	100		100		-	-
	Mean	87,5	92,42	95,75	100		99,17		-	-
	Nb of dose effects compared to 1,5 L/ha	0/1	2/3	0/3	-	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	1 trial > 2 trials = 0 trials <	-	-	-	-	-

### ***Matricaria chamomilla* (MATCH)**

MATCH was observed in 2 trials carried out in Poland (1) and Germany (1) investigating the minimum effective dose and the effectiveness of JUZAN EXTRA 100 SC applied post-emergence of maize.

In trial conducted in Poland sufficient pest density in all assessment timings was observed (7,2-7,24 plants/m<sup>2</sup>). In trial in Germany the infestation was a little below limit of 5 plants/m<sup>2</sup> (4,3 plants/m<sup>2</sup>), however weed coverage was above 2 % (2,3%) therefore this is consider valid and these assessment data are included in efficacy evaluation below.

As there was only one trial in particular EPPO Zones, below in efficacy summary is only presented the special grouping of neighboring countries (Poland and Germany).

#### 1<sup>st</sup> assessment timing (13-16 days after application)

In **Special grouping of neighbouring countries (Poland and Germany)** average efficacy was at level between 31,28% for the lowest dose 0,6 L/ha and 35,0% for 1,0 L/ha. The average efficacy was significantly higher for dose for the highest dose 1,5 L/ha (67,4%), what was comparable to the reference product (56,88%) (Table 3.2.3-53).

#### 2<sup>nd</sup> assessment timing (about 27-30 days after application)

In **Special grouping of neighbouring countries (Poland and Germany)** efficacy results at 2<sup>nd</sup> assessment timing about one month after application was higher than in previous assessment, at level 38,78% for 0.6 L/ha, 48,75% - 0,75L/ha, 61,88% -1,0L/ha and 88,5% for 1,5L/ha what was comparable to the reference (79,38%) (Table 3.2.3-54).

#### 3<sup>rd</sup> assessment timing – long term effect (40-44 days after application)

At last assessment timing level of efficacy of JUZAN EXTRA 100 SC the results were confirmed, achieving good control of JUZAN EXTRA 100 SC against MATCH at highest dose 1,5 L/ha – 86,25 what was comparable to the reference product (78,13%) (Table 3.2.3-55).

**Considering all elements presented above, it is justified to claim that MATCH is susceptible for JUZAN EXTRA 100 SC at 1,5 L/ha (150 g/ha of mesotrione) when applied post-emergence in maize.**



**Table 3.2.3-53: Grouped data – Efficacy trials – 1<sup>st</sup> assessment –MATCH**

Crops: Maize									
Assessment timing: 13-16 days after application									
Harmful organism: MATCH									
Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
Active ingredient	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
Dose FP /ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
Dose g a.i./ha	60	75-80	100	150	150	150	150	150	168
SPECIAL GROUPING NEIGHBORING COUNTRIES (POLAND + GERMANY) /// ALL EPPO ZONES									
Data grouping (PL, DE)	Number of values	2	2	2	2	1	1	-	-
	Minimum value	21,3	22,5	25,0	47,5	46,25		-	-
	Maximum value	41,25	43,75	45,0	87,3	67,5		-	-
	Mean	31,28	33,13	35,0	67,4	56,88		-	-
	Nb of dose effects compared to 1,5 L/ha	2/2	1/2	1/2	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	2 trial > 0 trials = 0 trials <	-	-	-	-

**Table 3.2.3-54: Grouped data – Efficacy trials – 2<sup>nd</sup> assessment – MATCH**

Crops: Maize									
Assessment timing: 27-30 days after application									
Harmful organism: MATCH									
Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
Active ingredient	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
Dose FP /ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
Dose g a.i./ha	60	75-80	100	150	150	150	150	150	168
SPECIAL GROUPING NEIGHBORING COUNTRIES (POLAND + GERMANY) /// ALL EPPO ZONES									
Data grouping (PL, DE)	Number of values	2	2	2	2	1	1	-	-
	Minimum value	13,8	22,5	35,0	87,0	67,5		-	-
	Maximum value	63,75	75,0	88,75	90,0	91,25		-	-
	Mean	38,78	48,75	61,88	88,5	79,38		-	-
	Nb of dose effects compared to 1,5 L/ha	2/2	2/2	1/2	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	1 trial > 0 trials = 1 trials <	-	-	-	-

**Table 3.2.3-55: Grouped data – Efficacy trials – 3<sup>rd</sup> assessment – long-term effect - MATCH**

Crops: Maize									
Assessment timing: 40-44 days after application									
Harmful organism: MATCH									
Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
Active ingredient	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
Dose FP /ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
Dose g a.i./ha	60	75-80	100	150	150	150	150	150	168
SPECIAL GROUPING NEIGHBORING COUNTRIES (POLAND + GERMANY) /// ALL EPPO ZONES									
Data grouping (PL, DE)	Number of values	2	2	2	2	1	1	-	-
	Minimum value	8,8	22,5	27,5	82,5	67,5		-	-
	Maximum value	71,25	78,75	88,75	90,0	88,75		-	-
	Mean	40,03	50,63	58,13	86,25	78,13		-	-
	Nb of dose effects compared to 1,5 L/ha	2/2	2/2	1/2	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	2 trial > 0 trials = 0 trials <	-	-	-	-

### ***Tripleurospermum inodorum* (MATIN)**

MATIN was observed in 2 trials in Maritime EPPO zone carried out Czech Republic (2) investigating the minimum effective dose and the effectiveness of JUZAN EXTRA 100 SC applied post-emergence of maize.

At all assessment timings in both trials sufficient pest density of MATIN (5-6,8 plants/m<sup>2</sup>) was observed.

Below presented results despite the Maritime Zone, are useful as Special Grouping of neighbouring countries for intended registration in Poland.

#### 1<sup>st</sup> assessment timing (14 days after application)

In the **Maritime EPPO zone**, the effectiveness of JUZAN EXTRA 100 SC in 2 trials achieved results clearly dose depended: for 0,6 L/ha 68,8%, 0,75-0,8 L/ha – 75,65%, 1,0 L/ha – 83,85% and for 1,5L/ha very good control at level 89,93%, what was comparable to the reference product (Table 3.2.3-56).

#### 2<sup>nd</sup> assessment timing (about 28 days after application)

In the **Maritime EPPO zone**, JUZAN EXTRA 100 SC achieved similar effect o MATIN: 56,3% - 0,6 L/ha, 73,17% - 0,75-1,0 L/ha, 78,56% 1,0 L/ha and good control 88,92% - 1,5 L/ha. The reference product achieved 84,04% efficacy what was comparable to the highest dose of JUZAN EXTRA 100 SC (Table 3.2.3-57).

#### 3<sup>rd</sup> assessment timing – long term effect (47-127 days after application)

At last assessment timing level of efficacy of JUZAN EXTRA 100 SC the results were confirmed, achieving good control of JUZAN EXTRA 100 SC against MATIN at highest dose 1,5 L/ha – 86,4% in average, what was comparable to the reference product (83,03%) (Table 3.2.3-58).

**Considering all elements presented above, it is justified to claim that ~~MATCH~~ MATIN is susceptible for JUZAN EXTRA 100 SC at 1,5 L/ha (150 g/ha of mesotrione) when applied post-emergence in maize.**

**Table 3.2.3-56: Grouped data – Efficacy trials – 1<sup>st</sup> assessment – MATIN**

Crops: Maize									
Assessment timing: 14 days after application									
Harmful organism: MATIN									
Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
Active ingredient	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
Dose FP /ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
Dose g a.i./ha	60	75-80	100	150	150	150	150	150	168
MARITIME EPPO ZONE /// SPECIAL GROUPING NEIGHBORING COUNTRIES /// ALL EPPO ZONES									
Data grouping (CZ)	Number of values	1	2	2	2	-	2	-	-
	Minimum value	68,8	67,5	73,8	83,8	-	76,3	-	-
	Maximum value	68,8	83,8	93,9	96,06	-	97,27	-	-
	Mean	68,8	75,65	83,85	89,93	-	96,79	-	-
	Nb of dose effects compared to 1,5 L/ha	1/1	2/2	1/2	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	1 trial > 0 trials = 1 trials <	-	-	-	-

**Table 3.2.3-57: Grouped data – Efficacy trials – 2<sup>nd</sup> assessment – MATIN**

Crops: Maize									
Assessment timing: 28 days after application									
Harmful organism: MATIN									
Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
Active ingredient	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
Dose FP /ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
Dose g a.i./ha	60	75-80	100	150	150	150	150	150	168
MARITIME EPPO ZONE /// SPECIAL GROUPING NEIGHBORING COUNTRIES /// ALL EPPO ZONES									
Data grouping (CZ)	Number of values	1	2	2	2	-	2	-	-
	Minimum value	56,3	57,5	60,0	80,0	-	68,8	-	-
	Maximum value	56,3	88,83	97,11	97,84	-	99,27	-	-
	Mean	56,3	73,17	78,56	88,92	-	84,04	-	-
	Nb of dose effects compared to 1,5 L/ha	1/1	2/2	1/2	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	1 trial > 0 trials = 1 trials <	-	-	-	-

**Table 3.2.3-58: Grouped data – Efficacy trials – 3<sup>rd</sup> assessment – long-term effect - MATIN**

Crops: Maize									
Assessment timing: 47-127 days after application									
Harmful organism: MATIN									
Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
Active ingredient	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
Dose FP /ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
Dose g a.i./ha	60	75-80	100	150	150	150	150	150	168
MARITIME EPPO ZONE /// SPECIAL GROUPING NEIGHBORING COUNTRIES /// ALL EPPO ZONES									
Data grouping (CZ)	Number of values	1	2	2	2	-	2	-	-
	Minimum value	51,3	53,8	58,8	73,8	-	66,3	-	-
	Maximum value	51,3	90,0	97,75	99,0	-	99,75	-	-
	Mean	51,3	71,9	78,28	86,4	-	83,03	-	-
	Nb of dose effects compared to 1,5 L/ha	1/1	2/2	1/2	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	1 trial > 0 trials = 1 trials <	-	-	-	-

### ***Panicum miliaceum* (PANMI)**

PANMI was observed in 1 trial carried out in Slovakia in South-Eastern EPPO Zone investigating the minimum effective dose and the effectiveness of JUZAN EXTRA 100 SC applied post-emergence of maize.

At all assessment timing, sufficient density of PANMI (7-11,5 plants/m<sup>2</sup>) was observed.

#### 1<sup>st</sup> assessment timing (13 days after application)

In the **South-eastern EPPO zone**, the performance of JUZAN EXTRA 100 SC was good at all tested doses, achieving 82,5% efficacy at 0,8 L/ha, 87,5% at 1,0 L/ha and 90% at 1,5 L/ha of JUZAN EXTRA and reference product (Table 3.2.3-59).

#### 2<sup>nd</sup> assessment timing (28 days after application)

About one month after application, the effectiveness of JUZAN EXTRA 100 SC increased at all tested doses, achieving 86,25% efficacy at 0,8 L/ha, 91,25% at 1,0 L/ha and 93,75% at 1,5 L/ha of JUZAN EXTRA what was comparable to the reference product (95%) (Table 3.2.3-60).

#### 3<sup>rd</sup> assessment timing (142 days after application)

Last assessment shortly before harvest confirmed efficacy results from the previous assessments presents very high control of PANMI at all tested doses (Table 3.2.3-61).

**Considering all elements presented above, it is justified to claim that PANMI is susceptible for JUZAN EXTRA 100 SC at 0,8 L/ha (80 g/ha of mesotrione) when applied post-emergence in maize.**



**Table 3.2.3-59: Individual data – Efficacy trials – 1<sup>st</sup> assessment – Short-term effect – PANMI**

Crops: Maize																
Assessment timing: 13 days after application																
Harmful organism: PANMI																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants/m <sup>2</sup> )	Percentage of ground cover	Treatment Active ingredient Dose FP /ha Dose g a.i./ha	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	Callisto 100 SC	Temsa SC	Barra cuda	Callisto 480 SC
								mesotri-on	mesotri-on	mesotri-on	mesotri-on	mesotri-on	mesotri-on	mesotri-on	mesotri-on	mesotri-on
								0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
								60	75-80	100	150	150	150	150	150	168
S16-02953-01	Maize - DKC 5222	1 18/05/16 (BBCH 15)	31/05/16 (13 DA-A) - BBCH 31	BBCH 13	11,3	12%	% N & K 5%	-	80,0* c	86,25 b	88,75 ab	-	-	86,25 ab	-	-

\*dose rate 0,8 L/ha

**Table 3.2.3-60: Individual data – Efficacy trials – 2<sup>nd</sup> assessment — PANMI**

Crops: Maize																
Assessment timing: 28 days after application																
Harmful organism: PANMI																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants/m <sup>2</sup> )	Percentage of ground cover	Treatment Active ingredient Dose FP /ha Dose g a.i./ha	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
								mesotri-on	mesotri-on	mesotri-on	mesotri-on	mesotri-on	mesotri-on	mesotri-on	mesotri-on	mesotri-on
								0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
								60	75-80	100	150	150	150	150	150	168
S16-02953-01	Maize - DKC 5222	1 18/05/16 (BBCH 15)	15/06/16 (28 DA-A) - BBCH 33	BBCH 13	11,5	12%	% N & K 5%	-	86,25* e	91,25 cd	93,75 bc	-	-	95,0 b	-	-

\*dose rate 0,8 L/ha

**Table 3.2.3-61: Individual data – Efficacy trials – 3<sup>rd</sup> assessment — long-term effect PANMI**

Crops: Maize																
Assessment timing: 142 days after application																
Harmful organism: PANMI																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants/m <sup>2</sup> )	Percent-age of ground cover	Treatment  Active ingredient Dose FP /ha Dose g a.i./ha	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JU-ZAN 100 SC	Callisto 100 SC	Temsa SC	Barra cuda	Callisto 480 SC
								mesotri-on	mesotri-on	mesotri-on	mesotri-on	meso-trion	meso-trion	meso-trion	meso-trion	meso-trion
								0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
								60	75-80	100	150	150	150	150	150	168
S16-02953-01	Maize - DKC 5222	1 18/05/16 (BBCH 15)	07/10/16 (142 DA-A) - BBCH 89	BBCH 13	11,5	12%	% N & K 5%	-	86,25* e	91,25 cd	93,75 bc	-	-	95,0 b	-	-

\*dose rate 0,8 L/ha

***Persicaria amphibia* (POLAM)**

POLAM was observed in 1 trial carried out in Hungary investigating the minimum effective dose and the effectiveness of JUZAN EXTRA 100 SC applied post-emergence of maize.

At all assessment timings sufficient pest density was observed (5,4-5,8 plants/m<sup>2</sup>).

1<sup>st</sup> assessment timing (14 days after application)

In the **South-eastern EPPO zone**, EXTRA 100 SC achieved 61,3% for dose 0,6L/ha, 82,5% for 0,75L/ha, 89,3% for 1,0L/ha and 95,8% for 1,5 L/ha as well as reference product (Table 3.2.3-62).

2<sup>nd</sup> assessment timing (28 days after application)

Second assessment timing confirmed very high level of control of POLAM at level 66,3% for dose 0,6L/ha, 87,5% for 0,75L/ha, 92,3% for 1,0L/ha and 98% for 1,5 L/ha what was comparable to the reference product. (98,3%) (Table 3.2.3-63).

**Considering all elements presented above, it is justified to claim that POLAM is susceptible for JUZAN EXTRA 100 SC at 0,75 L/ha (75 g/ha of mesotrione) when applied post-emergence in maize.**

**Table 3.2.3-62: Individual data – Efficacy trials – 1<sup>st</sup> assessment – Short-term effect – POLAM**

Crops: Maize																
Assessment timing: 14 days after application																
Harmful organism: POLAM																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants/m <sup>2</sup> )	Percent-age of ground cover	Treat-ment  Active ingredi-ent Dose FP /ha Dose g a.i./ha	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JU-ZAN 100 SC	Callis-to 100 SC	Temsa SC	Barra-cuda	Callis-to 480 SC
								mesotri-on	mesotri-on	mesotri-on	mesotri-on	meso-trion	meso-trion	meso-trion	meso-trion	meso-trion
								0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
								60	75-80	100	150	150	150	150	150	168
SRHU19-599-428HE	Maize – LG2244	1 15/07/19 (BBCH 15)	29/07/19 (14 DA-A) - BBCH 18	BBCH 31	5,8	2,63%	% N & K 5%	61,3 d	82,5 c	89,3 b	95,8 a	-	95,8 a	-	-	-

**Table 3.2.3-63: Individual data – Efficacy trials – 2<sup>nd</sup> assessment — POLAM**

Crops: Maize																
Assessment timing: 28 days after application																
Harmful organism: POLAM																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants/m <sup>2</sup> )	Percent-age of ground cover	Treat-ment  Active ingredi-ent Dose FP /ha Dose g a.i./ha	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JU-ZAN 100 SC	Callis-to 100 SC	Temsa SC	Barra-cuda	Callis-to 480 SC
								mesotri-on	mesotri-on	mesotri-on	mesotri-on	meso-trion	meso-trion	meso-trion	meso-trion	meso-trion
								0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
								60	75-80	100	150	150	150	150	150	168
SRHU19-599-428HE	Maize – LG2244	1 15/07/19 (BBCH 15)	12/08/19 (28 DA-A) - BBCH 55	BBCH 31	5,4	5,5%	% N & K 5%	66,3 d	87,5 c	92,3 b	98,0 a	-	98,3 a	-	-	-

### ***Polygonum aviculare* (POLAV)**

POLAV was observed in 4 trials carried out in Poland (3) and Germany (1) investigating the minimum effective dose and the effectiveness of JUZAN EXTRA 100 SC applied post-emergence of maize.

#### 1<sup>st</sup> assessment timing (14-16 days after application)

At the first assessment timing, sufficient density of ~~ECHCG~~ POLAV (4,88 (6%gc) – 7,0 plants/m<sup>2</sup>) was observed in all the trials

In the **North-eastern EPPO zone**, JUZAN EXTRA 100 SC showed clear dose, with level of efficacy 48,75% for the lowest rate 0,6 L/ha 68,33% for dose range 0,75-0,8L/ha, 80,83% for 1,0 L/ha and good efficacy 89,17% for 1,5 L/ha what was comparable to the reference product performance (average 89,42% efficacy) (Table 3.2.3-64).

In the **Maritime EPPO zone**, in 1 trial at all tested rates of JUZAN EZTRA 100 SC and reference product the effectiveness was reported as 0% (Table 3.2.3-64).

#### 2<sup>nd</sup> assessment timing (27-30 days after application)

At the second assessment timing, sufficient density of POLAV (5,11– 88 plants/m<sup>2</sup>) was observed in all the trials.

In the **North-eastern EPPO zone**, the control of the target weed was at similar level as in previous assessment, 38,13% at dose 0,6 L/ha, 66,67% at 0,75-0,8 L/ha, 81,32% at 1,0 L/ha and good control 91,55% at 1,5L/ha what was comparable to the reference product which achieved in average 9262%. (Table 3.2.3-65).

In the **Maritime EPPO zone**, the same as in previous assessment at all tested rates of JUZAN EZTRA 100 SC and reference product the effectiveness was reported as 0%.

#### 3<sup>rd</sup> assessment timing – long term effect (40-116 days after application)

Only in one trial was performed longterm efficacy assessment, however the results were comparable to the previous assessments (Table 3.2.3-66).

**Considering all elements presented above, it is justified to claim that POLAV is susceptible for JUZAN EXTRA 100 SC at 1,5 L/ha (150 g/ha of mesotrione) when applied post-emergence in maize.**

**Table 3.2.3-64: Grouped data – Efficacy trials – 1<sup>st</sup> assessment – POLAV**

		Crops: Maize								
		Assessment timing: 14-16 days after application								
		Harmful organism: POLAV								
Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC	
Active ingredient	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	
Dose FP /ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35	
Dose g a.i./ha	60	75-80	100	150	150	150	150	150	168	
NORTH-EASTERN EPPO ZONE										
Data grouping (PL)	Number of values	2	3	3	3	2	1	-	-	-
	Minimum value	38,75	60,0	75,0	82,5	82,5	-	-	-	-
	Maximum value	58,75	78,75	87,5	95,0	95,75	-	-	-	-
	Mean	48,75	68,33	80,83	89,17	89,42	-	-	-	-
	Nb of dose effects compared to 1,5 L/ha	2/2	3/3	2/2	-	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	0 trial > 2 trials = 1 trials <	-	-	-	-	-

**Table 3.2.3-65: Grouped data – Efficacy trials – 2<sup>nd</sup> assessment – POLAV**

Crops: Maize									
Assessment timing: 28,30 days after application									
Harmful organism: POLAV									
Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
Active ingredient	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
Dose FP /ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
Dose g a.i./ha	60	75-80	100	150	150	150	150	150	168
NORTH-EASTERN EPPO ZONE									
Data grouping (PL)	Number of values	2	3	3	3	2	1	-	-
	Minimum value	30,0	57,5	68,75	88,0	87,75		-	-
	Maximum value	46,25	80,0	92,7	96,66	98,87		-	-
	Mean	38,13	66,67	81,32	91,55	92,62		-	-
	Nb of dose effects compared to 1,5 L/ha	2./2	3/3	2/2	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	1 trial > 0 trials = 2 trials <	-	-	-	-

**Table 3.2.3-66: Individual data – Efficacy trials – 3<sup>rd</sup> assessment — long-term effect POLAV**

Crops: Maize																
Assessment timing: About 40-116 days after application																
Harmful organism: POLAV																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants/m <sup>2</sup> )	Percentage of ground cover	Treatment  Active ingredient Dose FP /ha Dose g a.i./ha	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JU-ZAN 100 SC	Callisto 100 SC	Temsa SC	Barra cuda	Callisto 480 SC
								mesotri-on	mesotri-on	mesotrion	mesotri-on	meso-trion	meso-trion	meso-trion	meso-trion	meso-trion
								0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
								60	75-80	100	150	150	150	150	150	168
S16-02947-01	Maize - LG 30.189	1 19/05/16 (BBCH 13)	12/09/16 (116 DA-A) - BBCH 87	BBCH 13	8	3%	% N & K 5%	-	72,5*	95,0	98,75	-	100 a	-	-	-
M-100SC-OR2-C_DE19_EF F03	Maize - SY Kardona	1 15/06/19 (BBCH 17)	25/07/19 (40 DA-A) - BBCH 19	BBCH 30	6,8	85%	% N & K 5%	0 a	0 a	0 a	0 a	-	0 a	-	-	-

\*dose rate 0,8 L/ha



### ***Fallopia convolvulus (POLCO)***

POLCO was observed in 6 trials carried out in North-Eastern and Maritime EPPO zones in Poland (3), Germany (2) and Czech Republic (1), investigating the minimum effective dose and the effectiveness of JUZAN EXTRA 100 SC applied post-emergence of maize.

#### 1<sup>st</sup> assessment timing (14-16 days after application)

At the first assessment timing, sufficient density of POLCO (5 – 12,94 plants/m<sup>2</sup>) was observed in all the trials

In the **North-eastern EPPO zone**, JUZAN EXTRA 100 SC showed clear dose, with level of efficacy 50% for the lowest rate 0,6 L/ha 65,83% for dose range 0,75-0,8L/ha, 76,67% for 1,0 L/ha and good efficacy 87,92% for 1,5 L/ha what was comparable to the reference product performance (average 87,5% efficacy) (Table 3.2.3-67).

In the **Maritime EPPO zone**, the dose range 0,6-1,0 L/ha achieved comparable average efficacy between 61,27% and 69,6%, while the highest dose 1,5L/ha provided very good control results at level 91,27%, what was statistically comparable to the reference product (88,33%) (Table 3.2.3-67).

In **Special grouping of neighbouring countries (Poland, Germany and Czech Republic)** average efficacy was at level 56,76% for the lowest dose 0,6 L/ha, 65% for 0,75-0,8L/ha, 73,13 for 1,0 L/ha and high level of 89,59% for 1,5 L/ha, what was comparable to the reference product (87,92%) (Table 3.2.3-67).

#### 2<sup>nd</sup> assessment timing (28-30 days after application)

At the second spring assessment timing, sufficient density of ~~CHEAL~~ POLCO (5– 30 plants/m<sup>2</sup>) was observed in the 15 trials.

In the **North-eastern EPPO zone**, the control of the target weed was 46,88% at dose 0,6 L/ha, 65,83% at 0,75-0,8 L/ha, 80,83% at 1,0 L/ha and very good control 92,098% at 1,5L/ha what was comparable to the reference product which achieved in average 92,92%. (Table 3.2.3-68).

In the **Maritime EPPO zone**, the effectiveness of JUZAN EXTRA 100 SC presented average efficacy 55,33% for 0,6 L/ha, 61,67% 0,75-0,8 L/ha, 65,0% 1,0 L/ha and 85,43% at 1,5 L/ha against POLCO, what was equivalent to the reference product (82,93%) (Table 3.2.3-68).

In **Special grouping of neighbouring countries (Poland and Germany)** efficacy results were comparable between both EPPO zones, achieving high level of control at level 88,76% at the highest tested dose 1,5 L/ha, what was fully comparable to the reference product performance (87,93%) (Table 3.2.3-68).

#### 3<sup>rd</sup> assessment timing – long term effect (40-116 days after application)

At last assessment timing level of efficacy of JUZAN EXTRA 100 SC the efficacy results were confirmed, achieving good control of JUZAN EXTRA 100 SC against POLCO at highest dose 1,5 L/ha – 85,01% in average, what was comparable to the reference product (83,13%) (Table 3.2.3-69).

**Considering all elements presented above, it is justified to claim that POLCO is susceptible for JUZAN EXTRA 100 SC at 1,5 L/ha (150 g/ha of mesotrione) when applied post-emergence in maize.**

**Table 3.2.3-67: Grouped data – Efficacy trials – 1<sup>st</sup> assessment – POLCO**

Crops: Maize									
Assessment timing: 14-16 days after application									
Harmful organism: POLCO									
Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
Active ingredient	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
Dose FP /ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
Dose g a.i./ha	60	75-80	100	150	150	150	150	150	168
NORTH EASTERN EPPO ZONE									
Data grouping (PL)	Number of values	2	3	3	3	2	1	-	-
	Minimum value	42,5	62,5	71,25	81,25	81,25		-	-
	Maximum value	57,5	71,25	82,5	100	100		-	-
	Mean	50,0	65,83	76,67	87,92	87,5		-	-
	Nb of dose effects compared to 1,5 L/ha	2/2	3/3	3/3	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	1 trial > 2 trials = 0 trial <	-	-	-	-
MARITIME EPPO ZONE									
Data grouping (DE, CZ)	Number of values	3	3	3	3	-	3	-	-
	Minimum value	10,0	15,0	30,0	83,8	80,0		-	-
	Maximum value	100	100	100	100	100		-	-
	Mean	61,27	64,17	69,60	91,27	88,33		-	-
	Nb of dose effects compared to 1,5 L/ha	2/3	1/3	1/3	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	2 trial > 1 trials = 0 trials <	-	-	-	-

SPECIAL GROUPING NEIGHBORING COUNTRIES (POLAND + GERMANY+ CZECH REPUBLIC) /// ALL EPPO ZONES									
Data grouping (PL, DE, CZ)	Number of values	5	6	6	6	2	4	-	-
	Minimum value	10,0	15,0	30,0	81,25	80,0		-	-
	Maximum value	100	100	100	100	100		-	-

	Mean	56,76	65,0	73,13	89,59	87,92			-	-
	Nb of dose effects compared to 1,5 L/ha	4/5	4/6	4/6	-	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	3 trial > 3 trials = 0 trials <	-	-	-	-	-

**Table 3.2.3-68: Grouped data – Efficacy trials – 2<sup>nd</sup> assessment – POLCO**

Crops: Maize									
Assessment timing: 28-30 days after application									
Harmful organism: POLCO									
Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
Active ingredient	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
Dose FP /ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
Dose g a.i./ha	60	75-80	100	150	150	150	150	150	168
NORTH EASTERN EPPO ZONE									
Data grouping (PL)	Number of values	2	3	3	3	2	1	-	-
	Minimum value	33,75	61,25	76,25	86,25	88,75		-	-
	Maximum value	60,0	70,0	85,0	100	100		-	-
	Mean	46,88	65,83	80,83	92,08	92,92		-	-
	Nb of dose effects compared to 1,5 L/ha	2/2	3/3	3/3	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	0 trial > 2 trials = 1 trial <	-	-	-	-
MARITIME EPPO ZONE									
Data grouping (DE, CZ)	Number of values	3	3	3	3	-	3	-	-
	Minimum value	10,0	12,5	30,0	66,3	63,8		-	-
	Maximum value	98,5	100	100	100	100		-	-
	Mean	55,33	61,67	65,0	85,43	82,93		-	-
	Nb of dose effects compared to 1,5 L/ha	2/3	1/3	1/3	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	2 trial > 1 trials = 0 trials <	-	-	-	-

SPECIAL GROUPING NEIGHBORING COUNTRIES (POLAND + GERMANY+ CZECH REPUBLIC) /// ALL EPPO ZONES										
Data grouping (PL, DE, CZ)	Number of values	5	6	6	6	2	4		-	-
	Minimum value	10,0	12,5	30,0	66,3	63,8			-	-
	Maximum value	98,5	100	100	100	100			-	-
	Mean	51,95	63,75	72,92	88,76	87,93			-	-
	Nb of dose effects compared to 1,5 L/ha	4/5	4/6	4/6	-	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	2 trial > 3 trials = 1 trials <	-	-	-	-	-

**Table 3.2.3-69: Grouped data – Efficacy trials – 3<sup>rd</sup> assessment – long-term effect - POLCO**

Crops: Maize									
Assessment timing: 40-116 days after application									
Harmful organism: POLCO									
Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
Active ingredient	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
Dose FP /ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
Dose g a.i./ha	60	75-80	100	150	150	150	150	150	168
MARITIME EPPO ZONE									
Data grouping (DE, CZ)	Number of values	3	3	3	3	-	3	-	-
	Minimum value	10,0	12,5	30,0	63,8	-	62,5	-	-
	Maximum value	97,0	100	100	100	-	100	-	-
	Mean	51,93	59,17	62,93	84,6	-	81,67	-	-
	Nb of dose effects compared to 1,5 L/ha	2/3	1/3	1/3	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	2 trial > 1 trials = 0 trials <	-	-	-	-
SPECIAL GROUPING NEIGHBORING COUNTRIES (POLAND + GERMANY+ CZECH REPUBLIC) /// ALL EPPO ZONES									
Data grouping (PL, DE, CZ)	Number of values	3	4	4	4	-	4	-	-
	Minimum value	10,0	12,5	30,0	66,3	-	63,8	-	-
	Maximum value	97,0	100	100	100	-	100	-	-
	Mean	51,93	58,75	66,89	85,01	-	83,13	-	-
	Nb of dose effects compared to 1,5 L/ha	3/3	2/4	2/4	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	2 trial > 1 trials = 1 trials <	-	-	-	-

***Persicaria lapathifolia* (POLLA)**

POLLA was observed in 1 trial carried out in Czech Republic, investigating the minimum effective dose and the effectiveness of JUZAN EXTRA 100 SC applied post-emergence of maize.

At all the assessment timings, sufficient density of POLLA (10,8-11,3 plants/m<sup>2</sup>) was observed in the trial.

1<sup>st</sup> assessment timing (14 days after application)

In the **Maritime EPPO zone**, the effectiveness of JUZAN EXTRA 100 SC was very high at all tested doses: 96,83% at 0,8 L/ha, 99,94% at 1,0 L/ha and complete control 100% was achieved by 1,5 L/ha of JUZAN EXTRA 100 SC and reference product (Table 3.2.3-70).

2<sup>nd</sup> assessment timing (28 days after application)

About one month after application, the effectiveness of JUZAN EXTRA 100 SC was complete against POLLA at dose range 1,0-1,5 L/ha of JUZAN EXTRA 100 SC and the same results was achieved by reference product. Only dose 0,8 L/ha achieved insignificantly lower effectiveness 99% (Table 3.2.3-71).

3<sup>rd</sup> assessment timing (127 days after application)

Shortly before harvest, the results of JUZAN EXTRA 100 SC were at the same level 99,5-100%. The reference product also was effective at 100% (Table 3.2.3-72).

**Considering all elements presented above, it is justified to claim that POLLA is susceptible for JUZAN EXTRA 100 SC at 0,8 L/ha (80 g/ha of mesotrione) when applied post-emergence in maize.**

**Table 3.2.3-70: Individual data – Efficacy trials – 1<sup>st</sup> assessment – Short-term effect – POLLA**

Crops: Maize																
Assessment timing: 14 days after application																
Harmful organism: POLLA																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants/m <sup>2</sup> )	Percentage of ground cover	Treatment Active ingredient Dose FP /ha Dose g a.i./ha	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	Callisto 100 SC	Temsa SC	Barra cuda	Callisto 480 SC
								mesotri-on	mesotri-on	mesotri-on	mesotri-on	mesotri-on	mesotri-on	mesotri-on	mesotri-on	mesotri-on
								0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
								60	75-80	100	150	150	150	150	150	168
S16-02952-01	Maize - Grizzly	1 09/06/16 (BBCH 14)	23/06/16 (14 DA-A) - BBCH 37	BBCH 14	10,8	5%	% N & K 5%	-	96,83* c	99,94 a	100 a	-	100 a	-	-	-

\*dose rate 0,8 L/ha

**Table 3.2.3-71: Individual data – Efficacy trials – 2<sup>nd</sup> assessment — POLLA**

Crops: Maize																
Assessment timing: 28 days after application																
Harmful organism: POLLA																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants/m <sup>2</sup> )	Percentage of ground cover	Treatment Active ingredient Dose FP /ha Dose g a.i./ha	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	Callisto 100 SC	Temsa SC	Barra cuda	Callisto 480 SC
								mesotri-on	mesotri-on	mesotri-on	mesotri-on	mesotri-on	mesotri-on	mesotri-on	mesotri-on	mesotri-on
								0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
								60	75-80	100	150	150	150	150	150	168
S16-02952-01	Maize - Grizzly	1 09/06/16 (BBCH 14)	07/07/16 (28 DA-A) - BBCH 65	BBCH 14	11,3	8%	% N & K 5%	-	99,0* a	100 a	100 a	-	100 a	-	-	-

\*dose rate 0,8 L/ha



**Table 3.2.3-72: Individual data – Efficacy trials – 3<sup>rd</sup> assessment — long-term effect POLLA**

Crops: Maize																
Assessment timing: 127 days after application																
Harmful organism: POLLA																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants/m <sup>2</sup> )	Percentage of ground cover	Treatment  Active ingredient Dose FP /ha Dose g a.i./ha	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	Callisto 100 SC	Temsa SC	Barra cuda	Callisto 480 SC
								mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
								0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
								60	75-80	100	150	150	150	150	150	168
S16-02952-01	Maize - Grizzly	1 09/06/16 (BBCH 14)	14/10/16 (127 DA-A) - BBCH 85	BBCH 14	11	10%	% N & K 5%	-	99,5* a	100 a	100 a	-	100 a	-	-	-

\*dose rate 0,8 L/ha

***Persicaria maculosa* (POLPE)**

POLPE was observed in 4 trials carried out in Slovakia (1) and Romania (3) investigating the minimum effective dose and the effectiveness of JUZAN EXTRA 100 SC applied post-emergence of maize.

1<sup>st</sup> assessment timing (13-14 days after application)

At the first assessment timing, sufficient density of POLPE (5,5 – 9,5 plants/m<sup>2</sup>) was observed in all the trials

In the **South-eastern EPPO zone**, the performance of JUZAN EXTRA 100 SC presented clear dose response and high efficacy, achieving average efficacy 72,33% for 0,6 L/ha, 79,75% 0,75-0,8 L/ha, 85,08% 1,0 L/ha and 91,7 % at 1,5 L/ha against POLPE shortly after application, what was ecomparable to the reference product (92,59%) (Table 3.2.3-73).

2<sup>nd</sup> assessment timing (24-28 days after application)

At the second spring assessment timing, sufficient density of POLPE(5,5– 10 plants/m<sup>2</sup>) was observed in the 15 trials.

In the **South-eastern EPPO zone**, the effectiveness of JUZAN EXTRA 100 SC presented very similar to the previous assessment with average efficacy 74,17% for 0,6 L/ha, 80,65% 0,75-0,8 L/ha, 86,03% 1,0 L/ha and 92,13% at 1,5 L/ha against POLPE, what was equivalent to the reference product (92,54%) (Table 3.2.3-74).

3<sup>rd</sup> assessment timing – long term effect (49-142 days after application)

At last assessment timing level of efficacy of JUZAN EXTRA 100 SC the efficacy results were confirmed, achieving good control of JUZAN EXTRA 100 SC against POLPE between 71-90,39% and comparable to the reference product (91,71%) (Table 3.2.3-75).

**Considering all elements presented above, it is justified to claim that POLPE is susceptible for JUZAN EXTRA 100 SC at 1,0 L/ha (100 g/ha of mesotrione) when applied post-emergence in maize.**

**Table 3.2.3-73: Grouped data – Efficacy trials – 1<sup>st</sup> assessment – POLPE**

Crops: Maize										
Assessment timing: About 13 - 14 days after application										
Harmful organism: POLPE										
Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC	
Active ingredient	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	
Dose FP /ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35	
Dose g a.i./ha	60	75-80	100	150	150	150	150	150	168	
SOUTH EASTERN EPPO ZONE										
Data grouping (SK, RO)	Number of values	3	4	4	4	-	-	1	3	-
	Minimum value	67,5	73,0	79,0	87,0	-	-	86,8		
	Maximum value	75,0	85,0	87,8	96,8	-	-	97,8		
	Mean	72,33	79,75	85,08	91,7	-	-	92,59		
	Nb of dose effects compared to 1,5 L/ha	3/3	4/4	3/4	-	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	1 trial > 0 trials = 3 trial <	-	-	-	-	-

**Table 3.2.3-74: Grouped data – Efficacy trials – 2<sup>nd</sup> assessment – POLPE**

Crops: Maize										
Assessment timing: About 24-28 days after application										
Harmful organism: POLPE										
Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC	
Active ingredient	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	
Dose FP /ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35	
Dose g a.i./ha	60	75-80	100	150	150	150	150	150	168	
SOUTH EASTERN EPPO ZONE										
Data grouping (SK, RO)	Number of values	3	4	4	4	-	-	1	3	-
	Minimum value	67,0	72,0	78,3	86,0	-	-	86,3		
	Maximum value	79,0	82,8	89,5	98,5	-	-	97,8		
	Mean	74,17	80,65	86,03	92,13	-	-	92,54		
	Nb of dose effects compared to 1,5 L/ha	3/3	4/4	3/4	-	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	1 trial > 0 trials = 3 trial <	-	-	-	-	-

**Table 3.2.3-75: Grouped data – Efficacy trials – 3<sup>rd</sup> assessment – long-term effect - POLPE**

Crops: Maize										
Assessment timing: About 49-142 days after application										
Harmful organism: POLPE										
Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC	
Active ingredient	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	
Dose FP /ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35	
Dose g a.i./ha	60	75-80	100	150	150	150	150	150	168	
SOUTH EASTERN EPPO ZONE										
Data grouping (SK, RO)	Number of values	3	4	4	4	-	-	1	3	-
	Minimum value	65,0	69,8	75,8	84,0	-	-	83,5		
	Maximum value	72,5	91,25	95,0	95,75	-	-	95,75		
	Mean	71,0	79,79	84,78	90,39	-	-	91,71		
	Nb of dose effects compared to 1,5 L/ha	3/3	4/4	4/4	-	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	1 trial > 1 trials = 2 trial <	-	-	-	-	-

***Setaria viridis* (SETVI)**

SETVI was observed in 1 trial carried out in Romania investigating the minimum effective dose and the effectiveness of JUZAN EXTRA 100 SC applied post-emergence of maize.

At all assessment timings, sufficient density of SETVI (38,3-40 plants/m<sup>2</sup>) was observed in the trial.

1<sup>st</sup> assessment timing (14 days after application)

In the **South-eastern EPPO zone**, the performance of JUZAN EXTRA 100 SC was very low, achieving between 11,25% - 22% efficacy against SETVI. Reference product also showed very low level of control 22,5% (Table 3.2.3-76).

2<sup>nd</sup> assessment timing (29 days after application)

About one month after application, the effectiveness of JUZAN EXTRA 100 SC was not changed significantly presented still low results at level 6,25-13,75%, as well as reference product which achieved 18,75% (Table 3.2.3-77).

3<sup>rd</sup> assessment timing (106 days after application)

At the last assessment timing, the results decrease to maximum 8,75% efficacy for JUZAN EXTRA 100 SC and 11,25% for reference product (Table 3.2.3-78).

**Considering all elements presented above, it is justified to claim that SETVI is tolerant for JUZAN EXTRA 100 SC at 1,5 L/ha (150 g/ha of mesotrione) when applied post-emergence in maize.**

**Table 3.2.3-76: Individual data – Efficacy trials – 1<sup>st</sup> assessment – Short-term effect – SETVI**

Crops: Maize																
Assessment timing: 14 days after application																
Harmful organism: SETVI																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants/m <sup>2</sup> )	Percentage of ground cover	Treatment  Active ingredient Dose FP /ha Dose g a.i./ha	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
								mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
								0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
								60	75-80	100	150	150	150	150	150	168
<b>S16-02954-01</b>	Maize - DKC4490	1 15/06/16 (BBCH 16)	29/06/16 (14 DA-A) - BBCH 16	BBCH 16	42,5	15%	% N & K 5%	-	11,25* d	18,75 c	20,0 c	-	-	-	-	22,5 c

\*dose rate 0,8 L/ha

**Table 3.2.3-77: Individual data – Efficacy trials – 2<sup>nd</sup> assessment — SETVI**

Crops: Maize																
Assessment timing: 29 days after application																
Harmful organism: SETVI																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants/m <sup>2</sup> )	Percentage of ground cover	Treatment  Active ingredient Dose FP /ha Dose g a.i./ha	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
								mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
								0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
								60	75-80	100	150	150	150	150	150	168
<b>S16-02954-01</b>	Maize - DKC4490	1 15/06/16 (BBCH 16)	14/07/16 (29 DA-A) - BBCH 30	BBCH 16	42,5	20%	% N & K 5%	-	6,25* g	12,5 f	13,75 f	-	-	-	-	18,75 e

\*dose rate 0,8 L/ha

**Table 3.2.3-78: Individual data – Efficacy trials – 3<sup>rd</sup> assessment — long-term effect SETVI**

Crops: Maize																
Assessment timing: 106 days after application																
Harmful organism: SETVI																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants/m <sup>2</sup> )	Percentage of ground cover	Treatment  Active ingredient Dose FP /ha Dose g a.i./ha	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	Callisto 100 SC	Temsa SC	BarraCUDA	Callisto 480 SC
								mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
								0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
S16-02954-01	Maize - DKC4490	1 15/06/16 (BBCH 16)	29/09/16 (106 DA-A) - BBCH 89	BBCH 16	40	20%	% N & K 5%	60	75-80	100	150	150	150	150	150	168
								-	0,0*	7,5	8,75	-	-	-	-	11,25
									f	e	e					e

\*dose rate 0,8 L/ha



### ***Solanum nigrum* (SOLNI)**

SOLNI was observed in 13 trials carried out in Poland (2) and Hungary (1) investigating the minimum effective dose and the effectiveness of JUZAN EXTRA 100 SC applied post-emergence of maize.

#### 1<sup>st</sup> assessment timing (7-14 days after application)

At the first assessment timing, sufficient density of SOLNI (5,63 – 8 plants/m<sup>2</sup>) was observed in all the trials.

In the **North-eastern EPPO zone**, JUZAN EXTRA 100 SC high level of efficacy for rate 0,6 L/ha 72,5% for dose range 0,75-0,8L/ha, 99,13% for 1,0 L/ha and complete control 100% for 1,5 L/ha reference product performance (Table 3.2.3-79).

In the **South-eastern EPPO zone**, in one conducted trial the JUZAN EXTRA 100 SC achieved total control 100% at all tested doses as well as reference product (**Błąd! Nie można odnaleźć źródła odwołania.** and Table 3.2.3-79)..

When taking into account **all EPPO Zones** together, the results are at very high level: 86,25% for the lowest dose 0,6 L/ha, 95% for 0,75-0,8L/ha, 99,42% for 1,0 L/ha and complete control 100% for 1,5 L/ha, as well as the reference product (Table 3.2.3-79).

#### 2<sup>nd</sup> assessment timing (27-28 days after application)

At the second spring assessment timing, sufficient density of SOLNI (5,75– 9 plants/m<sup>2</sup>) was observed in all the trials.

In the **North-eastern EPPO zone**, the control of the target weed was 72,5% at dose 0,6 L/ha, 93,75% at 0,75-0,8 L/ha, doses 1,0 -1,5 L/ha achieved full control 100%, the same as the reference product (Table 3.2.3-80).

In the **South-eastern EPPO zone**, the effectiveness of JUZAN EXTRA 100 SC at the second assessment confirmed total control at all tested doses (Table 3.2.3-80).

When taking into account **all EPPO Zones** together, , the results are at very high level: 86,25% for the lowest dose 0,6 L/ha, 95,83% for 0,75-0,8L/ha, for dose range 1,0-1,5 L/ha complete control 100% for 1,5 L/ha, as well as the reference product (Table 3.2.3-80).

#### 3<sup>rd</sup> assessment timing – long term effect (49-142 days after application)

At last assessment timing JUZAN EXTRA 100 SC showed total control at all tested doses similarly as reference product (Table 3.2.3-81).

**Considering all elements presented above, it is justified to claim that SOLNI is susceptible for JUZAN EXTRA 100 SC at 0,75 L/ha (75 g/ha of mesotrione) when applied post-emergence in maize.**

**Table 3.2.3-79: Grouped data – Efficacy trials – 1<sup>st</sup> assessment – SOLNI**

Crops: Maize									
Assessment timing: 7-14 days after application									
Harmful organism: SOLNI									
Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
Active ingredient	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
Dose FP /ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
Dose g a.i./ha	60	75-80	100	150	150	150	150	150	168
NORTH EASTERN EPPO ZONE									
Data grouping (PL)	Number of values	1	2	2	2	1	1	-	-
	Minimum value	72,5	87,5	98,25	100	100	100	-	-
	Maximum value	72,5	97,5	100	100	100	100	-	-
	Mean	72,5	92,5	99,13	100	100	100	-	-
	Nb of dose effects compared to 1,5 L/ha	1/1	1/2	0/2	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	0 trial > 2 trials = 0 trial <	-	-	-	-
ALL EPPO ZONES									
Data grouping (PL, HU)	Number of values	2	3	3	3	1	2	-	-
	Minimum value	72,5	87,5	98,25	100	100	100	-	-
	Maximum value	100	100	100	100	100	100	-	-
	Mean	86,25	95,0	99,42	100	100	100	-	-
	Nb of dose effects compared to 1,5 L/ha	1/2	1/3	0/3	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	0 trial > 3 trials = 0 trials <	-	-	-	-

**Table 3.2.3-80: Grouped data – Efficacy trials – 2<sup>nd</sup> assessment – SOLNI**

Crops: Maize									
Assessment timing: 27-28 days after application									
Harmful organism: SOLNI									
Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
Active ingredient	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
Dose FP /ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
Dose g a.i./ha	60	75-80	100	150	150	150	150	150	168
NORTH EASTERN EPPO ZONE									
Data grouping (PL)	Number of values	1	2	2	2	1	1	-	-
	Minimum value	72,5	87,5	100	100	100	100	-	-
	Maximum value	72,5	100	100	100	100	100	-	-
	Mean	72,5	93,75	100	100	100	100	-	-
	Nb of dose effects compared to 1,5 L/ha	1/1	1/2	0/2	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	0 trial > 2 trials = 0 trial <	-	-	-	-
ALL EPPO ZONES									
Data grouping (PL, HU)	Number of values	2	3	3	3	1	2	-	-
	Minimum value	72,5	87,5	100	100	100	100	-	-
	Maximum value	100	100	100	100	100	100	-	-
	Mean	86,25	95,83	100	100	100	100	-	-
	Nb of dose effects compared to 1,5 L/ha	1/2	1/3	0/3	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	0 trial > 3 trials = 0 trials <	-	-	-	-

**Table 3.2.3-81: Grouped data – Efficacy trials – 3<sup>rd</sup> assessment – long-term effect - SOLNI**

<b>Crops:</b> Maize									
<b>Assessment timing:</b> 50-116 days after application									
<b>Harmful organism:</b> SOLNI									
<b>Treatment</b>	<b>JUZAN EXTRA 100 SC</b>	<b>JUZAN EXTRA 100 SC</b>	<b>JUZAN EXTRA 100 SC</b>	<b>JUZAN EXTRA 100 SC</b>	<b>JUZAN 100 SC</b>	<b>Callisto 100 SC</b>	<b>Temsa SC</b>	<b>Barracuda</b>	<b>Callisto 480 SC</b>
<b>Active ingredient</b>	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
<b>Dose FP /ha</b>	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
<b>Dose g a.i./ha</b>	60	75-80	100	150	150	150	150	150	168
<b>ALL EPPO ZONES</b>									
<b>Data grouping</b> (PL, HU)	Number of values	1	2	2	2	-	2	-	-
	Minimum value	100	100	100	100	-	100	-	-
	Maximum value	100	100	100	100	-	100	-	-
	Mean	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	-	<b>100</b>	-	-
	Nb of dose effects compared to 1,5 L/ha	0/1	0/2	0/2	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	0 trial > 2 trials = 0 trials <	-	-	-	-

### ***Stellaria media* (STEME)**

STEME was observed in 2 trials carried out in Poland investigating the minimum effective dose and the effectiveness of JUZAN EXTRA 100 SC applied post-emergence of maize.

#### 1<sup>st</sup> assessment timing (14 days after application)

At the first assessment timing, sufficient density of STEME (5,79 – 8,49 plants/m<sup>2</sup>) was observed in all the trials

In the **North-eastern EPPO zone**, JUZAN EXTRA 100 SC achieved high level of efficacy for rate 0,6 L/ha 73,75% for dose range 0,75L/ha, 86,25%, for 1,0 L/ha 90,63% and for 1,5 L/ha 93,13%, what was fully comparable to the reference product (93,75%) (Table 3.2.3-82).

#### 2<sup>nd</sup> assessment timing (28 days after application)

At the second spring assessment timing, sufficient density of STEME (6,09– 13,75 plants/m<sup>2</sup>) was observed in the trials.

In the **North-eastern EPPO zone**, the control of the target weed increased to level 75,03% at dose 0,6 L/ha, 92,5% at 0,75L/ha, 93,5% at 1,0 L/ha and 95,63% at 1,5 L/ha what was comparable to the reference product (95,63%) (Table 3.2.3-83).

**Considering all elements presented above, it is justified to claim that STEME is susceptible for JUZAN EXTRA 100 SC at 0,75 L/ha (75 g/ha of mesotrione) when applied post-emergence in maize.**

**Table 3.2.3-82: Grouped data – Efficacy trials – 1<sup>st</sup> assessment – STEME**

		Crops: Maize								
		Assessment timing: 14 days after application								
		Harmful organism: STEME								
	Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
	Active ingredient	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
	Dose FP /ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
	Dose g a.i./ha	60	75-80	100	150	150	150	150	150	168
NORTH EASTERN EPPO ZONE										
Data grouping (PL, )	Number of values	2	2	2	2	2	-		-	-
	Minimum value	65,0	72,5	81,25	86,25	87,5			-	-
	Maximum value	82,5	100	100	100	100			-	-
	Mean	73,75	86,25	90,63	93,13	93,75			-	-
	Nb of dose effects compared to 1,5 L/ha	2/2	1/2	1/2	-	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	0 trial > 1 trials = 1 trials <	-	-	-	-	-

**Table 3.2.3-83: Grouped data – Efficacy trials – 2<sup>nd</sup> assessment – STEME**

Crops: Maize									
Assessment timing: 28 days after application									
Harmful organism: STEME									
Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
Active ingredient	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
Dose FP /ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
Dose g a.i./ha	60	75-80	100	150	150	150	150	150	168
NORTH EASTERN EPPO ZONE									
Data grouping (PL)	Number of values	2	2	2	2	2	-	-	-
	Minimum value	68,75	85,0	87,0	91,25	91,25	-	-	-
	Maximum value	82,5	100	100	100	100	-	-	-
	Mean	75,63	92,5	93,5	95,63	95,63	-	-	-
	Nb of dose effects compared to 1,5 L/ha	2/2	1/2	1/2	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	0 trial > 2 trials = 0 trials <	-	-	-	-

### ***Viola arvensis* (VIOAR)**

VIOAR was observed in 7 trials carried out in Poland (6) and Germany (1) investigating the minimum effective dose and the effectiveness of JUZAN EXTRA 100 SC applied post-emergence of maize.

#### 1<sup>st</sup> assessment timing (10-16 days after application)

At the first assessment timing, sufficient density of ~~STEME~~ VIOAR (4,75 – 50,97 plants/m<sup>2</sup>) was observed in all the trials

In the **North-eastern EPPO zone**, JUZAN EXTRA 100 SC achieved level of efficacy for rate 0,6 L/ha 60,31% for dose range 0,75-0,8L/ha, 68,54%, for 1,0 L/ha 78,54% and for 1,5 L/ha 85%, what was comparable to the reference product (87,17%) (Table 3.2.3-84).

In the **Maritime EPPO zone**, all tested doses of JUZAN EXTRA 100 SC achieved total control of VIOAR 100% as well as the reference product (Table 3.2.3-84).

In **Special grouping of neighbouring countries (Poland, Germany)** average efficacy was at level 68,25% for the lowest dose 0,6 L/ha, 73,04% for 0,75-0,8L/ha, 81,61% for 1,0 L/ha and high level of 87,14% for 1,5 L/ha, what was comparable to the reference product (89%) (Table 3.2.3-84).

#### 2<sup>nd</sup> assessment timing (24-30 days after application)

At the second spring assessment timing, sufficient density of VIOAR (4,75– 53,81 plants/m<sup>2</sup>) was observed in the trials.

About one month after application, the effectiveness of JUZAN EXTRA 100 SC in general was at similar level as in previous assessment or higher, whatever EPPO zone is considered.

In the **North-eastern EPPO zone**, the control of the target weed increased to level 70,31% at dose 0,6 L/ha, 79,17% at 0,75-0,8L/ha, 91,38% at 1,0 L/ha and 93,92% at 1,5 L/ha what was comparable to the the reference product (95,04%) (Table 3.2.3-85).

In the **Maritime EPPO zone**, the effectiveness of JUZAN EXTRA 100 SC presented 95% efficacy at 0,6L/ha and total control 100% at dose range 0,75-1,5L/ha as well as the reference product (Table 3.2.3-85).

In **Special grouping of neighbouring countries (Poland and Germany)** efficacy results were at level of control 75,25% at 0,6 L/ha, 82,14% at 0,75-0,8 L/ha, 92,61% at 1,0L/ha and 94,79% at 1,5 L/ha of JUZAN EXTRA 100 SC, what was comparable to the reference product performance (95,75%). the highest tested dose 1,5 L/ha, what was fully comparable to the reference product performance (87,93%) (Table 3.2.3-85).

#### 3<sup>rd</sup> assessment timing – long term effect (44-116 days after application)

At last assessment timing the efficacy results were confirmed, achieving good control of JUZAN EXTRA 100 SC against VIOAR between 82,5-95,11% and comparable to the reference product (96,25%), taking into account grouped results from Poland and Germany (Table 3.2.3-86).

**Considering all elements presented above, it is justified to claim that VIOAR is susceptible for JUZAN EXTRA 100 SC at 1,0 L/ha (100 g/ha of mesotrione) when applied post-emergence in maize.**



**Table 3.2.3-84: Grouped data – Efficacy trials – 1<sup>st</sup> assessment – VIOAR**

Crops: Maize									
Assessment timing: 10-16 days after application									
Harmful organism: VIOAR									
Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
Active ingredient	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
Dose FP /ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
Dose g a.i./ha	60	75-80	100	150	150	150	150	150	168
NORTH EASTERN EPPO ZONE									
Data grouping (PL)	Number of values	4	6	6	6	4	2	-	-
	Minimum value	33,75	41,25	41,25	46,25	48,75	-	-	-
	Maximum value	75,0	86,25	100	100	100	-	-	-
	Mean	60,31	68,54	78,54	85,0	87,17	-	-	-
	Nb of dose effects compared to 1,5 L/ha	4/4	5/6	3/6	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	0 trial > 2 trials = 4 trial <	-	-	-	-
SPECIAL GROUPING NEIGHBORING COUNTRIES (POLAND + GERMANY) /// ALL EPPO ZONES									
Data grouping (PL, DE)	Number of values	6	7	7	7	4	3	-	-
	Minimum value	33,75	41,25	41,25	46,25	48,75	-	-	-
	Maximum value	100	100	100	100	100	-	-	-
	Mean	68,25	73,04	81,61	87,14	89,0	-	-	-
	Nb of dose effects compared to 1,5 L/ha	4/6	4/7	4/7	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	0 trial > 3 trials = 4 trials <	-	-	-	-

**Table 3.2.3-85: Grouped data – Efficacy trials – 2<sup>nd</sup> assessment – VIOAR**

Crops: Maize									
Assessment timing: 24-30 days after application									
Harmful organism: VIOAR									
Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
Active ingredient	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
Dose FP /ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
Dose g a.i./ha	60	75-80	100	150	150	150	150	150	168
NORTH EASTERN EPPO ZONE									
Data grouping (PL)	Number of values	4	6	6	6	4	2	-	-
	Minimum value	63,75	57,5	78,75	86,25	88,75	-	-	-
	Maximum value	82,5	95,75	100	100	100	-	-	-
	Mean	70,31	79,17	91,38	93,92	95,04	-	-	-
	Nb of dose effects compared to 1,5 L/ha	4/4	5/6	2/6	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	1 trial > 2 trials = 3 trial <	-	-	-	-
SPECIAL GROUPING NEIGHBORING COUNTRIES (POLAND + GERMANY) /// ALL EPPO ZONES									
Data grouping (PL, DE)	Number of values	5	7	7	7	4	3	-	-
	Minimum value	63,75	57,5	78,75	86,25	88,75	-	-	-
	Maximum value	95,0	100	100	100	100	-	-	-
	Mean	75,25	82,14	92,61	94,79	95,75	-	-	-
	Nb of dose effects compared to 1,5 L/ha	5/5	4/7	4/7	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	1 trial > 3 trials = 3 trials <	-	-	-	-

**Table 3.2.3-86: Grouped data – Efficacy trials – 3<sup>rd</sup> assessment – long-term effect - VIOAR**

Crops: Maize									
Assessment timing: 44-116 days after application									
Harmful organism: VIOAR									
Treatment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
Active ingredient	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
Dose FP /ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
Dose g a.i./ha	60	75-80	100	150	150	150	150	150	168
NORTH EASTERN EPPO ZONE									
Data grouping (PL)	Number of values	1	3	3	3	1	2	-	-
	Minimum value	70,0	78,17	87,5	90,0	90,0	-	-	-
	Maximum value	70,0	97,5	100	100	100	-	-	-
	Mean	70,0	85,64	94,96	93,47	95,0	-	-	-
	Nb of dose effects compared to 1,5 L/ha	1/1	2/3	0/3	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	0 trial > 2 trials = 1 trial <	-	-	-	-
SPECIAL GROUPING NEIGHBORING COUNTRIES (POLAND + GERMANY) /// ALL EPPO ZONES									
Data grouping (PL, DE)	Number of values	2	4	4	4	1	3	-	-
	Minimum value	70,0	78,17	87,5	90,0	90,0	-	-	-
	Maximum value	95,0	100	100	100	100	-	-	-
	Mean	82,5	89,23	96,22	95,11	96,25	-	-	-
	Nb of dose effects compared to 1,5 L/ha	2/2	2/4	0/4	-	-	-	-	-
	Nb of trials where JUZAN EXTRA 100 SC C is >, = or < compared to standard	-	-	-	0 trial > 3 trials = 1 trials <	-	-	-	-

### ***Xanthium strumarium* (XANST)**

XANST was observed in 1 trial carried out in Hungary investigating the minimum effective dose and the effectiveness of JUZAN EXTRA 100 SC applied post-emergence of maize.

At all assessment timings, sufficient density of XANST (4.8 – 62.4 plants/m<sup>2</sup>) was observed.

#### 1<sup>st</sup> assessment timing (7 days after application)

In the **South-eastern EPPO zone**, JUZAN EXTRA 100 SC clear dose response, achieving level of efficacy for rate 0,6 L/ha 33,8% for dose range 0,75L/ha, 73,8%, for 1,0 L/ha 86,3% and for 1,5 L/ha 94,3%, what was comparable to the reference product (97,8%) (Table 3.2.3-87).

#### 2<sup>nd</sup> assessment timing (28 days after application)

At the assessment timing the effectiveness of JUZAN EXTRA 100 SC was at similar level, for rate 0,6 L/ha 22,5% for dose range 0,75L/ha, 61,3%, for 1,0 L/ha 85% and for 1,5 L/ha 93,5%, what was comparable to the reference product (96,5%) (Table 3.2.3-88).

#### 3<sup>rd</sup> assessment timing (50 days after application)

At the last assessment timing the effectiveness of JUZAN EXTRA 100 SC was at similar level, for rate 0,6 L/ha 20% for dose range 0,75L/ha, 52,5%, for 1,0 L/ha 85% and for 1,5 L/ha 23,5%, what was comparable to the reference product (95%) (Table 3.2.3-89).

**Considering all elements presented above, it is justified to claim that XANST is susceptible for JUZAN EXTRA 100 SC at 1,0 L/ha (100 g/ha of mesotrione) when applied post-emergence in maize.**

**Table 3.2.3-87: Individual data – Efficacy trials – 1<sup>st</sup> assessment – Short-term effect – XANST**

Crops: Maize																
Assessment timing: 7 days after application																
Harmful organism: XANST																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants/m <sup>2</sup> )	Percentage of ground cover	Treat-ment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZA N EXTR A 100 SC	JUZA N EXTR A 100 SC	JU-ZAN 100 SC	Callis-to 100 SC	Temsa SC	Barrac-uda	Callis-to 480 SC
							Active ingredi-ent	mesotrion	mesotri-on	meso-trion	meso-trion	meso-trion	meso-trion	meso-trion	mesotri-on	meso-trion
							Dose FP /ha Dose g a.i./ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
								60	75-80	100	150	150	150	150	150	168
SRHU19-598-428HE	Maize - GKT 211	1 18/07/19 (BBCH 13)	25/07/19 (7 DA-A) - BBCH 15	BBCH 13	5,88	0,125%	% N & K 5%	33,8 e	73,8 d	86,3 c	94,3 b	-	97,8 a	-	-	-

**Table 3.2.3-88: Individual data – Efficacy trials – 2<sup>nd</sup> assessment — XANST**

Crops: Maize																
Assessment timing: 28 days after application																
Harmful organism: XANST																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants/m <sup>2</sup> )	Percentage of ground cover	Treat-ment	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZA N EXTR A 100 SC	JUZA N EXTR A 100 SC	JU-ZAN 100 SC	Callis-to 100 SC	Temsa SC	Barrac-uda	Callis-to 480 SC
							Active ingredi-ent	mesotrion	mesotri-on	meso-trion	meso-trion	meso-trion	meso-trion	meso-trion	mesotri-on	meso-trion
							Dose FP /ha Dose g a.i./ha	0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
								60	75-80	100	150	150	150	150	150	168
SRHU19-598-428HE	Maize - GKT 211	1 18/07/19 (BBCH 13)	15/08/19 (28 DA-A) - BBCH 34	BBCH 13	5,81	6%	% N & K 5%	22,5 d	61,3 c	85,0 b	93,5 a	-	96,5 a	-	-	-

**Table 3.2.3-89: Individual data – Efficacy trials – 3<sup>rd</sup> assessment — long-term effect XANST**

Crops: Maize																
Assessment timing: 7 days after application																
Harmful organism: XANST																
Trial report number (CRO)	Crop - Cultivar	Number of applications Application date - Crop stage	Observation date - Crop stage	Weed stage at application	Weed density (plants/m <sup>2</sup> )	Percentage of ground cover	Treatment  Active ingredient Dose FP /ha Dose g a.i./ha	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	JUZAN EXTRA 100 SC	Callisto 100 SC	Temsa SC	Barracuda	Callisto 480 SC
								mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion	mesotrion
								0,6	0,75-0,8	1,0	1,5	1,5	1,5	1,5	1,5	0,35
								60	75-80	100	150	150	150	150	150	168
SRHU19-598-428HE	Maize - GKT 211	1 18/07/19 (BBCH 13)	06/09/19 (50 DA-A) - BBCH 59-61	BBCH 13	5,75	6,8%	N & K 5%	20,0	52,5	85,0	92,5	-	95,0	-	-	-
								e	d	c	b		a			

### **Conclusions**

The efficacy of JUZAN EXTRA 100 SC applied after the emergence of maize was investigated over 30 different weeds in North-eastern, Maritime and South-eastern EPPO zones.

It has been previously demonstrated that the minimum effective dose of JUZAN EXTRA 100 SC for the control of some dicotyledonous weeds is 0,75 L/ha, however 1,5 L/ha should be use for overall control of weed species in maize.

Efficacy summary with weeds classification in each EPPO Zone and special grouping is presented in Table 3.2.3-90. In following description are taken into consideration only weed species that were observed in at least 2 trials.

**Table 3.2.3-90:Overall summary of efficacy results of JUZAN EXTRA 100 SC against individual weed species**

Target weed	Grouping	Number of trials	% control						Conclusions
			JUZAN EXTRA 100 SC 0,75-0,8 L/ha		JUZAN EXTRA 100 SC 1,0 L/ha		JUZAN EXTRA 100 SC 1,5 L/ha		
			Mean	Min & Max	Mean	Min & Max	Mean	Min & Max	
ABUTH	SE zone	1	96,3	-	100	-	100	-	HS at 0,75 L/ha
AGREE	NE zone	1	42,5	-	47,5	-	56,25	-	MT at 1,5 L/ha
AMABL	SE zone	1	92,8	-	97,0	-	100	-	S at 0,75 L/ha
AMARE	NE zone	2	88,75	77,5-100	91,88	83,75-100	94,38	88,75-100	S at 0,75 L/ha
	MAR zone	1	58,8	-	61,3	-	67,5	-	MS at 1,5 L/ha
	SE zone	4	85,48	83,8-88,3	91,78	87,8-99,0	98,88	98,5-100	S at 0,75 L/ha
	Special grouping neighbouring countries	3	78,77	58,8-100	81,68	61,3-100	85,42	67,5-100	S at 1,5 L/ha
	ALL zones	7	82,6	58,8-100	87,45	61,3-100	91,11	67,5-100	S at 1,0 L/ha
AMBEL	SE zone	2	100	-	100	-	100	-	HS at 0,75 L/ha
ANGAR	NE zone	1	88,1	75,0-100,0	91,1	77,5-100,0	91,5	70,0-100,0	S at 0,75 L/ha
AVEFA	MAR zone	1	35,0	-	48,8	-	61,3	-	MT at 1,5 L/ha
BRSNN	MAR zone	1	100	-	100	-	100	-	HS at 0,75 L/ha
CHEAL	NE zone	6	91,88	78,75-100	94,96	82,5-100	96,67	90,0-100	S at 0,75 L/ha
	MAR zone	5	97,97	95,0-100	99,31	98,5-100	99,5	97,5-100	S at 0,75 L/ha
	SE zone	6	84,72	80,8-91,4	92,55	87,3-100	97,97	94,5-100	S at 0,75 L/ha
	Special grouping neighbouring countries	12	93,95	78,75-100	96,59	82,5-100	97,71	90,0-100	S at 0,75 L/ha
	ALL zones	17	91,14	78,75-100	95,39	82,5-100	97,96	90,0-100	S at 0,75 L/ha
CHEPO	MAR zone	1	93,9	-	98,34	-	100	-	S at 0,75 L/ha
CIRAR	NE zone	1	80,5	-	90,75	-	96,75	-	S at 1,0 L/ha
DATST	SE zone	1	90,0	-	91,25	-	95,0	-	S at 0,75 L/ha
ECHCG	NE zone	6	69,58	57,5-77,5	78,96	65,0-91,25	90,46	86,25-100	S at 1,5 L/ha



Target weed	Grouping	Number of trials	% control						Conclusions
			JUZAN EXTRA 100 SC 0,75-0,8 L/ha		JUZAN EXTRA 100 SC 1,0 L/ha		JUZAN EXTRA 100 SC 1,5 L/ha		
			Mean	Min & Max	Mean	Min & Max	Mean	Min & Max	
	MAR zone	3	83,0	70,0-96,5	82,02	63,8-99,75	84,6	67,5-100	MS at 1,5 L/ha
	SE zone	6	62,48	10,0-86,25	73,24	36,3-91,25	83,56	60,0-93,75	MS at 1,5 L/ha
	Special grouping neighbouring countries	10	75,28	57,5-96,5	81,11	63,8-99,75	89,03	67,5-100	S at 1,5 L/ha
	ALL zones	15	69,42	10,0-96,5	77,28	36,3-99,75	86,53	60,0-100	S at 1,5 L/ha
GALAP	NE zone	4	69,32	39,78-100	80,5	64,51-100.0	85,0	57,74-100.0	S at 1,5 L/ha
GASPA	NE zone	3	85,25	80,0-93,25	93,92	85,0-100.0	95,42	88,75-100.0	S at 0,75 L/ha
HIBTR	SE zone	4	57,84	28,8-83,75	63,76	33,8-91,25	68,13	37,5-97,5	MT at 1,5 L/ha
LAMPU	NE zone	3	90,58	80,0-96,75	94,58	85,0-100	95,17	87,5-100	S at 0,75 L/ha
	MAR zone	2	91,78	87,5-96,06	93,57	87,5-99,63	99,97	99,94-100	S at 0,75 L/ha
	Special grouping neighbouring countries /// ALL zones	5	91,06	80,0-96,75	94,18	85,0-100	97,09	87,5-100	S at 0,75 L/ha
MATCH	NE zone	1	75,0	-	88,75	-	90,0	-	S at 1,0 L/ha
	MAR zone	1	22,5	-	35,0	-	87,0	-	S at 1,5 L/ha
	Special grouping neighbouring countries /// ALL zones	2	48,75	22,5-75,0	61,88	35,0-88,75	88,5	87,0-90,0	S at 1,5 L/ha
MATIN	MAR zone	2	73,17	57,5-88,83	78,56	60,0-97,11	88,92	68,8-99,27	S at 1,5 L/ha
PANMI	SE zone	1	86,25	-	91,25	-	93,75	-	S at 0,75 L/ha
POLAM	SE zone	1	87,5	-	92,3	-	98,3	-	S at 0,75 L/ha
POLAV	NE zone	3	66,67	57,5-80,0	81,32	68,75-92,7	91,55	88,0-96,66	S at 1,5 L/ha
	MAR zone	1	0	-	0	-	0	-	T at 1,5 L/ha
POLCO	NE zone	3	65,83	61,25-70,0	80,83	76,25-85,0	92,08	86,25-100	S at 1,5 L/ha
	MAR zone	3	61,67	12,5-100	65,0	30,0-100	85,43	66,3-100	S at 1,5 L/ha
	Special grouping neighbouring countries /// ALL zones	6	63,75	12,5-100	72,92	30,0-100	88,76	66,3-100	S at 1,5 L/ha
POLLA	MAR zone	1	99,0	-	100	-	100	-	HS at 0,75 L/ha

Target weed	Grouping	Number of trials	% control						Conclusions
			JUZAN EXTRA 100 SC 0,75-0,8 L/ha		JUZAN EXTRA 100 SC 1,0 L/ha		JUZAN EXTRA 100 SC 1,5 L/ha		
			Mean	Min & Max	Mean	Min & Max	Mean	Min & Max	
POLPE	SE zone	4	80,65	72,0-82,8	86,03	78,3-89,5	92,13	86,0-98,5	S at 1,0 L/ha
SETVI	SE zone	1	6,25	-	12,5	-	13,75	-	T at 1,5 L/ha
SOLNI	NE zone	2	93,75	87,5-100	100	-	100	-	HS at 0,75 L/ha
	SE zone	1	100	-	100	-	100	-	HS at 0,75 L/ha
	ALL zones	3	95,83	87,5-100	100	-	100	-	HS at 0,75 L/ha
STEME	NE zone	2	92,5	85,0-100	93,5	87,0-100	95,63	91,25-100	S at 0,75 L/ha
VIOAR	NE zone	6	79,17	57,5-95,75	91,38	78,75-100	93,92	86,25-100	S at 1,0 L/ha
	MAR zone	1	100	-	100	-	100	-	HS at 0,75 L/ha
	Special grouping neighbouring countries /// ALL zones	7	82,14	57,5-100	92,61	78,75-100	94,79	86,25-100	S at 1,0 L/ha
XANST	SE zone	1	61,3	-	85,0	-	93,5	-	S at 1,0 L/ha

Highly Susceptible (HS)	95-100%
Susceptible (S)	85-94,9%
Moderately Susceptible (MS)	70-84,9%
Moderately Tolerant (MT)	50-69,9%
Tolerant (T)	0-49,9%

In the **North-eastern EPPO zone**, the efficacy of JUZAN EXTRA 100 SC was evaluated over 15 different weeds for which valid trials are available. In below description are taking into consideration weed species that were observed in at least 2 trials.

JUZAN EXTRA 100 SC at is **0,75 L/ha (75 g ai/ha of mesotrione)** reached several levels of efficacy:

- **Good efficacy** (85-94.9% efficacy) against 6 major weeds: AMARE, CHEAL, GASPA, LAMPU, SOLNI, STEME
- **Acceptable efficacy** (70-84.9% efficacy) against 1 weed: VIOAR

JUZAN EXTRA 100 SC at is **1,0 L/ha (100 g ai/ha of mesotrione)** reached several levels of efficacy:

- **Very good efficacy** (> 95% efficacy) against 1 weed: SOLNI
- **Good efficacy** (85-94.9% efficacy) against 7 major weeds: AMARE, CHEAL, GASPA, LAMPU, STEME, VIOAR
- **Acceptable efficacy** (70-84.9% efficacy) against 4 weeds ECHCG, GALAP, POLAV, POLCO

JUZAN EXTRA 100 SC at is **1,5 L/ha (150 g ai/ha of mesotrione)** reached several levels of efficacy:

- **Very good efficacy** (> 95% efficacy) against 5 weeds: CHEAL, GASPA, LAMPU, SOLNI, STEME
- **Good efficacy** (85-94.9% efficacy) against 6 major weeds: AMARE, ECHCG, GALAP, POLAV, POLCO, VIOAR

In the **Maritime EPPO zone**, the efficacy of JUZAN EXTRA 100 SC was evaluated over 13 different weeds for which valid trials are available.

In below description are taking into consideration weed species that were observed in at least 2 trials.

JUZAN EXTRA 100 SC at is 0,75 L/ha (75 g ai/ha of mesotriune) reached several levels of efficacy:

- **Very good efficacy** (> 95% efficacy) against 1 weed: CHEAL
- **Good efficacy** (85-94.9% efficacy) against 1 weeds: LAMPU
- **Acceptable efficacy** (70-84.9% efficacy) against 2 weeds: ECHCG, MATIN

JUZAN EXTRA 100 SC at is 1,0 L/ha (100 g ai/ha of mesotrione) reached several levels of efficacy:

- **Very good efficacy** (> 95% efficacy) against 2 weeds: CHEAL, LAMPU
- **Acceptable efficacy** (70-84.9% efficacy) against 2 weeds ECHCG, MATIN

JUZAN EXTRA 100 SC at is 1,5 L/ha (150 g ai/ha of mesotrione) reached several levels of efficacy:

- **Very good efficacy** (> 95% efficacy) against 2 weeds: CHEAL, LAMPU
- **Good efficacy** (85-94.9% efficacy) against 2 weeds: MATIN, POLCO
- **Acceptable efficacy** (70-84.9% efficacy) against 1 weed ECHCG

In the **South-eastern EPPO zone**, the efficacy of T-75WG-OR2-C was evaluated over 14 different weeds for which valid trials are available.

In below description are taking into consideration weed species that were observed in at least 2 trials.

JUZAN EXTRA 100 SC at is 0,75 L/ha (75 g ai/ha of mesotriune) reached several levels of efficacy:

- **Good efficacy** (85-94.9% efficacy) against 2 major weeds: AMARE, AMBEL
- **Acceptable efficacy** (70-84.9% efficacy) against 2 weeds: CHEAL, POLPE

JUZAN EXTRA 100 SC at is 1,0 L/ha (100 g ai/ha of mesotrione) reached several levels of efficacy:

- **Good efficacy** (85-94.9% efficacy) against 4 weeds: AMARE, AMBEL, CHEAL, POLPE
- **Acceptable efficacy** (70-84.9% efficacy) against 1 weeds ECHCG

JUZAN EXTRA 100 SC at is 1,5 L/ha (150 g ai/ha of mesotrione) reached several levels of efficacy:

- **Very good efficacy** (> 95% efficacy) against 2 weeds: AMARE, CHEAL
- **Good efficacy** (85-94.9% efficacy) against 2 weeds: AMBEL, POLPE
- **Acceptable efficacy** (70-84.9% efficacy) against 1 weed ECHCG

Taking into account **Special grouping: neighbouring countries** (Poland, Germany, Czech Republic, Slovakia) was evaluated over 15 different weeds for which valid trials are available. In below description are taking into consideration weed species that were observed in at least 2 trials.

JUZAN EXTRA 100 SC at is **0,75 L/ha (75 g ai/ha of mesotrione)** reached several levels of efficacy:

- **Good efficacy** (85-94.9% efficacy) against 5 major weeds: CHEAL, GASPA, LAMPU, SOLNI, STEME
- **Acceptable efficacy** (70-84.9% efficacy) against 4 weeds: AMARE, ECHCG, MATIN, VIOAR

JUZAN EXTRA 100 SC at is **1,0 L/ha (100 g ai/ha of mesotrione)** reached several levels of efficacy:

- **Very good efficacy** (> 95% efficacy) against 2 weeds: CHEAL, SOLNI
- **Good efficacy** (85-94.9% efficacy) against 4 weeds: GASPA, LAMPU, STEME, VIOAR
- **Acceptable efficacy** (70-84.9% efficacy) against 6 weeds AMARE, ECHCG, GALAP, MATIN, POLAV, POLCO

JUZAN EXTRA 100 SC at is **1,5 L/ha (150 g ai/ha of mesotrione)** reached several levels of efficacy:

- **Very good efficacy** (> 95% efficacy) against 5 weeds: CHEAL, GASPA, LAMPU, SOLNI, STEME
- **Good efficacy** (85-94.9% efficacy) against 8 major weeds: AMARE, ECHCG, GALAP, MATCH, MATIN, POLAV, POLCO, VIOAR

Whatever the EPPO zone considered, JUZAN EXTRA 100 SC at 1,5 L/ha (150 g ai/ha of mesotrione) offered a very high control (> 95% efficacy) or a high control (85-94.9% efficacy) of the majority of weeds.

Due to very low differences in the efficacy results between EPPO Zones, summary across **ALL EPPO zones** is presented.

JUZAN EXTRA 100 SC at is **0,75 L/ha (75 g ai/ha of mesotrione)** reached several levels of efficacy:

- **Very good efficacy** (> 95% efficacy) against 1 weed: SOLNI
- **Good efficacy** (85-94.9% efficacy) against 6 weeds: AMBEL, CHEAL, GASPA, LAMPU, SOLNI, STEME
- **Acceptable efficacy** (70-84.9% efficacy) against 4 weeds: AMARE, MATIN, POLPE, VIOAR

JUZAN EXTRA 100 SC at is **1,0 L/ha (100 g ai/ha of mesotrione)** reached several levels of efficacy:

- **Very good efficacy** (> 95% efficacy) against 2 weeds: CHEAL, SOLNI
- **Good efficacy** (85-94.9% efficacy) against 7 weeds: AMARE, AMBEL, GASPA, LAMPU, POLPE, STEME, VIOAR
- **Acceptable efficacy** (70-84.9% efficacy) against 5 weeds ECHCG, GALAP, MATIN, POLAV, POLCO

JUZAN EXTRA 100 SC at is **1,5 L/ha (150 g ai/ha of mesotrione)** reached several levels of efficacy:

- **Very good efficacy** (> 95% efficacy) against 6 weeds: CHEAL, ECHCG, GASPA, LAMPU, SOLNI, STEME
- **Good efficacy** (85-94.9% efficacy) against 9 major weeds: AMARE, AMBEL, GALAP, MATCH, MATIN, POLAV, POLCO, POLPE, VIOAR

## Overall efficacy evaluation – Results and Conclusion

A total of 18 trials investigating the minimum effective dose and the effectiveness of JUZAN EXTRA 100 SC against annual broadleaf and grass weeds were implemented in maize in 2016 (5 trials) and 2019 (13 trials).

Trials were located in the North-Eastern EPPO zone in Poland (6 trials), in the Maritime EPPO zone in Germany (2 trials) and Czech Republic (3 trials), and in the South-Eastern EPPO zone in Hungary (2 trials), in Romania (4 trials) and in Slovakia (1 trial).

It has been demonstrated that the minimum effective dose of JUZAN EXTRA 100 SC applied post-emergence for the control of some dicotyledonous weeds 0,75 L/ha, when compared with lower tested rate (0,6 L/ha) for which efficacy obtained was lower and less consistent. However, 1,5 L/ha dose of JUZAN EXTRA 100 SC provided optimum overall control of most of the weed species in maize. Therefore the target doses range 0,75-1,0 L/ha should be considered as effective against targeted weed species, for which activity of JUZAN EXTRA 100 SC is claimed.

The efficacy of JUZAN EXTRA 100 SC was investigated over 30 different weed species in all EPPO zones.

Whatever the EPPO zone considered, JUZAN EXTRA 100 SC at target dose achieved a very high control (> 95% efficacy) or a high control (85-94.9% efficacy) against the majority of weeds.

Based on presented in this dossier results following label claims are justified for registration JUZAN EXTRA 100 SC in Poland:

**Table 3.2.3-91: Overall summary of label claims in Poland for control of individual weed species supported for JUZAN EXTRA 100 SC in maize**

Classification	0,75 L/ha (75 g ai/ha)	1.0 L/ha (100 g ai/ha)	1.5 L/ha (150 g ai/ha)
Susceptible (S)	AMARE, CHEAL, GASPA, LAMPU, SOLNI, STEME	AMARE, CHEAL, GASPA, LAMPU, SOLNI, STEME, VIOAR	AMARE, CHEAL, ECHCG, GALAP, GASPA, LAMPU, MATCH, MATIN, POLAV, POLCO, SOLNI, STEME, VIOAR
Moderately susceptible (MS)	ECHCG, MATIN, VIOAR	ECHCG, GALAP, MATIN, POLAV, POLCO	

Label claim	Control level range (%)
Tolerant (T)	0-49.9
Moderately tolerant (MT)	50-69.9
Moderately susceptible (MS)	70-84.9
Susceptible (S)	85-100

Consequently, it is justified to claim the registration of one application of JUZAN EXTRA 100 SC at dose range 0,75-1,0 L/ha (75-150 g ai/ha of mesotrione) in maize for the control of dicotyledonous weeds and some grass weeds.

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>The Applicant was notified that according to PP 1/226 at least 6 trials are required. For Maritime EPPO zone Applicant submitted 5 trials (DE-2, CZ-3) carried out in 2016 and 2019; for N-E EPPO zone 6 trials (PL) performed in 2016 and 2019 and for S-E EPPO zone – 7 trials (SK-1, HU-6) carried out in 2016 and 2019.</p> <p><b>Number of trials for efficacy from North-East and South -East EPPO zone is sufficient. One study is missing for the Maritime EPPO zone - so cMS from the maritime zone should consider, ex. taking into account results from other climate zones. Lack of trials for MED zone.</b></p> <p><b>Sugar maize (ZEAMS) and popcorn (ZEAME) maize can be registered according to Article 51 (without any trial).</b></p> <p>All details about efficacy methodology used during efficacy trials are presented above by Applicant. The reports include a detailed data on soil and field conditions, agro-technological procedures, fore-crop as well as meteorological conditions and technical details of the spraying etc. Submitted efficacy trials are correctly performed according to appropriate EPPO standards (1/252 (4); 1/225 (2); 1/50 (3); 1/135 (4) and 1/181 (4). Studies were carried out by testing unit mandated to conduct research in the field of efficacy of plant protection products by the Chief Inspector of Plant Health and Seed Inspection and are officially GEP recognized.</p> <p>Data were presented correctly by Applicant in the tables. Results were comparable to standard reference product used during trials. All trials and weed species were characterized by sufficient level of infestation. Only trials with greater than 4 weeds/m<sup>2</sup> or over 1% ground cover have been included. For major weeds at least 4 studies should be presented and for minor – at least 2. Classification of weed species for Poland should be done according to Polish requirements. cMS should use scale of efficacy in line with its national guidelines (ex. SANCO). Applicant presented scale of weed sensitivity according to SANCO scale. However, for Poland we should use different scale: S (susceptible) &gt; 85%; MS (moderately susceptible) 70-85%; MT (moderately tolerant) 60-70%; T (tolerant) &lt; 60%.</p> <p>Different varieties of maize were studied during trials. Following BBCH was studied during trials: N-E – BBCH 12-18; Maritime – BBCH 12-17 and S-E – BBCH 13-17. During all trials 200-400 L/ha water volume was studied.</p> <p><b><u>Below we present a list of studied weed species during trials:</u></b></p> <p><u>Following weed species should be excluded from assessment and label project due to only one valid efficacy trial presented:</u> ARBUTH (1-HU); AGREE (1-PL); AMABL (1-HU); ANGAR (1-PL); AVEFA (1-CZ); BRNN (1-DE); CIRAR (PL-1); CHEPO (1-CZ); DATST (1-SK); PANMI (1-SK); POLAM (1-HU); POLLA (1-CZ); SETVI (1-RO) and XANST (1-HU).</p> <p><b><u>Below, ZRMs presented weed species for which at least 2 trials were presented:</u></b></p> <p><b>AMARE</b> – 7 trials: PL (2), CZ (1), HU (1), RO (3). It is a major weed in maize for Poland. Applicant submitted only 3 valid trials for PL from PL (2) and CZ (1), so number is insufficient for registration and including in Polish label. cMS from Maritime and S-E should decide if limited number of trials for AMARE can be accepted.</p>
-------------------	--

<b>Efficacy for N-E EPPO zone:</b>					
<b>Dose</b>	<b>0.6 L/ha</b>	<b>0.75-0.8 L/ha</b>	<b>1.0 L/ha</b>	<b>1.5 L/ha</b>	<b>St. ref.</b>
<b>1<sup>st</sup> assessment</b>	35.0%	70.6%	74.4%	76.3%	76.9%
<b>2<sup>nd</sup> assessment</b>	61.3%	88.8%	91.9%	94.4%	93.8%
<b>long term effect</b>	68.8%	91.3%	93.8%	95.0%	95.0%
<b>Efficacy for S-E EPPO zone:</b>					
<b>Dose</b>	<b>0.6 L/ha</b>	<b>0.75-0.8 L/ha</b>	<b>1.0 L/ha</b>	<b>1.5 L/ha</b>	<b>St. ref.</b>
<b>1<sup>st</sup> assessment</b>	80.4%	85.4%	91.9%	98.4%	98.3%
<b>2<sup>nd</sup> assessment</b>	80.2%	85.5%	91.8%	98.9%	98.9%
<b>long term effect</b>	78.2%	83.3%	90.1%	96.6%	97.0%
<b>Efficacy for Poland (trials from PL and neighbouring countries):</b>					
<b>Dose</b>	<b>0.6 L/ha</b>	<b>0.75-0.8 L/ha</b>	<b>1.0 L/ha</b>	<b>1.5 L/ha</b>	<b>St. ref.</b>
<b>1<sup>st</sup> assessment</b>	43.8%	65.0%	68.4%	69.6%	71.3%
<b>2<sup>nd</sup> assessment</b>	58.8%	78.8%	81.7%	85.4%	85.0%
<b>long term effect</b>	59.4%	79.6%	82.5%	85.8%	85.8%
<p><b>AMBEL</b> – 2 trials: HU (1), SK (1). It is a minor weed in maize for Poland. Applicant submitted lack of valid trials for PL, so acceptance in Polish label against AMBEL is not possible. cMS from S-E should decide if limited number of trials for AMBEL can be accepted. cMS from Maritime should decide if AMBEL can be accepted without any trial,</p>					
<b>Efficacy for S-E EPPO zone:</b>					
<b>Dose</b>	<b>0.6 L/ha</b>	<b>0.75-0.8 L/ha</b>	<b>1.0 L/ha</b>	<b>1.5 L/ha</b>	<b>St. ref.</b>
<b>1<sup>st</sup> assessment</b>	80.0%	89.0%	91.8%	93.5%	94.7%
<b>2<sup>nd</sup> assessment</b>	71.3%	86.4%	88.9%	93.0%	94.3%
<b>long term effect</b>	no data	91.4%	92.7%	95.0%	98.0%
<p><b>CHEAL</b> – 17 trials: PL (6), DE (2), CZ (3), HU (1), RO (4), SK (1). It is a major weed in maize for Poland. Number of trials for N-E and S-E EPPO zone is sufficient. cMS from Maritime should decide if 5 trials can be accepted against CHEAL.</p>					
<b>Efficacy for N-E EPPO zone:</b>					
<b>Dose</b>	<b>0.6 L/ha</b>	<b>0.75-0.8 L/ha</b>	<b>1.0 L/ha</b>	<b>1.5 L/ha</b>	<b>St. ref.</b>
<b>1<sup>st</sup> assessment</b>	64.4%	81.7%	86.0%	88.8%	89.7%
<b>2<sup>nd</sup> assessment</b>	75.6%	91.9%	95.0%	96.7%	96.7%
<b>long term effect</b>	66.3%	95.4%	97.1%	97.5%	97.9%
<b>Efficacy for Maritime EPPO zone:</b>					
<b>Dose</b>	<b>0.6 L/ha</b>	<b>0.75-0.8 L/ha</b>	<b>1.0 L/ha</b>	<b>1.5 L/ha</b>	<b>St. ref.</b>
<b>1<sup>st</sup> assessment</b>	95.1%	94.6%	97.4%	98.0%	98.0%
<b>2<sup>nd</sup> assessment</b>	91.4%	98.0%	99.3%	99.5%	100%
<b>long term effect</b>	90.5%	97.2%	98.7%	100%	100%
<b>Efficacy for S-E EPPO zone:</b>					
<b>Dose</b>	<b>0.6 L/ha</b>	<b>0.75-0.8 L/ha</b>	<b>1.0 L/ha</b>	<b>1.5 L/ha</b>	<b>St. ref.</b>
<b>1<sup>st</sup> assessment</b>	75.0%	84.5%	91.6%	97.4%	96.6%
<b>2<sup>nd</sup> assessment</b>	75.2%	84.7%	92.6%	98.0%	98.1%
<b>long term effect</b>	73.3%	82.4%	91.3%	97.2%	97.3%
<b>Efficacy for Poland (trials from PL and neighbouring countries):</b>					
<b>Dose</b>	<b>0.6 L/ha</b>	<b>0.75-0.8 L/ha</b>	<b>1.0 L/ha</b>	<b>1.5 L/ha</b>	<b>St. ref.</b>
<b>1<sup>st</sup> assessment</b>	79.8%	87.3%	90.9%	92.8%	93.2%
<b>2<sup>nd</sup> assessment</b>	83.5%	94.0%	96.6%	97.7%	98.1%
<b>long term effect</b>	83.5%	95.4%	97.5%	98.6%	98.8%
<p><b>ECHCG</b> – 15 trials: PL (6), CZ (3), HU (2), RO (3), SK (1). It is a major weed in</p>					

maize for Poland. Number of trials for N-E and S-E EPPO zone is sufficient. cMS from Maritime should decide if 3 trials can be accepted against ECHCG.					
<b>Efficacy for N-E EPPO zone:</b>					
<b>Dose</b>	<b>0.6 L/ha</b>	<b>0.75-0.8 L/ha</b>	<b>1.0 L/ha</b>	<b>1.5 L/ha</b>	<b>St. ref.</b>
<b>1<sup>st</sup> assessment</b>	53.8%	63.0%	70.5%	81.4%	83.4%
<b>2<sup>nd</sup> assessment</b>	64.1%	69.6%	79.0%	90.5%	88.3%
<b>long term effect</b>	65.0%	71.7%	78.3%	88.0%	84.8%
<b>Efficacy for Maritime EPPO zone:</b>					
<b>Dose</b>	<b>0.6 L/ha</b>	<b>0.75-0.8 L/ha</b>	<b>1.0 L/ha</b>	<b>1.5 L/ha</b>	<b>St. ref.</b>
<b>1<sup>st</sup> assessment</b>	59.4%	77.1%	81.4%	86.7%	86.7%
<b>2<sup>nd</sup> assessment</b>	68.8%	83.0%	82.0%	84.6%	87.5%
<b>long term effect</b>	65.7%	81.4%	80.8%	84.2%	87.5%
<b>Efficacy for S-E EPPO zone:</b>					
<b>Dose</b>	<b>0.6 L/ha</b>	<b>0.75-0.8 L/ha</b>	<b>1.0 L/ha</b>	<b>1.5 L/ha</b>	<b>St. ref.</b>
<b>1<sup>st</sup> assessment</b>	54.5%	66.4%	75.1%	85.0%	84.5%
<b>2<sup>nd</sup> assessment</b>	50.0%	62.5%	73.2%	83.6%	83.5%
<b>long term effect</b>	49.0%	63.3%	74.1%	83.0%	82.5%
<b>Efficacy for Poland (trials from PL and neighbouring countries):</b>					
<b>Dose</b>	<b>0.6 L/ha</b>	<b>0.75-0.8 L/ha</b>	<b>1.0 L/ha</b>	<b>1.5 L/ha</b>	<b>St. ref.</b>
<b>1<sup>st</sup> assessment</b>	55.6%	69.6%	75.7%	83.9%	84.9%
<b>2<sup>nd</sup> assessment</b>	65.6%	75.3%	81.1%	89.0%	88.5%
<b>long term effect</b>	65.4%	77.9%	81.3%	87.2%	87.1%
<b>GALAP – 4 trials: PL (4). It is a minor weed in maize for Poland. Number of trials for all zones in not sufficient, so each cMS should decide about possibility of acceptance GALAP in label. For Poland 4 trials are acceptable, so this weed can be included in Polish label project.</b>					
<b>Efficacy for N-E EPPO zone:</b>					
<b>Dose</b>	<b>0.6 L/ha</b>	<b>0.75-0.8 L/ha</b>	<b>1.0 L/ha</b>	<b>1.5 L/ha</b>	<b>St. ref.</b>
<b>1<sup>st</sup> assessment</b>	61.3%	70.0%	80.0%	86.5%	91.0%
<b>2<sup>nd</sup> assessment</b>	60.6%	69.3%	80.5%	85.0%	89.9%
<b>long term effect</b>	not studied	86.3%	90.0%	91.3%	96.9%
<b>GASPA – 3 trials: PL (2). It is a minor weed in maize for Poland. Number of trials for all zones in not sufficient, so each cMS should decide about possibility of acceptance GASPA in label. For Poland 3 trials are acceptable, so this weed can be included in Polish label project.</b>					
<b>Efficacy for N-E EPPO zone:</b>					
<b>Dose</b>	<b>0.6 L/ha</b>	<b>0.75-0.8 L/ha</b>	<b>1.0 L/ha</b>	<b>1.5 L/ha</b>	<b>St. ref.</b>
<b>1<sup>st</sup> assessment</b>	58.8%	68.3%	77.1%	79.8%	79.2%
<b>2<sup>nd</sup> assessment</b>	71.1%	85.3%	93.9%	95.4%	95.1%
<b>long term effect</b>	68.8%	82.5%	86.3%	90.0%	90.0%
<b>HIBTR – 4 trials: SK (1), HU (2), RO (1). It is a minor weed in maize for Poland. Number of trials for all zones in not sufficient, so each cMS should decide about possibility of acceptance HIBTR in label. For Poland registration of HIBTR on the basis on trials performed in S-E EPPO zone is not possible, this weed should be deleted from Polish label project.</b>					
<b>Efficacy for S-E EPPO zone:</b>					
<b>Dose</b>	<b>0.6 L/ha</b>	<b>0.75-0.8 L/ha</b>	<b>1.0 L/ha</b>	<b>1.5 L/ha</b>	<b>St. ref.</b>
<b>1<sup>st</sup> assessment</b>	31.9%	61.9%	66.0%	68.8%	67.8%
<b>2<sup>nd</sup> assessment</b>	26.3%	57.8%	63.8%	68.1%	67.5%
<b>long term effect</b>	21.3%	61.3%	67.9%	72.5%	72.1%



<p><b>LAMPU</b> – 5 trials: PL (3), CZ (1), DE (1). It is a minor weed in maize for Poland. Number of trials for all zones in not sufficient, so each cMS should decide about possibility of acceptance LAMPU in label. For Poland 3 trials are acceptable, so this weed can be included in Polish label project.</p> <p><b>Efficacy for N-E EPPO zone:</b></p> <table> <tr> <th>Dose</th><th>0.6 L/ha</th><th>0.75-0.8 L/ha</th><th>1.0 L/ha</th><th>1.5 L/ha</th><th>St. ref.</th></tr> <tr> <td>1<sup>st</sup> assessment</td><td>70.0%</td><td>77.5%</td><td>89.1%</td><td>92.5%</td><td>93.5%</td></tr> <tr> <td>2<sup>nd</sup> assessment</td><td>72.9%</td><td>90.6%</td><td>94.6%</td><td>95.2%</td><td>95.5%</td></tr> <tr> <td>long term effect</td><td>not studied</td><td>not studied</td><td>92.5%</td><td>100%</td><td>100%</td></tr> </table> <p><b>Efficacy for Maritime EPPO zone:</b></p> <table> <tr> <th>Dose</th><th>0.6 L/ha</th><th>0.75-0.8 L/ha</th><th>1.0 L/ha</th><th>1.5 L/ha</th><th>St. ref.</th></tr> <tr> <td>1<sup>st</sup> assessment</td><td>87.5%</td><td>90.1%</td><td>92.5%</td><td>99.7%</td><td>98.6%</td></tr> <tr> <td>2<sup>nd</sup> assessment</td><td>87.5%</td><td>91.8%</td><td>93.6%</td><td>100%</td><td>98.8%</td></tr> <tr> <td>long term effect</td><td>87.5%</td><td>92.4%</td><td>93.5%</td><td>100%</td><td>98.8%</td></tr> </table> <p><b>Efficacy for Poland (trials from PL and neighbouring countries):</b></p> <table> <tr> <th>Dose</th><th>0.6 L/ha</th><th>0.75-0.8 L/ha</th><th>1.0 L/ha</th><th>1.5 L/ha</th><th>St. ref.</th></tr> <tr> <td>1<sup>st</sup> assessment</td><td>75.8%</td><td>82.6%</td><td>90.5%</td><td>95.4%</td><td>95.6%</td></tr> <tr> <td>2<sup>nd</sup> assessment</td><td>77.8%</td><td>91.1%</td><td>94.2%</td><td>97.1%</td><td>96.8%</td></tr> <tr> <td>long term effect</td><td>87.5%</td><td>92.4%</td><td>93.0%</td><td>100%</td><td>99.2%</td></tr> </table> <p><b>MATCH</b> – 2 trials: PL (1), DE (1). It is a minor weed in maize for Poland. Number of trials for all zones in not sufficient, so each cMS should decide about possibility of acceptance MATCH in label. For Poland 2 trials are acceptable, so this weed can be included in Polish label project.</p> <p><b>Efficacy for Poland (trials from PL and neighbouring countries):</b></p> <table> <tr> <th>Dose</th><th>0.6 L/ha</th><th>0.75-0.8 L/ha</th><th>1.0 L/ha</th><th>1.5 L/ha</th><th>St. ref.</th></tr> <tr> <td>1<sup>st</sup> assessment</td><td>31.3%</td><td>33.1%</td><td>35.0%</td><td>67.4%</td><td>56.9%</td></tr> <tr> <td>2<sup>nd</sup> assessment</td><td>38.8%</td><td>48.8%</td><td>61.9%</td><td>88.5%</td><td>79.4%</td></tr> <tr> <td>long term effect</td><td>40.0%</td><td>50.6%</td><td>58.1%</td><td>86.3%</td><td>78.1%</td></tr> </table> <p><b>MATIN</b> – 2 trials: CZ (2). It is a minor weed in maize for Poland. Number of trials for all zones in not sufficient, so each cMS should decide about possibility of acceptance MATIN in label. For Poland 2 trials are acceptable, so this weed can be included in Polish label project.</p> <p><b>Efficacy for Maritime EPPO zone:</b></p> <table> <tr> <th>Dose</th><th>0.6 L/ha</th><th>0.75-0.8 L/ha</th><th>1.0 L/ha</th><th>1.5 L/ha</th><th>St. ref.</th></tr> <tr> <td>1<sup>st</sup> assessment</td><td>68.8%</td><td>75.7%</td><td>83.9%</td><td>89.9%</td><td>96.8%</td></tr> <tr> <td>2<sup>nd</sup> assessment</td><td>56.3%</td><td>73.2%</td><td>78.6%</td><td>88.9%</td><td>84.0%</td></tr> <tr> <td>long term effect</td><td>51.3%</td><td>71.9%</td><td>78.3%</td><td>86.4%</td><td>83.1%</td></tr> </table> <p><b>POLAV</b> – 4 trials: PL (3), DE (1). It is a major weed in maize for Poland. Number of trials for all zones in not sufficient, so each cMS should decide about possibility of acceptance POLAV in label. For Poland 4 trials are acceptable, so this weed can be included in Polish label project.</p> <p><b>Efficacy for N-E:</b></p> <table> <tr> <th>Dose</th><th>0.6 L/ha</th><th>0.75-0.8 L/ha</th><th>1.0 L/ha</th><th>1.5 L/ha</th><th>St. ref.</th></tr> <tr> <td>1<sup>st</sup> assessment</td><td>48.8%</td><td>68.3%</td><td>80.8%</td><td>89.2%</td><td>89.4%</td></tr> <tr> <td>2<sup>nd</sup> assessment</td><td>38.1%</td><td>66.7%</td><td>81.3%</td><td>91.6%</td><td>92.6%</td></tr> <tr> <td>long term effect</td><td>not studied</td><td>72.5%</td><td>95.0%</td><td>98.8%</td><td>100%</td></tr> </table> <p><b>Efficacy for Maritime EPPO zone:</b></p> <table> <tr> <th>Dose</th><th>0.6 L/ha</th><th>0.75-0.8 L/ha</th><th>1.0 L/ha</th><th>1.5 L/ha</th><th>St. ref.</th></tr> <tr> <td>1<sup>st</sup> assessment</td><td>0%</td><td>0%</td><td>0%</td><td>0%</td><td>0%</td></tr> <tr> <td>2<sup>nd</sup> assessment</td><td>0%</td><td>0%</td><td>0%</td><td>0%</td><td>0%</td></tr> </table>						Dose	0.6 L/ha	0.75-0.8 L/ha	1.0 L/ha	1.5 L/ha	St. ref.	1 <sup>st</sup> assessment	70.0%	77.5%	89.1%	92.5%	93.5%	2 <sup>nd</sup> assessment	72.9%	90.6%	94.6%	95.2%	95.5%	long term effect	not studied	not studied	92.5%	100%	100%	Dose	0.6 L/ha	0.75-0.8 L/ha	1.0 L/ha	1.5 L/ha	St. ref.	1 <sup>st</sup> assessment	87.5%	90.1%	92.5%	99.7%	98.6%	2 <sup>nd</sup> assessment	87.5%	91.8%	93.6%	100%	98.8%	long term effect	87.5%	92.4%	93.5%	100%	98.8%	Dose	0.6 L/ha	0.75-0.8 L/ha	1.0 L/ha	1.5 L/ha	St. ref.	1 <sup>st</sup> assessment	75.8%	82.6%	90.5%	95.4%	95.6%	2 <sup>nd</sup> assessment	77.8%	91.1%	94.2%	97.1%	96.8%	long term effect	87.5%	92.4%	93.0%	100%	99.2%	Dose	0.6 L/ha	0.75-0.8 L/ha	1.0 L/ha	1.5 L/ha	St. ref.	1 <sup>st</sup> assessment	31.3%	33.1%	35.0%	67.4%	56.9%	2 <sup>nd</sup> assessment	38.8%	48.8%	61.9%	88.5%	79.4%	long term effect	40.0%	50.6%	58.1%	86.3%	78.1%	Dose	0.6 L/ha	0.75-0.8 L/ha	1.0 L/ha	1.5 L/ha	St. ref.	1 <sup>st</sup> assessment	68.8%	75.7%	83.9%	89.9%	96.8%	2 <sup>nd</sup> assessment	56.3%	73.2%	78.6%	88.9%	84.0%	long term effect	51.3%	71.9%	78.3%	86.4%	83.1%	Dose	0.6 L/ha	0.75-0.8 L/ha	1.0 L/ha	1.5 L/ha	St. ref.	1 <sup>st</sup> assessment	48.8%	68.3%	80.8%	89.2%	89.4%	2 <sup>nd</sup> assessment	38.1%	66.7%	81.3%	91.6%	92.6%	long term effect	not studied	72.5%	95.0%	98.8%	100%	Dose	0.6 L/ha	0.75-0.8 L/ha	1.0 L/ha	1.5 L/ha	St. ref.	1 <sup>st</sup> assessment	0%	0%	0%	0%	0%	2 <sup>nd</sup> assessment	0%	0%	0%	0%	0%
Dose	0.6 L/ha	0.75-0.8 L/ha	1.0 L/ha	1.5 L/ha	St. ref.																																																																																																																																																																		
1 <sup>st</sup> assessment	70.0%	77.5%	89.1%	92.5%	93.5%																																																																																																																																																																		
2 <sup>nd</sup> assessment	72.9%	90.6%	94.6%	95.2%	95.5%																																																																																																																																																																		
long term effect	not studied	not studied	92.5%	100%	100%																																																																																																																																																																		
Dose	0.6 L/ha	0.75-0.8 L/ha	1.0 L/ha	1.5 L/ha	St. ref.																																																																																																																																																																		
1 <sup>st</sup> assessment	87.5%	90.1%	92.5%	99.7%	98.6%																																																																																																																																																																		
2 <sup>nd</sup> assessment	87.5%	91.8%	93.6%	100%	98.8%																																																																																																																																																																		
long term effect	87.5%	92.4%	93.5%	100%	98.8%																																																																																																																																																																		
Dose	0.6 L/ha	0.75-0.8 L/ha	1.0 L/ha	1.5 L/ha	St. ref.																																																																																																																																																																		
1 <sup>st</sup> assessment	75.8%	82.6%	90.5%	95.4%	95.6%																																																																																																																																																																		
2 <sup>nd</sup> assessment	77.8%	91.1%	94.2%	97.1%	96.8%																																																																																																																																																																		
long term effect	87.5%	92.4%	93.0%	100%	99.2%																																																																																																																																																																		
Dose	0.6 L/ha	0.75-0.8 L/ha	1.0 L/ha	1.5 L/ha	St. ref.																																																																																																																																																																		
1 <sup>st</sup> assessment	31.3%	33.1%	35.0%	67.4%	56.9%																																																																																																																																																																		
2 <sup>nd</sup> assessment	38.8%	48.8%	61.9%	88.5%	79.4%																																																																																																																																																																		
long term effect	40.0%	50.6%	58.1%	86.3%	78.1%																																																																																																																																																																		
Dose	0.6 L/ha	0.75-0.8 L/ha	1.0 L/ha	1.5 L/ha	St. ref.																																																																																																																																																																		
1 <sup>st</sup> assessment	68.8%	75.7%	83.9%	89.9%	96.8%																																																																																																																																																																		
2 <sup>nd</sup> assessment	56.3%	73.2%	78.6%	88.9%	84.0%																																																																																																																																																																		
long term effect	51.3%	71.9%	78.3%	86.4%	83.1%																																																																																																																																																																		
Dose	0.6 L/ha	0.75-0.8 L/ha	1.0 L/ha	1.5 L/ha	St. ref.																																																																																																																																																																		
1 <sup>st</sup> assessment	48.8%	68.3%	80.8%	89.2%	89.4%																																																																																																																																																																		
2 <sup>nd</sup> assessment	38.1%	66.7%	81.3%	91.6%	92.6%																																																																																																																																																																		
long term effect	not studied	72.5%	95.0%	98.8%	100%																																																																																																																																																																		
Dose	0.6 L/ha	0.75-0.8 L/ha	1.0 L/ha	1.5 L/ha	St. ref.																																																																																																																																																																		
1 <sup>st</sup> assessment	0%	0%	0%	0%	0%																																																																																																																																																																		
2 <sup>nd</sup> assessment	0%	0%	0%	0%	0%																																																																																																																																																																		

<b>long term effect</b>	0%	0%	0%	0%	0%																																																																																																																																																												
<p><b>POLCO</b> – 6 trials: PL (3), DE (2), CZ (1). It is a major weed in maize for Poland. Number of trials for all zones in not sufficient, so each cMS should decide about possibility of acceptance POLCO in label. For Poland 6 trials are acceptable, so this weed can be included in Polish label project.</p> <p><b>Efficacy for N-E EPPO zone:</b></p> <table> <tr> <th>Dose</th><th>0.6 L/ha</th><th>0.75-0.8 L/ha</th><th>1.0 L/ha</th><th>1.5 L/ha</th><th>St. ref.</th></tr> <tr> <td>1<sup>st</sup> assessment</td><td>50.0%</td><td>65.8%</td><td>76.7%</td><td>87.9%</td><td>87.5%</td></tr> <tr> <td>2<sup>nd</sup> assessment</td><td>46.9%</td><td>65.8%</td><td>80.8%</td><td>92.1%</td><td>92.9%</td></tr> <tr> <td>long term effect</td><td>not studied</td><td>57.5%</td><td>78.3%</td><td>86.3%</td><td>84.5%</td></tr> </table> <p><b>Efficacy for Maritime EPPO zone:</b></p> <table> <tr> <th>Dose</th><th>0.6 L/ha</th><th>0.75-0.8 L/ha</th><th>1.0 L/ha</th><th>1.5 L/ha</th><th>St. ref.</th></tr> <tr> <td>1<sup>st</sup> assessment</td><td>61.3%</td><td>64.2%</td><td>69.6%</td><td>91.3%</td><td>88.3%</td></tr> <tr> <td>2<sup>nd</sup> assessment</td><td>55.3%</td><td>61.7%</td><td>65.0%</td><td>85.4%</td><td>82.9%</td></tr> <tr> <td>long term effect</td><td>51.9%</td><td>59.2%</td><td>62.9%</td><td>84.6%</td><td>81.7%</td></tr> </table> <p><b>Efficacy for Poland (trials from PL and neighbouring countries):</b></p> <table> <tr> <th>Dose</th><th>0.6 L/ha</th><th>0.75-0.8 L/ha</th><th>1.0 L/ha</th><th>1.5 L/ha</th><th>St. ref.</th></tr> <tr> <td>1<sup>st</sup> assessment</td><td>56.8%</td><td>65.0%</td><td>73.1%</td><td>89.6%</td><td>87.9%</td></tr> <tr> <td>2<sup>nd</sup> assessment</td><td>52.0%</td><td>63.8%</td><td>72.9%</td><td>88.8%</td><td>87.9%</td></tr> <tr> <td>long term effect</td><td>51.9%</td><td>58.8%</td><td>66.9%</td><td>85.0%</td><td>83.1%</td></tr> </table> <p><b>POLPE</b> – 4 trials: SK (1), RO (3). It is a major weed in maize for Poland. Number of trials for all zones in not sufficient, so each cMS should decide about possibility of acceptance POLPE in label. For Poland registration of POLPE on the basis on trials performed in S-E EPPO zone is not possible, this weed should be deleted from Polish label project.</p> <p><b>Efficacy for S-E EPPO zone:</b></p> <table> <tr> <th>Dose</th><th>0.6 L/ha</th><th>0.75-0.8 L/ha</th><th>1.0 L/ha</th><th>1.5 L/ha</th><th>St. ref.</th></tr> <tr> <td>1<sup>st</sup> assessment</td><td>72.3%</td><td>79.8%</td><td>85.1%</td><td>91.7%</td><td>92.6%</td></tr> <tr> <td>2<sup>nd</sup> assessment</td><td>74.2%</td><td>80.7%</td><td>86.0%</td><td>92.1%</td><td>92.5%</td></tr> <tr> <td>long term effect</td><td>71.0%</td><td>79.8%</td><td>84.8%</td><td>90.4%</td><td>91.7%</td></tr> </table> <p><b>SOLNI</b> – 3 trials: PL (2), HU (1). It is a major weed in maize for Poland. It is a major weed in maize for Poland. Number of trials for all zones in not sufficient, so each cMS should decide about possibility of acceptance SOLNI in label. For Poland registration of SOLNI is not possible (at least 4 valid trials are required)..</p> <p><b>Efficacy for N-E EPPO zone:</b></p> <table> <tr> <th>Dose</th><th>0.6 L/ha</th><th>0.75-0.8 L/ha</th><th>1.0 L/ha</th><th>1.5 L/ha</th><th>St. ref.</th></tr> <tr> <td>1<sup>st</sup> assessment</td><td>72.5%</td><td>87.5%</td><td>97.5%</td><td>99.1%</td><td>100</td></tr> <tr> <td>2<sup>nd</sup> assessment</td><td>72.5%</td><td>87.5%</td><td>100%</td><td>100%</td><td>100%</td></tr> <tr> <td>long term effect</td><td>not studied</td><td>92.5%</td><td>100%</td><td>100%</td><td>100%</td></tr> </table> <p><b>Efficacy for S-E EPPO zone:</b></p> <table> <tr> <th>Dose</th><th>0.6 L/ha</th><th>0.75-0.8 L/ha</th><th>1.0 L/ha</th><th>1.5 L/ha</th><th>St. ref.</th></tr> <tr> <td>1<sup>st</sup> assessment</td><td>100%</td><td>100%</td><td>100%</td><td>100%</td><td>100%</td></tr> <tr> <td>2<sup>nd</sup> assessment</td><td>100%</td><td>100%</td><td>100%</td><td>100%</td><td>100%</td></tr> <tr> <td>long term effect</td><td>100%</td><td>100%</td><td>100%</td><td>100%</td><td>100%</td></tr> </table> <p><b>STEME</b> – 2 trials: PL (2). It is a minor weed in maize for Poland. Number of trials for all zones in not sufficient, so each cMS should decide about possibility of acceptance STEME in label. For Poland registration of STEME is possible.</p> <p><b>Efficacy for N-E EPPO zone:</b></p> <table> <tr> <th>Dose</th><th>0.6 L/ha</th><th>0.75-0.8 L/ha</th><th>1.0 L/ha</th><th>1.5 L/ha</th><th>St. ref.</th></tr> <tr> <td>1<sup>st</sup> assessment</td><td>73.8%</td><td>86.3%</td><td>90.6%</td><td>93.1%</td><td>93.8%</td></tr> </table>						Dose	0.6 L/ha	0.75-0.8 L/ha	1.0 L/ha	1.5 L/ha	St. ref.	1 <sup>st</sup> assessment	50.0%	65.8%	76.7%	87.9%	87.5%	2 <sup>nd</sup> assessment	46.9%	65.8%	80.8%	92.1%	92.9%	long term effect	not studied	57.5%	78.3%	86.3%	84.5%	Dose	0.6 L/ha	0.75-0.8 L/ha	1.0 L/ha	1.5 L/ha	St. ref.	1 <sup>st</sup> assessment	61.3%	64.2%	69.6%	91.3%	88.3%	2 <sup>nd</sup> assessment	55.3%	61.7%	65.0%	85.4%	82.9%	long term effect	51.9%	59.2%	62.9%	84.6%	81.7%	Dose	0.6 L/ha	0.75-0.8 L/ha	1.0 L/ha	1.5 L/ha	St. ref.	1 <sup>st</sup> assessment	56.8%	65.0%	73.1%	89.6%	87.9%	2 <sup>nd</sup> assessment	52.0%	63.8%	72.9%	88.8%	87.9%	long term effect	51.9%	58.8%	66.9%	85.0%	83.1%	Dose	0.6 L/ha	0.75-0.8 L/ha	1.0 L/ha	1.5 L/ha	St. ref.	1 <sup>st</sup> assessment	72.3%	79.8%	85.1%	91.7%	92.6%	2 <sup>nd</sup> assessment	74.2%	80.7%	86.0%	92.1%	92.5%	long term effect	71.0%	79.8%	84.8%	90.4%	91.7%	Dose	0.6 L/ha	0.75-0.8 L/ha	1.0 L/ha	1.5 L/ha	St. ref.	1 <sup>st</sup> assessment	72.5%	87.5%	97.5%	99.1%	100	2 <sup>nd</sup> assessment	72.5%	87.5%	100%	100%	100%	long term effect	not studied	92.5%	100%	100%	100%	Dose	0.6 L/ha	0.75-0.8 L/ha	1.0 L/ha	1.5 L/ha	St. ref.	1 <sup>st</sup> assessment	100%	100%	100%	100%	100%	2 <sup>nd</sup> assessment	100%	100%	100%	100%	100%	long term effect	100%	100%	100%	100%	100%	Dose	0.6 L/ha	0.75-0.8 L/ha	1.0 L/ha	1.5 L/ha	St. ref.	1 <sup>st</sup> assessment	73.8%	86.3%	90.6%	93.1%	93.8%
Dose	0.6 L/ha	0.75-0.8 L/ha	1.0 L/ha	1.5 L/ha	St. ref.																																																																																																																																																												
1 <sup>st</sup> assessment	50.0%	65.8%	76.7%	87.9%	87.5%																																																																																																																																																												
2 <sup>nd</sup> assessment	46.9%	65.8%	80.8%	92.1%	92.9%																																																																																																																																																												
long term effect	not studied	57.5%	78.3%	86.3%	84.5%																																																																																																																																																												
Dose	0.6 L/ha	0.75-0.8 L/ha	1.0 L/ha	1.5 L/ha	St. ref.																																																																																																																																																												
1 <sup>st</sup> assessment	61.3%	64.2%	69.6%	91.3%	88.3%																																																																																																																																																												
2 <sup>nd</sup> assessment	55.3%	61.7%	65.0%	85.4%	82.9%																																																																																																																																																												
long term effect	51.9%	59.2%	62.9%	84.6%	81.7%																																																																																																																																																												
Dose	0.6 L/ha	0.75-0.8 L/ha	1.0 L/ha	1.5 L/ha	St. ref.																																																																																																																																																												
1 <sup>st</sup> assessment	56.8%	65.0%	73.1%	89.6%	87.9%																																																																																																																																																												
2 <sup>nd</sup> assessment	52.0%	63.8%	72.9%	88.8%	87.9%																																																																																																																																																												
long term effect	51.9%	58.8%	66.9%	85.0%	83.1%																																																																																																																																																												
Dose	0.6 L/ha	0.75-0.8 L/ha	1.0 L/ha	1.5 L/ha	St. ref.																																																																																																																																																												
1 <sup>st</sup> assessment	72.3%	79.8%	85.1%	91.7%	92.6%																																																																																																																																																												
2 <sup>nd</sup> assessment	74.2%	80.7%	86.0%	92.1%	92.5%																																																																																																																																																												
long term effect	71.0%	79.8%	84.8%	90.4%	91.7%																																																																																																																																																												
Dose	0.6 L/ha	0.75-0.8 L/ha	1.0 L/ha	1.5 L/ha	St. ref.																																																																																																																																																												
1 <sup>st</sup> assessment	72.5%	87.5%	97.5%	99.1%	100																																																																																																																																																												
2 <sup>nd</sup> assessment	72.5%	87.5%	100%	100%	100%																																																																																																																																																												
long term effect	not studied	92.5%	100%	100%	100%																																																																																																																																																												
Dose	0.6 L/ha	0.75-0.8 L/ha	1.0 L/ha	1.5 L/ha	St. ref.																																																																																																																																																												
1 <sup>st</sup> assessment	100%	100%	100%	100%	100%																																																																																																																																																												
2 <sup>nd</sup> assessment	100%	100%	100%	100%	100%																																																																																																																																																												
long term effect	100%	100%	100%	100%	100%																																																																																																																																																												
Dose	0.6 L/ha	0.75-0.8 L/ha	1.0 L/ha	1.5 L/ha	St. ref.																																																																																																																																																												
1 <sup>st</sup> assessment	73.8%	86.3%	90.6%	93.1%	93.8%																																																																																																																																																												

<b>2<sup>nd</sup> assessment</b>	75.6%	92.5%	93.5%	95.6%	95.6%																																																																								
<b>long term effect</b>	not studied	not studied	not studied	not studied	not studied																																																																								
<p><b>VIOAR</b> – 7 trials: PL (6), DE (1). It is a minor weed in maize for Poland. Applicant submitted sufficient number of trials only for N-E EPPO zone. cMS from Maritime should consider extrapolating results from PL. In the opinion of ZRMs registration of VIOAR in S-E is not possible without any trial. However, final decision is left to each cMS. VIOAR can be included in Polish label.</p> <p><b>Efficacy for N-E EPPO zone:</b></p> <table> <tr> <th>Dose</th><th>0.6 L/ha</th><th>0.75-0.8 L/ha</th><th>1.0 L/ha</th><th>1.5 L/ha</th><th>St. ref.</th></tr> <tr> <td>1<sup>st</sup> assessment</td><td>60.3%</td><td>68.5%</td><td>78.5%</td><td>85.0%</td><td>87.2%</td></tr> <tr> <td>2<sup>nd</sup> assessment</td><td>70.3%</td><td>79.2%</td><td>91.4%</td><td>93.9%</td><td>95.0%</td></tr> <tr> <td>long term effect</td><td>70.0%</td><td>85.6%</td><td>95.0%</td><td>93.5%</td><td>95.0%</td></tr> </table> <p><b>Efficacy for Maritime EPPO zone:</b></p> <table> <tr> <th>Dose</th><th>0.6 L/ha</th><th>0.75-0.8 L/ha</th><th>1.0 L/ha</th><th>1.5 L/ha</th><th>St. ref.</th></tr> <tr> <td>1<sup>st</sup> assessment</td><td>100%</td><td>100%</td><td>100%</td><td>100%</td><td>100%</td></tr> <tr> <td>2<sup>nd</sup> assessment</td><td>95.0%</td><td>100%</td><td>100%</td><td>100%</td><td>100%</td></tr> <tr> <td>long term effect</td><td>95.2%</td><td>92.8%</td><td>97.4%</td><td>96.7%</td><td>97.6%</td></tr> </table> <p><b>Efficacy for Poland (trials from PL and neighbouring countries):</b></p> <table> <tr> <th>Dose</th><th>0.6 L/ha</th><th>0.75-0.8 L/ha</th><th>1.0 L/ha</th><th>1.5 L/ha</th><th>St. ref.</th></tr> <tr> <td>1<sup>st</sup> assessment</td><td>68.3%</td><td>73.0%</td><td>81.6%</td><td>87.1%</td><td>89.0%</td></tr> <tr> <td>2<sup>nd</sup> assessment</td><td>75.3%</td><td>82.1%</td><td>92.6%</td><td>94.8%</td><td>95.8%</td></tr> <tr> <td>long term effect</td><td>82.5%</td><td>89.2%</td><td>96.2%</td><td>95.1%</td><td>96.3%</td></tr> </table> <p>Applicant correctly presented results. Due to the limited number of results for some particular weeds species, it can be difficult to make a clear conclusion for the label, especially for weeds which are considered to be major. Therefore, the sufficiency of results should be considered on the national level based on importance of weed in their country.</p> <p>Extrapolations results from registered products containing mesotrione should be considered by individual member states on a national level based on current registration, data protection and experience with similar active compounds products. The spectrum of weeds should be checked with label claims on these reference products.</p> <p><b>ACCEPTED WEED IN POLISH LABEL:</b> When the minimum number of tests was met for the northeast zone, then the weeds were classified only by them (trials from neighboring countries were not considered in this case). On the other hand, when the number of studies for the northeast zone was not sufficient, then PL and neighboring countries' studies were taken into account for classification. POLAV was classified based only on studies from PL, as it appeared to be resistant (eff=0%) in a study from Germany. So, weed classification made by Applicant and ZRMs could be different.</p> <p><b><del>Dose 1.5 L/ha:</del></b></p> <p><del>• susceptible: weeds: CHEAL, ECHCG, GALAP, GASPA, LAMPU, MATCH, MATIN, POLAV, POLCO, STEME, VIOAR.</del></p> <p>Max. accepted dose was changed due to assessment made by Ecotox section. Ecotox accepted max. 100 g.a.s./ha of mesotrione, so only max dose 1.0 L/ha can be accepted by section efficacy as it was studied during field trials.</p> <p><b>Dose 1.0 L/ha:</b></p> <ul style="list-style-type: none"> <li>• susceptible: weeds: CHEAL, GALAP, GASPA, LAMPU, POLAV, STEME, VIOAR</li> </ul>						Dose	0.6 L/ha	0.75-0.8 L/ha	1.0 L/ha	1.5 L/ha	St. ref.	1 <sup>st</sup> assessment	60.3%	68.5%	78.5%	85.0%	87.2%	2 <sup>nd</sup> assessment	70.3%	79.2%	91.4%	93.9%	95.0%	long term effect	70.0%	85.6%	95.0%	93.5%	95.0%	Dose	0.6 L/ha	0.75-0.8 L/ha	1.0 L/ha	1.5 L/ha	St. ref.	1 <sup>st</sup> assessment	100%	100%	100%	100%	100%	2 <sup>nd</sup> assessment	95.0%	100%	100%	100%	100%	long term effect	95.2%	92.8%	97.4%	96.7%	97.6%	Dose	0.6 L/ha	0.75-0.8 L/ha	1.0 L/ha	1.5 L/ha	St. ref.	1 <sup>st</sup> assessment	68.3%	73.0%	81.6%	87.1%	89.0%	2 <sup>nd</sup> assessment	75.3%	82.1%	92.6%	94.8%	95.8%	long term effect	82.5%	89.2%	96.2%	95.1%	96.3%
Dose	0.6 L/ha	0.75-0.8 L/ha	1.0 L/ha	1.5 L/ha	St. ref.																																																																								
1 <sup>st</sup> assessment	60.3%	68.5%	78.5%	85.0%	87.2%																																																																								
2 <sup>nd</sup> assessment	70.3%	79.2%	91.4%	93.9%	95.0%																																																																								
long term effect	70.0%	85.6%	95.0%	93.5%	95.0%																																																																								
Dose	0.6 L/ha	0.75-0.8 L/ha	1.0 L/ha	1.5 L/ha	St. ref.																																																																								
1 <sup>st</sup> assessment	100%	100%	100%	100%	100%																																																																								
2 <sup>nd</sup> assessment	95.0%	100%	100%	100%	100%																																																																								
long term effect	95.2%	92.8%	97.4%	96.7%	97.6%																																																																								
Dose	0.6 L/ha	0.75-0.8 L/ha	1.0 L/ha	1.5 L/ha	St. ref.																																																																								
1 <sup>st</sup> assessment	68.3%	73.0%	81.6%	87.1%	89.0%																																																																								
2 <sup>nd</sup> assessment	75.3%	82.1%	92.6%	94.8%	95.8%																																																																								
long term effect	82.5%	89.2%	96.2%	95.1%	96.3%																																																																								

	<ul style="list-style-type: none"> <li>• <i>moderately susceptible weeds</i>: ECHCG, MATIN</li> <li>• <i>moderately tolerant weeds</i>: POLCO</li> <li>• <i>tolerant weeds</i>: MATCH.</li> </ul> <p><b><u>Dose 0.75 L/ha:</u></b></p> <ul style="list-style-type: none"> <li>• <i>susceptible weeds</i>: CHEAL, GALAP, LAMPU, STEME, VIOAR</li> <li>• <i>moderately susceptible weeds</i>: ECHCG, GASPA, MATIN, POLAV</li> <li>• <i>tolerant weeds</i>: MATCH, POLCO.</li> </ul> <p>Following weed species were excluded from Polish label due to not sufficient number of trials: ARBUTH; AGREE; AMABL; ANGAR; AVEFA; BRNN; CIRAR; CHEPO; DATST; PANMI; POLAM; POLLA; SETVI; XANST; AMBEL, HIBTR, AMARE, POLPE and SOLNI.</p> <p>The dose used should be adjusted according to the species of weeds to be controlled. The lower dose can be used for weeds occurring in low intensity, in the early stages of development.</p>
--	--

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

The possibility of development of resistance or cross-resistance to the active substance contained in the proposed formulation JUZAN EXTRA 100 SC (mesotrione, 100 g/L) is discussed thereafter based on the requirements detailed in EPPO standard PP1/213(3) “*Resistance risk analysis*”.

JUZAN EXTRA 100 SC is used as post-emergence herbicide to control annual grasses and broadleaved weeds in maize.

Resistance is the naturally inherited ability of some weed biotypes in a population to survive an application of herbicides, which would control this weed population on normal application conditions effectively (Heap 1997)<sup>1</sup>. Resistance is of great commercial relevance for both, the operator and the manufacturer (Arlt 2002)<sup>2</sup>. For the operator due to the fact that less efficacy represents yield losses of qualitative and quantitative nature and results in higher costs of weed control; for the manufacturer because development of resistance could ruin the return of investment in the development of an active substance. Orson & Harris (1997)<sup>3</sup> have pointed out the cost savings by anti-resistance-strategies compared to the potential of the follow-up costs of the development of resistance in blackgrass populations for arable farms in the UK. Therefore, an anti-resistance strategy presumes a long-term view.

The risk and the dynamic of resistance in weed populations are mainly affected by following factors (Arlt 2002)<sup>4</sup>:

- Number of alleles which are responsible for resistance characteristics
- Frequency of occurrence of resistance-alleles in natural weed populations
- Type of inheritance
- Reproductive characteristics of the weed species (seed production)
- Dormancy and lifetime of seeds in soil

<sup>1</sup> Heap, I. (1997): The occurrence of herbicide resistance worldwide. Pesticide Science, v. 51 (3), p. 235 - 243

<sup>2</sup> Arlt, K. (2002): Herbizidresistenz bei Unkräutern, in “Unkraut – Ökologie und Bekämpfung“. Autoren P. Zwerger & H. - U. Ammon. Verlag Eugen Ulmer Stuttgart S. 205

<sup>3</sup> Orson, J.H. & Harris, D. (1997): The technical and financial impact of herbicide resistant black grass (*Alopecurus myosuroides*) on individual farm businesses in UK. The 1997 Brighton Crop Protection Conference – Weeds. p.1127 - 1132

<sup>4</sup> Arlt, K. (2002): Herbizidresistenz bei Unkräutern, in “Unkraut – Ökologie und Bekämpfung“. Autoren P. Zwerger & H. - U. Ammon. Verlag Eugen Ulmer Stuttgart S. 205

- Fitness of resistant and sensitive biotypes
- Conditions of competition
- Selection pressure of herbicides
- Mode of action of the active substances
- Persistence of the active substances

It is of further importance whether in target organism's resistance mechanisms already exist against the active substance planned for application and whether cross-resistance must be anticipated in relation to other active substances or groups of active substances.

### 3.3.1 Mode of action

Mesotrione is classified by HRAC within group 27 -Inhibition of 4-hydroxyphenyl-pyruvate-dioxygenase (4-HPPD) (Legacy F2). It belongs to the chemical group of triketones. Other chemical classes classified as group 27 herbicides are: pyrazoles and isoxazoles.

Mesotrione is a competitive inhibitor of 4-HPPD, and by binding to the enzyme's active site it prevents the normal substrate (4-hydroxyphenyl-pyruvate) from binding and rendering the enzyme inactive. The direct result of blocking the function of 4-HPPD is that plastoquinone and  $\alpha$ -tocopherol are not synthesized. Without these compounds, the formation of carotenoid pigments is stopped. Since plastoquinone as redox component (enzyme cofactor) is interacting with both photosynthesis and carotenoid biosynthesis, the HPPD inhibition also leads to an inhibition of the phytoene-desaturase enzyme (PDS), interrupting the biosynthesis of carotenoids. This interruption is lethal on its own. Without protecting functions of  $\alpha$ -tocopherol and carotenoids, light and by-products of photosynthesis (oxidative radicals) destroy chlorophyll and cell membranes, resulting in bleaching of the plants leaves within 3 to 5 days after application. Complete weed death occurs within 2 to 3 weeks after application.

### 3.3.2 Evidence of resistance

According to the International Survey on Herbicide Resistant Weeds [www.weedscience.org] (Table 6.2.8-1), there were reported 14 individual cases of resistance to HRAC Group 27 (Legacy F2). There are just 3 species that show resistance to mesotrione, world-wide (9 cases in maize out of 13 total reported cases of mesotrione); *Amaranthus palmeri* and *Amaranthus tuberculatus* (A. rudis) have occurred in maize 'corn' grown on continuous/extended rotations or where grown as seed crops (where alternative products are limited). The mechanism(s) of resistance for these biotypes is unknown and as yet unclassified.

The first case of reported resistance to mesotrione (and other HPPDs) worldwide, was recorded during 2009 in an *Amaranthus tuberculatus* (syn. rudis) population, in a seed maize production field in Illinois, USA. Table 3.3.2-1 shows the new cases reported since that time. *Amaranthus tuberculatus* and *Amaranthus palmeri* are native to the United States. Both these *Amaranthus* species are reported as infrequent in Europe.

There are currently no reports of weed species resistant to mesotrione or group of 4-HPPD inhibitors within the Europe until now.

The following table shows the current worldwide resistance weeds specifically to the herbicide mesotrione (according to <http://www.weedscience.org>):

**Table 3.3.2-1: Reported cases of resistance to mesotrione world-wide<sup>5</sup>:**

#	Year	Species	Country	MOAs	Actives	Situation(s)
1	2015	<i>Raphanus raphanistrum</i>	Australia (Western Australia)	Auxin Mimics HRAC Group 4 (Legacy O), Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B),	chlorsulfuron, atrazine, diflufenican, fluridone, isoxaflutole, 2,4-D,	Wheat

<sup>5</sup> Available online: <http://www.weedscience.org> (December 2021)

#	Year	Species	Country	MOAs	Actives	Situation(s)
				Inhibition of Hydroxyphenyl Pyruvate Dioxygenase HRAC Group 27 (Legacy F2), Phytoene Desaturase inhibitors HRAC Group 12 (Legacy F1), PSII inhibitors - Serine 264 Binders HRAC Group 5 (Legacy C1 C2)	<b>mesotrione</b> , tembotrione	
2	2020	Raphanus raphanistrum	Australia (Western Australia)	Auxin Mimics HRAC Group 4 (Legacy O), Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B), Inhibition of Hydroxyphenyl Pyruvate Dioxygenase HRAC Group 27 (Legacy F2), Very Long-Chain Fatty Acid Synthesis inhibitors HRAC Group 15 (Legacy K3 N)	metsulfuron-methyl, dicamba, 2,4-D, <b>mesotrione</b> , topramezone, pyroxasulfone	Wheat
3	2009	Amaranthus tuberculatus (=A. rudis)	United States (Illinois)	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B), Inhibition of Hydroxyphenyl Pyruvate Dioxygenase HRAC Group 27 (Legacy F2), PSII inhibitors - Serine 264 Binders HRAC Group 5 (Legacy C1 C2)	imazethapyr, chlorimuron-ethyl, atrazine, <b>mesotrione</b> , tembotrione, topramezone	Seed corn
4	2016	Amaranthus tuberculatus (=A. rudis)	United States (Illinois)	Auxin Mimics HRAC Group 4 (Legacy O), Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B), Inhibition of Hydroxyphenyl Pyruvate Dioxygenase HRAC Group 27 (Legacy F2), Inhibition of Protoporphyrinogen Oxidase HRAC Group 14 (Legacy E), PSII inhibitors - Serine 264 Binders HRAC Group 5 (Legacy C1 C2)	imazethapyr, chlorimuron-ethyl, atrazine, fomesafen, lactofen, acifluorfen, 2,4-D, <b>mesotrione</b> , tembotrione, topramezone	Corn (maize), Soybean
5	2009	Amaranthus tuberculatus (=A. rudis)	United States (Iowa)	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B), Inhibition of Hydroxyphenyl Pyruvate Dioxygenase HRAC Group 27 (Legacy F2), PSII inhibitors - Serine 264 Binders HRAC Group 5 (Legacy C1 C2)	thifensulfuron-methyl, rimsulfuron, atrazine, <b>mesotrione</b> , tembotrione, topramezone	Seed corn
6	2011	Amaranthus tuberculatus (=A. rudis)	United States (Iowa)	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B), Inhibition of Enolpyruvyl Shikimate Phosphate Synthase HRAC Group 9 (Legacy G), Inhibition of Hydroxyphenyl Pyruvate Dioxygenase HRAC Group 27 (Legacy F2), PSII inhibitors - Serine 264 Binders HRAC Group 5 (Legacy C1 C2)	imazamethabenz-methyl, thifensulfuron-methyl, chlorimuron-ethyl, atrazine, isoxaflutole, glyphosate, <b>mesotrione</b>	Corn (maize), Soybean
7	2009	Amaranthus palmeri	United States (Kansas)	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B), Inhibition of Hydroxyphenyl Pyruvate Dioxygenase HRAC Group	thifensulfuron-methyl, atrazine, <b>mesotrione</b> , pyrasulfotole, tem-	Corn (maize), Sorghum

#	Year	Species	Country	MOAs	Actives	Situation(s)
				27 (Legacy F2), PSII inhibitors - Serine 264 Binders HRAC Group 5 (Legacy C1 C2)	botrione, toprame- zone	
8	2015	Amaranthus palmeri	United States (Kansas)	Auxin Mimics HRAC Group 4 (Legacy O), Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B), Inhibition of Enolpyruvyl Shiki- mate Phosphate Synthase HRAC Group 9 (Legacy G), Inhibition of Hydroxyphenyl Py- ruvate Dioxygenase HRAC Group 27 (Legacy F2), PSII inhibitors - Serine 264 Binders HRAC Group 5 (Legacy C1 C2)	chlorsulfuron, atra- zine, glyphosate, 2,4-D, <b>mesotrione</b>	Sorghum
9	2011	Amaranthus tuberculatus (=A. rudis)	United States (Nebraska)	Inhibition of Hydroxyphenyl Py- ruvate Dioxygenase HRAC Group 27 (Legacy F2)	<b>mesotrione</b> , tem- botrione, toprame- zone	Corn (maize)
10	2011	Amaranthus palmeri	United States (Nebraska)	Inhibition of Hydroxyphenyl Py- ruvate Dioxygenase HRAC Group 27 (Legacy F2)	<b>mesotrione</b> , tem- botrione, toprame- zone	Corn (maize)
11	2014	Amaranthus palmeri	United States (Nebraska)	Inhibition of Hydroxyphenyl Py- ruvate Dioxygenase HRAC Group 27 (Legacy F2), PSII inhibitors - Serine 264 Binders HRAC Group 5 (Legacy C1 C2)	atrazine, <b>mesotri- one</b> , tembotrione, topramezone	Corn (maize)
12	2016	Amaranthus palmeri	United States (North Caro- lina)	Inhibition of Hydroxyphenyl Py- ruvate Dioxygenase HRAC Group 27 (Legacy F2)	<b>mesotrione</b>	Corn (maize)
13	2020	Amaranthus tuberculatus (=A. rudis)	United States (North Caro- lina)	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B), Inhibition of Enolpyruvyl Shiki- mate Phosphate Synthase HRAC Group 9 (Legacy G), Inhibition of Hydroxyphenyl Py- ruvate Dioxygenase HRAC Group 27 (Legacy F2), Inhibition of Protoporphyrinogen Oxidase HRAC Group 14 (Legacy E), PSII inhibitors - Serine 264 Binders HRAC Group 5 (Legacy C1 C2)	imazethapyr, atra- zine, fomesafen, glyphosate, <b>meso- trione</b>	Soybean
14	2014	Amaranthus palmeri	United States (Wisconsin)	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B), Inhibition of Hydroxyphenyl Py- ruvate Dioxygenase HRAC Group 27 (Legacy F2)	imazethapyr, thifen- sulfuron-methyl, tembotrione	Corn (maize)

### 3.3.3 Mechanism of resistance

Herbicides mostly affect 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 MoA group of herbicides. 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 ecotypes.

For herbicides, 4 mechanisms of resistance are known<sup>6</sup>:

1. Altered target site  
Herbicides have specific sites (target site of action) where they act to disrupt a particular plant process or function. If this target site is altered, the herbicide can no longer bind to the site of action and is unable to exert its phytotoxic effect. This is the most common mechanism of resistance to herbicides.
2. Enhanced metabolism  
Metabolism within the plant is one mechanism a plant uses to detoxify a foreign compound such as an herbicide. A weed with the ability to quickly degrade an herbicide can potentially inactivate it before it can reach its site of action within the plant.
3. Compartmentalization or sequestration  
Some plants are capable of restricting the movement of foreign compounds within their cells or tissues to prevent the compounds from causing harmful effects. In this case, an herbicide may be inactivated either through binding (such as to a plant sugar molecule) or removed from metabolically active regions of the cell to inactive regions, the cell wall, for example, where it exerts no effect.
4. Over-expression of the target protein  
If the target protein, on which the herbicide acts, can be produced in large quantities by the plant, then the effect of the herbicide becomes insignificant.

### 3.3.4 Cross-resistance

Cross resistance is defined as the expression of a genetically-endowed mechanism conferring the ability to withstand herbicides from different chemical classes. According to HRAC there are two broad cross resistance categories: target site cross resistance and non-target site cross resistance.

Target site cross resistance occurs when a change at the biochemical site of action of one herbicide also confers resistance to herbicides from a different chemical class that inhibit the same site of action in the plant. Target site cross resistance does not necessarily result in resistance to all herbicide classes with a similar mode of action or indeed all herbicides within a given herbicide class. From a practical viewpoint, control of target site-based resistant weed populations can often easily be achieved by the use of herbicides with a different mode of action.

Target site cross resistances for mesotrione and Inhibition of Hydroxyphenyl Pyruvate Dioxygenase HRAC Group 27 (Legacy F2) worldwide have been reported for two weed species: *Amaranthus palmeri* and *Amaranthus tuberculatus* (= *A. rudis*), which are species native to USA. None resistance cases were reported in Europe.

Non-target site cross resistance is defined as cross resistance to dissimilar herbicide classes conferred by a mechanism(s) other than resistant enzyme target sites. In practice, it means that weed populations which developed resistance to one herbicide class can display resistance to herbicides from a dissimilar classes

---

<sup>6</sup> Available online: <https://pesticidestewardship.org/resistance/herbicide-resistance/mechanisms-of-herbicide-resistance/> (November 2021)



(moreover from a different site of action; i.e. a different HRAC group) without exposure to these herbicides.

Non-target site cross resistances for mesotrione and Inhibition of Hydroxyphenyl Pyruvate Dioxygenase HRAC Group 27 (Legacy F2) worldwide in maize were recorded in the same weed species as target site cross resistance and also only in USA.

As can be seen from Table 3.3-1, non-target site cross-resistance for mesotrione and Inhibition of Hydroxyphenyl Pyruvate Dioxygenase HRAC Group 27 (Legacy F2) worldwide, has occurred within 6 of the 9 reported cases of resistance to mesotrione, in maize and within the biotypes of both weed species (*A. palmeri* and *A. rudis*).

It is therefore concluded that, there is potential within the weed population for cross-resistance to occur to other modes of action, namely the Auxin Mimics HRAC Group 4 (Legacy O), Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B), PSII inhibitors - Serine 264 Binders HRAC Group 5 (Legacy C1 C2), Inhibition of Protoporphyrinogen Oxidase HRAC Group 14 (Legacy E) and Inhibition of Enolpyruvyl Shikimate Phosphate Synthase HRAC Group 9 (Legacy G).

None of these cases were reported in Europe.

### 3.3.5 Risk of resistance development

### 3.3.6 Resistance risk assessment

#### 1) The active substance

Mesotrione can be considered a low to medium resistance risk active substance within the EU, as although it has a single site of action (binding to the HPPD enzyme, involved in the synthesis of carotene pigments). However, although this could potentially be a single mutation to confer resistance, it has only happened in two related weeds (*Amaranthus palmeri* and *Amaranthus rudis*), both in the USA only. Therefore, it appears to be relatively difficult to evolve resistance to this mode of action, and it has only occurred where continuous cropping of maize occurs. Therefore, it can be considered that inherent risk of resistance developing to mesotrione to be low.

#### 2) The target organism

Resistance to mesotrione has occurred only in two weed species (*Amaranthus palmeri* and *Amaranthus rudis*), and only in the USA. A related weed, *Amaranthus retroflexus* (also present in the USA) is present as a weed claim on the JUZAN EXTRA 100 SC, where it is seen as being effectively controlled by the product. Other weeds have evolved resistance in the EU, in maize crops, to active substances with other modes of action, notably; *Amaranthus retroflexus*, *Chenopodium album*, *Solanum nigrum*, and *Echinochloa crus-galli*, to ALS inhibitors, and the triazines. However, as can be seen from the data submitted in this dossier, JUZAN EXTRA 100 SC remains effective against these weed species, even where resistance to other herbicide modes of action may be an issue.

Some of the target weeds e.g. AMARE, ECHCG and CHEAL have an inherently high risk of developing resistance and others have a moderate risk e.g. MATSS. Therefore, it can be considered that the inherent risk of resistance developing towards the target organisms to be moderate to high.

#### 3) Agronomic use pattern

The current agronomic pattern for maize and sweetcorn growing in the EU is within a crop rotation, where currently, it is unlikely that more than two crops of maize or sweetcorn are grown in successive years. Therefore, the pressure from very regular use of mesotrione containing products in continuous maize product (as seen in the USA) is not reflected in the EU. It is therefore, concluded that, the resistance risk associated with the agronomic use pattern in maize within the EU is likely to be low.

Overall, it can be considered that the risk of resistance developing to mesotrione from the proposed use of 'JUZAN EXTRA 100 SC' is low to moderate. The risk comes predominantly from the inherent risk of some of the target weeds. As a result of this risk the resistance management strategy is proposed in order to reduce the risk to an acceptable level.

### Resistance risk management

General principles of herbicide resistance management:

- 1) Use within the framework of integrated weed management system, which includes, among others, the proper crop rotation, an appropriate soil tillage after harvest of the preceding crop and before crop sowing, mechanical weeding, as well as herbicide MoA rotation.
- 2) Use in rotation with herbicides belonging to HRAC groups different from 27, and showing different modes of action.
- 3) Use the full recommended herbicide rate and proper application timing to control weed species present in the field as indicated at the product label.
- 4) Scout fields after herbicide application to ensure control has been achieved. Avoid allowing weeds to reproduce by seed or to proliferate vegetatively.
- 5) Monitor treated weed populations for resistance development.

Comments of zRMS:	<p>Juzan Extra 100 SC (product code: M-100SC-OR2-C) contains mesotrione (100g/L), a potent bleaching herbicide that belongs to the triketone herbicide family (HRAC Group F2).</p> <p>Juzan Extra 100 SC is a post-emergence herbicide for the control of weeds in maize with one active substance – mesotrione. <b>Mesotrione</b> belongs to HRAC group F2 (S27) and acts by bleaching, via inhibition of 4-hydroxyphenyl-pyruvate-dioxygenase (4-HPPD). It is a member of the triketone chemical family, in which the active substance sulcotrione is the only other member. Mesotrione disrupts the development of plant pigments which are essential for photosynthesis. This inhibition causes leaf chlorosis and eventual death of sensitive weed species.</p> <p>Thus, the analysis of the risk for the development of weed resistance to mesotrione is made under the assumption that cross resistance exists between all herbicides classified as HRAC group F2. No cross-resistance was observed between F2 herbicides in the ten cases reported from the US.</p> <p>The mesotrione resistant <i>Amaranth</i> species (<i>Amaranthus tuberculatus</i> and <i>Amaranthus palmeri</i>) populations in Iowa, Illinois, Kansas and Nebraska (USA) mentioned in section 3.3.4 were reported to be cross-resistant to ALS inhibitors (HRAC group B/2), Photosystem II inhibitors (HRAC group C1/5), PPO inhibitors (HRAC group E/14), Synthetic Auxins (HRAC group 0/4) and/or EPSP synthase inhibitors (HRAC group G/9).</p> <p>Mesotrione have been used as straight products as well as in mixtures for many years. Without any precautions, the resistance risk is unacceptable. However, taking the right precautions and following Good Agricultural Practise, the risk is acceptable. Should resistant populations arise, control could be achieved through use of alternative products.</p> <p>Good Agricultural Practices and Good Plant Protection Practices (EPPO Standard 2/1 (2)) should be followed in the weed management strategy. Uses of mixtures with herbicides with different modes of action and weed spectrum is recommended, to obtain a high degree of weed control and get rid of eventually resistant weeds in the field and prevent resistance build up.</p> <p>Follow the label recommendations regarding application rate (max. 1 application</p>
-------------------	---

per year), growth stage, doses etc.

**Always follow HRAG guidelines for the prevention and managing herbicide resistant grass and broadleaved weeds.**

Group F2 is one of the modes of action with the fewest cases of resistance reported. At the time of this evaluation (December 2022), there are only two weeds worldwide (*Amaranthus tuberculatus* and *Amaranthus palmeri* in the USA) that have developed resistance to HPPD inhibitors ([www.weedscience.org](http://www.weedscience.org)). A total of 8 individual cases of resistance to mesotrione have been observed.

#	Year	Species	Country	MOAs	Actives	Situations
1	2021	<i>Amaranthus tuberculatus</i> (= <i>A. rudis</i> )	Canada (Ontario)	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B), Inhibition of Enolpyruvyl Shikimate Phosphate Synthase HRAC Group 9 (Legacy G), Inhibition of Hydroxyphenyl Pyruvate Dioxygenase HRAC Group 27 (Legacy F2), Inhibition of Protoporphyrinogen Oxidase HRAC Group 14 (Legacy E), PSII inhibitors - Serine 264 Binders HRAC Group 5 (Legacy C1 C2)	imazethapyr, atrazine, metribuzin, lactofen, glyphosate, mesotrione	Corn (maize), Soybean, Dry, bean, edible
2	2016	<i>Amaranthus tuberculatus</i> (= <i>A. rudis</i> )	United States (Illinois)	Auxin Mimics HRAC Group 4 (Legacy O), Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B), Inhibition of Hydroxyphenyl Pyruvate Dioxygenase HRAC Group 27 (Legacy F2), Inhibition of Protoporphyrinogen Oxidase HRAC Group 14 (Legacy E), PSII inhibitors - Serine 264 Binders HRAC Group 5 (Legacy C1 C2)	imazethapyr, chlorimuron-ethyl, atrazine, fomesafen, lactofen, acifluorfen, dicamba, 2,4-D, mesotrione, tembotrione, topramezone	Corn (maize), Soybean
3	2011	<i>Amaranthus tuberculatus</i> (= <i>A. rudis</i> )	United States (Iowa)	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B), Inhibition of Enolpyruvyl Shikimate Phosphate Synthase HRAC Group 9 (Legacy G), Inhibition of Hydroxyphenyl Pyruvate Dioxygenase HRAC Group 27 (Legacy F2), PSII inhibitors - Serine 264 Binders HRAC Group 5 (Legacy C1 C2)	imazamethabenz-methyl, thifensulfuron-methyl, chlorimuron-ethyl, atrazine, isoxaflutole, glyphosate, mesotrione	Corn (maize), Soybean
4	2009	<i>Amaranthus palmeri</i>	United States (Kansas)	Inhibition of Acetolactate Synthase HRAC Group 2 (Legacy B), Inhibition of Hydroxyphenyl Pyruvate Dioxygenase HRAC Group 27 (Legacy F2), PSII inhibitors - Serine 264 Binders HRAC Group 5 (Legacy C1 C2)	thifensulfuron-methyl, atrazine, mesotrione, pyrasulfotole, tembotrione, topramezone	Corn (maize), Sorghum
5	2011	<i>Amaranthus tuberculatus</i> (= <i>A. rudis</i> )	United States (Nebraska)	Inhibition of Hydroxyphenyl Pyruvate Dioxygenase HRAC Group 27 (Legacy F2)	mesotrione, tembotrione, topramezone	Corn (maize)
6	2011	<i>Amaranthus palmeri</i>	United States (Nebraska)	Inhibition of Hydroxyphenyl Pyruvate Dioxygenase HRAC Group 27 (Legacy F2)	mesotrione, tembotrione, topramezone	Corn (maize)
7	2014	<i>Amaranthus palmeri</i>	United States (Nebraska)	Inhibition of Hydroxyphenyl Pyruvate Dioxygenase HRAC Group 27 (Legacy F2), PSII inhibitors - Serine 264 Binders HRAC Group 5 (Legacy C1 C2)	atrazine, mesotrione, tembotrione, topramezone	Corn (maize)
8	2016	<i>Amaranthus palmeri</i>	United States (North Carolina)	Inhibition of Hydroxyphenyl Pyruvate Dioxygenase HRAC Group 27 (Legacy F2)	mesotrione	Corn (maize)

	<p>Mesotrione has been authorised as a herbicide in Europe for over a decade now, and despite its widespread use in maize, no resistance to this active substance has yet been reported in Europe. There is currently no resistance to any Group F2 herbicides in Europe. Additionally, no cross resistance to mesotrione is known, although this does not mean it cannot develop.</p> <p>Resistance to mesotrione has not been reported in any of the target weeds of ‘Juzan Extra 100 SC’. However, it has been reported in two species within the <i>Amaranthus</i> genus, and the target weed AMARE is a member of this genus.</p> <p>The zRMS would consider that inherent risk of resistance developing to mesotrione to be low. Some of the target weeds e.g. AMARE, ECHCG and CHEAL have an inherently high risk of developing resistance. Therefore, the zRMS would consider the inherent risk of resistance developing towards the target organisms to be moderate to high.</p> <p>Overall, the zRMS considers that the risk of resistance developing to mesotrione from the proposed use of ‘Juzan Extra 100 SC’ is low to moderate. The risk comes predominantly from the inherent risk of some of the target weeds. As a result of this risk, an unrestricted use pattern is not acceptable, and modifiers are required. The zRMS considers that the resistance management strategy proposed by the applicant will reduce the risk to an acceptable level.</p> <p><u>This represents a low rate of resistance development:</u> In terms of the use pattern, ‘Juzan Extra 100 SC’ can only be applied once per crop and season, which will also minimise the risk of resistance developing.</p> <p><u>The resistance label wording on the proposed Polish label should be as follows:</u></p> <p><i>Juzan Extra 100 SC contains mesotrione which is from a group of herbicides referred to as 4-HPPD inhibitors. This class of compounds act by disrupting the synthesis of certain plant pigments involved in photosynthesis.</i></p> <p><i>At the present time there is no known cross-resistance to mesotrione in weeds that exhibit resistance or reduced sensitivity to other herbicides with different modes of action. The use of Juzan Extra 100 SC in mixtures and sequences with other herbicides approved for use in grain and forage maize crops and with a different mode of action is recommended to help to reduce the development of resistance. As herbicides in the group of 4-HPPD inhibitors are currently only available in maize crops, crop rotation with the use of herbicides with a different mode of action will also help to reduce the development of resistance. In the event that strains of weeds develop resistance or become less sensitive to a specific herbicide such as mesotrione, weed control may be reduced.</i></p> <p><i>Where maize crops are grown in successive seasons, avoid the use of Juzan Extra 100 SC for more than two successive seasons to avoid the potential for weed resistance developing to mesotrione.</i></p> <p><b>Conclusion</b> The zRMS considers the resistance management strategy to be acceptable and recommends that cMS consider including the relevant advice on their national labels.</p>
--	--

### 3.4 Adverse effects on treated crops (KCP 6.4)

A total of 19 selectivity trials investigating the phytotoxicity, the impact on yield and on quality parameters of JUZAN EXTRA 100 SC on treated plants were implemented in 2016 and 2019. The selectivity of JUZAN EXTRA 100 SC was tested when applied in spring on maize crop at BBCH 12-18.

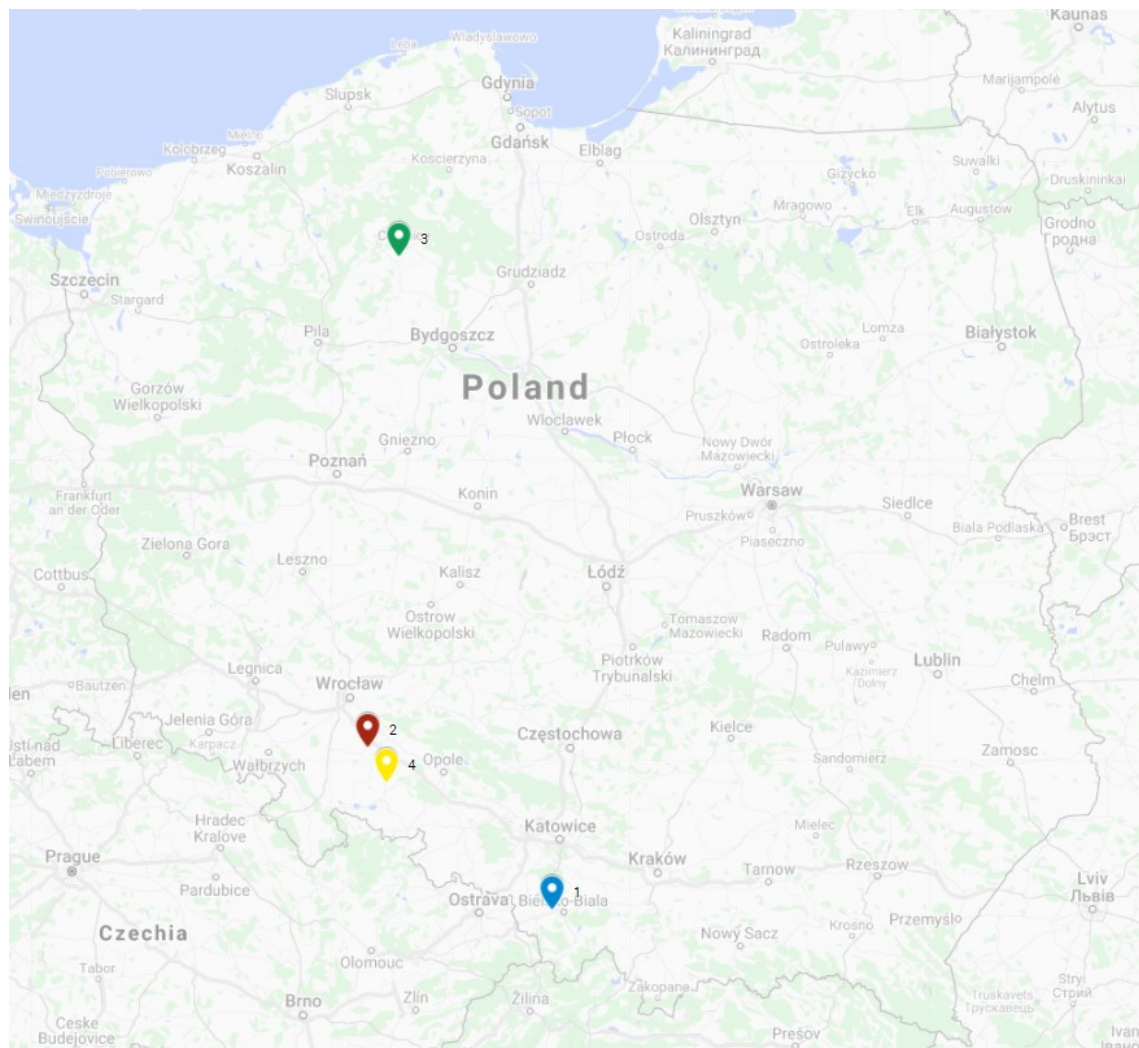
Trials were located in the North Eastern EPPO zone in Poland (4 trials), Maritime EPPO zone in Czech Republic (3 trials) and Germany (5 trials) and in South Eastern EPPO zone in Slovakia (1 trial), Hungary (2 trials) and Romania (4 trials).

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

Crop*	Country	Type of trial**	Number of trials			Years	GEP, non-GEP, official***	Comments (any other relevant information)
			Maritime zone	North-eastern zone	South-eastern zone			
Maize	Czech Republic	S+Y+Q	3	-	-	2016 – 2019	GEP	
	Germany	S+Y+Q	5	-	-	2016 – 2019	GEP	
	Slovakia	S+Y+Q	-	-	1	2016	GEP	
	Poland	S+Y+Q	-	4	-	2016 – 2019	GEP	
	Hungary	S+Y+Q	-	-	2	2016 – 2019	GEP	
	Romania	S+Y+Q	-	-	4	2016 – 2019	GEP	
<b>TOTAL</b>	-	-	<b>8</b>	<b>4</b>	<b>7</b>	<b>2016 – 2019</b>	<b>GEP</b>	

### Localisation of selectivity trials

**Figure 3.4-1: Trial map – Selectivity trials performed on maize in the North-Eastern EPPO zone**



Number on the map	Test report	Year	Trial location
1	S16-02956-01	2016	Jasienica (43-385) Poland
2	M-100SC-OR2-C_SEL_PL_1	2019	Janowo (57-120) Poland
3	M-100SC-OR2-C_SEL_PL_2	2019	Moszczenica (89-620) Poland
4	M-100SC-OR2-C_SEL_PL_3	2019	Sidzina (48-320) Poland

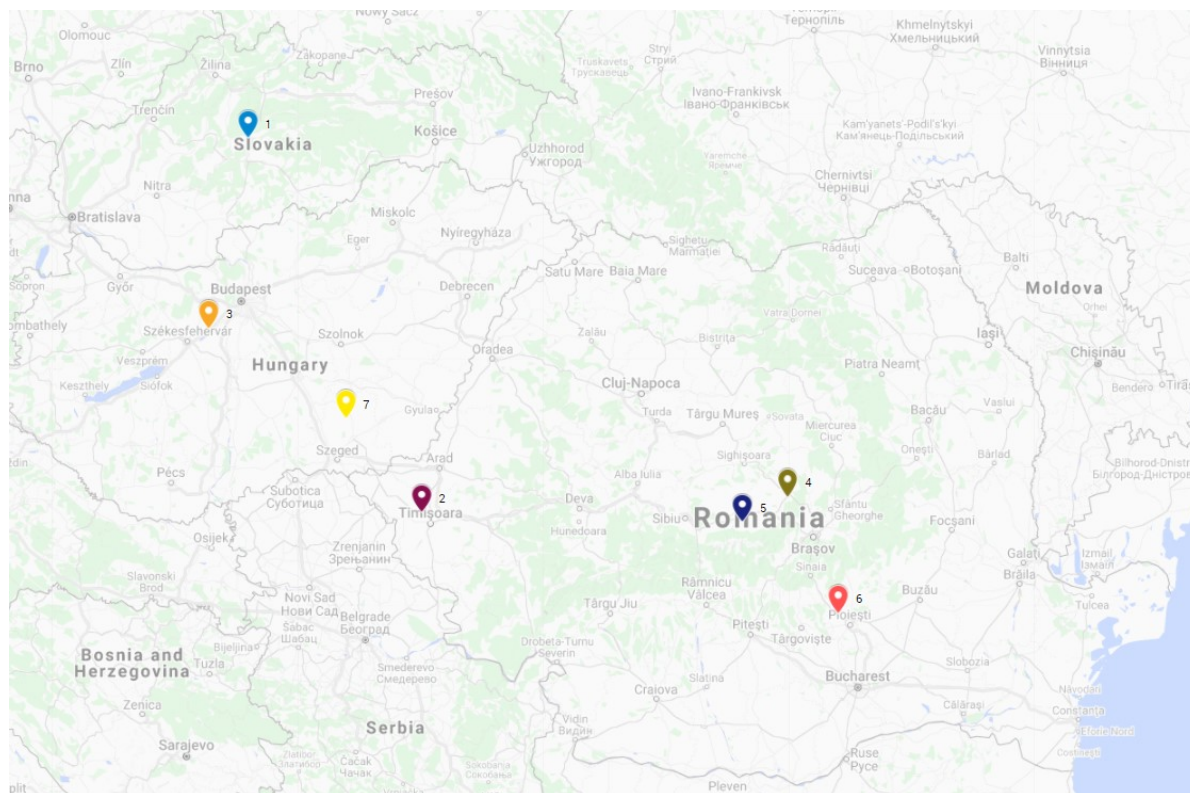


**Figure 3.4-2: Trial map – Selectivity trials performed on maize in the Maritime EPPO zone**



Number on the map	Test report	Year	Trial location
1	S16-02960-01	2016	Mulsum (27449) Germany
2	S16-02961-01	2016	Rapotín (78701) Czech Republic
3	M-100SC-OR2-C_SEL_DE_1	2019	Wittighausen-Poppenhausen (97957) Germany
4	M-100SC-OR2-C_SEL_DE_2	2019	Vreden (48691) Germany
5	M-100SC-OR2-C_SEL_DE_3	2019	Lüssow (18276) Germany
6	M-100SC-OR2-C_SEL_DE_4	2019	Oberschwarzach (97516) Germany
7	M-100SC-OR2-C_SEL_CZ_1	2019	Tursko (25265) Czech Republic
8	M-100SC-OR2-C_SEL_CZ_2	2019	Horní Kounice (67140) Czech Republic

**Figure 3.4-3: Trial map – Selectivity trials performed on maize in the South-Eastern EPPO zone**



Number on the map	Test report	Year	Trial location
1	S16-02962-01	2016	Podlavice - Za Kohutom (97409) Slovakia
2	S16-02963-02	2016	Ddestii Noi (307041) Romania
3	S16-02964-01	2016	Pázmánd (H-2476) Hungary
4	M-100SC-OR2-C_SEL_RO_1	2019	Fantana (507099) Romania
5	M-100SC-OR2-C_SEL_RO_2	2019	Dragus (507251) Romania
6	M-100SC-OR2-C_SEL_RO_3	2019	Macin (825300) Romania
7	M-100SC-OR2-C_SEL_HU_1	2019	Szegvár (6635) Hungary

In all selectivity trials, the phytotoxicity and impact on yield and quality parameters of the test product JUZAN EXTRA 100 SC was compared to one mesotrione-based product already registered to control weeds in maize (**Table 3.4-2: Presentation of reference standards in selectivity trials**).

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

Crop(s)	Reference standard	Country(ies) where the product is used <sup>(1)</sup>	Authorization number	Active substance(s)	Formulation		Registered application rate <sup>(3)</sup>	Application rate in trials (per treatment)	Remark <sup>(4)</sup>
					Type <sup>(2)</sup>	Concentration of a.s.			
Maize	Callisto 100 SC	Poland	R-25/2009	mesotrione	SC	100 g/L	1,0-1,5 L/ha	1,5 L/ha	
	Juzan 100 SC	Poland	R-45/2018	mesotrione	SC	100 g/L	0,75-1,5 L/ha	1,5 L/ha	
	Callisto	Germany	024660-00	mesotrione	SC	100 g/L	1,5 L/ha	1,5 L/ha	



	Callisto 100 SC	Czech Republic	4514-0	mesotrione	SC	100 g/L	1,2-1,5 L/ha	1,5 L/ha	
	Temsa SC	Slovakia	15-11-1642	mesotrione	SC	100 g/L	1,5 L/ha	1,5 L/ha	
	Barracuda	Romania	267PC	mesotrione	SC	100 g/L	0,75-1,5 L/ha	1,5 L/ha	
	Callisto 480 SC	Romania	2156	mesotrione	SC	480 g/L	0,25-0,35 L/ha	0,35 L/ha	
	Callisto 4 SC	Hungary	6300/67-2/2020	mesotrione	SC	480 g/L	0,25-0,35 L/ha	0,35 L/ha	

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

### **Testing facilities**

All crop selectivity trials were carried out by organisations that are officially recognised as competent to carry out efficacy testing in accordance with Regulation (EU) 284/2013 by the authorities in the relevant countries.

Links to copies of the GEP certificates for all trials organisations are included in Section **Błąd! Nie można odnaleźć źródła odwołania..**

Summaries of trial site and application details for all crop selectivity trials used to demonstrate the crop safety of JUZAN EXTRA 100 SC in maize are given in BAD in Appendix 2.

### **Agronomic practices**

Agronomic practices in the cultivation of maize are considered to be sufficiently similar across countries within the Central Registration zone for data generated across all trials to be fully supportive of demonstrating the crop safety of JUZAN EXTRA 100 SC in all countries.

### **Standard methodologies**

The design, analysis of results, reporting and field work of all crop selectivity trials were carried out in accordance with the relevant guidelines listed in **Table 3.4-3**: Guidelines followed in crop selectivity trials in maize

**Table 3.4-3: Guidelines followed in crop selectivity trials in maize**

Guideline	Title
EPPO PP1/152 (4)	Design and analysis of efficacy evaluation trials
EPPO PP1/225 (2)	Minimum effective dose
EPPO PP1/50 (3)	Weeds in maize
EPPO PP1/135 (4)	Phytotoxicity assessment

### **Experimental design**

In all crop selectivity trials the plots were arranged in a randomised block design with 4 replicates. The plot size ranged between trials from 19.5 m<sup>2</sup> to 36 m<sup>2</sup>.

### **Treatments**

JUZAN EXTRA 100 SC *applied in spring* was tested at the doses N and 2N and the tested rates to evaluate the phytotoxicity were the following:

- 1.5 l/ha (150 g a.i. of Mesotrione /ha), corresponding to the 'N' dose.
- 3.0 l/ha (350 g a.i. of Mesotrione /ha), corresponding to the '2N' dose.

In efficacy trials JUZAN EXTRA 100 SC was tested at 0.6 l/ha (60 g a.i. of Mesotrione /ha), 0.75 l/ha (75 g a.i. of Mesotrione /ha), 0.8 l/ha (80 g a.i. of Mesotrione /ha), 1.00 l/ha (100 g a.i. of Mesotrione /ha), 1.50 l/ha (150 g a.i. of Mesotrione /ha).

Commercial reference products for efficacy trials were listed in Table 3.2-8.

Products included in crop selectivity trials carried out in maize are listed in Table 3.4-4: Products included in crop selectivity trials carried out in maize below.

**Table 3.4-4: Products included in crop selectivity trials carried out in maize**

Product	a.i(s)	Conc'n of a.i.(s)	Form'n type	Rates included in trials		Countries where included in trials	National label rate		Registration no.
				Product L/ha	g a.s./ha		(prod/ha)	g a.i./ha	
Test product									
JUZAN EXTRA 100 SC (code name: M- 100SC-OR2-C)	Mesotrione	100 g/L	SC	1.5, 3.0	150, 300	DE, CZ, PL, RO, HU, SK	n/a	n/a	n/a
Standard reference products									
Callisto 100 SC	Mesotrione	100 g/L	SC	1.5, 3.0	150, 300	PL	1.0 - 1.5 L	100 - 150	R-25/2009
Juzan 100 SC	Mesotrione	100 g/L	SC	1.5, 3.0	150, 300	PL	0.75 - 1.5 L	75 - 150	R-45/2018
Callisto	Mesotrione	100 g/L	SC	1.5, 3.0	150, 300	DE	1.5 L	150	024660-00
Callisto 100 SC	Mesotrione	100 g/L	SC	1.5, 3.0	150, 300	CZ	1.2 - 1.5 L	120 - 150	4514-0
Temsa SC	Mesotrione	100 g/L	SC	1.5, 3.0	150, 300	SK	1.5 L	150	15-11-1642
Barracuda	Mesotrione	100 g/L	SC	1.5, 3.0	150, 300	RO	0.75 - 1.5 L	75 - 150	267PC
Callisto 480 SC	Mesotrione	480 g/L	SC	0.35, 0.70	168, 336	RO	0.25 - 0.35 L	120 - 160	2156
Callisto 4 SC	Mesotrione	480 g/L	SC	0.35, 0.70	168, 336	RO	0.25 - 0.35 L	120 - 160	6300/67-2/2020

### **Climate**

The climate for the duration of all crop selectivity trials was within the normal range for the areas in which the trials were conducted.

### **Justification for data outside countries of submission**

Justification for the use of crop safety data included in this dossier is made according to EPPO PP 1/241(1) "Guidance on comparable climates".

Crop selectivity trials from which data are summarized in this dossier were carried out in the following EPPO climatic zones:

Maritime: Czech Republic, Germany

North-east: Poland

South-east: Romania, Hungary, Slovakia

Trials carried out in the Maritime climatic zone have been conducted in areas where climatic conditions are representative of those in Czech Republic and Germany. Data generated in these trials are therefore fully supportive towards demonstrating the crop safety of JUZAN EXTRA 100 SC in the EU Central Registration zone with respect to these countries.

Trials carried out in the North-East climatic zone have been conducted in Poland. Data generated in these trials are therefore fully supportive towards demonstrating the crop safety of JUZAN EXTRA 100 SC in the EU Central Registration zone with respect to this country.

Trials carried out in the South-East climatic zone have been conducted in areas where climatic conditions are representative of those in Romania, Hungary and Slovakia. Data generated in these trials are therefore fully supportive towards demonstrating the crop safety of JUZAN EXTRA 100 SC in the EU Central Registration zone with respect to these countries.

### **Application details**

Applications on all crop selectivity trials were made using small plot sprayers designed to simulate application using commercial sprayers representative of those used to apply herbicides in maize.

On all trials, a single application of the treatments was made post-emergence of the crop and therefore representative of the proposed label range for the application of JUZAN EXTRA 100 SC.

Across trials, treatments were applied in water volumes ranges from 200 l/ha to 400 l/ha and therefore fully representative and supportive of the proposed 200-400 l/ha range for the application of JUZAN EXTRA 100 SC.

### **Assessments**

Phytotoxicity symptoms (general phytotoxic symptoms, chlorosis and necrosis) were assessed on an overall plot basis at regular intervals after application as the mean percentage area of specified plant parts affected by individual symptom.

Differences in crop thinning were assessed on an overall plot basis either using a 0-100 scale where 0 or 100 = no crop thinning and 100 or 0 = plots with the highest crop thinning in each replicate within the trial, or as mean % reduction in comparison to the untreated control at regular intervals after application.

Differences in crop vigour were assessed on an overall plot basis either using a 0-100 scale where 0 = no crop and 100 = plots with most vigorous crop in each replicate within the trial, or as mean % reduction in comparison to the untreated control at regular intervals after application.

Differences in crop ground cover were assessed by estimating the percentage of crop ground cover on an overall plot basis.

On trials carried out on grain maize, crop yield was evaluated at normal commercial harvest using small plot combines to harvest crop from a fixed area per plot and weighing the amount of grain collected, then determining moisture content and calculating yield in tonnes/ha corrected to 14-15% commercial moisture content. Grain quality parameters (thousand grain weight, hectolitre weight, protein, oil and starch content) were determined on samples of grain collected from each plot at harvest.

On trials carried out on forage maize, crop yield was evaluated at normal commercial harvest by silaging all crop from a fixed area per plot and weighing the amount of silage, then determining % dry matter and calculating yield in tonnes per hectare.

### **Statistics**

Statistical analysis was conducted using the Agriculture Research Manager (ARM) software (Gylling Data Management, Inc.).

For all data, the homogeneity of variance was tested by Bartlett's or Levene's Test. If this test indicated no homogeneity of variance the transformed values were used for analysis of variance. If still no homogeneity of variance was obtained by the transformation, this transformation was cancelled and the statistical analysis should be treated with caution.

Assessment data were then analysed using a two-way analysis of variance (ANOVA) on untransformed and transformed data. The probability of no significant differences occurring between treatment means is calculated as the F probability value (p(F)). Significant differences implied between means where the p(F) value is greater than 0.05 should be interpreted with caution as these are derived at correspondingly lower levels of confidence than the generally accepted 95% confidence limit.

A mean comparison test was only performed when the treatment probability of F that is calculated during analysis of variance was significant at the observed significance level specified for the mean comparison test. The mean separation letter "a" is assigned to each treatment mean in an assessment data column when a non-significant treatment P(F) is detected.

Student Newman-Keuls' multiple comparison test was applied to separate any treatment differences that may be implied by the ANOVA TEST and these are indicated by a letter test; treatment means with no letters in common are significantly different according to the test initiated at the 95% confidence level.

**Table 3.4-5: Details on trial methodology –Selectivity trials**

		North-Eastern EPPO zone	Maritime EPPO zone	South-Eastern EPPO zone
<b>Guidelines</b>	General guidelines	PP 1/135(4) Phytotoxicity assessment PP 1/152(4) Design and analysis of efficacy evaluation trials PP 1/181(4) Conduct and reporting of efficacy evaluation trials including GEP PP 1/135(4) Phytotoxicity assessment		
	Specific guidelines	PP 1/50(3) Weeds in maize		
<b>Experimental design</b>	Plot design	Randomized complete block (UTC included)		
	Plot size	21 - 30 m <sup>2</sup>	21 – 36 m <sup>2</sup>	19.5 – 21 m <sup>2</sup>
	Number of replications	4 replications in all trials		
<b>Crop</b>	Trials per crop	4 trials	8 trials	7 trials
	Year of the trials	2016: 1 trials 2019: 3 trials	2016: 2 trials 2019: 6 trials	2016: 3 trials 2019: 4 trials
	Countries	Poland	Germany, Czechia	Slovakia, Romania, Hungary
	Varieties per crop	Silvinio (1) Talisman (1) Farmgigant (1) Belami CS (1)	Tonino (1) ES Palazzo (1) Davos (1) Legion (1) LG 30.369 (1) P7515 (1) Ricardinio (1) Babexx (1)	DKC 3939 (2) DKC 4590 (1) Agrovitallo (1) P9074 (1) GW8001 (Unimeza) (1) LG2244 (1)
	Sowing period	April-May	April-May	April-June
<b>Application</b>	Application timing(s)	Spring		
	Crop stage (BBCH)* at application	BBCH 12 - 17	BBCH 12 - 18	BBCH 12 - 17
	Number of applications Intervals between applications	1 application		
	Spray volumes	200 – 400 l/ha	200 – 400 l/ha	200 – 400 l/ha
<b>Assessment</b>	Assessment types	Phytotoxicity (%), Vigor (%), Ground cover (%), Yield (kg/plot or a subdivision/plot, tons/ha), TWK (g/1000 grains), HLW (kg/100l), Moisture content (%), Protein content (%), Grain size (%/100 g)		
<b>Other relevant information</b>	e.g. Field / Green-house...	Field trials		

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

### 3.4.1 Phytotoxicity to host crop (KCP 6.4.1)

A total of 19 selectivity trials investigating the phytotoxicity on treated plants, the impact on crop yield and its quality parameters after application of JUZAN EXTRA 100 SC were implemented in 2016 (6 trials) and 2019 (13 trials). Those trials were undertaken in maize and conducted on 18 different cultivars.

Trials were located in the North Eastern EPPO zone in Poland (4 trials), Maritime EPPO zone in Czech Republic (3 trials) and Germany (5 trials) and in South Eastern EPPO zone in Slovakia (1 trial), Hungary (2 trials) and Romania (4 trials).

Furthermore, assessments of the phytotoxicity on treated plants after application of JUZAN EXTRA 100 SC, were implemented in all 21 efficacy trials which were carried out in season 2016 and 2019. Those trials were performed in maize on 21 different cultivars.

The efficacy trials were located in the North Eastern EPPO zone in Poland (6 trials), Maritime EPPO zone in Czech Republic (3 trials) and Germany (4 trials) and in South Eastern EPPO zone in Slovakia (1 trial), Hungary (3 trials) and Romania (4 trials).

All varieties of maize on which trials have been conducted are listed in Table 3.4.1-1.

### 3.4.1.1 Summary and evaluation of trial results

Phytotoxicity and other parameters of crop growth and development data from all assessment are included in individual trial reports.

All varieties of maize on which trials have been conducted are listed in Table 3.4.1-1.

**Table 3.4.1-1: List of varieties of maize on which trials have been conducted**

EPPO climatic zone	Country	Trial type	Variety names (no. of trials)
Maritime	Germany	Efficacy	Ecu (1), Figaro (1), SY Kardona (1), Babexx (1)
		Crop selectivity	Tonino (1), P 7515 (1), Davos (1), Ricardinio (1), Babexx (1)
	Czech Republic	Efficacy	Grizzly (1), Legion (1), DKC 3730 (1)
		Crop selectivity	ES Palazzo (1), Legion (1), LG 30.369 (1)
North-East	Poland	Efficacy	LG 30.189 (1), Silvinio (1), Touran (1), Ulan (1), Keltikus (1), Beatus (1)
		Crop selectivity	Silvinio (1), Talisman (1), Farmgigant (1), Belami CS (1)
South-East	Romania	Efficacy	DKC4490 (1), P9074 (1), DKC3939 (1), GW8001 (Unimeza) (1)
		Crop selectivity	DKC3939 (2), P9074 (1), GW 8001(Unimeza) (1)
	Hungary	Efficacy	P9241 (1), LG2244 (1), GKT 211 (1)
		Crop selectivity	DKC 4590 (1), LG 2244 (1)
	Slovakia	Efficacy	DKC 5222 (1),
		Crop selectivity	Agrovitallo (1)

#### Maritime climatic zone

##### Results

A total of 8 crop selectivity trials carried out within the Maritime climatic zone in 2016 and 2019 generated data on the crop safety of JUZAN EXTRA 100 SC applied at rate 1N corresponding to 1.5 L product/ha (150 g a.s./ha), and also at 2N rate (3.0 L product/ha (300 g a.s./ha)) to simulate sprayer overlap, in maize.

Of these trials, 5 were carried out in Germany and 3 were carried out in Czech Republic .

In total 8 selectivity trials, 8 different crop cultivars were tested.

A total of 7 efficacy trials carried out within the Maritime climatic zone in 2016 and 2019 generated data on the crop safety of JUZAN EXTRA 100 SC applied at the range rate of 0.6-1.5 L product/ha (60-150 g a.s./ha), in maize.

Of these trials, 4 were carried out in Germany and 3 were carried out in Czech Republic .

In total 7 efficacy trials, 7 different crop cultivars were tested.

In 4 out of 8 selectivity trials the broadcast spray application of JUZAN EXTRA 100 SC, at 1N and 2N dose (1,5 l/ha and 3,0 l/ha of M-100SC-OR2-C product corresponding to 150 g a.s./ha and 300 g a.s./ha),

no phytotoxicity symptoms were observed at any of the of the assessment timings. Reference products (Callisto and Callisto 100 SC) also provided no phytotoxic symptoms at all tested rates.

Assessments were carried out to determine general plant phytotoxicity (PHYGEN). When phytotoxic effect occurred then it was specified what type of symptoms were recorded.

No phytotoxic symptoms were also observed at any of the 7 efficacy trials after the broadcast spray application of JUZAN EXTRA 100 SC, at whole tested dose ranges 0.6 – 1.5 l/ha of product corresponding to range of 60 – 150 g a.s./ha of active substance mesotrione and accordingly reference products Callisto and Callisto 100 SC at rate of 1.5 l/ha (150 g a.s./ha of mesotrione) also provided no phytotoxic symptoms.

In 3 out of 8 selectivity trials 1N dose of product JUZAN EXTRA 100 SC (150 g a.s./ha of mesotrione) caused slight phytotoxicity symptoms at the first assessment timing (2.3-4.8 %). Symptoms had nature of bleaching (PHYBLE) in one of the trials and in remaining two trials chlorosis (PHYCHL) with crop stunning (PHYSTU) or plant deformation (PHYDEF). At second assessment timing symptoms (PHYBLE, PHYSTU and PHYDEF) were noticed only in 2 out of 8 trials (1.0-1.5%). Phytotoxic effect was weak and vanishing during the growth of the crop and was not noticed from second assessment onward. Reference products caused comparable or more severe phytotoxic effect at 1N dosage at first assessment timing (1.5 – 8.0%) and at second assessment timing (2.0-2.5%).

For 2N dose of product JUZAN EXTRA 100 SC (300 g a.s./ha of mesotrione) phytotoxic effect was noticed in 5 out of 8 selectivity trials. Phytotoxic effect was determined as plant chlorosis (PHYCHL – 1 trial), plant bleaching (PHYBLE – 2 trials), in 2 trials plant chlorosis (PHYCHL) was recorded with additional symptoms of plant deformation (PHYDEF – 1 trial) or plant stunning (PHYSTU – 1 trial). At first assessment timing in 3 trials performed phytotoxic symptoms were slight (1.3-2.8%) and in two trials symptoms were more intense (12.3-38.0%), however these symptoms were not long lasting and vanishing to reach 0.3-7.3% in all 5 trials during second assessment. Phytotoxic effect was not noticed in further assessments with exception (0.8%) of 1 trial. Reference products behaved similarly and in 4 out of 8 trials phytotoxic effect was observed. Only in 1 trial symptoms were slight (2.0%) at first assessment timing. For other 3 trials symptoms were more severe (14.3-27.0%). Severity of the symptoms decreased to reach 0.8-8.8% levels in second assessment timing. During the third assessment timing no phytotoxic symptoms were noted.

Detailed phytotoxicity assessment results for **selectivity trials** are presented in BAD in **Błąd! Nie można odnaleźć źródła odwołania.** and individual trial reports.

Detailed phytotoxicity assessment results for **efficacy trials** are presented in BAD in **Błąd! Nie można odnaleźć źródła odwołania.** and individual trial reports.

### **Crop vigour**

In all selectivity and efficacy trials crop vigour assessment were also conducted. No vigour reductions were observed at any of the trials.

Detailed vigour assessment results for **selectivity trials** are presented in BAD in **Błąd! Nie można odnaleźć źródła odwołania.** and individual trial reports.

Detailed vigour assessment results for **efficacy trials** are presented in BAD in **Błąd! Nie można odnaleźć źródła odwołania.** and individual trial reports.

## **Conclusion**

Phytotoxicity was assessed in 8 crop selectivity trials and 7 efficacy trials carried out within the Maritime climatic zone in 2016 and 2019 on different cultivars of maize located in Germany (9 trials) and Czechia (6 trials). Broadcast spray application of JUZAN EXTRA 100 SC was applied at rate 1.5 L product/ha (150 g a.s./ha), and also at twice this rate (3.0 L product/ha (300 g a.s./ha) to simulate sprayer overlap in crop selectivity trials. In efficacy trials JUZAN EXTRA 100 SC was applied at the rate range of 0.6-1.5 L product/ha (60-150 g a.s./ha).

In 4 out of 8 selectivity trials the broadcast spray application of JUZAN EXTRA 100 SC, at 1N and 2N dose of JUZAN EXTRA 100 SC product, no phytotoxicity symptoms were observed at any of the of the assessment timings. Reference products also provided no phytotoxic symptoms at all tested rates.

No phytotoxic symptoms were also observed at any of the 7 efficacy trials.

Phytotoxic effects observed on the trials were of temporary and vanishing kind and comparable to the reference products. No impact on the crop vigour was observed where in all 8 selectivity and 7 efficacy trials full vigour (100%) was recorded. Additionally no impact on crop yield was observed.

**In conclusion it can be stated that JUZAN EXTRA 100 SC has no negative effect on maize and is safe for the crop, when applied according to GAP.**

## **North-east climatic zone**

### **Results**

A total of 4 crop selectivity trials carried out within the North Eastern climatic zone in 2016 and 2019 generated data on the crop safety of JUZAN EXTRA 100 SC applied at rate 1N corresponding to 1.5 L product/ha (150 g a.s./ha), and also at 2N rate (3.0 L product/ha (300 g a.s./ha)) to simulate sprayer overlap, in maize.

All of these trials were carried out in Poland.

In total 4 selectivity trials, 4 different crop cultivars were tested.

No phytotoxic symptoms were observed at any of the trials at any assessment timing.

Additionally 6 efficacy trials carried out within the North Eastern climatic zone in 2016 and 2019 generated data on the crop safety of JUZAN EXTRA 100 SC applied at the range rate of 0.6-1.5 L product/ha (60-150 g a.s./ha), in maize.

All of these trials were carried out in Poland.

In total 6 efficacy trials, 6 different crop cultivars were tested.

No phytotoxic symptoms were observed at any of the trials at any assessment timing.

Detailed phytotoxicity assessment results for **selectivity trials** are presented in BAD in **Błąd! Nie można odnaleźć źródła odwołania.** and individual trial reports.

Detailed phytotoxicity assessment results for **efficacy trials** are presented in BAD in **Błąd! Nie można odnaleźć źródła odwołania.** and individual trial reports **Błąd! Nie można odnaleźć źródła odwołania.**

### **Crop vigour**

In all selectivity and efficacy trials crop vigour assessment were also conducted. No vigour reductions were observed at any of the trials.

Detailed vigour assessment results for **selectivity trials** are presented in BAD in **Błąd! Nie można odnaleźć źródła odwołania.** and individual trial reports.

Detailed vigour assessment results for **efficacy trials** are presented in BAD in **Błąd! Nie można odnaleźć źródła odwołania.** and individual trial reports.

### **Conclusion**

Phytotoxicity was assessed in 4 selectivity trials on different cultivars of maize located in North-Eastern EPPO zone. Broadcast spray application of JUZAN EXTRA 100 SC did not induced any phytotoxicity symptom at any of the tested doses (1N and 1,5N), as well as the reference products.

Furthermore, no phytotoxicity symptoms were observed in North-Eastern EPPO zone in 6 efficacy trials for application of JUZAN EXTRA 100 SC and the reference product Callisto 100 SC or Juzan 100 SC, whatever rate is considered.

Additionally no reduction in crop vigour occurred neither in selectivity nor in efficacy trials.

**In conclusion it can be stated that JUZAN EXTRA 100 SC has no negative effect on maize and is safe for the crop when applied according to GAP.**

### **South-east climatic zone**

#### **Results**

A total of 7 crop selectivity trials carried out within the South Eastern climatic zone in 2016 and 2019 generated data on the crop safety of JUZAN EXTRA 100 SC applied at rate 1 N corresponding to 1.5 L product/ha (150 g a.s./ha) and also at 2N (3.0 L product/ha (300 g a.s./ha)) to simulate sprayer overlap, in maize.

Out of these trials 1 was carried out in Slovakia, 2 were carried out in Hungary and 4 were carried out in Romania.

In total 7 selectivity trials, 6 different crop cultivars were tested.

Additionally 8 efficacy trials carried out within the South Eastern climatic zone in 2016 and 2019 generated data on the crop safety of JUZAN EXTRA 100 SC applied at the range rate of 0.6-1.5 L product/ha (60-150 g a.s./ha), in maize.

Out of these trials 1 was carried out in Slovakia, 3 were carried out in Hungary and 4 were carried out in Romania.

In total 8 efficacy trials, 8 different crop cultivars were tested.

In 2 out of 7 selectivity trials the broadcast spray application of JUZAN EXTRA 100 SC, at 1N and 2N dose (1.5 l/ha and 3.0 l/ha of JUZAN EXTRA 100 SC product corresponding to 150 g a.s./ha and 300 g a.s./ha), no phytotoxicity symptoms were observed at any of the of the assessment timings. Reference products also provided no phytotoxic symptoms at all tested rates.

No phytotoxic symptoms were also observed at any of the 8 efficacy trials after the broadcast spray application of JUZAN EXTRA 100 SC, at whole tested dose ranges 0.6 – 1.5 l/ha of product corresponding to range of 60 – 150 g a.s./ha of active substance mesotrione and accordingly reference products Temsa SC and Barracuda at rate of 1.5 l/ha (150 g a.s./ha of mesotrione) as well as Callisto 480 SC and Callisto 4 SC at rate of 0.35 l/ha (168 g a.s./ha) also provided no phytotoxic symptoms.

Phytotoxic symptoms were not observed in all selectivity and efficacy trials treated with 1N dose of product JUZAN EXTRA 100 SC (150 g a.s./ha of mesotrione) at any assessment timing.



Assessments were carried out to determine general plant phytotoxicity (PHYGEN). When phytotoxic effect occurred then it was specified what type of symptoms were recorded.

For 2N dose of product JUZAN EXTRA 100 SC (300 g a.s./ha of mesotrione) phytotoxic effect was noticed in 5 out of 7 selectivity trials. Symptoms had nature of chlorosis (PHYCHL), plant discoloration (MADISC) or crop stunning (PHYSTU). In 3 of the trials symptoms of plant chlorosis (PHYCHL) assessed at first assessment timing changed to plant stunning (PHYSTU) during second assessment. At first assessment timing in 2 trials performed phytotoxic symptoms were slight (1.75-4.0%) and in 3 trials symptoms were more intense (4.5-11.3 %), however these symptoms were not long lasting and vanishing in 2 trials and decreasing to reach 5.0-6.3% in 3 trials during second assessment. Phytotoxic effect was not noticed in further assessments in all 7 trials. Reference products behaved similarly and in 5 out of 7 trials phytotoxic effect was observed. In 2 trials symptoms were slight (0.25-4.0%) at first assessment timing. For other 3 trials symptoms were more severe (5.0-12.5%). Severity of the symptoms vanished in 2 trials with slight symptoms and in other 3 decreased to reach 7.5-10.0% levels in second assessment timing. During the third assessment timing no phytotoxic symptoms were noted.

Phytotoxic effects observed on the trials were of temporary and vanishing kind.

Detailed phytotoxicity assessment results for **selectivity trials** are presented in BAD in **Błąd! Nie można odnaleźć źródła odwołania.** and individual trial reports.

Detailed phytotoxicity assessment results for **efficacy trials** are presented in BAD in **Błąd! Nie można odnaleźć źródła odwołania.** and individual trial reports.

### Crop vigour

No impact on the crop vigour were observed in 6 out of 7 selectivity trials. In 1 of the trials slight reduction of crop vigour (-1.5%) was reported for 2N dose rate of product JUZAN EXTRA 100 SC (300 g a.s./ha of mesotrione) in second and third assessment timing. Reference product Callisto 4 SC in dose rates of 168 g a.s./ha of mesotrione and 336 g a.s./ha of mesotrione give also slight vigour reductions in first (-1.0 for 168 g a.s./ha of meso-trione and -2.5% for 336 g a.s./ha of mesotrione) and second (-1.25 for 168 g a.s./ha of mesotrione and -3.25% for 336 g a.s./ha of mesotrione) assessment timing. These reductions were not long lasting and vanished after second assessment timing.

In 7 out of 8 efficacy trials full vigour (100%) was recorded. In last 1 trial vigour reductions reaching maximum of -20% for 0.8 l/ha and 1.0 l/ha and -10% for dose rate of 1.5 l/ha of product JUZAN EXTRA 100 SC were noted. However these symptoms were reported as caused by immense concurrence with the weeds and therefore it should not been assessed as a treatment related symptoms.

Detailed vigour assessment results for **selectivity trials** are presented in BAD in **Błąd! Nie można odnaleźć źródła odwołania.** and individual trial reports.

Detailed vigour assessment results for **efficacy trials** are presented in BAD in **Błąd! Nie można odnaleźć źródła odwołania.** and individual trial reports.

### **Conclusion**

Phytotoxicity was assessed in 7 crop selectivity trials and 8 efficacy trials carried out within the South Eastern climatic zone in 2016 and 2019 on different cultivars of maize located in Slovakia (2 trials), Hungary (5 trials) and Romania (8 trials). Broadcast spray application of JUZAN EXTRA 100 SC was applied at rate 1.5 L product/ha (150 g a.s./ha), and also at twice this rate (3.0 L product/ha (300 g a.s./ha) to simulate sprayer overlap in crop selectivity trials. In efficacy trials JUZAN EXTRA 100 SC was applied at the rate range of 0.6-1.5 L product/ha (60-150 g a.s./ha).

Phytotoxic symptoms were not observed in all selectivity and efficacy trials treated with 1N dose of product JUZAN EXTRA 100 SC (150 g a.s./ha of mesotrione) at any assessment timing.

For 2N dose of product JUZAN EXTRA 100 SC (300 g a.s./ha of mesotrione) phytotoxic effect was noticed in 5 out of 7 selectivity trials, however phytotoxic effects observed on the trials were of temporary and vanishing kind and comparable to the reference products.

No impact on the crop vigour was observed where in 6 selectivity trials. In 1 of the trials slight reduction of crop vigour (-1.5%) was reported for 2N dose rate of product JUZAN EXTRA 100 SC and the reference product. These reductions were not long lasting and vanished after second assessment timing.

In 7 efficacy trials full vigour (100%) was recorded. In 1 trial vigour reductions were reported as caused by immense concurrence with the weeds and therefore it should not been assessed as a treatment related symptoms.

Additionally no impact on crop yield was observed.

**In conclusion it can be stated that JUZAN EXTRA 100 SC has no negative effect on maize and is safe for the crop when applied according to GAP.**

### **Overall conclusions – Crop safety in crop**

Assessments for phytotoxicity and other adverse effects on crop growth and development have been carried out at regular intervals following application of JUZAN EXTRA 100 SC on a total of 21 efficacy trials and 19 crop selectivity trials conducted in 2016 and 2019 in countries within the Maritime, North-East and South-East EPPO climatic zones.

Across these trials, a single application of JUZAN EXTRA 100 SC at the proposed label rate of 1.5 L product/ha (150 g a.s./ha) in efficacy trials, and at the proposed label rate of 1.5 L product/ha (150 g a.s./ha), and also at twice this rate (3.0 L product/ha (300 g a.s./ha)) in the crop selectivity trials, was made post-emergence of the crop at BBCH 12-18.

Across trials, the crop safety of JUZAN EXTRA 100 SC has been tested under a wide range of climatic and agronomic conditions that are considered to be fully representative of those under which maize are grown across the EU Central Registration zone. Trials were carried out on a range of different commercially representative and commonly grown cultivars of maize.

Overall summaries of the crop safety of JUZAN EXTRA 100 SC across trials carried out in maize are given in Table 3.4.1-2 (Crop selectivity trials) and Table 3.4.1-3 (Efficacy trials). In some of the trials, reductions in crop vigour occurred after application of JUZAN EXTRA 100 SC and standard reference products. Therefore, these symptoms are not considered as an adverse effect on crop growth and development and were presented accordingly in the following tables.

**Table 3.4.1-2: Overall summary of the crop safety of JUZAN EXTRA 100 SC across all crop selectivity trials carried out in maize**

EPPO climatic zone (no. of trials)	Timing	Levels of phytotoxicity	Number of trials			
			JUZAN EXTRA 100 SC		Standard reference product*	
			N	2N	N	2N
Maritime (8 trials)	Maximum level of symptoms recorded	0%	5	3	5	4
		0.1-5%	3	2	2	1
		>5-10%	-	1	1	-
		>10-15%	-	1	-	1
		>15%	-	1	-	2
	Final assess-ment timings	0%	7	5	6	6
		0.1-5%	1	1	2	1
		>5-10%	-	1	-	1
		>10-15%	-	1	-	-
		>15%	-	-	-	-
North-East (4)	Maximum level of symptoms recorded	0%	4	4	4	4
		0.1-5%	-	-	-	-
		>5-10%	-	-	-	-
		>10-15%	-	-	-	-
		>15%	-	-	-	-
	Final assess-ment timings	0%	4	4	4	4
		0.1-5%	-	-	-	-
		>5-10%	-	-	-	-
		>10-15%	-	-	-	-
		>15%	-	-	-	-

\* Callisto 100 SC, Juzan 100 SC, Callisto, Temsa SC, Barracuda, Callisto 480 SC, Callisto 4 SC

EPPO climatic zone (no. of trials)	Timing	Levels of phytotoxicity	Number of trials			
			JUZAN EXTRA 100 SC		Standard reference product*	
			N	2N	N	2N
South-East (7)	Maximum level of symptoms recorded	0%	7	2	7	2
		0.1-5%	-	2	-	2
		>5-10%	-	1	-	1
		>10-15%	-	2	-	2
		>15%	-	-	-	-
	Final assess-ment timings	0%	7	7	7	7
		0.1-5%	-	-	-	-
		>5-10%	-	-	-	-
		>10-15%	-	-	-	-
		>15%	-	-	-	-

\* Callisto 100 SC, Juzan 100 SC, Callisto, Temsa SC, Barracuda, \*\* Callisto 480 SC, Callisto 4 SC

**Table 3.4.1-3: Overall summary of the crop safety of JUZAN EXTRA 100 SC across all efficacy trials carried out in maize**

EPPO climatic zone (no. of trials)	Timing	Levels of phy- totoxicity	Number of trials						
			JUZAN EXTRA 100 SC					Reference*	Reference**
			0,6 L/ha (60 g a.s./ha) (14 trials)	0,75 L/ha (75 g a.s./ha) (14 trials)	0,8 L/ha (80 g a.s./ha) (7 trials)	1,0 L/ha (100 g a.s./ha) (21 trials)	1,5 L/ha (150 g a.s./ha) (21 trials)	0,35 L/ha (168 g a.s./ha) (2 trials)	1,5 L/ha (150 g a.s./ha) (19 trials)
Maritime (7)	Maximum level of symptoms recorded	0%	5	5	2	7	7	-	7
		0.1-5%	-	-	-	-	-	-	-
		>5-10%	-	-	-	-	-	-	-
		>10-15%	-	-	-	-	-	-	-
		>15%	-	-	-	-	-	-	-
	Final assessment timings	0%	5	5	2	7	7	-	7
		0.1-5%	-	-	-	-	-	-	-
		>5-10%	-	-	-	-	-	-	-
		>10-15%	-	-	-	-	-	-	-
		>15%	-	-	-	-	-	-	-
North-East (6)	Maximum level of symptoms recorded	0%	4	4	2	6	6	-	6
		0.1-5%	-	-	-	-	-	-	-
		>5-10%	-	-	-	-	-	-	-
		>10-15%	-	-	-	-	-	-	-
		>15%	-	-	-	-	-	-	-
	Final assessment timings	0%	4	4	2	6	6	-	6
		0.1-5%	-	-	-	-	-	-	-
		>5-10%	-	-	-	-	-	-	-
		>10-15%	-	-	-	-	-	-	-
		>15%	-	-	-	-	-	-	-

\* Callisto, Callisto 100 SC, Juzan 100 SC, Temsa SC, Barracuda, \*\* Callisto 480 SC, Callisto 4 SC

EPPO climatic zone (no. of trials)	Timing	Levels of phy- totoxicity	Number of trials						
			JUZAN EXTRA 100 SC					Reference*	Reference**
			0,6 L/ha (60 g a.s./ha) (14 trials)	0,75 L/ha (75 g a.s./ha) (14 trials)	0,8 L/ha (80 g a.s./ha) (7 trials)	1,0 L/ha (100 g a.s./ha) (21 trials)	1,5 L/ha (150 g a.s./ha) (21 trials)	0,35 L/ha (168g a.s./ha) (2 trials)	1,5 L/ha (150 g a.s./ha) (19 trials)
South-East (8)	Maximum level of symptoms recorded	0%	5	5	3	8	8	2	6
		0.1-5%	-	-	-	-	-	-	-
		>5-10%	-	-	-	-	-	-	-
		>10-15%	-	-	-	-	-	-	-
		>15%	-	-	-	-	-	-	-
	Final assessment timings	0%	5	5	3	8	8	2	6
		0.1-5%	-	-	-	-	-	-	-
		>5-10%	-	-	-	-	-	-	-
		>10-15%	-	-	-	-	-	-	-
		>15%	-	-	-	-	-	-	-

\* Callisto 480 SC, Callisto 4 SC \*\*Callisto, Callisto 100 SC, Juzan 100 SC, Temsa SC, Barracuda,

JUZAN EXTRA 100 SC applied at the proposed label range rate of 1.5 L product/ha (150 g a.s./ha) in efficacy trials or at the proposed label rate of 1.5 L/ha (150 g a.s./ha) and at twice this rate (3.0 L product/ha (150 g a.s./ha) in crop selectivity trials caused no phytotoxic damage or other adverse effects on the crop on any of the 21 efficacy trials or on 9 of the 19 crop selectivity trials.

Only in 3 out of 19 crop selectivity trials JUZAN EXTRA 100 SC applied at the proposed label rate of 1.5 L/ha (150 g a.s./ha) caused only relatively low levels of phytotoxicity and/or effects on crop growth and development, with symptoms including chlorosis and necrosis. In all of cases these symptoms were transient, occurring soon after application and no longer apparent at later assessment timings.

JUZAN EXTRA 100 SC applied at twice of the proposed label rate (3.0 L product/ha (300 g a.s./ha) caused phytotoxicity symptoms on 10 out of 19 selectivity trials. In most of cases these symptoms were transient, occurring soon after application and no longer apparent at later assessment timings. Only in 3 trials symptoms of phytotoxicity and/or effects on crop growth and development, with symptoms including chlorosis and necrosis did not vanished until last assessments. However even in those cases levels of the phytotoxicity were relatively low and did not exceed 15% threshold. It is worth notice that reference products used in conducted selectivity trials behaved similar to the tested product and caused phytotoxicity symptoms in 9 out of 19 selectivity trials conducted across all EPPO climatic zones and as well as tested product in most of the cases these symptoms were transient, occurring soon after application and no longer apparent at later assessment timings.

**Therefore, based on the absence or of phytotoxic symptoms or effects on crop growth and development or only very low and transient levels of symptoms or effects across trials, it is reasonable to conclude that a single application of JUZAN EXTRA 100 SC at up to the proposed label rate of 1.5L product/ha (150 g a.s./ha), and applied according to label recommendations, is safe on maize crop.**

Comments of zRMS:	<p>In the evaluation process the fact that the active ingredient – mesotrione is used in many plant protection products and have been commonly used in crop protection for many years were taken into consideration by ZRMs. The Applicant submitted in total 19 selectivity studies conducted in different seasons (2016-2019) on herbicide (Juzan Extra 100 SC) containing mesotrione as an active substance.</p> <p>The selectivity evaluation of the herbicide is to be performed according to listed below EPPO guidelines. The evaluation of herbicide selectivity was carried out 4-5 per season. Results were described in percent of destruction of plant for herbicides treatment compared to plant for untreated, where 0% means no phytotoxicity and 100% - complete destruction. Phytotoxicity assessment was carried out with the use of different cultivars (commercially grown varieties). Dosages N (recommended by Applicant: 1,5 L/ha) and 2N (doubled recommended: 3.0 L/ha) were studied in all trials. Experimental details and assessments methods were in accordance with EPPO standards. Detailed information's are presented by Applicant in the tables above. Max. accepted dose was changed due to assessment made by Ecotox section. Ecotox accepted max. 100 g.a.s./ha of mesotrione, so only max dose 1.0 L/ha can be accepted by section efficacy as it was studied during field trials. All field tests have tested a higher dose (1.5 L/ha) than is currently recommended (1.0 L/ha), then all proposed records are valid for the lower dose in the opinion of ZRMs.</p> <p><b>Maritime EPPO zone:</b> 8 trials (CZ-3, DE-5). In 4 out of 8 selectivity trials the broadcast spray application of JUZAN EXTRA 100 SC, at 1N and 2N dose of JUZAN EXTRA 100 SC product, no phytotoxicity symptoms were observed at any of the of the assessment timings. Reference products also provided no phytotoxic symptoms at all tested rates. No phytotoxic symptoms were also observed at any of the 7 efficacy trials. Phytotoxic effects observed on the trials were of tem-</p>
-------------------	--

	<p>porary and vanishing kind and comparable to the reference products. No impact on the crop vigour was observed where in all 8 selectivity and 7 efficacy trials full vigour (100%) was recorded. Additionally, no impact on crop yield was observed.</p> <p><b>N-E EPPO zone:</b> 4 trials (PL). Phytotoxicity was assessed in 4 selectivity trials on different cultivars of maize located in North-Eastern EPPO zone. Broadcast spray application of JUZAN EXTRA 100 SC did not induce any phytotoxicity symptom at any of the tested doses (1N and 1,5N), as well as the reference products. Furthermore, no phytotoxicity symptoms were observed in North-Eastern EPPO zone in 6 efficacy trials for application of JUZAN EXTRA 100 SC and the reference product Callisto 100 SC or Juzan 100 SC, whatever rate is considered. Additionally, no reduction in crop vigour occurred neither in selectivity nor in efficacy trials.</p> <p><b>S-E EPPO zone:</b> 7 trials (SK-1, HU-2, RO-4). Phytotoxic symptoms were not observed in all selectivity and efficacy trials treated with 1N dose of product JUZAN EXTRA 100 SC (150 g a.s./ha of mesotrione) at any assessment timing. For 2N dose of product JUZAN EXTRA 100 SC (300 g a.s./ha of mesotrione) phytotoxic effect was noticed in 5 out of 7 selectivity trials, however phytotoxic effects observed on the trials were of temporary and vanishing kind and comparable to the reference products. No impact on the crop vigour was observed where in 6 selectivity trials. In 1 of the trials slight reduction of crop vigour (-1.5%) was reported for 2N dose rate of product JUZAN EXTRA 100 SC and the reference product. These reductions were not long lasting and vanished after second assessment timing. In 7 efficacy trials full vigour (100%) was recorded. In 1 trial vigour reductions were reported as caused by immense concurrence with the weeds and therefore it should not be assessed as a treatment related symptom. Additionally, no impact on crop yield was observed.</p> <p><b>In the opinion of ZRMs, the warning should be put on the label: e.g. Phytotoxicity cannot be excluded. Sensitivity of varieties should be consulted with the authorization holder.</b></p>
--	--

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

#### 3.4.2.1 Crop yield in maize (in the absence of weeds)

A total of 19 crop selectivity trials carried out between 2016 and 2019 generated data on crop yield at normal commercial harvest following a single application of JUZAN EXTRA 100 SC at the proposed label rate of 1.5 L product/ha (150 g a.s./ha), and also at twice this rate (3.0 L product/ha (300 g a.s./ha)) to simulate sprayer overlap, in the absence of weeds in maize.

Of these trials, 8 were carried out in the Maritime climatic zone, 4 were carried out within the North-East climatic zone and 7 were carried out within the South-east climatic zone.

Of these trials, 15 were carried out on maize crops for grain production and 4 were carried out on maize crops for silage production.

#### Materials and methods

The materials and methods used in all crop selectivity trials are given in Section **Błąd! Nie można odnaleźć źródła odwołania.** in Table 3.4-5: Details on trial methodology –Selectivity trials.

Crop yield data are summarized across trials in this Section. Individual data from each trial are included in trial reports.



### Maritime climatic zone

A total of 8 crop selectivity trials carried out within the Maritime climatic zone in 2016 and 2019 generated data on crop yield, in the absence of any significant impact of weeds, following a single application of JUZAN EXTRA 100 SC at the proposed label rate of 1.5 L product/ha (150 g a.s./ha), and also at twice this rate (3.0 L product/ha (300 g a.s./ha)) in maize.

In **selectivity trials** no statistical differences between treatments were noted. The broadcast foliar spray application of JUZAN EXTRA 100 SC, at all tested rates had no negative effect on the yield of the crop. Reference products also provided no negative effect on the yield of the crop.

Detailed yield assessment results for **selectivity trials** are presented in BAD in **Błąd! Nie można odnaleźć źródła odwołania.** for impact on yield of silage and **Błąd! Nie można odnaleźć źródła odwołania.** for impact on yield of grain in maize crop and individual trial report.

## Conclusion

**Selectivity trials** in Maritime EPPO zone were performed to provide information about possible impact of the product JUZAN EXTRA 100 SC on the yield of maize. No negative impact of the broadcast foliar spray application of JUZAN EXTRA 100 SC was recorded at any tested rate. Reference products also did not induced any negative effect on the yield of the crop.

**Table 3.4.2-1: Overall summary of mean crop yield (expressed as % relative to the untreated control) in the absence of weeds across 3 crop selectivity trials carried out on silage maize, Maritime climatic zone**

No. of trials	Assessment timing (DA-A1)		Untreated (t/ha)	Mean crop fresh silage yield (as % relative to untreated)			
				JUZAN EXTRA 100 SC		Standard reference products*	
				1,5 L/ha (150 g a.s./ha)	3.0 L/ha (300 g a.s./ha)	1,5 L/ha (150 g a.s./ha)	3.0 L/ha (300 g a.s./ha)
3	98-120	Mean	46,16	101,67	103,67	100,67	101,00
		Min-Max	33,68 - 60,33	99 - 105	102 - 106	97 - 105	92 - 111

\*Callisto, Callisto 100 SC

**Table 3.4.2-2: Overall summary of mean silage crop yield (expressed as % relative to the untreated control) in the absence of weeds across 5 crop selectivity trials carried out on grain maize, Maritime climatic zone**

No. of trials	Assessment timing (DA-A1)		Untreated (t/ha)	Mean crop grain yield (as % relative to untreated)			
				JUZAN EXTRA 100 SC		Standard reference products*	
				1,5 L/ha (150 g a.s./ha)	3.0 L/ha (300 g a.s./ha)	1,5 L/ha (150 g a.s./ha)	3.0 L/ha (300 g a.s./ha)
5	92-142	Mean	7,44	103,20	99,20	104,00	105,20
		Min-Max	5,03 - 10,33	96 - 110	79 - 112	97 - 108	99 - 113

\*Callisto, Callisto 100 SC

**In conclusion it can be stated that JUZAN EXTRA 100 SC has no negative effect on the yield of the treated plant.**

## North-east climatic zone trials

A total of 4 crop selectivity trials carried out within the North Eastern EPPO climatic zone in 2016 and 2019 generated data on crop grain yield, in the absence of any significant impact of weeds, following a single application of JUZAN EXTRA 100 SC at the proposed label rate of 1.5 L product/ha (150 g a.s./ha), and also at twice this rate (3.0 L product/ha (300 g a.s./ha)) in grain maize.

In **selectivity trials** no statistical differences were noted between the treatments. The broadcast foliar spray application of JUZAN EXTRA 100 SC, at all tested rates had no negative effect on the yield of the crop. Reference products also provided no negative effect on the yield of the crop.

Detailed yield assessment results for **selectivity trials** are presented in BAD in **Błąd! Nie można odnaleźć źródła odwołania.** and individual trial reports.

## Conclusion

**Selectivity trials** in North-Eastern zone were performed to provide information about possible impact of the product JUZAN EXTRA 100 SC on the yield of maize. No negative impact of the broadcast foliar spray application of JUZAN EXTRA 100 SC was recorded at any tested rate. Reference products also did not induced any negative effect on the yield of the crop.

**Table 3.4.2-3: Overall summary of mean crop yield (expressed as % relative to the untreated control) in the absence of weeds across 4 crop selectivity trials carried out on grain maize, North-East climatic zone**

No. of trials	Assessment timing (DA-A1)		<i>Untreated (t/ha)</i>	Mean crop grain yield (as % relative to untreated)			
				JUZAN EXTRA 100 SC		Standard reference products*	
				1,5 L/ha (150 g a.s./ha)	3.0 L/ha (300 g a.s./ha)	1,5 L/ha (150 g a.s./ha)	3.0 L/ha (300 g a.s./ha)
4	126-145	Mean	10,29	99,25	99,83	102,08	100,40
		Min-Max	8,33 - 13,21	97 - 102,3	97 - 102,1	100,8 - 104,8	99,5 - 101,5

\* Callisto 100 SC, Juzan 100 SC

**In conclusion it can be stated that JUZAN EXTRA 100 SC has no negative effect on the yield of the treated plant.**

## South-east climatic zone trials

A total of 7 crop selectivity trials carried out within the South Eastern climatic zone in 2016 and 2019 generated data on crop yield, in the absence of any significant impact of weeds, following a single application of JUZAN EXTRA 100 SC at the proposed label rate of 1.5 L product/ha (150 g a.s./ha), and also at twice this rate (3.0 L product/ha (300 g a.s./ha)) in maize.

In **selectivity trials** the broadcast foliar spray application of JUZAN EXTRA 100 SC, at all tested rates had no negative effect on the yield of the crop. Reference products also provided no negative effect on the yield of the crop.

Only in 1 trial statistical differences were noted. For 2N dose of JUZAN EXTRA 100 SC yield results were slightly lower in comparison to untreated control (95,6%), while reference product at 1N dose achieved 95,8% and in 2N dose 94,6% in relation to the reference product.

Detailed yield assessment results for **selectivity trials** are presented in BAD in **Błąd! Nie można odnaleźć źródła odwołania.** and individual trial reports.

## Conclusion

**Selectivity trials** in South Eastern EPP0 zone were performed to provide information about possible impact of the product JUZAN EXTRA 100 SC on the yield of maize. No negative impact of the application of JUZAN EXTRA 100 SC was recorded at any tested rate. Reference products also did not induced any negative effect on the yield of the crop. Only in 1 trial statistical differences of yield results were observed for 2N dose of JUZAN EXTRA 100 SC and at both doses of reference product. Therefore, M-100SC-OR2-C achieved comparable results to registered standard products.

**Table 3.4.2-4: Overall summary of mean crop yield (expressed as % relative to the untreated control) in the absence of weeds across 1 crop selectivity trials carried out on fresh silage maize, South-East climatic zone**

No. of trials	Assessment timing (DA-A1)	Untreated (t/ha)	Mean crop fresh silage yield (as % relative to untreated)			
			JUZAN EXTRA 100 SC		Standard reference products*	
			1,5 L/ha (150 g a.s./ha)	3.0 L/ha (300 g a.s./ha)	1,5 L/ha (150 g a.s./ha)	3.0 L/ha (300 g a.s./ha)
1	98	53,52	141,8%	126,6%	116,5%	131,4%

\*Temsä SC

**Table 3.4.2-5: Overall summary of mean crop yield (expressed as % relative to the untreated control) in the absence of weeds across 6 crop selectivity trials carried out on grain maize, South-East climatic zone**

No. of trials	Assessment timing (DA-A1)		Untreated (t/ha)	Mean crop grain yield (as % relative to untreated)					
				JUZAN EXTRA 100 SC		Standard reference products*		Standard reference products**	
				1,5 L/ha (150 g a.s./ha)	3.0 L/ha (300 g a.s./ha)	1,5 L/ha (150 g a.s./ha)	3.0 L/ha (300 g a.s./ha)	1,5 L/ha (150 g a.s./ha)	3.0 L/ha (300 g a.s./ha)
			6 trials	6 trials	6 trials	4 trials	4 trials	2 trials	2 trials
6	94-161	Mean	8,27	99,08	97,18	99,48	99,73	100,90	99,75
		Min-Max	4,35 - 11,87	82,5 - 107,8	94,7 - 101	95,2 - 102,1	94,9 - 107,9	95,8 - 106	94,6 - 104,9

\*Callisto, Callisto 100 SC, Juzan 100 SC, Temsä SC, Barracuda \*\* Callisto 480 SC, Callisto 4 SC

**In conclusion it can be stated that JUZAN EXTRA 100 SC has no negative effect on the yield of the treated plant.**

### **Overall conclusions – Crop yield in maize (in the absence of weeds)**

Evaluations of crop yield have been carried out at normal commercial harvest following application of JUZAN EXTRA 100 SC on a total of 19 crop selectivity trials conducted in 2016 and 2019 in countries within the Maritime, North-East and South-East EPPO climatic zones.

A single application of JUZAN EXTRA 100 SC at the proposed label rate of 1.5 L product/ha (150 g a.s./ha) and also at twice this rate (3.0 L product/ha (300 g a.s./ha)) was made post -emergence of the crop at BBCH 12-18. Of these trials, 15 were carried out on maize crops for grain production and 4 were carried out on maize crops for silage production.

Across trials, the potential impact of JUZAN EXTRA 100 SC on crop yield has been tested under a wide range of climatic and agronomic conditions that are considered to be fully representative of those under which maize are grown across the EU Central Registration zone. Trials were carried out on a range of different commercially representative and commonly grown cultivars of maize.

JUZAN EXTRA 100 SC applied at the proposed label rate of 1.5 L product/ha (150 g a.s./ha) and also at twice this rate (3.0 L product/ha (300 g a.s./ha)) caused no phytotoxic symptoms or pronounced adverse effects on crop yield on 9 of the 19 crop selectivity trials carried out in maize.

On the 10 remaining trials, after application of JUZAN EXTRA 100 SC at 1N and 2 N dose some phytotoxic symptoms were noted or adverse effects on crop yield.

A comparison of levels of phytotoxicity to crop yield in 10 crop selectivity trials carried out on maize in which phytotoxic symptoms were observed and/or adverse effects on crop yield is given in Table 3.4.2-6.

**Table 3.4.2-6: Comparison of levels of phytotoxicity to crop yield in 10 crop selectivity trials carried out on maize in which JUZAN EXTRA 100 SC caused phytotoxic symptoms and/or adverse effects on crop yield**

EPPO climatic zone	Trial no.	Variety	Product	Max. level of phyto. (%) (DAA)		Yield type	Yield in the untreated control (t/ha)	Crop yield (as % of untreated)	
				1N rate	2N rate			1N rate	2N rate
Maritime	S16-02960-01	Maize - Toninio	JUZAN EXTRA 100 SC	0	1.86 (14 DA-A)	Silage	33,68	105,2	105,9
			Callisto	0	0			105,0	110,9
	M-100SC-OR2-C_SEL_DE_1	Maize - P7515	JUZAN EXTRA 100 SC	3 (11 DA-A)	12,3 (11 DA-A)	Grain	10,33	95,9	99,1
			Callisto	4,3 (11 DA-A)	14,3 (11 DA-A)			101,8	98,8
	M-100SC-OR2-C_SEL_DE_4	Maize - Davos	JUZAN EXTRA 100 SC	4,8 (10 DA-A)	32,8 (10 DA-A)	Grain	5,03	107,6	101
			Callisto	8 (10 DA-A)	27 (10 DA-A)			107,6	105,2
	M-100SC-OR2-C_SEL_CZ_1	Maize - LG 30.369	JUZAN EXTRA 100 SC	0	1,3 (9 DA-A)	Grain	6,19	97,6	78,8
			Callisto	0	20 (9 DA-A)			97,1	106,9
	M-100SC-OR2-C_SEL_CZ_2	Maize - Legion	JUZAN EXTRA 100 SC	2,3 (11 DA-A)	2,8 (11 DA-A)	Grain	9,20	109,8	112
			Callisto	2,5 (11 DA-A)	2 (11 DA-A)			105,4	113
South East	S16-02964-01	Maize - DKC4590	JUZAN EXTRA 100 SC	0	1.75 (10 DA-A)	Grain	11,87	107,8	101,0
			Callisto 4 SC	0	0,25 (10 DA-A)			106,0	104,9
	M-100SC-OR2-C_SEL_HU_1	Maize - LG2244	JUZAN EXTRA 100 SC	0	4 (14 DA-A)	Grain	6,30	82,5	98,4
			Callisto 100 SC	0	4 (14 DA-A)			95,2	107,9
	M-100SC-OR2-C_SEL_RO_1	Maize - P9074	JUZAN EXTRA 100 SC	0	11,3 (14 DA-A)	Grain	8,20	102,1	97,2
			Barracuda	0	11,3 (14 DA-A)			102,1	96,7
	M-100SC-OR2-C_SEL_RO_2	Maize - DKC3939	JUZAN EXTRA 100 SC	0	11,3 (12 DA-A)	Grain	7,19	103,9	96,2
			Barracuda	0	12,5 (12 DA-A)			101,1	99,4
	M-100SC-OR2-C_SEL_RO_3	Maize - GW8001(Unimeza)	JUZAN EXTRA 100 SC	0	6,3 (27 DA-A)	Grain	4,35	99,5	94,7
			Barracuda	0	7,5 (27 DA-A)			99,5	94,9

On all of the 10 trials in which JUZAN EXTRA 100 SC applied at the proposed label rate of 1.5 L product/ha (150 g a.s./ha) and also at twice this rate (3.0 L product/ha (300 g a.s./ha)) caused phytotoxic symptoms and/or adverse effects on crop growth and development (chlorosis, necrosis and vigour reductions) there were no subsequent adverse effects on crop yield.

**Based on the absence of effects across trials, it is reasonable to conclude that a single application of JUZAN EXTRA 100 SC applied at the proposed label rate of 1.5 L product/ha (150 g a.s./ha), and applied according to label recommendations, has no adverse impact on crop yield in maize.**

Comments of zRMS:	<p>Submitted trials are sufficient. Influence of Juzan Extra100 SC on yield was evaluated during selectivity research. The evaluation was carried out in accordance with EPPO guidelines.</p> <p>Selectivity trials in Maritime (8 trials) and N-E (4 trials) EPPO zone were performed to provide information about possible impact of the product JUZAN EXTRA 100 SC on the yield of maize. No negative impact of the broadcast foliar spray application of JUZAN EXTRA 100 SC was recorded at any tested rate. Reference products also did not induced any negative effect on the yield of the crop.</p> <p>In S-E EPPO zone no negative impact of the application of JUZAN EXTRA 100 SC was recorded at any tested rate. Reference products also did not induce any negative effect on the yield of the crop. Only in 1 trial statistical differences of yield results were observed for 2N dose of JUZAN EXTRA 100 SC and at both doses of reference product. Therefore, M-100SC-OR2-C achieved comparable results to registered standard products.</p> <p><b>In the opinion of ZRMs it can be concluded that Juzan extra 100 SC is safe for maize yield applied at recommended dose (1.5 L/ha 1.0 L/ha). Max. accepted dose was changed due to assessment made by Ecotox section. Ecotox accepted max. 100 g.a.s./ha of mesotrione, so only max dose 1.0 L/ha can be accepted by section efficacy as it was studied during field trials. All field tests have tested a higher dose (1.5 L/ha) than is currently recommended (1.0 L/ha), then all proposed records are valid for the lower dose in the opinion of ZRMs.</b></p>
-------------------	---

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

Three parameters investigating the quality of plants and plants products were recorded in the trials: the thousand kernel weight (TKW), the hectolitre weight of grain (HLW) and dry matter content (WTS). These parameters were recorded in 4 selectivity trials.

#### 3.4.3.1 Effects on the weight of thousand kernel (TKW)

A total of 2 of the 19 crop selectivity trials carried out in 2016 and 2019 generated data on quality parameters of the harvested produce following a single application of JUZAN EXTRA 100 SC applied at the proposed label rate of 1.5 L product/ha (150 g a.s./ha) and also at twice this rate (3.0 L product/ha (300 g a.s./ha)) to simulate sprayer overlap, in the absence of weeds in maize.

Of these trials, 1 were carried out within the Maritime climatic zone and 1 was carried out within the South-east climatic zone.

All of these trials were carried out on maize crops for grain production.

## Materials and methods

The materials and methods used in all crop selectivity trials are given in Section **Błąd! Nie można odnaleźć źródła odwołania.** in Table 3.4-5: Details on trial methodology –Selectivity trials.

## Summary and evaluation of trial results

### North-East climatic zone

No selectivity trials were performed on maize in North Eastern EPPO zone to present impact on the TKW of treated crop after application of JUZAN EXTRA 100 SC and reference products.

### Maritime zone trials

One selectivity trial performed on maize in Maritime EPPO zone is presented. It include assessment of impact on the TKW of treated crop after application of JUZAN EXTRA 100 SC and reference products.

## Results

In **selectivity trials** the broadcast foliar spray application of JUZAN EXTRA 100 SC, at all tested rates had no negative effect on the TKW of the crop. Reference products also provided no negative effect on the TKW of the crop.

Detailed TKW assessment results for **selectivity trials** are presented in BAD in **Błąd! Nie można odnaleźć źródła odwołania.** and individual trial reports.

## Conclusion

**Selectivity trial** in Maritime EPPO zones was performed to provide information about possible impact of the product JUZAN EXTRA 100 SC on the TKW of maize. No negative impact of the broadcast foliar spray application of JUZAN EXTRA 100 SC was recorded at any tested rate. Reference products also did not induced any negative effect on the TKW of the crop.

A summary of mean grain quality data (expressed as % relative to the untreated control) in this 1trial is given in **Błąd! Nie można odnaleźć źródła odwołania..**

**Table 3.4.3-1:Overall summary of mean grain quality data (expressed as % relative to the untreated control) at commercial harvest in 1 crop selectivity trial, Maritime climatic zone**

Quality assessm't	No. of trials	Assessment timing (DA-A1)	Untreated (unit)	Mean (as % relative to untreated)			
				JUZAN EXTRA 100 SC		Standard reference product*	
				1,5 L/ha (150 g a.s./ha)	3.0 L/ha (300 g a.s./ha)	1,5 L/ha (150 g a.s./ha)	3.0 L/ha (300 g a.s./ha)
TKW (g)	1	142	379,45 g	97,75	93,17	98,41	100,33

**In conclusion it can be stated that JUZAN EXTRA 100 SC has no negative effect on the TKW of the treated plant.**

### South-east climatic zone trials

One selectivity trial performed on maize in South Eastern EPPO zone is presented. It includes assessment of impact on the TKW of treated crop after application of JUZAN EXTRA 100 SC and reference products.



## Results

In **selectivity trial** the broadcast foliar spray application of JUZAN EXTRA 100 SC, at all tested rates had no negative effect on the TKW of the crop. Reference products also provided no negative effect on the TKW of the crop.

Detailed TKW assessment result for **selectivity trial** is presented in BAD in **Błąd! Nie można odnaleźć źródła odwołania.** and individual trial reports.

## Conclusion

**Selectivity trial** in South-Eastern EPPO zone was performed to provide information about possible impact of the product JUZAN EXTRA 100 SC on the TKW of maize. No negative impact of the broadcast foliar spray application of JUZAN EXTRA 100 SC was recorded at any tested rate. Reference products also did not induced any negative effect on the TKW of the crop.

A summary of mean grain quality data (expressed as % relative to the untreated control) in this trial is given in Table 3.4.3-2.

**Table 3.4.3-2: Overall summary of mean grain quality data (expressed as % relative to the untreated control) at commercial harvest in 1 crop selectivity trial, South-East climatic zone**

Quality assessm't	No. of trials	Assessment timing (DA-A1)	Untreated (unit)	Mean (as % relative to untreated)			
				JUZAN EXTRA 100 SC		Standard reference product*	
				1,5 L/ha (150 g a.s./ha)	3.0 L/ha (300 g a.s./ha)	1,5 L/ha (150 g a.s./ha)	3.0 L/ha (300 g a.s./ha)
TKW (g)	1	161	370,46 g	106,15	96,02	98,58	105,86

**In conclusion it can be stated that JUZAN EXTRA 100 SC has no negative effect on the TKW of the treated plant.**

### 3.4.3.2 Effects on the grain hectolitre weight (HLW)

A total of 2 of the 19 crop selectivity trials carried out in 2016 and 2019 generated data on quality parameters of the harvested produce following a single application of JUZAN EXTRA 100 SC applied at the proposed label rate of 1.5 L product/ha (150 g a.s./ha) and also at twice this rate (3.0 L product/ha (300 g a.s./ha)) to simulate sprayer overlap, in the absence of weeds in maize.

Of these trials, 1 were carried out within the Maritime climatic zone and 1 was carried out within the South-east climatic zone.

All of these trials were carried out on maize crops for grain production.

## Materials and methods

The materials and methods used in all crop selectivity trials are given in Section **Błąd! Nie można odnaleźć źródła odwołania.** in Table 3.4-5: Details on trial methodology –Selectivity trials.

## Summary and evaluation of trial results

### **North-East climatic zone**

No selectivity trials were performed on maize in North Eastern EPPO zone to present impact on the HLW of treated crop after application of JUZAN EXTRA 100 SC and reference products.

### **Maritime zone trials**

One selectivity trial performed on maize in Maritime EPPO zone is presented. It include assessment of impact on the HLW of treated crop after application of JUZAN EXTRA 100 SC and reference products.

### **Results**

In **selectivity trials** the broadcast foliar spray application of JUZAN EXTRA 100 SC, at all tested rates had no negative effect on the HLW of the crop. Reference products also provided no negative effect on the HLW of the crop.

Detailed HLW assessment results for **selectivity trials** are presented in BAD in **Błąd! Nie można odnaleźć źródła odwołania.** and individual trial reports.

## Conclusion

**Selectivity trial** in Maritime EPPO zones was performed to provide information about possible impact of the product JUZAN EXTRA 100 SC on the HLW of maize. No negative impact of the broadcast foliar spray application of JUZAN EXTRA 100 SC was recorded at any tested rate. Reference products also did not induced any negative effect on the HLW of the crop.

A summary of mean grain quality data (expressed as % relative to the untreated control) in this trial is given in Table 3.4.3-3.

**Table 3.4.3-3: Overall summary of mean grain quality data (expressed as % relative to the untreated control) at commercial harvest in 1 crop selectivity trial, Maritime climatic zone**

Quality assessment	No. of trials	Assessment timing (DA-A1)	Untreated (unit)	Mean (as % relative to untreated)			
				JUZAN EXTRA 100 SC		Standard reference product*	
				1,5 L/ha (150 g a.s./ha)	3.0 L/ha (300 g a.s./ha)	1,5 L/ha (150 g a.s./ha)	3.0 L/ha (300 g a.s./ha)
HLW (kg/hl)	1	142	67,5 kg/hl	99,70%	100,00%	99,70%	99,26%

**In conclusion it can be stated that JUZAN EXTRA 100 SC has no negative effect on the HLW of the treated plant.**

## South-east climatic zone trials

One selectivity trial performed on maize in South Eastern EPPO zone is presented. It includes assessment of impact on the HLW of treated crop after application of JUZAN EXTRA 100 SC and reference products.

## Results

In **selectivity trial** the broadcast foliar spray application of JUZAN EXTRA 100 SC, at all tested rates had no negative effect on the HLW of the crop. Reference products also provided no negative effect on the HLW of the crop.

Detailed HLW assessment result for **selectivity trial** is presented in BAD in **Błąd! Nie można odnaleźć źródła odwołania.** and individual trial reports.

## Conclusion

**Selectivity trial** in South-Eastern EPPO zone was performed to provide information about possible impact of the product JUZAN EXTRA 100 SC on the HLW of maize. No negative impact of the broadcast foliar spray application of JUZAN EXTRA 100 SC was recorded at any tested rate. Reference products also did not induced any negative effect on the HLW of the crop

A summary of mean grain quality data (expressed as % relative to the untreated control) in this trial is given in Table 3.4.3-4.

**Table 3.4.3-4: Overall summary of mean grain quality data (expressed as % relative to the untreated control) at commercial harvest in 1 crop selectivity trial, South-East climatic zone**

Quality assessm't	No. of trials	Assessment timing (DA-A1)	Untreated (unit)	Mean (as % relative to untreated)			
				JUZAN EXTRA 100 SC		Standard reference product*	
				1,5 L/ha (150 g a.s./ha)	3.0 L/ha (300 g a.s./ha)	1,5 L/ha (150 g a.s./ha)	3.0 L/ha (300 g a.s./ha)
HLW (kg/hl)	1	161	61,3 kg/hl	103,15%	98,32%	99,42%	99,19%

**In conclusion it can be stated that JUZAN EXTRA 100 SC has no negative effect on the HLW of the treated plant.**

### 3.4.3.3 Effects on the dry matter content (WTS)

A total of 2 of the 19 crop selectivity trials carried out in 2016 and 2019 generated data on quality parameters of the harvested produce following a single application of JUZAN EXTRA 100 SC applied at the proposed label rate of 1.5 L product/ha (150 g a.s./ha) and also at twice this rate (3.0 L product/ha (300 g a.s./ha)) to simulate sprayer overlap, in the absence of weeds in maize.

Of these trials, 2 were carried out within the Maritime climatic zone.

All of these trials were carried out on maize crops for silage production.

## Materials and methods

The materials and methods used in all crop selectivity trials are given in Section **Błąd! Nie można odnaleźć źródła odwołania.** in Table 3.4-5: Details on trial methodology –Selectivity trials

## Summary and evaluation of trial results

### North-East climatic zone

No selectivity trials were performed on maize in North Eastern EPPO zone to present impact on the WTS of treated crop after application of JUZAN EXTRA 100 SC and reference products.

### **Maritime zone trials**

Two selectivity trials performed on maize in Maritime EPPO zone is presented. It include assessments of impact on the WTS of treated crop after application of JUZAN EXTRA 100 SC and reference products.

### **Results**

In **selectivity trials** the broadcast foliar spray application of JUZAN EXTRA 100 SC, at all tested rates had no negative effect on the WTS of the crop. Reference products also provided no negative effect on the WTS of the crop.

Detailed WTS assessment results for **selectivity trials** are presented in BAD in **Błąd! Nie można odnaleźć źródła odwołania.** and individual trial reports.

## Conclusion

**Selectivity trial** in Maritime EPPO zones was performed to provide information about possible impact of the product JUZAN EXTRA 100 SC on the WTS of maize. No negative impact of the broadcast foliar spray application of JUZAN EXTRA 100 SC was recorded at any tested rate. Reference products also did not induced any negative effect on the WTS of the crop.

A summary of mean crop quality data (expressed as % relative to the untreated control) in this 2 trials is given in Table 3.4.3-5.

**Table 3.4.3-5: Overall summary of mean grain quality data (expressed as % relative to the untreated control) at commercial harvest in crop selectivity trials, Maritime climatic zone**

Quality assessm't	No. of trials	Assessment timing (DA-A1)		Untreated (unit)	Mean (as % relative to untreated)			
					M-100SC		Standard reference product*	
					1,5 L/ha (150 g a.s./ha)	3.0 L/ha (300 g a.s./ha)	1,5 L/ha (150 g a.s./ha)	3.0 L/ha (300 g a.s./ha)
WTS	2	98-116	Mean	32,78%	101,50	101,26	102,55	101,91
			Min-Max	28,66-36,9	98,64 - 104,36	97,83 - 104,68	101,36 - 103,73	99,73 - 104,08

**In conclusion it can be stated that JUZAN EXTRA 100 SC has no negative effect on the WTS of the treated plant.**

### South-east climatic zone trials

No selectivity trials were performed on maize in South Eastern EPPO zone to present impact on the WTS of treated crop after application of JUZAN EXTRA 100 SC and reference products.

### Overall conclusions – Quality of the harvested grain and silage in maize (in the absence of weeds)

Evaluations of quality parameters of the harvested grain and silage have been carried out following application of JUZAN EXTRA 100 SC on a total of 3 crop selectivity trials conducted in 2016 and 2019 in countries within the Maritime and South-East EPPO climatic.

Across these trials, a single application of JUZAN EXTRA 100 SC applied at the proposed label rate of 1.5 L product/ha (150 g a.s./ha) and also at twice this rate (3.0 L product/ha (300 g a.s./ha)) was made post- emergence of the crop.

All of these trials were carried out on maize crops for grain and silage production.

The potential impact of JUZAN EXTRA 100 SC on quality of the grain and silage has been tested under a wide range of climatic and agronomic conditions that are considered to be fully representative of those under which maize are grown across the EU Central Registration zone. Trials were carried out on a range of different commercially representative and commonly grown cultivars of maize.

A single application of JUZAN EXTRA 100 SC applied at the proposed label rate of 1.5 L product/ha (150 g a.s./ha) and also at twice this rate (3.0 L product/ha (300 g a.s./ha)) caused no significant adverse effects on quality of the harvested grain or silage, in terms of hectolitre weight of the grain (as determined on 2 of the trials for grain production), thousand grain weight (as determined on 2 of the trials for grain

production). and dry matter content content of the silage (as determined on 2 of the trials for silage production).

A comparison of levels of phytotoxicity to grain quality parameters on 4 of the 19 crop selectivity trials carried out in maize on which JUZAN EXTRA 100 SC caused phytotoxic symptoms or effects on crop growth and development is given in **Błąd! Nie można odnaleźć źródła odwołania..**

**Table 3.4.3-6: Comparison of levels of phytotoxicity to grain and silage quality in 4 crop selectivity trials carried out on maize, Maritime and South-East climate zone**

EPPO climatic zone	Trial no.	Variety	Product	Max. level of phyto. (%) (DAA)		Quality parameter	Quality parameter in the untreated control	Quality parameter (as % of untreated)	
				1N rate	2N rate			1N rate	2N rate
Maritime	M-100SC-OR2-C_SEL_CZ_1	Maize - LG 30.369	JUZAN EXTRA 100 SC	0	1,3 (9 DA-A)	HLW (kg/hL)	77,1	100,2	100,0
			Callisto	0	20 (9 DA-A)			99,8	100,3
			JUZAN EXTRA 100 SC	0	1,3 (9 DA-A)	TKW (g)	379,45	97,8	93,2
			Callisto	0	20 (9 DA-A)			98,4	100,3
	M-100SC-OR2-C_SEL_DE_2	Maize - Ricardinio	JUZAN EXTRA 100 SC	0	0	WTS (%)	36,9	98,6	97,8
			Callisto	0	0			101,4	99,7
	M-100SC-OR2-C_SEL_DE_3	Maize - Babexx	JUZAN EXTRA 100 SC	0	0	WTS (%)	28,66	104,4	104,7
			Callisto	0	0			103,7	104,1
South East	S16-02964-01	Maize - DKC4590	JUZAN EXTRA 100 SC	0	1.75 (10 DA-A)	HLW (kg/hL)	61,3	100,2	100,0
			Callisto 4 SC	0	0,25 (10 DA-A)			99,8	100,3
			JUZAN EXTRA 100 SC	0	1.75 (10 DA-A)	TKW (g)	370,46	106,2	96,0
			Callisto 4 SC	0	0,25 (10 DA-A)			98,6	105,9



On 2 crop selectivity trial in which JUZAN EXTRA 100 SC was applied at the proposed label rate of 1.5 L product/ha (150 g a.s./ha) and also at twice this rate (3.0 L product/ha (300 g a.s./ha)) caused no phytotoxic symptoms and/or adverse effects on crop growth and development (chlorosis and vigour reductions), an evaluation of yield quality parameters was not carried out.

On 2 crop selectivity trial in which JUZAN EXTRA 100 SC was applied at the proposed label rate of 1.5 L product/ha (150 g a.s./ha) and also at twice this rate (3.0 L product/ha (300 g a.s./ha)) caused phytotoxic symptoms (chlorosis and necrosis) there were no subsequent adverse effects on quality of the harvested grain, in terms of hectolitre weight of the grain and weight of thousand kernels of the grain.

**Based on the absence of effects across trials, it is reasonable to conclude that a single application of JUZAN EXTRA 100 SC at up to the proposed label rate in the proposed range of 1.5 L product/ha (150 g a.s./ha), and applied according to label recommendations, has no adverse impact on the quality of plants or plant products in maize.**

Comments of zRMS:	<p>Influence of Juzan Extra 100 SC on the quality of yield was evaluated during selectivity research. Summary of the data on quality of yield can be found in this chapter. The Applicant submitted in 3 reports the results of quality of yield, carried out in different growing seasons on maize. These trials were performed in Maritime and N-E EPPO zone. The evaluation was carried out in accordance with EPPO guidelines. Quality of yield of maize in recommended dose of tested product – Juzan Extra100 SC were similar to objects, which used standard reference product. Following parameters were studied during trials: thousand kernel weight (TKW), hectolitre weight of grain (HLW) and dry matter content. Based on the absence of effects across trials, it is reasonable to conclude that a single application of JUZAN EXTRA 100 SC at up to the proposed label rate in the proposed range of <del>1.5</del> 1.0 L product/ha (<del>150</del> 100 g a.s./ha), and applied according to label recommendations, has no adverse impact on the quality of plants or plant products in maize. Max. accepted dose was changed due to assessment made by Ecotox section. Ecotox accepted max. 100 g.a.s./ha of mesotrione, so only max dose 1.0 L/ha can be accepted by section efficacy as it was studied during field trials. All field tests have tested a higher dose (1.5 L/ha) than is currently recommended (1.0 L/ha), then all proposed records are valid for the lower dose in the opinion of ZRMs.</p> <p>According to the ZRMs, the limited number of tests should be acceptable. Mesotrione has been used in many products for many years to protect corn. So far, no negative effects on the quantity and quality of corn yields have been found.</p>
-------------------	---

#### 3.4.4 Effects on transformation processes (KCP 6.4.4)

According to EPPO PP 1/243(2) data on possible effects on transformation processes are not considered to be required when residues are undetectable, a reasoned case may be sufficient to address this point.

Grain and forage maize are not usually subject to transformation processes.

No adverse effects were seen on maize grain yield or dry matter (forage) yield from the use of JUZAN EXTRA 100 SC, at the highest proposed dose (1.5 l/ha) or double the proposed dose (3.0 l/ha), when compared to the untreated or the commercial standards (also applied at single and double doses).

In addition, no detectable residues of mesotrione were detected in either the grain, whole plant (for forage) or cobs (for sweetcorn) at harvest.

Therefore, no further information or data are required to address this point.

Comments of zRMS:	<p>There is a very long time (typically &gt;140 days for combined maize) between application and harvest of maize. According to <i>MESOTRIONE (277) (the first draft was prepared by Professor Eloisa Dutra Caldas University of Brasilia, Brasil-</i></p>
-------------------	--

	<p>ia/DF, Brazil), the DT<sub>90</sub> soil assessed was ranging between 12 and 54 days for slit loam soil. That means that it is very unlikely to find sufficient residue in the harvested product to have a potential impact on the processing. In fact the standard product with the same composition is used under practical conditions since long and has no record of problems in terms of processing of maize treated with mesotrione. The latest time of application for Juzan Extra 100 SC is crop growth stage BBCH 18. Since applications of Juzan Extra 100 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 Juzan Extra 100 SC, in the opinion of Evaluator.</p>
--	---

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

According to EPPO PP 1/135(4), data on plant parts used for propagating purposes are not considered to be required in terms of herbicides being applied at or after inflorescence initiation or where detectable residues occur in harvested seed. The proposed GAP for JUZAN EXTRA 100 SC stipulates that application should be at BBCH 12-18, which is prior to inflorescence initiation in maize. No detectable residues of mesotrione were detected in either the grain, whole plant (for forage) or cobs (for sweetcorn) at harvest.

Therefore, it is considered that no data on plant parts for propagation are required.

Comments of zRMS:	<p>There is a very long time (typically &gt;140 days for combined maize) between application and harvest of maize. According to <i>MESOTRIONE (277) (the first draft was prepared by Professor Eloisa Dutra Caldas University of Brasilia, Brasilia/DF, Brazil)</i>, the DT<sub>90</sub> soil assessed was ranging between 12 and 54 days for slit loam soil. That means that it is very unlikely to find sufficient residue in the harvested product to have a potential impact on the processing. In fact the standard product with the same composition is used under practical conditions since long and has no record of problems in terms of processing of maize treated with mesotrione. 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 mesotrione in seed crops of maize. In the opinion of Evaluator, the product Juzan Extra 100 SC may be used in seed crops of maize.</p>
-------------------	--

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

### 3.5.1 Impact on succeeding crops (KCP 6.5.1)

This section has been prepared in accordance with the EPPO guideline PP 1/207 (2) "Effects on succeeding crops".

The study on the toxicity to non-target terrestrial plants has been carried out with Juzan Extra 100 SC (M-100SC-OR2-C). For further details please, refer to Terrestrial Plant Test according to OECD 208 method (Study code EMI/4/10/2021, Ecomelius Institute Sp. z o. o. by Dec 2021, presented in Section 9 of the dRR (chapter 9.10).

The study is described in detail in Section 9 of the dRR (chapter 9.10). For the ER<sub>10</sub> values of the tested species please refer to Table 3.1.1-1 below.

**Table 3.1.1-1: ER<sub>10</sub>-values (g/ha) of different test plants**

Test plant		ER <sub>10</sub> for Juzan Extra 100 SC (mL / ha)
Common name	Scientific name (lat.)	Seedling-emergence-test
Cabbage	<i>Brassica olerace var. capitata</i>	21.21
Tomato	<i>Solanum lycopersicon</i>	20.33
Soybean	<i>Glycine max.</i>	104.35
Lettuce	<i>Letuca sativa</i>	16.31
Onion	<i>Allium cepa</i>	91.26
Oat	<i>Avena sativa</i>	210.39

In the study, doses were indicated as mL / ha therefore, ER<sub>10</sub> were recalculated to ER<sub>10</sub> expressed as mg a.s./kg soil, taking into consideration: bulk density of soil = 1.5 g/cm<sup>3</sup> and soil depth 5 cm.

PEC values were calculated for the worst-case scenario – use with application rate of 1× 150 g ai/ha and CI of 0% as stated in the GAP table.

These PEC values and TER-calculation based on ER<sub>50</sub> -values are given in the following table.

**Table 3.1.1-2: PEC-values and TER-calculation of Juzan Extra 100 SC based on ER<sub>10</sub> - values.**

Succeeding crop <sup>(1)</sup>	Days after application <sup>(2)</sup>	ER <sub>10</sub> mg/kg soil <sup>(3)</sup>	PEC <sup>(4)</sup>		TER <sup>(5)</sup>	
			mg/kg soil e.g. 5 cm	mg/kg soil e.g. 20 cm	ER <sub>10</sub> /PEC e.g. 5 cm	ER <sub>10</sub> /PEC e.g. 20 cm
Lettuce	0	0.0227	1.5675	0.3919	<b>1.45E-02</b>	<b>5.80E-02</b>
	30	0.0227	0.8549	0.2137	<b>2.66E-02</b>	<b>1.06E-01</b>
	60	0.0227	0.4663	0.1166	<b>4.87E-02</b>	<b>1.95E-01</b>
	90	0.0227	0.2543	0.0636	<b>8.94E-02</b>	<b>3.57E-01</b>
	120	0.0227	0.1387	0.0347	<b>1.64E-01</b>	<b>6.55E-01</b>
	150	0.0227	0.0756	0.0189	<b>3.00E-01</b>	1.20E+00
	180	0.0227	0.0413	0.0103	<b>5.51E-01</b>	-
	210	0.0227	0.0225	0.0056	1.01E+00	-
Tomato	0	0.0283	1.5675	0.3919	<b>1.81E-02</b>	<b>7.23E-02</b>
	30	0.0283	0.8549	0.2137	<b>3.31E-02</b>	<b>1.33E-01</b>
	60	0.0283	0.4663	0.1166	<b>6.08E-02</b>	<b>2.43E-01</b>
	90	0.0283	0.2543	0.0636	<b>1.11E-01</b>	<b>4.46E-01</b>
	120	0.0283	0.1387	0.0347	<b>2.04E-01</b>	<b>8.17E-01</b>
	150	0.0283	0.0756	0.0189	<b>3.74E-01</b>	1.50E+00
	180	0.0283	0.0413	0.0103	<b>6.87E-01</b>	-
	210	0.0283	0.0225	0.0056	1.26E+00	-
Cabbage	0	0.0296	1.5675	0.3919	<b>1.89E-02</b>	<b>7.54E-02</b>
	30	0.0296	0.8549	0.2137	<b>3.46E-02</b>	<b>1.38E-01</b>
	60	0.0296	0.4663	0.1166	<b>6.34E-02</b>	<b>2.54E-01</b>
	90	0.0296	0.2543	0.0636	<b>1.16E-01</b>	<b>4.65E-01</b>

Succeeding crop <sup>(1)</sup>	Days after applica- tion <sup>(2)</sup>	ER10 mg/kg soil <sup>(3)</sup>	PEC <sup>(4)</sup>		TER <sup>(5)</sup>	
			mg/kg soil e.g. 5 cm	mg/kg soil e.g. 20 cm	ER10/PEC e.g. 5 cm	ER10/PEC e.g. 20 cm
	120	0.0296	0.1387	0.0347	<b>2.13E-01</b>	<b>8.52E-01</b>
	150	0.0296	0.0756	0.0189	<b>3.91E-01</b>	1.56E+00
	180	0.0296	0.0413	0.0103	<b>7.16E-01</b>	-
	210	0.0296	0.0225	0.0056	1.31E+00	-
Onion	0	0.127	1.5675	0.3919	<b>8.11E-02</b>	<b>3.24E-01</b>
	30	0.127	0.8549	0.2137	<b>1.49E-01</b>	<b>5.95E-01</b>
	60	0.127	0.4663	0.1166	<b>2.73E-01</b>	1.09E+00
	90	0.127	0.2543	0.0636	<b>5.00E-01</b>	-
	120	0.127	0.1387	0.0347	<b>9.17E-01</b>	-
	150	0.127	0.0756	0.0189	1.68E+00	-
Soybean	0	0.1450	1.5675	0.3919	9.28E-02	3.71E-01
	30	0.1450	0.8549	0.2137	1.70E-01	6.80E-01
	60	0.1450	0.4663	0.1166	3.12E-01	<b>1.25E+00</b>
	90	0.1450	0.2543	0.0636	5.72E-01	-
	120	0.1450	0.1387	0.0347	<b>1.05E+00</b>	-
Oat	0	0.2930	1.5675	0.3919	<b>1.87E-01</b>	<b>7.48E-01</b>
	30	0.2930	0.8549	0.2137	<b>3.43E-01</b>	1.37E+00
	60	0.2930	0.4663	0.1166	<b>6.29E-01</b>	-
	90	0.2930	0.2543	0.0636	1.15E+00	-

- (1) possible following crops in a regular crop rotation  
(2) adequate value for following crop in a regular crop rotation  
(3) ER<sub>50</sub> -values of succeeding crops  
(4) PEC (soil depth e.g. 5/20 cm)  
(5) TER (soil depth e.g. 5/20 cm)

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 Juzan Extra 100 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 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>Mesotrione is taken up by both plant roots and shoots and has residual activity in the soil (Cornes, 2001). Residual herbicides provide the benefit of prolonged weed control in the crop, but under certain environmental conditions may persist longer</p>
-------------------	---

	<p>than expected and this is dependent on the herbicide used (Colquhoun, 2006). The half-life of mesotrione in soil ranges from 5 to as much as 62 days (Dyson, 2002), depending on soil type, organic carbon and soil pH. Literature data indicate that HPPD (mesotrione) herbicide carryover can occur, especially in fields whose soil texture is sandy or sandy loam; or after fertilizer application after anhydrous ammonia has been "knocked in." Long strips of bleached plants could be seen throughout the field, where anhydrous ammonia caused a local change in soil pH, thus causing the release of mesotrione residues from soil colloids. Therefore, the impact on succeeding crops should be noted. Mesotrione is a prevalent herbicide used to control weeds in maize crops, but it is susceptible to degradation and leaching in soil.</p> <p>Applicant presented information in accordance with the EPPO guideline PP 1/207 (2) "Effects on succeeding crops". The study on the toxicity to non-target terrestrial plants has been carried out with Juzan Extra 100 SC (M-100SC-OR2-C). Details are presented in section 9 (chapter 9.10). The highest value ER<sub>10</sub> was noted for oat (210.39), soybean (104.35) and onion (91.26).</p> <p>Available sources in literature treating on herbicide mesotrione says that in the case of sensitive crops, ie. sugar, legumes, oilseed rape, sunflower and vegetables and early sown winter cereals in unfavorable conditions for decomposition of the possible occurrence of damage. So, ZRMs accepted entry proposed by Applicant in the label: <i>If it is necessary to plow a plantation treated with the product in advance (as a result of damage to corn by hail, disease, pests or frost), only corn grown for grain or intended for fodder can be grown on the field. At the same time, it should be borne in mind that immediately after emergence, temporary and quickly transient phytotoxic symptoms may appear. After harvesting corn grown under normal growing conditions, weeded with JUZAN EXTRA 100 SC after plowing to a depth of min. 20 cm, winter cereals can be sown. On the other hand, all crops can be cultivated in the spring. In the case of cultivation of sensitive crops, i.e. beet, faba bean, winter oilseed rape, sunflower and vegetables, as well as early sown winter cereals in conditions unfavorable for the decomposition of the agent (easily drying soils with pH&lt;6.0, soils with high organic matter content &gt;4.0%, low biological activity, exceptionally low temperatures in winter, exceptionally low soil moisture in summer and/or autumn and/or winter, overlapping of the surface sprayed with the agent) damage to the crop is possible.</i></p>
--	--

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

This section has been prepared in accordance with the EPPO guideline PP 1/256 (1) "Effects on adjacent crops".

PEC values (drift) were calculated for different distances between treated and adjacent crops. The results are given in the following table.

**Table 3.5.2-1: PEC-values for single application (drift) in field crops<sup>7</sup> with maximum use rate of 1.5 L product/ha and according to Ganzelmeier. BBA 1995**

Distance to adjacent crop (m)	% drift	Drift test product (mL/ha)
1	2.77	41.55
3	0.95	14.25

<sup>7</sup> Relevant for maize, sugar maize and poppy in the GAP table for Juzan Extra 300 SL

Distance to adjacent crop (m)	% drift	Drift test product (mL/ha)
5	0.57	8.55
10	0.29	4.35
15	0.20	3.00

The study on the toxicity to non-target terrestrial plants has been carried out with Juzan Extra 100 SC (M-100SC-OR2-C). For further details please refer to Terrestrial Plant Test according to OECD 208 and 227 (2006) methods (Study code EMI/4/10/2021 and EMI/4/9/2021. Ecomelius Institute Sp. z o. o. by Dec 2021. presented in Section 9 of the dRR (chapter 9.10).

For the ER50 values derived in the studies for all tested species please refer to Table 3.5.2-4 below.

**Table 3.5.2-4: ER<sub>50</sub>-values (L/ha) of different test plants**

Test plant		ER <sub>50</sub> Juzan Extra 100 SC (mL / ha)	
Common name	Scientific name (lat.)	Seedling-emergence-test	Vegetative-vigour-test
Cabbage	<i>Brassica olerace var. capitata</i>	387.36	214.70
Tomato	<i>Solanum lycopersicon</i>	215.57	39.85
Soybean	<i>Glycine max.</i>	>1500	442.40
Lettuce	<i>Letuca sativa</i>	320.86	38.44
Onion	<i>Allium cepa</i>	499.03	271.94
Oat	<i>Avena sativa</i>	>1500	>1500

In the following tables TER values are presented finally.

**Table 3.5.2-5: TER values of Juzan Extra 100 SC for different crops presented in GAP at minimum distance after application**

Crops	ER <sub>50</sub> (mL product/ha)	Drift rate: Distance in m Juzan Extra 100 SC mL/ha				
		1m	3m	5m	10m	15m
<b>PER (mL product/ha)</b>		41.55	14.25	8.55	4.35	3.00
Cabbage	214.70	5.16	15.06	25.11	49.36	71.56
Tomato	39.85	<b>0.96</b>	2.80	4.66	9.16	13.28
Soybean	442.40	10.64	30.51	51.74	101.70	147.47
Lettuce	38.44	<b>0.92</b>	2.69	4.49	48.18	12.81
Onion	271.94	6.54	19.08	31.80	62.51	90.64
Oat	1500	36.10	105.26	175.44	344.83	500

Summarising results achieved above. an acceptable risk is indicated for Cabbage. Soybean. Onion. Oat even when no buffer strip is applied. For Tomato and Lettuce 3 m

buffer strip is needed.

The respective TER values are >1. as requested in EPPO guideline PP 1/256. No further testing required.

Comments of zRMS:	<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.</p> <p>Summarizing results achieved above, an acceptable risk is indicated for cabbage, soybean, onion, oat even when no buffer strip is applied. For tomato and lettuce 3 m buffer strip is needed. The respective TER values are &gt;1 as requested in EPPO guideline PP 1/256. No further testing required.</p> <p>ZRMS accepted following statement: <i>None of the efficacy trials reported any effects on adjacent crops or plants. Application of Juzan Extra 100 SC according to the requirements of "Good Agricultural Practice" excludes lapses e.g. overspray of boundary stripes, overdose or applications in other than the registered crops or at other application times. Furthermore, Good Agricultural Practice avoids spray drift to adjacent crops by taking into account the wind speed, the droplet size and positioning of the spray boom. As Juzan Extra 100 SC is intended for control of dicotyledonous weeds, the product may cause damages on dicotyledonous adjacent crops if it is misused.</i></p>
-------------------	---

### Tank cleaning

An insufficient tank cleaning after use of Juzan Extra 100 SC can cause negative effects on the next crops. Therefore, an appropriate tank cleaning might have to be performed after application of the product.

According to Appendix 4 of EPPO guideline PP 1/292(1), up to 2.6% of the spray solution will remain in the PAE following application (according to ISO 16119).

The following evaluation is presented for the worst – case scenario from the GAP table - assuming dose of 1.5 L product/ha in 200 L of water/ha.

**Table 3.5.2-4: Calculation of washout according to Appendix 4 of EPPO PP 1/292(1)**

Calculations	
Amount of a.i. in 1000 L sprayer (assuming 200 L ha <sup>-1</sup> water)	$1000/200 = 5$  $5 \times 1.5 \text{ L product (application dose in 1 ha)} = 7.5 \text{ L product in 1000 L sprayer}$
Amount left in sprayer after spraying (2.6%)	$7.5 \text{ L product} \times 2.6\% = 0.195 \text{ L product}$
<b>Situation A (without washing)</b>	
Dose applied (at 200 L/ha) to 2.5 ha (without washing)	$0.195 \text{ L product} / 2.5 \text{ ha} = 0.078 \text{ L product/ha}$
<b>Situation B (one washout - procedure)</b>	
Amount of product left in sprayer after 1st stage of washout procedure (washing tank with 1000 L water and then empty it)	$0.195 \text{ L product} \times 2.6\% = 0.00507 \text{ L product/ha}$
Dose applied (at 200 L/ha) to 2.5 ha after first washout procedure	$0.00507 \text{ L product} / 2.5 \text{ ha} = 0.002028 \text{ L product/ha}$

The for non-target plants shows (please refer to respective chapter in section 9 of the dRR) that the most sensitive species is Lettuce with an ER<sub>50</sub> value of 0.03843 L product/ha. Assuming a leftover of 2.6% of

the spray solution. which results in 0.002028 L product/ha. the TER value after one washing (situation B of the table above) is 18.94 which is above the trigger value of 1.

Therefore. farmers may follow good agricultural practice to conduct cleaning procedures of the spray equipment one time after application. as the TER trigger value of 1 is exceeded after the first cleaning procedure. However. for safety reasons the farmers are on current labels instructed to “fill and flush the contents of the spray tank a minimum of three times”.

Comments of zRMS:	There is no specific guidance to examine the effect of residues of an active ingredient after tank cleaning on adjacent crops. An insufficient tank cleaning after use of Juzan Extra 100 SC can cause negative effects on the next crops. Therefore. an appropriate tank cleaning might have to be performed after application of the product. According to Appendix 4 of EPPO guideline PP 1/292(1) up to 2.6% of the spray solution will remain in the PAE following application (according to ISO 16119). The following evaluation is presented for the worst – case scenario from the GAP table - assuming dose of 1.5 L product/ha in 200 L of water/ha. The most sensitive species was lettuce with an ER <sub>50</sub> value of 0.03843 L product/ha. Assuming a leftover of 2.6% of the spray solution. which results in 0.002028 L product/ha the TER value after one washing is 18.94 which is above the trigger value of 1. <b>Therefore. farmers may follow good agricultural practice to conduct cleaning procedures of the spray equipment one time after application. as the TER trigger value of 1 is exceeded after the first cleaning procedure. However. for safety reasons the farmers are on current labels instructed to “fill and flush the contents of the spray tank a minimum of three times”.</b>
-------------------	---

### 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).

The in-field and off-field risk from exposure to mezotrione applied as Juzan Extra 100 SC for the intended uses in maize is indicated to be acceptable for non-target arthropods other than bees based on Tier 2 data without the need for risk mitigation measures.

No specific assessments of beneficial and non-target organisms were made in the efficacy and crop selectivity trials. However no adverse effects were noted when visual observations were made within the field trial sites.

Comments of zRMS:	For detailed consideration of risks to beneficial organisms please see the ecotoxicology section B section 9. No specific assessments of beneficial and non-target organisms were made in the efficacy and crop selectivity trials. However no adverse effects were noted when visual observations were made with-in the field trial sites.
-------------------	---

### 3.6 Other/special studies

No additional studies are summarized.

Comments of zRMS:	Statement accepted.
-------------------	---------------------



### 3.7 List of test facilities including the corresponding certificates

Table 3.7-1: List of test facilities

Test facility	Address	Certificate (Yes or No)
SGS Polska Sp. z o.o.	ul. Jana Kazimierza 3 01-248 Warszawa Poland	Yes
Fertico Sp. z o.o	Goliany 43, 05-620 Błędów POLAND	Yes
Eurofins Agroscience Services sp. z o.o	Kaźmierz, Parkowa street 6, PL-64-530 Kaźmierz Poland	Yes
Eurofins Agroscience Services GmbH	Carl-Goerdeler-Weg 5 21684 Stade Germany	Yes
Hetterich Fieldwork GbR	Bamberger Straße 50 97359 Schwarzach GERMANY	Yes
AGRITEC, research, breeding and services Ltd.	Zemědělská 2520/16 787 01 Šumperk Czech Republic	Yes
SynTech Research Czech Republic s.r.o.	Semčice 245 294 46 Semčice, Czech Republic	Yes
Eurofins Agroscience Services Kft.	Új Váralja sor 16. 8000 Székesfehérvár Hungary	Yes
SynTech Research Hungary Kft	Török Ignác u. 30. Szombathely Hungary	Yes
Eurofins Agroscience Services S.R.L.	Str.Academician Petre P Negulescu No.1, 300263 Timișoara, Timiș Romania	Yes
AgroProspect SRL	Fantana No.1, Jud. Brasov, Romania	Yes
Fyse, Ltd. Dep. Agrolab	Skolska 88 Kolare 99109 Slovakia	Yes

Test facility	Address	Certificate (Yes or No)
SGS Polska Sp. z o.o.	ul. Jana Kazimierza 3 01-248 Warszawa Poland	Yes

**GŁÓWNY INSPEKTOR  
OCHRONY ROŚLIN I NASIENICTWA**

*Tadeusz Kłos*

WO-505-3/2011

Warszawa, 05.2011 r.

**DECYZJA Nr 16/2011**

Na podstawie art. 40 ust. 1 ustawy z dnia 18 grudnia 2003 r. o ochronie roślin (Dz.U. z 2008 r. Nr 133, poz. 849, ze zm.), po rozpatrzeniu wniosku z dnia 25 marca 2011 roku :

**upoważniam**

**SGS Polska Sp. z o.o.**  
ul. Bema 83; 01-233 Warszawa

**do prowadzenia badań skuteczności działania środka ochrony roślin**

z grupy fungicydów, herbicydów, insektycydów, moluskocydów, regulatorów wzrostu, rodentycydów i adiuwantów w uprawach polowych, pod osłonami i w uprawach sadowniczych. Badania prowadzone będą w uprawach kukurydzy, zbóż, rzepaku i innych roślin oleistych, roślin okopowych, pastewnych i włóknistych, warzyw, drzew i krzewów owocowych, roślin jagodowych, roślin energetycznych, ziół oraz roślin ozdobnych.

Niniejsze upoważnienie, zgodnie z art. 50 ustawy z dnia 4 marca 2010 r. o świadczeniu usług na terytorium Rzeczypospolitej Polskiej (Dz.U. Nr 47 poz. 278), jest upoważnieniem wydanym na czas nieokreślony.

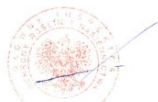
**Uzasadnienie**

Firma SGS Polska Sp. z o.o. spełnia warunki organizacyjno-techniczne zwane „Zasadami Dobrej Praktyki Eksperymentalnej” (Good Experimental Practice - GEP), zapewniające prawidłowe przeprowadzanie badań skuteczności działania środka ochrony roślin.

Mając na uwadze powyższe, postanowiono jak w rozstrzygnięciu decyzji.

**Pouczenie**

Od niniejszej decyzji odwołania nie przysługują. Jednakże strona niezadowolona z decyzji może zwrócić się do Głównego Inspektora Ochrony Roślin i Nasiennictwa z wnioskiem o ponowne rozpatrzenie sprawy w terminie 14 dni od dnia doręczenia decyzji, zgodnie z art. 127 § 3 Kodeksu postępowania administracyjnego.



Test facility	Address	Certificate (Yes or No)
Fertico Sp. z o.o	Goliany 43, 05-620 Błędów POLAND	Yes



**GLÓWNY INSPEKTOR  
OCHRONY ROŚLIN I NASIENICTWA**

*Tadeusz Kłos*

WO-505- 17 /2011

Warszawa, dnia 26. 04.2011 r.

**DECYZJA Nr 13/2011**

Na podstawie art. 155 ustawy z dnia 14 czerwca 1960 r. Kodeks postępowania administracyjnego (Dz.U. z 2000 r. Nr 98, poz. 1071 ze zm.) i art. 40 ust. 1 ustawy z dnia 18 grudnia 2003 r. o ochronie roślin (Dz.U. 2008 r. Nr 133, poz. 849 ze zm.), po rozpatrzeniu wniosku z dnia 13 kwietnia 2011 r., **zmieniam decyzję Nr 8/2008 z dnia 29 września 2008 r., zmienioną decyzjami: Nr 1/2009 z dnia 27 stycznia 2009 r., Nr 2/2010 z dnia 31 marca 2010 r. oraz Nr 1/2011 z dnia 12 stycznia 2011 r.**

Rozstrzygnięciu decyzji nadaję następujące brzmienie:

**upoważniam**

**FERTICO Sp. z o.o.**

**Goliany 43; 05-620 Błędów**

**do prowadzenia badań skuteczności działania środka ochrony roślin**

z grupy akarycydów, bakteriocydów, fungicydów, herbicydów, insektycydów, moluskocydów, regulatorów wzrostu, repelentów i semiozwiązków w uprawach sadowniczych: jabłoni, gruszy, śliwy, wiśni, czereśni, brzoskwinia, leszczyna, aronia, agrest, truskawka, malina, porzeczka czarna, porzeczka kolorowa, borówka wysoka, w uprawach polowych: zboża, buraki, kukurydza, ziemniaki, rośliny strączkowe, rzepak, kapusta pastewna, gorczyca, chmiel, rośliny energetyczne, w uprawach polowych i pod osłonami: warzywa kapustne, cebulowe, liściowe, korzeniowe, psiankowate, dyniowate, rzepowate, strączkowe, wieloletnie i różne: – kukurydza cukrowa, koper ogrodowy, szparag lekarski oraz w pomieszczeniach magazynowych.

Niniejsze upoważnienie, zgodnie z art. 50 ustawy z dnia 4 marca 2010 r. o świadczeniu usług na terytorium Rzeczypospolitej Polskiej (Dz.U. Nr 47 poz. 278), jest upoważnieniem wydanym na czas nieokreślony.

**Uzasadnienie**

Pismem z dnia 13 kwietnia 2011 r. FERTICO Spółka z o.o. (Goliany 43; 05-620 Błędów), zwróciła się z wnioskiem o rozszerzenie zakresu decyzji Nr 8/2008 z dnia 29 września 2008 r., zmienionej decyzjami

Nr 1/2009 z dnia 27 stycznia 2009 r., Nr 2/2010 z dnia 31 marca 2010 r. oraz Nr 1/2011 z dnia 12 stycznia 2011 r., upoważniającej do prowadzenia badań skuteczności działania środka ochrony roślin o możliwość prowadzenia badań z użyciem środków ochrony roślin z grupy moluskocydów we wszystkich uprawach wyszczególnionych w upoważnieniu Głównego Inspektora Ochrony Roślin i Nasiennictwa.

FERTICO Sp. z o.o. spełnia warunki organizacyjno-techniczne, zwane „Zasadami Dobrej Praktyki Eksperymentalnej” (Good Experimental Practice - GEP), zapewniające prawidłowe przeprowadzanie badań skuteczności działania środka ochrony roślin.

Mając na uwadze powyższe, postanowiono jak w rozstrzygnięciu decyzji

#### **Pouczenie**

Od niniejszej decyzji odwołanie nie przysługuje. Jednakże strona niezadowolona z decyzji może zwrócić się do Głównego Inspektora Ochrony Roślin i Nasiennictwa z wnioskiem o ponowne rozpatrzenie sprawy w terminie 14 dni od dnia doręczenia decyzji, zgodnie z art. 127 § 3 Kodeksu postępowania administracyjnego.



Test facility	Address	Certificate (Yes or No)
Eurofins Agrosience Services sp. z o.o	Kaźmierz, Parkowa street 6, PL-64-530 Kaźmierz Poland	Yes

**Arkadiusz Kaczorowski – Sworn Translator of English and Polish TP/619/05**

**SWORN TRANSLATION FROM POLISH**

**[BEGINNING OF TRANSLATION]**

MAIN INSECTORATE OF PLANT HEALTH AND SEED INSPECTION

Tadeusz Kłos

WO-505-11/2010

Warsaw, May 14, 2010

Decision no 4/2010

Pursuant to art 155 of the act of 14 June 1960 - Code of administrative procedure (O.J. of 2000 no 98 item with amendments) and art. 40 (1) of the act of 18 December 2003 on plant protection (O.J. of 2008 r. no 133, item 849 with amendments), and having examined the application of 7 April 2010 please be informed that the decision of 20 December 2005 amended with the decision no 6/2009 of 16 September 2009 shall be amended.

The amended decision shall have the following wording:

**This is to authorize**

**Eurofins Agrosience Services Sp. z o.o.**

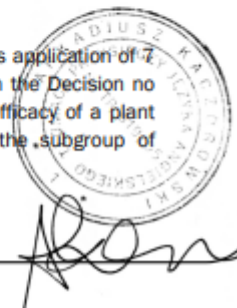
**Galowo, ul. Wierzbowa 12; 64-500 Szamotuły**

**to conduct studies on the efficacy of a plant protection product**

from the subgroup of acaricides, fungicides, herbicides, insecticides, molluscocides, nematocides, plant growth regulators, repellents, rodenticides, adjuvants in field, indoors, orchards, warehouses and in edible mushroom facilities cultivation. The research shall be conducted in the cultivation of crops, rape and other oil plants, corn, beet, potatoes, plants used for animal feed production, fiber plants, vegetables (brassicaceae, bulbous vegetables, potherbs, root vegetables, cucurbitaceae, solanaceae, leguminous), fruit trees and shrubs, berries, herbs, ornamental plants and also in wastelands such as idle lands, fallows and stubble fields.

**Grounds**

Eurofins Agrosience Services Sp. z o.o. (Galowo, ul. Wierzbowa 12, 64-500 Szamotuły), in its application of 7 April 2010 requested that the decision no 28/2005 of 20 December 2005 amended with the Decision no 6/2009 of 16 September 2009 be amended to authorize it to extend the studies on the efficacy of a plant protection product by extending the spectrum of used plant protection product from the subgroup of



moluscocides, nematocides, repellents, rodenticides in field, indoors, orchards, warehouses (stored crops) and in edible mushroom facilities cultivation. The studies shall be conducted in the cultivation of oil plants, plants used for animal feed production, fiber plants, vegetables (brassicaceae, bulbous vegetables, potherbs, root vegetables, cucurbitaceae, solanaceae, leguminous), fruit trees and shrubs, berries, herbs, ornamental plants and also in wastelands such as idle lands, fallows and stubble fields. Eurofins Agrosience Services Sp. z o.o. meets the technical and organizational criteria as provided for in the Principles of Good Experimental Practice therefore it is capable of conducting the efficacy studies on the plant protection product in the appropriate manner. Having regard to the aforementioned recitals it has been decided as stated hereinabove.

This authorization has been issued in compliance with art. 50 of the act of 4 March 20010 on the provision of services within the territory of Poland (O.J. No 47 item 278) and has been issued for an unlimited time.

#### Information

You may not appeal against this decision. However, should you be dissatisfied with the decision, you may refer this matter for re-examination to the Main Inspectorate of Plant Health and Seed Inspection within 14 days from the day this decision was served upon you as laid down in art. 127 (3) of the Code of administrative procedure.

[Round seal of the Main Inspectorate of Plant Health and Seed Inspection with the national emblem of Poland]

Deputy Head of the Main Inspectorate of Plant Health and Seed Inspection, Dariusz Wiraszka, [illegible signature]

[END OF TRANSLATION]

I, Arkadiusz Kaczorowski, duly commissioned sworn translator of the English language certify this to be true and complete translation of the original presented to me on Friday, October 22, 2010. Signed, sealed and delivered in Poznań, on Friday, October 22, 2010.

Reg. 526/1076/2010, fee: 3488/1125 = 3 pages

Arkadiusz Kaczorowski - Sworn Translator of English and Polish TP/619/05





Test facility	Address	Certificate (Yes or No)
Eurofins Agrosience Services GmbH	Carl-Goerdeler-Weg 5 21684 Stade Germany	Yes

## GEP-Anerkennungs-Zertifikat / Recognition Certificate

Anerkennungsbescheinigung		Recognition Certificate
Die Versuchseinrichtung mit Hauptsitz in	<b>Eurofins Agrosience Service GmbH/Agrartest GmbH Carl-Goerdeler-Weg 5 21684 Stade</b>	The testing facility with headquarters in
und organisatorisch zugehörigen Arbeitseinheiten in	<b>siehe Seite 2</b>	and subsidiary testing units in
ist auf Antrag vom	<b>14.04.2020</b>	on application from
und nach durchgeführter Besichtigung durch	<b>15.12.2015 Frau Warnecke-Busch</b>	and after inspection by
vom	<b>LWK-Niedersachsen</b>	dated
am	<b>15.01.2016</b>	on
in den Versuchskategorien	<b>Ackerbau, Gemüsebau, Obstbau, Zierpflanzen, Forst, Sonderkulturen</b>	in the trial cate
als Einrichtung für die Prüfung der Wirksamkeit von Pflanzenschutzmitteln im Sinne des § 8 Abs. 6 der Pflanzenschutzmittelverordnung und gemäß Verordnung (EU) Nr. 284/2013 für 5 Jahre amtlich anerkannt worden.		has been officially recognised as an organisation for efficacy testing facility of plant protection products according to § 8 par. 6 of the Plant Protection Products Ordinance and the Commission Regulation (EU) No 284/2013 for 5 years.

22.4.2020

*D. Waller*

Datum

Unterschrift

Date

Sign

**Wunstorfer  
Landstraße 9  
30453 Hannover**

Adresse der  
Anerkennungsbehörde  
address of the  
recognising authority



Stamp

Seite 2

Organisatorisch zugehörigen Arbeitseinheiten/ subsidiary testing units

Baden-Württemberg	Agrartest GmbH Scheerwiesenweg 41 D-71701 Schwieberdingen
Baden-Württemberg	Agrartest GmbH Neue Straße 54 D-89179 Beimerstetten
Baden-Württemberg	Eurofins Agrarservice GmbH Lempenseite 50/1 D-69168 Wiesloch
Bayern	Agrartest GmbH Geißbühl 3 D-97273 Kürnach
Brandenburg	Eurofins Agrosience Services GmbH Karl-Liebkecht-Str. 53 16321 Bernau
Hessen	Agrartest GmbH Steedener Weg 8 D-65594 Runkel-Dehrn
Mecklenburg-Vorpommern	Agrartest GmbH Am Rehnhagen 13 D-17091 Rosenow
Niedersachsen	Eurofins Agrosience Services GmbH Pastor-Reins-Str. 14 D-49586 Merzen
Niedersachsen	Agrartest GmbH Andreasplatz 2 D-31191 Groß Lobke
Nordrhein-Westfalen	Eurofins Agrosience Services GmbH Bad Meinberger Str. 168 D-32760 Detmold
Sachsen	Agrartest GmbH Friedensstraße 30 D-04769 Salbitz
Schleswig-Holstein	Agrartest GmbH Ringstraße 33c D-23845 Grabau
Sachsen-Anhalt	Eurofins Agrosience Service GmbH Wallstraße 7 D-39343 Hundisburg

22.04.2020		<b>Wunstorfer Landstraße 9 30453 Hannover</b>	
Datum	Unterschrift	Adresse der Anerkennungsbehörde address of the recognising authority	
Date	Sign		Stamp



Test facility	Address	Certificate (Yes or No)
Hetterich Fieldwork GbR	Bamberger Straße 50 97359 Schwarzach GERMANY	Yes



Bayerische Landesanstalt für  
Landwirtschaft



## GEP-Anerkennungs-Zertifikat / Recognition Certificate

### Anerkennungsbescheinigung

Die Versuchseinrichtung  
mit Hauptsitz in

und organisatorisch zugehöri-  
gen Arbeitseinheiten in

ist auf Antrag vom

und nach durchgeführter  
Besichtigung durch

am

ab

in den Versuchskategorien

und auf Antrag vom

zusätzlich in den Versuchska-  
tegorien

als Einrichtung für die Prüfung  
der Wirksamkeit von Pflanzenschutzmitteln im Sinne des § 2  
Abs. 2 der Pflanzenschutzmittelverordnung und gemäß Verordnung (EU) Nr. 545/2011 –  
für die restliche Laufzeit der  
aktuellen Anerkennung – bis  
zum 19.06.2024 amtlich aner-  
kannt worden.

Hetterich Fieldwork GbR  
Bamberger Str. 50  
97359 Schwarzach

- Gerdshagen Hof 31,  
18276 Gerdshagen,
- Ammeloe 56,  
48691 Vreden/Ammeloe
- Phillip-Müller Str. 12,  
06463 Ermsleben

28.03.2019

Jakob Maier, LfL, Freising

21.05.2019

20.06.2019

Ackerbau / agriculture,  
Wiesen und Weiden /  
meadows and pasture,  
Gemüsebau / vegetable gro-  
wing, Obstbau / fruit growing,  
Weinbau / viticulture  
(Freiland und Gewächshaus)

22.04.2020

Hopfen / hop,  
Nichtkulturland: befestigte  
Wege und Plätze / hard and  
semi-permeable surfaces,  
Zierpflanzen / Ornamental  
horticulture

### Recognition Certificate

the testing facility  
with headquarters in

and subsidiary testing units in

on application from

and after inspection  
by

dated

on

in the trial categories

and on application from

additionally in the trial cate-  
gories

has been officially prolonged  
as an organisation for efficacy  
testing facility of plant protec-  
tion products according to § 2  
Abs. 2 of the Plant Protection  
Products Ordinance and the  
Commission Regulation (EU)  
Nr. 545/2011 – for the remain-  
ing period of validity of the cur-  
rent recognition – to June 19,  
2024.

24.06.2020

Datum  
date

*Jakob Maier*

Unterschrift  
sign

Institut für Pflanzenschutz  
Lange Point 10, 85354 Freising

Adresse der anerkennenden Behörde  
address of the recognising authority

Bayerische Landesanstalt  
für Landwirtschaft  
Institut für Pflanzenschutz  
Lange Point 10 • 85354 Freising

Stempel  
stamp

Test facility	Address	Certificate (Yes or No)
AGRITEC, research, breeding and services Ltd.	Zemědělská 2520/16 787 01 Šumperk Czech Republic	Yes



## ÚSTŘEDNÍ KONTROLNÍ A ZKUŠEBNÍ ÚSTAV ZEMĚDĚLSKÝ

AGRITEC, výzkum, šlechtění a služby, s.r.o.  
Zemědělská 16  
787 01 Šumperk

Útvar: Odbor přípravků na ochranu rostlin  
Adresa: Zemědělská 1a, 613 00 Brno

Sp.zn: SZ UKZUZ 057435/2016/16314 Č.j.: UKZUZ 077814/2016 Datum: 13. 7. 2016  
Vyřizuje: Ing. Mláďáková Tel.: 545 110 444 E-mail: ivana.minarova@ukzuz.cz

### ROZHODNUTÍ

Ústřední kontrolní a zkušební ústav zemědělský (dále jen „ÚKZÚZ“), Hroznová 2, 656 06 Brno, jako věcně příslušný správní orgán podle § 72 odst. 1 písm. c) zákona č. 326/2004 Sb., o rostlinolékařské péči a o změně některých souvisejících zákonů, ve znění pozdějších předpisů (dále jen „zákon“) a v návaznosti na čl. 54 odst. 4 Nařízení Evropského parlamentu a Rady (ES) č. 1107/2009, o uvádění přípravků na ochranu rostlin na trh a o zrušení směrnice Rady 79/117/EHS a 91/414/EHS, v platném znění, v provedení § 45 odst. 1 zákona, v řízení o způsobilosti k provádění pokusů a zkoušek s přípravky nebo dalšími prostředky na základě žádosti společnosti **AGRITEC, výzkum, šlechtění a služby, s.r.o.**, Zemědělská 16, 787 01 Šumperk, IČ 48392952 dále jen „společnost AGRITEC, výzkum, šlechtění a služby, s.r.o.“ a to:

žádosti o prodloužení platnosti rozhodnutí o způsobilosti k provádění zkoušek podle § 45 odst. 1 zákona ze dne 17. 5. 2016, doručené ÚKZÚZ dne 18. 5. 2016, č.j. UKZUZ 057435/2016

#### rozhodl takto:

**AGRITEC, výzkum, šlechtění a služby, s.r.o.**, je způsobilá provádět pokusy a zkoušky v souladu s požadavky správné pokusnické praxe.

právníká osoba: **AGRITEC, výzkum, šlechtění a služby, s.r.o.**

sídlo právnické osoby: Zemědělská 16, 787 01 Šumperk

IČ právnické osoby: 48392952

GEP kód: GEP/AGT/2016

oblasti zkoušení: **polní plodiny a zelenina**  
**trvalé kultury**  
**skleníky a jiné kryté prostory**  
**moření osiva**

rozhodnutí se vydává s účinností od 1. 9. 2016

dobu účinnosti rozhodnutí: 5 let

Tímto rozhodnutím se k datu nabytí jeho účinnosti zrušuje rozhodnutí č.j. SRS 024341/2009 ze dne 24. 8. 2009.

#### **Odůvodnění:**

Řízení ve věci uznání osoby za způsobilou provádět pokusy a zkoušky v souladu s požadavky správné pokusnické praxe bylo zahájeno na základě žádosti ze dne 17. 5. 2016, doručené UKZÚZ dne 18. 5. 2016.

Rozhodnutí o způsobilosti k provádění pokusů a zkoušek v souladu s požadavky správné pokusnické praxe bylo vydáno na základě kontroly předložené dokumentace pracoviště AGRITEC, výzkum, šlechtění a služby, s.r.o., Příručky jakosti, Standardních operačních postupů a Metrologického řádu, kterou bylo UKZÚZ prokázáno, že žadatel splnil požadavky stanovené v § 45 odst. 12 a 13 zákona v návaznosti na § 4 odst. 2 vyhlášky č. 32/2012 Sb., o přípravcích a dalších prostředcích na ochranu rostlin, ve znění pozdějších předpisů.

Vzhledem k výše uvedeným skutečnostem bylo rozhodnuto tak, jak je stanoveno ve výrokové části tohoto rozhodnutí.

Správní poplatek podle zákona č. 634/2004 Sb., o správních poplatcích, ve znění pozdějších předpisů, podle Sazebníku, Položky 86 písm. b) „Přijetí žádosti o vydání osvědčení o způsobilosti k provádění zkoušek pro účely povolení“ ve výši 100,- Kč, k žádosti doručené UKZÚZ dne 18. 5. 2016, č.j. UKZUZ 057435/2016, byl uhrazen dne 18. 5. 2016 formou kolkové známky.

#### **Poučení:**

Proti tomuto rozhodnutí lze podat odvolání do 15 dnů ode dne jeho doručení, nejpozději však do 15 dnů po uplynutí desátého dne ode dne, kdy bylo nedoručené a uložené rozhodnutí připraveno k vyzvednutí, a to k Ministerstvu zemědělství České republiky, odbor rostlinných komodit, prostřednictvím Ústředního kontrolního a zkušebního ústavu zemědělského, sekce zemědělských vstupů, odboru přípravků na ochranu rostlin, Zemědělská 1a, 613 00 Brno.

Otisk úředního razítka

Ing. Pavel Minář, Ph.D.  
ředitel odboru

Test facility	Address	Certificate (Yes or No)
SynTech Research Czech Republic s.r.o.	Semčice 245 294 46 Semčice, Czech Republic	Yes

## ÚSTŘEDNÍ KONTROLNÍ A ZKUŠEBNÍ ÚSTAV ZEMĚDĚLSKÝ

Odbor přípravků na ochranu rostlin

Zemědělská 1a, Brno, PSČ 613 00

Příloha rozhodnutí č.j.: UKZUZ 033034/2017 ze dne 12. 4. 2017

### OSVĚDČENÍ

GEP/SYT/2017

o způsobilosti k provádění zkoušek  
v souladu se zásadami správné pokusnické praxe

Official Recognition Certificate / GEP - Certificate

*právnícká osoba:* **SynTech Research Czech s.r.o.**

*sídlo právnické osoby:* Žitná 562/10, Nové Město (Praha 2), 120 00 Praha


*IČ právnické osoby:* 04601351

je způsobilá provádět pokusy a zkoušky v souladu s požadavky správné pokusnické praxe podle § 45 odst. 1 zákona č. 326/2004 Sb., o rostlinolékařské péči a o změně některých souvisejících zákonů, v platném znění, v návaznosti na Směrnici 91/414/EHS.

*oblasti zkoušení / categories of official recognition:*

- polní plodiny a zelenina / *field crops and vegetables*
- moření osiva / *seed treatment*
- laboratorní testy a analýzy / *laboratory tests and analyses*

Ústřední kontrolní a zkušební ústav zemědělský  
Sekce zemědělských vstupů  
Odbor přípravků na ochranu rostlin  
613 00 Brno, Zemědělská 1a  
- 1 -

  
Ing. Pavel Minář, Ph.D.  
ředitel odboru

Test facility	Address	Certificate (Yes or No)
Eurofins Agroscience Services Kft.	Új Váralja sor 16. 8000 Székesfehérvár Hungary	Yes

Aláíró: Tóth Ágoston (2019.11.04. 12:37:20)



PEST MEGYEI  
KORMÁNYHIVATAL

Ügyirat-szám: PE/NT/00701-7/2019

Tárgy: Eurofins Agroscience Services Kft.

Ügyintéző: Dr. Cs. Tóth Attila

vizsgálóhelyének GEP tanúsítása

Telefon:06-1/236-3926

Melléklet:-

**A Pest Megyei Kormányhivatal** (a továbbiakban: engedélyező hatóság) **a Eurofins Agroscience Services Kft.** (székhely: 2477 Vereb, Petőfi S. u. 10/6, telephelyek: 8000 Székesfehérvár, Új Váralja sor 16.; 6800 Hódmezővásárhely, Szántó Kovács J. u. 113. a továbbiakban: Ügyfél) vizsgálóhelyének „Jó Kísérleti Gyakorlat (GEP)” szerinti inspekciója és ismételt elismerése tárgyában benyújtott kérelme alapján indult közigazgatási hatósági eljárásban meghozta az alábbi

**H A T Á R O Z A T O T :**

**Engedélyezési célú biológiai hatásvizsgálatok végzéséhez az Ügyfél vizsgálóhelyének GEP-minősítését kiadom.**

A GEP - minősítés 5 évig érvényes döntésem közléssel véglegessé válásától számítva.

A vizsgálóhely GEP - minősítés az alábbi minősítési kategóriákra és művelési ágakra kerül kiadásra:

- **minősítési kategória:** herbicidek, fungicidek és baktericidek, zoocidok, növekedésszabályozó és termésmenvelő készítmények, adalékanyagok
- **művelési ág:** szántóföld, zöltség, gyümölcs, szőlő, dísznövény, erdő, közterület és egyéb

Jelen minősítés nem érinti a működéssel/tevékenység folytatásával kapcsolatos egyéb jogszabályban előírt engedélyeket, illetve Ügyfélnek azok beszerzésére vonatkozó kötelezettségét.

Az Ügyfél a vizsgálóhelyeinek minősített tevékenységét érintő jelentős változásról 15 napon belül köteles értesíteni az engedélyező hatóságot.

A GEP - minősítéssel kapcsolatos jogszabályokban és a jelen határozatban foglaltak betartását hatóságom szűrőpróbaszerűen ellenőrzi. Amennyiben az ellenőrzés során megállapítást nyer, hogy a vizsgálóhely nem tartja be a rá vonatkozó GEP - követelményeket, akkor az engedélyező hatóság a határozatban feltüntetett minősített területre vonatkozó tevékenység végzését legfeljebb 2 hónapra felfüggesztheti, illetve a kiadott GEP - minősítését visszavonhatja.

Ha az ellenőrzés során egy adott kísérlettel kapcsolatban hiányosságok kerülnek megállapításra, a kísérletet a hiányosságok mértékétől függően az engedélyező hatóság kizárhatja az engedélyezésnél elfogadhatók közül.

A vizsgálóhely GEP szerinti felülvizsgálata és az elismerés meghosszabbítása eljárás díjköteles, amely a Nemzeti Élelmiszerlánc-biztonsági Hivatal, valamint a megyei kormányhivatalok mezőgazdasági szakigazgatási szervei előtt kezdeményezett eljárásokban fizetendő igazgatási szolgáltatási díjak mértékéről, valamint az igazgatási szolgáltatási díj fizetésének szabályairól szóló 63/2012. (VII. 2.) VM rendelet 1. sz. mellékletének 8.19.2. pontja szerint: 250.000,- Ft, amelyet az Ügyfél megfizet.

Jelen határozat ellen közigazgatási per indítható a Fővárosi Közigazgatási és Munkaügyi Bíróságnál a határozatot hozó Élelmiszerlánc-biztonsági Földhivatali, Növény- és Talajvédelmi, Erdészeti Főosztály Növény- és Talajvédelmi Osztály elleni kereset indításával. A keresetlevelet a felülvizsgálni kért

Élelmiszerlánc- biztonsági, Földhivatali, Növény- és Talajvédelmi, Erdészeti Főosztály

Cím: 1135 Budapest, Lehel u. 43-47.;

Telefon: 06-1/236-3934 Fax: 06-1/350-6117

E-mail: pmkh-nto@pest.gov.hu Honlap: www.kormanyhivatal.hu/hu/pest



határozat közzétételétől számított harminc napon belül, az engedélyező hatósághoz elektronikus úton kell benyújtani.

#### INDOKOLÁS

Az Ügyfél 2019. augusztus 23-án érkezett levelében vizsgálóhelyének GEP szerinti minősítésének felülvizsgálatát és a minősítés megújítását kérte a Pest Megyei Kormányhivatal, Élelmiszerlánc-biztonsági, Földhivatali, Növény- és Talajvédelmi Erdészeti Főosztály, Növény- és Talajvédelmi Osztályától.

Az engedélyező hatóság az Ügyfél székesfehérvári telephelyén 2019. október 22-én helyszíni ellenőrzést tartott, amelyeknek megállapításait a PE/NT/00701-5/2019. számú jegyzőkönyvben rögzítette.

A helyszíni ellenőrzés során az engedélyező hatóság megállapította, hogy a növényvédő szerek forgalomba hozatalának és felhasználásának engedélyezéséről, valamint a növényvédő szerek csomagolásáról, jelöléséről, tárolásáról és szállításáról szóló 89/2004. (V. 15.) FVM rendelet (továbbiakban: Rendelet) 22. §-ban foglalt biológiai hatásvizsgálatokkal kapcsolatos előírásoknak a vizsgálóhely nem felelt meg hiánytalanul. A feltárt hiányosságok adminisztratív jellegűek voltak és utólagos pótlást nem igényeltek, illetve az Ügyfél azokat részben már teljesítette, továbbá az Ügyfél a jegyzőkönyv aláírásával vállalta, hogy a növényvédő szer vizsgálat során folytatott gyakorlatát az engedélyező hatóság jegyzőkönyvezett észrevételeinek figyelembevételével folytatja.

**A fentiek alapján megállapítottam, hogy a GEP-minősítés megadásának feltételei teljesültek, ennek megfelelően döntöttem a rendelkező részben foglaltak szerint.**

A Rendelet 22. §-a értelmében „(5) Kérelem alapján az engedélyező hatóság helyszíni ellenőrzést folytat le a vizsgálóhelyen, majd határozatban dönt a vizsgálóhely GEP-minősítéséről. A határozatnak ki kell terjednie arra, hogy a vizsgálóhely milyen kategóriákra, illetve művelési ágakra szerezte meg a GEP-minősítést.

(6) A GEP-minősítés érvényességi ideje első tanúsítás esetén 2 év, a tanúsítás megújítását követően legfeljebb 5 év.

(7) A GEP-minősítési eljárásért a külön jogszabályban meghatározott díjat kell fizetni.

(8) A GEP-minősítéssel rendelkező vizsgálóhely minden, a minősített tevékenységét érintő jelentős változásról 15 napon belül köteles értesíteni az engedélyező hatóságot.

(9) Az engedélyező hatóság szűrőpróbaszerűen ellenőrzi a GEP-minősítéssel rendelkező vizsgálóhelyeket. Amennyiben megállapítást nyer, hogy a vizsgálóhely nem tartja be a rá vonatkozó GEP-követelményeket, a hatóság a határozatban feltüntetett minősített területre vonatkozó tevékenységet legfeljebb 2 hónapra felfüggesztheti, illetve a kiadott GEP-minősítést visszavonhatja. Ha az ellenőrzés során egy adott kísérlettel kapcsolatban hiányosságok kerülnek megállapításra, a kísérletet a hiányosságok mértékétől függően az engedélyező hatóság kizárhatja az engedélyezésnél elfogadhatók közül.”

Az engedélyező hatóság a határozatát a földművelésügyi hatósági és igazgatási feladatokat ellátó szervek kijelöléséről szóló 383/2016. (XII.2.) Kormányrendelet 19. § a) pontjában és az élelmiszerláncról és hatósági felügyeletéről szóló 2008. évi XLVI. törvény 33. § e) pontjában biztosított jogkörében, valamint a központi hivatalok felülvizsgálatával és a járási (fővárosi kerületi) hivatalok megerősítésével összefüggő egyes törvények módosításáról, valamint egyes költségvetési szervek feladatainak átadásáról szóló 2016. évi CIV. törvény 136. §. (1) bekezdésében foglaltaknak megfelelően hozta.

Határozatomat az általános közigazgatási rendtartásról szóló 2016. évi CL törvény (a továbbiakban: Ákr.) 80. § (1) bekezdésének és 81. § (1) és (4) bekezdésének valamint 82. § (1) bekezdésének megfelelően adtam ki.

A jelen határozat elleni fellebbezés lehetősége az Ákr. 114. § (1) bekezdése alapján került kizárásra.  
A bírósági felülvizsgálat lehetőségéről szóló tájékoztatás a közigazgatási perrendtartásról szóló 2017.  
évi I. törvény 13. § (1), 38. § (1), 39. § (1) bekezdésein alapul.

Budapest, 2019. október 24.

**Dr. Tarnai Richárd** kormány megbízott  
névében és megbízásából

**Tóth Ágoston**  
osztályvezető

1. Ügyfél
2. Irattár

Test facility	Address	Certificate (Yes or No)
SynTech Research Hungary Kft	Török Ignác u. 30. Szombathely Hungary	Yes



PEST MEGYEI  
KORMÁNYHIVATAL

Ügyirat-szám: PE/NT/00636-14/2017  
Ügyintéző: Pivarnyikné Dr. Fehér Noémi  
Telefon: 06-1/236-3926  
E-mail: cs.totha@pest.gov.hu

Tárgy: SynTech Research Hungary  
Kft. vizsgálóhely GEP-tanúsítása  
Hiv. szám:  
Melléklet:-

SynTech Research Hungary Kft.

9700 Szombathely

Török Ignác u. 30.

A Pest Megyei Kormányhivatal a SynTech Research Hungary Kft. (Székhely: 9700 Szombathely, Török Ignác u. 30.) által előterjesztet a GEP-minősítést megadó határozat módosítására irányuló kérelme ügyében meghozta az alábbi

H A T Á R O Z A T O T :

A 2016. augusztus 15-én kelt, **04.2/4838-7/2016** számú határozat rendelkező részét a következő szerint módosítom:

„Ügyfél engedélyezési célú biológiai hatásvizsgálatok elvégzésére vonatkozó GEP minősítését 9700 Szombathely, Török Ignác u. 30. szám alatti telephelyére kiadom.” mondat helyébe a következő szöveg lép:

„Az engedélyezési célú biológiai hatásvizsgálatok elvégzéséhez a SynTech Research Hungary Kft-nek, mint vizsgálóhelynek a GEP- minősítés meghosszabbítását kiadom.”

Jelen, a közléssel jogerős határozatom ellen közigazgatási úton további jogorvoslatnak helye nincs, bírósági felülvizsgálata jogszabálysértésre hivatkozással kérhető a Fővárosi Közigazgatási és Munkaügyi Bíróságtól. A keresetlevelet hatóságomhoz kell benyújtani a felülvizsgálni kért határozat közlésétől számított harminc napon belül.

A bíróság a pert tárgyaláson kívül bírálja el, a felek bármelyikének kérelmére azonban tárgyalást tart. Tárgyalás tartását a keresetlevélben kérheti, ennek elmulasztása miatt igazolásnak nincs helye. A keresetlevél benyújtásának a döntés végrehajtására halasztó hatálya nincs.

I N D O K O L Á S

SynTech Research Hungary Kft. (székhely: 9700 Szombathely, Török Ignác u. 30., a továbbiakban: Ügyfél) a Nemzeti Élelmiszerlánc-biztonsági Hivatal Növény-, Talaj- és Agrárkörnyezet-védelmi Igazgatósága (a továbbiakban: jogelőd) által hozott, 04.2/4838-7/2016. iktatószámú határozat módosítása iránti kérelmét 2017. május 29-én keltezett levelében nyújtotta be hatóságomhoz.

Módosításra irányuló kérelmének indoka, hogy a jogelődnek 2016-ban beadott kérelmében ő a 2011. augusztus 8-án kelt, 04.2/4268/5/2011. számú határozattal kapott GEP-minősítést kívánta megújítani, amelyben vizsgálóhelyként a SynTech Research Hungary Kft, mint cég volt megjelölve. Kérelmét figyelmen kívül hagyva a jogelőd által hozott, 04.2/4838-7/2016. iktatószámú, 2016-os GEP-minősítést megújító határozatban már nem a cég, hanem annak székhelye (9700 Szombathely, Török Ignác u. 30.) szerepel vizsgálóhelyként megjelölve.

Élelmiszerlánc- biztonsági, Földhivatali, Növény- és Talajvédelmi, Erdészeti Főosztály

Cím: 1135 Budapest, Lehel u. 43-47.;

Telefon: 06-1/236-4167 Fax: 06-1/436-4162

E-mail: prmkh-nto@pest.gov.hu Honlap: www.kormanyhivatal.hu/hu/pest



Az Ügyfél kérelmében hatóságomtól a GEP szerinti felülvizsgálatot és minősítés fenntartását a jogelőd hatóság határozatának módosításával, nem csak a szombathelyi székhelyére, hanem a cég egészére, mint vizsgálóhelyére kérte.

A Pest Megyei Kormányhivatal Élelmiszerlánc-biztonsági, Földhivatali, Növény- és Talajvédelmi, Erdészeti Főosztály, Növény- és Talajvédelmi Osztálya (a továbbiakban: engedélyező hatóság) 2017. augusztus 16-án az Ügyfél székhelyén (9700 Szombathely, Török Ignác u. 30.) majd 2017. augusztus 22-én és 2017. augusztus 28-án a vizsgálóhely telephelyein (9141 Ikrény, József A. u. 6., 9761 Táplánszentkereszt, Rákóczi u. 4. 8840 Csurgó, Zrínyi u. 61., 6800 Hódmezővásárhely, Kisfaludy u. 127., 4030 Debrecen, Óvoda u. 26. A. ép.) helyszíni ellenőrzéseket tartott, amelyeknek megállapításait a PE/NT/00636-5/2017, PE/NT/00636-6/2017, PE/NT/00636-7/2017, PE/NT/00636-8/2017, PE/NT/00636-9/2017 valamint a PE/NT/00636-10/2017 számú jegyzőkönyvekben rögzítette.

A helyszíni ellenőrzések során az engedélyező hatóság megállapította, hogy a növényvédő szerek forgalomba hozatalának és felhasználásának engedélyezéséről, valamint a növényvédő szerek csomagolásáról, jelöléséről, tárolásáról és szállításáról szóló 89/2004. (V. 15.) FVM rendelet (továbbiakban: Rendelet) 22. §-ban foglalt biológiai hatásvizsgálatokkal kapcsolatos előírásoknak a cég, mint vizsgálóhely nem felelt meg hiánytalanul, és az Ügyfelet a PE/NT/00636-11/2017. számú végzésben a hiányosságok megszüntetésére szólította fel.

A Rendelet 22. §-a alapján:

„(5) Kérelem alapján az engedélyező hatóság helyszíni ellenőrzést folytat le a vizsgálóhelyen, majd határozatban dönt a vizsgálóhely GEP-minősítéséről. A határozatnak ki kell terjednie arra, hogy a vizsgálóhely milyen kategóriákra, illetve művelési ágakra szerezte meg a GEP-minősítést.

(6) A GEP-minősítés érvényességi ideje első tanúsítás esetén 2 év, a tanúsítás megújítását követően legfeljebb 5 év.

(7) A GEP-minősítési eljárásért a külön jogszabályban meghatározott díjat kell fizetni.

(8) A GEP-minősítéssel rendelkező vizsgálóhely minden, a minősített tevékenységét érintő jelentős változásról 15 napon belül köteles értesíteni az engedélyező hatóságot.

(9) Az engedélyező hatóság szűrőpróbaszerűen ellenőrzi a GEP-minősítéssel rendelkező vizsgálóhelyeket. Amennyiben megállapítást nyer, hogy a vizsgálóhely nem tartja be a rá vonatkozó GEP-követelményeket, a hatóság a határozatban feltüntetett minősített területre vonatkozó tevékenységet legfeljebb 2 hónapra felfüggesztheti, illetve a kiadott GEP-minősítést visszavonhatja. Ha az ellenőrzés során egy adott kísérlettel kapcsolatban hiányosságok kerülnek megállapításra, a kísérletet a hiányosságok mértékétől függően az engedélyező hatóság kizárhatja az engedélyezésnél elfogadhatók közül.”

Az Ügyfél a hiányosságokat megszüntette és annak bizonyításáról szóló dokumentációt az engedélyező hatóságnak 2017. szeptember 18-án keltezett levelének mellékleteként megküldte.

A fentiek alapján megállapítottam, hogy a GEP szerinti minősítés feltételei a cég egészére teljesültek, ennek megfelelően döntöttem a rendelkező részben foglaltak szerint.

Hatáskörömet és illetékességemet a földművelésügyi hatósági és igazgatási feladatokat ellátó szervek kijelöléséről szóló 383/2016. (XII. 2.) Korm. rendelet 19. § a) pontja és az élelmiszerláncról és a hatósági felügyeletéről szóló 2008. évi XLVI. tv. 33. § e) pontja, valamint a központi hivatalok felülvizsgálatával és a járási (fővárosi kerületi) hivatalok megerősítésével összefüggő egyes törvények módosításáról, valamint egyes költségvetési szervek feladatainak átadásáról szóló 2016. évi CIV. törvény 136 §. (1) bekezdése alapján állapítottam meg.

Határozatomat a közigazgatási hatósági eljárás és szolgáltatás általános szabályairól szóló 2004. évi CXL. törvény (továbbiakban: Ket.) 71. § (1) és 72. § (1) bekezdéseknek megfelelően adtam ki.

A fellebbezést a Ket. 100. § (1) bekezdés e) pontja alapján zártam ki, továbbá a bírósági felülvizsgálat lehetőségéről a Ket. 109. § (1) bekezdése, valamint a Polgári Perrendtartásról szóló 1952. évi III. törvény 330. § (2) bekezdése alapján adtam tájékoztatást.

Budapest, 2017. szeptember 22.

**Dr. Tarnai Richárd** kormány megbízott  
névében és megbízásából



A határozatot kapják:

Ügyfél (tértivevénnyel)

Irattár

Test facility	Address	Certificate (Yes or No)
Eurofins Agroscience Services S.R.L.	Str.Academician Petre P Negulescu No.1, 300263 Timișoara, Timiș Romania	Yes

**MINISTERUL AGRICULTURII ȘI  
 DEZVOLTĂRII RURALE**  
 Agenția Națională Fitosanitară  
 Comisia Națională de Omologare a  
 Produselor de Protecție a Plantelor

**MINISTRY OF AGRICULTURE AND  
 RURAL DEVELOPMENT**  
 National Phytosanitary Agency  
 National Commission for Registration of  
 Plant Protection Products

**Certificat de recunoaștere oficială a testelor de eficacitate biologică în  
 conformitate cu bunele practici experimentale/Certificate of official  
 recognition of the efficacy biological tests according to the good  
 experimental practices**

**Se acordă:** S.C. Eurofins Agroscience Services SRL  
 It is granted to: S.C. Eurofins Agroscience Services SRL  
**cu sediul:** Strada Academician Petre P. Negulescu, nr. 1, Timișoara, Jud.  
 Timiș  
 with headquarters: Academician Petre P. Negulescu Street, no. 1, Timisoara, Timis  
 county  
**pentru domeniul/**  
**domeniile de activitate: Culturi de câmp; Pomicultură; Viticultură; Legumicultură;**  
**Floricultură; Silvicultură; Plante ornamentale și de interior; Zone non agricole**  
 for the domain/  
 domains of activity: Fields crops; Fruit tree growing; Viticulture; Vegetable growing;  
 Flower growing; Forestry; Ornamentals and indoor; Non agricultural zones

Prezentul certificat se eliberează în conformitate cu prevederile Ordinului ministrului  
 agriculturii și dezvoltării rurale, al ministrului sănătății și al ministrului mediului și  
 schimbărilor climatice nr.60/512/1258/2013 și prevederile Procedurii naționale de  
 omologare a produselor de protecție a plantelor care conțin substanțe active notificate și  
 pentru care nu s-a luat încă o decizie de includere în lista cu substanțe active autorizate  
 în Uniunea Europeană, aprobată prin Ordinul ministrului agriculturii, pădurilor și  
 dezvoltării rurale, al ministrului sănătății și al ministrului mediului și gospodăririi apelor  
 nr.134/197/412/2006, cu modificările și completările ulterioare.

This certificate is issued according to the provisions of the Order of the ministry of agriculture and rural development, of the ministry of health and of the ministry of environment and climate change no.60/512/1258/2013 and the provisions of the National Procedure for Registration of Plant Protection Products which contain notified active substances and for which isn't taken yet a decision for inclusion in European Union list of authorised active substances, approved by the Order of the ministry of agriculture, forests and rural development, of the ministry of health and of the ministry of environment and waters husbandry no.134/197/412/2006, with subsequent amendments and completions.

**Data emiterii certificatului: 27.02.2015**

Issuance date of the certificate

**Data expirării certificatului: 27.02.2020**

Expiry date of the certificate

PREȘEDINTE/CHAIRMAN,

Elena LEACĂ




Test facility	Address	Certificate (Yes or No)
AgroProspect SRL	Fantana No.1, Jud. Brasov, Romania	Yes

<b>MINISTERUL AGRICULTURII ȘI DEZVOLTĂRII RURALE</b> Autoritatea Națională Fitosanitară Comisia Națională de Omologare a Produselor de Protecție a Plantelor	<b>MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT</b> National Phytosanitary Authority National Commission for Registration of Plant Protection Products
Nr.intreg/ Registration No: 36/F/09.01.2018	
<b>Certificat de recunoaștere oficială a testelor de eficacitate biologică</b> <b>în conformitate cu bunele practici experimentale / Certificate of official</b> <b>recognition of the efficacy biological tests according to the good</b> <b>experimental practices</b>	
<b>Se acordă:</b>	<b>SC AgroProspect SRL</b>
<b>It is granted to:</b>	<b>SC AgroProspect SRL</b>
<b>cu sediul:</b>	<b>Comuna Hoghiz, satul Fântâna, nr. 1, județul Brașov, cod 507099</b>
<b>with headquarters:</b> Hoghiz, Fântâna Village, no. 1, Brașov county, cod 507099	
<b>domeniile de activitate: Culturi agricole de câmp și pajiști, pomicultură, viticultură, legumicultură, floricultura, plante aromatice și medicinale, silvicultura și zone non - agricole</b>	
<b>domains of activity: Field crops and meadows, fruit growing, viticulture, vegetable growing, floriculture, aromatic and medicinal plants, forestry, non agricultural areas</b>	
Prezentul certificat se eliberează în conformitate cu prevederile Ordinului ministrului agriculturii și dezvoltării rurale, al ministrului sănătății și al ministrului mediului și schimbărilor climatice nr. 60/512/1258/2013 și prevederile Procedurii naționale de omologare a produselor de protecție a plantelor care conțin substanțe active notificate și pentru care nu s-a luat încă o decizie de includere în lista cu substanțe active autorizate în Uniunea Europeană, aprobată prin ordinul ministrului agriculturii, pădurilor și dezvoltării rurale, al ministrului sănătății și al ministrului mediului și gospodăririi apelor nr. 134/197/412/2006, cu modificările și completările ulterioare.	
This certificate is issued according to the provisions of the Order of the ministry of agriculture and rural development, of the ministry of health and of the ministry of environment and climate change no. 60/512/1258/2013 and the provisions of the National Procedure for Registration of Plant Protection Products which contain notified active substances and for which isn't taken yet a decision for inclusion in European Union list of authorized active substances, approved by the Order of the ministry of agriculture, forests and rural development, of the ministry of health and of the ministry of environment and waters husbandry no. 134/197/412/2006, with subsequent amendments and completions.	
<b>Data emiterii certificatului: 08.01.2018</b>	<b>PREȘEDINTE/CHAIRMAN,</b>
<b>Issuance date of the certificate</b>	<b>Doina BAICULESCU</b>
<b>Data expirării certificatului: 08.01.2023</b>	
<b>Expiry date of the certificate</b>	



Test facility	Address	Certificate (Yes or No)
Fyse, Ltd. Dep. Agrolab	Skolska 88 Kolare 99109 Slovakia	Yes



**Central Controlling and Testing Institute in Agriculture in Bratislava**  
Matúškova 21, 833 16 Bratislava

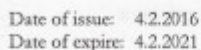
**GEP CERTIFICATE**  
No. 02/C - 05/2016

issued in accordance with § 28 of the Act No. 405/2011 Coll. on Plant Care, Amending and Supplementing Act of the National Council of the Slovak Republic No. 145/1995 Coll. on Administrative Fees as Amended and § 3 of the Regulation of the Ministry of Agriculture and Rural Development of the Slovak Republic No 486/2011 Coll. laying down details of the conditions, procedures and deadlines to implement the provisions of the tests of biological efficacy, applications, principles of good experimental practice, audits and issuing certificate, extension of the certificate, recertification (hereinafter "Regulation")  
for

**FYSE, s.r.o., Odd. AgroLab Koláre**  
**Školská 88, 991 09 Koláre**  
**IČO: 31559930**

which has demonstrated implementation of principles of Good experimental practice (GEP) in accordance with the requirements of the Regulation  
in the following categories:

Categories of crops	Categories of plant protection products and their adverse effects on crops.
cereals	fungicides; fungicides - seed treatment; herbicides, defoliants, drying agents; zoocides; zoocides - seed treatment; growth regulators; phytotoxicity - fungicides; herbicides, defoliants, drying agents; varietal sensitivity - fungicides; herbicides, defoliants, drying agents
maize	fungicides; fungicides - seed treatment; herbicides, defoliants, drying agents; zoocides; zoocides - seed treatment; phytotoxicity - fungicides; herbicides, defoliants, drying agents; zooids'; varietal sensitivity - fungicides; herbicides, defoliants, drying agents; zoocides
legumes	fungicides; fungicides - seed treatment; herbicides, defoliants, drying agents; phytotoxicity - fungicides; herbicides, defoliants, drying agents; varietal sensitivity - fungicides; herbicides, defoliants, drying agents
oil crops	fungicides; fungicides - seed treatment; herbicides, defoliants, drying agents; zoocides; zoocides - seed treatment; phytotoxicity - fungicides; herbicides, defoliants, drying agents; zoocides; varietal sensitivity - fungicides; herbicides, defoliants, drying agents; zoocides
root crops	fungicides; fungicides - seed treatment; herbicides, defoliants, drying agents; zoocides; zoocides - seed treatment; phytotoxicity - fungicides; herbicides, defoliants, drying agents; varietal sensitivity - fungicides; herbicides, defoliants, drying agents
vegetables and root vegetables	fungicides; fungicides - seed treatment; herbicides, defoliants, drying agents; zoocides; phytotoxicity - fungicides; herbicides, defoliants, drying agents; varietal sensitivity - fungicides; herbicides, defoliants, drying agents
grape, fruit and stocks	fungicides; herbicides, defoliants, drying agents; phytotoxicity - herbicides, defoliants, drying agents; varietal sensitivity - herbicides, defoliants, drying agents
ornamental and forest plants and grasses	herbicides, defoliants, drying agents; phytotoxicity - herbicides, defoliants, drying agents; varietal sensitivity - herbicides, defoliants, drying agents



## Appendix 1 Lists of data considered in support of the evaluation

### List of data submitted and relied on

Annex point	Author	Year	Title Source (where different from company) Company report No. GLP or GEP status (Y/N) Published or Unpublished	Data protection claimed Y/N	Owner
KCP 6.2-1 KCP 6.4-1	Andrea Eberhart	2017	Determination of Efficacy of Meztotriol 100 SC and Nikosar 060 OD against broadleaved weeds and grasses in corn 2016 Eurofins Agrosience Services Sp. z.o.o S16-02947-01 GEP Unpublished	Y	CIECH Sarzyna S.A.
KCP 6.2-2 KCP 6.4-2	Andrea Eberhart	2017	Determination of Efficacy of Meztotriol 100 SC and Nikosar 060 OD against broadleaved weeds and grasses in corn 2016 Eurofins Agrosience Services Sp. z.o.o S16-02949-01 GEP Unpublished	Y	CIECH Sarzyna S.A.
KCP 6.2-3 KCP 6.4-3	Andrea Eberhart	2017	Determination of Efficacy of Meztotriol 100 SC and Nikosar 060 OD against broadleaved weeds and grasses in corn 2016 AGRITEC, research, breeding and services Ltd. S16-02952-01 GEP Unpublished	Y	CIECH Sarzyna S.A.
KCP 6.2-4 KCP 6.4-4	Andrea Eberhart	2017	Determination of Efficacy of Meztotriol 100 SC and Nikosar 060 OD against broadleaved weeds and grasses in corn 2016 Fyze, Ltd. Dep. Agrolab S16-02953-01 GEP Unpublished	Y	CIECH Sarzyna S.A.
KCP 6.2-5 KCP 6.4-5	Andrea Eberhart	2017	Determination of Efficacy of Meztotriol 100 SC and Nikosar 060 OD against broadleaved weeds and grasses in corn 2016 Eurofins Agrosience Services S.R.L. S16-02954-01 GEP Unpublished	Y	CIECH Sarzyna S.A.
KCP 6.2-6 KCP 6.4-6	Jacek Matusiak	2019	Efficacy evaluation of M-100SC-OR2-C in post-emergence application against weeds in maize, Poland 2019 Fertico Sp. z o.o. 155_01_F19_276 GEP Unpublished	Y	CIECH Sarzyna S.A.
KCP 6.2-7 KCP 6.4-7	Jacek Matusiak	2019	Efficacy evaluation of M-100SC-OR2-C in post-emergence application against weeds in maize, Poland 2019 Fertico Sp. z o.o. 156_01_F19_277 GEP Unpublished	Y	CIECH Sarzyna S.A.



Annex point	Author	Year	Title Source (where different from company) Company report No. GLP or GEP status (Y/N) Published or Unpublished	Data protection claimed Y/N	Owner
KCP 6.2-8 KCP 6.4-8	Jacek Matusiak	2019	Efficacy evaluation of M-100SC-OR2-C in post-emergence application against weeds in maize, Poland 2019 Fertico Sp. z o.o. 157_01_F19_278 GEP Unpublished	Y	CIECH Sarzyna S.A.
KCP 6.2-9 KCP 6.4-9	Jacek Matusiak	2019	Efficacy evaluation of M-100SC-OR2-C in post-emergence application against weeds in maize, Poland 2019 Fertico Sp. z o.o. 158_01_F19_279 GEP Unpublished	Y	CIECH Sarzyna S.A.
KCP 6.2-10 KCP 6.4-10	Stanislav Křížek	2020	Efficacy evaluation of M-100SC-OR2-C in post-emergence application against weeds in maize, Czech Republic, 2019 SynTech Research Czech Republic s.r.o. SRCZ19-055-428HE GEP Unpublished	Y	CIECH Sarzyna S.A.
KCP 6.2-11 KCP 6.4-11	Petr Šmahel	2020	Efficacy evaluation of M-100SC-OR2-C in post-emergence application against weeds in maize, Czech Republic, 2019 SynTech Research Czech Republic s.r.o. SRCZ19-057-428HE GEP Unpublished	Y	CIECH Sarzyna S.A.
KCP 6.2-12 KCP 6.4-12	Andreas Hetterich	2019	Efficacy evaluation of M-100SC-OR2-C in post-emergence application against weeds in maize Hetterich Fieldwork GbR M-100SC-OR2-C_DE19_EFF01 GEP Unpublished	Y	CIECH Sarzyna S.A.
KCP 6.2-13 KCP 6.4-13	Andreas Hetterich	2019	Efficacy evaluation of M-100SC-OR2-C in post-emergence application against weeds in maize Hetterich Fieldwork GbR M-100SC-OR2-C_DE19_EFF03 GEP Unpublished	Y	CIECH Sarzyna S.A.
KCP 6.2-14 KCP 6.4-14	Tibor Barasits	2019	Efficacy evaluation of M-100SC-OR2-C in post-emergence application against weeds in maize SynTech Research Hungary Kft. SRHU19-598-428HE GEP Unpublished	Y	CIECH Sarzyna S.A.
KCP 6.2-15 KCP 6.4-15	Tibor Barasits	2019	Efficacy evaluation of M-100SC-OR2-C in post-emergence application against weeds in maize SynTech Research Hungary Kft. SRHU19-599-428HE GEP Unpublished	Y	CIECH Sarzyna S.A.
KCP 6.2-16 KCP 6.4-16	Gheorghe Botoman	2019	Efficacy evaluation of M-100SC-OR2-C in post-emergence application against weeds in maize AgroProspect SRL M-100SC-OR2-C_RO19_EFF01 GEP Unpublished	Y	CIECH Sarzyna S.A.
KCP 6.2-17 KCP 6.4-17	Gheorghe Botoman	2019	Efficacy evaluation of M-100SC-OR2-C in post-emergence application against weeds in maize AgroProspect SRL M-100SC-OR2-C_RO19_EFF02 GEP Unpublished	Y	CIECH Sarzyna S.A.

Annex point	Author	Year	Title Source (where different from company) Company report No. GLP or GEP status (Y/N) Published or Unpublished	Data protection claimed Y/N	Owner
KCP 6.2-18 KCP 6.4-18	Gheorghe Botoman	2019	Efficacy evaluation of M-100SC-OR2-C in post-emergence application against weeds in maize AgroProspect SRL M-100SC-OR2-C_RO19_EFF03 GEP Unpublished	Y	CIECH Sarzyna S.A.
KCP 6.4-19	Andrea Eberhart	2017	Determination of crop safety of Mezotrión 100 SC and Nikosar 060 OD in Corn 2016 Eurofins Agroscience Services Sp. z o.o. S16-02956-01 GEP Unpublished	Y	CIECH Sarzyna S.A.
KCP 6.4-20	Andrea Eberhart	2017	Determination of crop safety of Mezotrión 100 SC and Nikosar 060 OD in Corn 2016 Eurofins Agroscience Services GmbH S16-02960-01 GEP Unpublished	Y	CIECH Sarzyna S.A.
KCP 6.4-21	Andrea Eberhart	2017	Determination of crop safety of Mezotrión 100 SC and Nikosar 060 OD in Corn 2016 AGRITEC, research, breeding and services Ltd S16-02961-01 GEP Unpublished	Y	CIECH Sarzyna S.A.
KCP 6.4-22	Andrea Eberhart	2017	Determination of crop safety of Mezotrión 100 SC and Nikosar 060 OD in Corn 2016 Fyse, Ltd. Dep. Agrolab S16-02962-01 GEP Unpublished	Y	CIECH Sarzyna S.A.
KCP 6.4-23	Andrea Eberhart	2017	Determination of crop safety of Mezotrión 100 SC and Nikosar 060 OD in Corn 2016 Eurofins Agroscience Services S.R.L. S16-02963-01 GEP Unpublished	Y	CIECH Sarzyna S.A.
KCP 6.4-24	Andrea Eberhart	2017	Determination of crop safety of Mezotrión 100 SC and Nikosar 060 OD in Corn 2016 Eurofins Agroscience Services Kft. S16-02964-01 GEP Unpublished	Y	CIECH Sarzyna S.A.
KCP 6.4-25	Maciej Krawczuk	2019	Evaluation of the selectivity of M-100SC-OR2-C applied post-emergence in maize SGS Polska Sp. z o.o. M-100SC-OR2-C_SEL_PL_1 GEP Unpublished	Y	CIECH Sarzyna S.A.
KCP 6.4-26	Maciej Krawczuk	2019	Evaluation of the selectivity of M-100SC-OR2-C applied post-emergence in maize SGS Polska Sp. z o.o. M-100SC-OR2-C_SEL_PL_2 GEP Unpublished	Y	CIECH Sarzyna S.A.
KCP 6.4-27	Maciej Krawczuk	2019	Evaluation of the selectivity of M-100SC-OR2-C applied post-emergence in maize SGS Polska Sp. z o.o. M-100SC-OR2-C_SEL_PL_3 GEP Unpublished	Y	CIECH Sarzyna S.A.
KCP 6.4-28	Stanislav Křížek	2020	Evaluation of the selectivity of M-100SC-OR2-C applied in maize, Czech Republic, 2019 SynTech Research Czech Republic s.r.o. M-100SC-OR2-C_SEL_CZ_1 GEP Unpublished	Y	CIECH Sarzyna S.A.
KCP 6.4-29	Petr Šmahel	2020	Evaluation of the selectivity of M-100SC-OR2-C applied in maize, Czech Republic, 2019 SynTech Research Czech Republic s.r.o.	Y	CIECH Sarzyna S.A.

Annex point	Author	Year	Title Source (where different from company) Company report No. GLP or GEP status (Y/N) Published or Unpublished	Data protection claimed Y/N	Owner
			M-100SC-OR2-C_SEL_CZ_2 GEP Unpublished		
KCP 6.4-30	Andreas Hetterich	2019	Evaluation of the selectivity of M-100SC-OR2-C applied in maize Hetterich Fieldwork GbR M-100SC-OR2-C_SEL_DE_1 GEP Unpublished	Y	CIECH Sarzyna S.A.
KCP 6.4-31	Andreas Hetterich	2019	Evaluation of the selectivity of M-100SC-OR2-C applied in maize Hetterich Fieldwork GbR M-100SC-OR2-C_SEL_DE_2 GEP Unpublished	Y	CIECH Sarzyna S.A.
KCP 6.4-32	Andreas Hetterich	2019	Evaluation of the selectivity of M-100SC-OR2-C applied in maize Hetterich Fieldwork GbR M-100SC-OR2-C_SEL_DE_3 GEP Unpublished	Y	CIECH Sarzyna S.A.
KCP 6.4-33	Andreas Hetterich	2019	Evaluation of the selectivity of M-100SC-OR2-C applied in maize Hetterich Fieldwork GbR M-100SC-OR2-C_SEL_DE_4 GEP Unpublished	Y	CIECH Sarzyna S.A.
KCP 6.4-34	Tibor Barasits	2019	Evaluation of the selectivity of M-100SC-OR2-C applied in maize SynTech Research Hungary Kft. M-100SC-OR2-C_SEL_HU_1 GEP Unpublished	Y	CIECH Sarzyna S.A.
KCP 6.4-35	Gheorghe Botoman	2019	Evaluation of the selectivity of M-100SC-OR2-C applied in maize AgroProspect SRL M-100SC-OR2-C_SEL_RO_1 GEP Unpublished	Y	CIECH Sarzyna S.A.
KCP 6.4-36	Gheorghe Botoman	2019	Evaluation of the selectivity of M-100SC-OR2-C applied in maize AgroProspect SRL M-100SC-OR2-C_SEL_RO_2 GEP Unpublished	Y	CIECH Sarzyna S.A.
KCP 6.4-37	Gheorghe Botoman	2019	Evaluation of the selectivity of M-100SC-OR2-C applied in maize AgroProspect SRL M-100SC-OR2-C_SEL_RO_3 GEP Unpublished	Y	CIECH Sarzyna S.A.

**List of data submitted by the applicant but not relied on**

<b>Annex point</b>	<b>Author</b>	<b>Year</b>	<b>Title Source (where different from company) Company report No. GLP or GEP status (Y/N) Published or Unpublished</b>	<b>Data protection claimed Y/N</b>	<b>Owner</b>