

REGISTRATION REPORT

Part B

Section 3: Efficacy Data and Information

Concise summary

Product code: GLOB1310aH

Product name(s): Glosset Ace

Chemical active substances:

Aclonifen, 540 g/L

Flufenacet, 60 g/L

Central Zone

Zonal Rapporteur Member State: Poland

CORE ASSESSMENT

(authorization)

Applicant: Globachem N.V.

Submission date: November 2021

MS Finalisation date: 25/08/2022

After commenting: 14/12/2022

Version history

When	What
December 2021	First submission by the applicant for the authorization of a new formulation
August 2022	First zRMS PL evaluation
December 2022	Corrections made by zRMS PL after commenting round

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

All information that is not explicitly required to be presented in the dRR Part B3 is only provided in the Biological Assessment Dossier (BAD). For trial-specific information and data reference is made to the BAD. However, for confidentiality reasons, reference is also made to the BAD for the list of data considered in support of the evaluation and the list of test facilities.

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:	The commenting boxes are filled-in by the zRMS. They are usually placed at the end of each chapter. Commenting boxes should be understandable alone and refer very precisely to the text commented. The main advantage of their use is to distinguish easily between the applicant and the zRMS text.
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3.1 Summary and conclusions of zRMS on Section 3: Efficacy (KCP 6)

Abstract

GLOB1310aH is a new herbicide containing 540 g/L aclonifen and 60 g/L flufenacet. It is formulated as a Suspension Concentrate (SC). The applicant (Globachem N.V.) has submitted this zonal application in order to authorise this product in the Central EU zone. The GAP table shows that the cMS are spread between the Maritime, North-East and South-East EPPO climatic zones. As for the South-East EPPO zone, no data were provided. GLOB1310aH is proposed for use as a pre-emergence (BBCH 00-09) herbicide in winter cereals wheat (TRZAW), durum wheat (TRZDW), barley (HORVW), rye (SECCW), triticale (TTLWI) and oat (AVESW). GLOB1310aH has a proposed maximum individual dose of 2 l/ha with a water volume of 150-300 l/ha. Only 1 application may be made per crop and season. The GAP is identical for cereals across all Member States where authorisation is being requested.

There is no data available from the South-East EPPO zone. Therefore, cMS based on national experience should consider whether presented data from Maritime and North-East EPPO Zone are appropriate to support the registration of GLOB1310aH.

Preliminary tests

No data were provided. The applicant claims that the active substances aclonifen and flufenacet contained in GLOB1310aH have been authorized for use in different European countries for several years as herbicides on a wide range of crops and as such the herbicidal activity aclonifen and flufenacet are well known. The efficacy data support justifies the ratio of active substances selected. The detailed data showing relevant efficacy ratings for different weed species in individual trials are in section 3.2.3. GLOB1310aH showed at least comparable control and frequently better weed control in winter cereals than standard products. Therefore the inclusion of both active ingredients aclonifen and flufenacet in the formulation GLOB1310aH is fully justified.

Minimum effective dose tests - Maritime EPPO zone

To determine the minimum effective dose for the control of weed in winter cereals by GLOB1310aH, the applicant presented data from 29 field trials. The trials submitted to support the MED of GLOB1310aH

are the same as the efficacy trials described under section 6.2.3. GLOB1310aH was tested at doses 1,0; 1,2 and 1,5 L/ha was compared with the full recommended rate of 2 L/ha of GLOB1310aH, under EPPO standard PP 1/225 'Minimum effective dose'. A clear dose-response was observed for *Alopecurus myosuroides* and *Tripleusperrum inodorum*. On the other hand almost all tested weeds were sufficiently controlled with two application rates, the full application rate of 2 L/ha and a reduced application rate of 1,5 L/ha. A marked dosage response was observed for *Papaver rhoeas*, *Veronica persica*, *Veronica hederifolia* and *Matricaria chamomilla*. For these weeds the lower dosage rate (1,5 L/ha) provided slightly inferior but still good control and the increase of the dosage rate to the full application rate of 2 L/ha lead to very good control. The justification of the proposed application rate of 1,5 L/ha will be accepted.

Minimum effective dose tests - North-East EPPO zone

To determine the minimum effective dose for the control of weed in winter cereals by GLOB1310aH, the applicant presented data from 11 field trials. The trials submitted to support the MED of GLOB1310aH are the same as the efficacy trials described under section 6.2.3. GLOB1310aH was tested at doses 1,0; 1,2 and 1,5 L/ha was compared with the full recommended rate of 2 L/ha of GLOB1817H, under EPPO standard PP 1/225 'Minimum effective dose'. No clear dose-response was observed for all tested weeds except for *Veronica hederifolia*, application rates 1,5 and 2 l/ha provided similar very good control of the tested weeds. The justification of the proposed application rate of 1,5 L/ha will be accepted.

Efficacy tests - Maritime EPPO zone

Data were obtained from a total of 29 trials in winter cereals, conducted between 2018 and 2020, to assess the effectiveness of GLOB1310aH for control of annual grasses and broadleaved weeds in winter cereals wheat (20) (TRZAW), barley (6)(HORVW), rye (1)(SECCW), and triticale (2) (TTLWI).

All trials have been carried out according to EPPO Standards EPPO PP 1/152 (4), 1/135 (4), 1/181 (4), 1/225(2) and 1/93(3) with the principles of Good Experimental Practice (GEP). Trials were undertaken either in Czech Republic, Northern France, Germany or United Kingdom. GLOB1310aH is proposed for use as a pre-emergence (BBCH 00-09) herbicide and was once applied at the full intended application rates of 1,5 or 2 L/ha. This product was applied with a water volume of 200-400 l/ha.

No trials were conducted in winter durum wheat (TRZDW) or winter oat (AVESW). Since application was carried out at early crop stages (BBCH 00-09), differences in efficacy are not expected and extrapolation from other presented crops is possible.

The results of GLOB1310aH at 1,5 or 2 l/ha application rates for the Maritime EPPO zone for the control of annual grasses and dicot weeds in winter cereals as follows:

Well controlled (S):	<i>Apera spica-venti</i> , <i>Poa annua</i> , <i>Myosotis arvensis</i> , <i>Tripleusperrum inodorum</i> , <i>Papaver rhoeas</i> , <i>Stellaria media</i> , <i>Veronica persica</i> , <i>Veronica hederifolia</i> , <i>Matricaria chamomilla</i> , <i>Thlaspi arvense</i>
Partially controlled (MS) at 2 l/ha:	<i>Alopecurus myosuroides</i>
Partially controlled (MS) at 1,5 l/ha:	<i>Alopecurus myosuroides</i> , <i>Tripleusperrum inodorum</i>
Insufficiently controlled:	<i>Galium aparine</i> , <i>Viola arvensis</i> , <i>Fumaria officinalis</i> , <i>Avena fatua</i> , <i>Senecio vulgaris</i>

Efficacy tests - North East EPPO zone

A total of 11 trials were carried out in the North-East EPPO Zone to evaluate the efficacy of GLOB1817H for the control of weeds on winter wheat (5), winter barley (2), winter triticale (2), and winter rye (2). Those trials have been conducted between 2018 and 2019 in Poland. Additionally, those trials were combined with the results of the German and Czech trials of winter wheat (7), winter barley (2), winter triticale (2) and winter rye (1). All trials have been carried out according to EPPO Standards EPPO PP 1/152 (4), 1/135 (4), 1/181 (4), 1/225(2) and 1/93(3) with the principles of Good Experimental Practice (GEP). GLOB1310aH is proposed for use as a pre-emergence (BBCH 00-09) herbicide and was once applied at the full intended application rates of 1,5 or 2 L/ha. This product was applied with a water volume of 200-400 l/ha. The results of GLOB1310aH at 1,5 or 2 l/ha application rates for the North-East EPPO zone for the control of annual grasses and dicot weeds in winter cereals as follows:

Well controlled (S) at 1,5 or 2 l/ha:	<i>Apera spica-venti, Poa annua, Tripleuspermum inodorum, Papaver rhoeas, Stellaria media, Veronica persica, Veronica hederifolia</i>
Partially controlled (MS) at 2 l/ha:	<i>Alopecurus myosuroides, Galium aparine</i>
Partially controlled (MS) at 1,5 l/ha:	<i>Alopecurus myosuroides, Veronica hederifolia</i>
Insufficiently controlled at 1,5 l/ha:	<i>Galium aparine</i>
Insufficiently controlled:	<i>Viola arvensis, Brassica napus, Centaurea cyanus,</i>

Information on the occurrence or possible occurrence of the development of resistance

The applicant addresses all points of EPPO Standard PP 1/213 to evaluate the possible actual risk of resistance to GLOB1310aH. The applicant states that since no resistance has been observed to aclonifen, which is considered the essential active ingredient for the control of resistant weeds, the addition of flufenacet makes the occurrence of resistance to GLOB1310aH very unlikely. This combination of active substances will also be effective against weeds that are already resistant to flufenacet. Because the product is only applied once per year before there is a very limited selection pressure. This makes resistance unlikely to occur. Overall, zRMS considers that the risk of developing resistance to aclonifen and flufenacet as a result of the proposed use of GLOB1310aH is low to moderate. The risk is primarily due to the inherent risk of certain target weeds. In view of this risk, an overall strategy to prevent and manage such resistance should be adopted in accordance with the HRAC.

Phytotoxicity to host crop

All trials have been carried out according to EPPO Standards PP1/135, PP1/152, PP1/181 and PP1/093, in accordance with GEP. Phytotoxicity in cereals was assessed in all efficacy trials. In addition, it was assessed in 80 specific crop safety trials conducted between 2018 and 2019 in the Czech Republic, Germany, northern part of France, the Netherlands, Belgium and the United Kingdom (46 trials belonging to the Maritime EPPO zone), in Poland (34 trials belonging to the North-East EPPO Zone). The applicant also provided supporting data from trials carried out with an analogous formulation GLOB1310H (Aclonifen 600 SC + Flufenacet 60 SC) which was tested in some selectivity trials contains a higher concentration of the active substance aclonifen than GLOB1310aH (600 g/L vs. 540 g/L aclonifen) in an otherwise identical formulation, these treatments can therefore be considered worst-case. This approach is considered to be acceptable.

Phytotoxicity to host crop-Maritime EPPO zone

Winter barley

Phytotoxicity was evaluated in 6 efficacy trials and 12 weed free selectivity trials. Crop phytotoxicity symptoms were seen in 5 selectivity trials and two efficacy trials in winter barley. The average yield for all trials where GLOB1310aH caused phytotoxic symptoms were calculated and at N was 100.8% relative to untreated, and at 2N it was 85.3%. The zRMS considers that these values indicate that the phytotoxicity did not affect the yield at the recommended dose rate of 2 l/ha.

Winter rye

Phytotoxicity was evaluated in 1 efficacy trial and 10 weed free selectivity trials. Crop phytotoxicity symptoms were seen in 8 selectivity trials in winter rye. The average yield for all trials were calculated where GLOB1310aH caused phytotoxic symptoms and at N was 97,9% relative to the untreated and at 2N it was 98,9%. Overall, it may be considering that these values indicate that the phytotoxicity may slightly affect the winter rye yield.

Winter wheat

Phytotoxicity was evaluated in 20 efficacy trials and 12 weed free selectivity trials. Crop phytotoxicity symptoms were seen in 6 selectivity trials and two efficacy in winter wheat. The average yield for all trials were calculated where GLOB1310aH caused phytotoxic symptoms and at N was 99,0% relative to the untreated and at 2N it was 101,6%. Overall, it may be considering that these values indicate that the may slightly affect the winter wheat yield.

Winter triticale

Phytotoxicity was evaluated in 2 efficacy trials and 11 weed free selectivity trials. Crop phytotoxicity

symptoms were seen in 3 selectivity trials in winter triticale. The average yield for all trials were calculated where GLOB1310aH caused phytotoxic symptoms and at N was 102,3% relative to the untreated and at 2N it was 101,6%. Overall, it may be considering that these values indicate that the phytotoxicity did not affect the winter triticale yield.

Winter durum wheat

No phytotoxic effects were observed in any of the trials, even at double the maximum required dose. It should be noted that only one trial was conducted in the EPPO Maritime zone and the other five trials were conducted in the EPPO Mediterranean zone. Therefore, concerned cMS, based on their national experience, should consider whether the data presented are representative and can be accepted.

General conclusion: Due to phytotoxicity effects in most cereal crops, extrapolation from other cereal crops is not possible. A label restriction regarding phytotoxicity should be addressed on the label.

Phytotoxicity to host crop - North-East EPPO zone

Winter barley

Phytotoxicity was evaluated in all efficacy trials and 12 weed free selectivity trials. The trials were conducted in Poland (8), the Czech Republic (3), and Germany (1). Crop phytotoxicity symptoms were seen in 4 selectivity trials and one efficacy trial in winter barley. There were generally no reductions or were slight reductions in the yield in these trials, with the exception being 67,6% yield at N in trial KCP 6.4-142 (PL). Overall, it may be considering that these values indicate that the phytotoxicity may affect the winter barley yield.

Winter rye

Phytotoxicity was evaluated in all efficacy trials and 10 weed free selectivity trials. The trials were conducted in Poland. Crop phytotoxicity symptoms were seen in 6 selectivity trials and one in efficacy trial in winter rye. The average yield for all trials was calculated where GLOB1310aH caused phytotoxic symptoms and at N was 101.0% relative to the untreated and at 2N it was 95,7%. Overall, it may be considering that these values indicate that the phytotoxicity did not affect the winter rye yield.

Winter wheat

Phytotoxicity was evaluated in all efficacy trials and 8 weed free selectivity trials. The trials were conducted in Poland. Crop phytotoxicity symptoms were seen in 3 selectivity trials in winter wheat. The average yield for all trials was calculated where GLOB1310aH caused phytotoxic symptoms and at N was 101.4% relative to the untreated and at 2N it was 95,2%. Overall, it may be considering that these values indicate that the phytotoxicity did not affect the winter wheat yield.

Winter triticale

Phytotoxicity was evaluated in all efficacy trials and 8 weed free selectivity trials. The trials were conducted in Poland. Crop phytotoxicity symptoms were seen in one selectivity trial in winter triticale. The mean yields for trial KCP 6.4-03 (PL) where GLOB1310aH caused phytotoxic symptoms were 100,5% at N relative to untreated and 92,9 % at 2N. Overall, it may be considering that these values indicate that the phytotoxicity did not affect the winter triticale yield.

General conclusion: Due to phytotoxicity effects in most cereal crops, extrapolation from other cereal crops is not possible. A label restriction regarding phytotoxicity should be addressed on the label.

Effects on the quality of plants and plant products

Data have shown that neither the proposed dose of GLOB1310aH nor 2N are likely to have a significant negative impact on the HLW or the moisture content of winter cereals. Therefore, the zRMS considers that the proposed uses of GLOB1310aH are unlikely to have a significant negative impact on quality.

Effects on transformation processes

EPPO PP 1/243 states that where residues are undetectable, a reasoned case may be sufficient to address this point. The applicant stated that no detectable residues of aclonifen or flufenacet were detected on any crop. Given that the application of GLOB1310aH is performed very early on in the growing season,

therefore, the zRMS considers that the proposed uses of the test product are unlikely to result in detectable residues in harvested grains.

Impact on treated plants or plant products to be used for propagation

Table 2 in EPPO PP 1/135 states that data on plant parts for propagation are only required for post-emergence foliar-applied herbicides when an application is made at or after inflorescence initiation or where detectable residues occur in a harvested seed. Therefore, it is considered that the proposed uses of the test product are unlikely to result in detectable residues in harvested grain. Overall, it is considered that no data on plant parts for propagation are required.

Impact on succeeding crops

From the results presented and current knowledge, it can be concluded that there is a risk of adverse effects of GLOB1310aH herbicide on succeeding crops. There is a particular risk if cereal crops have to be liquidated. In case of crop failure, for any reason, when the soil is not cultivated corn, wheat, soybean, sunflower, and bush bean can be sown. In case the soil is not cultivated carrots can be sown one year after application. The recommendation proposed by the applicant is acceptable.

Impact on other plants including adjacent crops

The presented data correspond with the requirements of the EPPO Standard PP 1/256. Results from vegetative vigour test and seedling emergence test were submitted by the applicant. No negative effect of aclonifen and flufenacet on adjacent crops was observed.

Table 0-1: Acceptability of intended uses (and respective fall-back GAPs, if applicable)

GAP rev. 1.0, date: 2021-12-03

PPP (product name/code): Glosset Ace/GLOB1310aH

Formulation type:

SC ^(a, b)

Active substance 1: Aclonifen

Conc. of as 1:

540 g/L ^(c)

Active substance 2: Flufenacet

Conc. of as 2:

60 g/L ^(c)

Safener: /

Conc. of safener:

NA ^(c)

Synergist: /

Conc. of synergist:

NA ^(c)

Applicant: Globachem NV

Professional use:



Zone(s): Central ^(d)

Non professional use:



Verified by MS: yes/no

Field of use: herbicide

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Use- No. (e)	Membe r state(s)	Crop and/ or situation (crop destination / purpose of crop)	F, Fn, Fpn G, Gn, Gpn or I	Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)	Application				Application rate			PHI (days)	Remarks: e.g. g safener/synergi st per ha (f)	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	Winter Wheat (TRZAW) Winter Barley (HORVW) Winter Rye (SECCW) Winter Triticale (TTLWI)	F	Well controlled (S): <i>Apera spica-venti</i> , <i>Poa annua</i> , <i>Tripleusperrum inodorum</i> , <i>Papaver rhoeas</i> , <i>Stellaria media</i> , <i>Veronica persica</i> ,) Partially controlled (MS): <i>Veronica hederifolia</i>	Normal downward spraying	BBCH 00-09 (Sep-Dec)	a) 1 b) 1	/	a) 1.5 L/ha b) 1.5 L/ha	a) 0.810 kg Aclonifen/ha + 0.090 kg Flufenacet/ha b) 0.810 kg Aclonifen/ha + 0.090 kg Flufenacet/ha	200-300	Not relevant, see application stage	/	
2	PL	Winter Oat	F	Annual weeds (BBBBB)	Normal	BBCH 00-	a) 1	/	a) 1.5 L/ha	a) 0.810 kg	200 -	Not	/	

		(AVESW) Winter Durum Wheat (TRZDW)			downward spraying	09 (Sep-Dec)	b) 1		b) 1.5 L/ha	Aclonifen/ha + 0.090 kg Flufenacet/ha b) 0.810 kg Aclonifen/ha + 0.090 kg Flufenacet/ha	300	relevant, see applicatio n stage		
3	PL	Winter Wheat (TRZAW) Winter Barley (HORVW) Winter Rye (SECCW) Winter Triticale (TTLWI)	F	Well controlled (S): <i>Apera spica-venti, Poa annua, Tripleuspermum inodorum, Papaver rhoeas, Stellaria media, Veronica persica, Veronica hederifolia</i> Partially controlled (MS): <i>Alopecurus myosuroides, Galium aparine</i>	Normal downward spraying	BBCH 00-09 (Sep-Dec)	a) 1 b) 1	/	a) 2 L/ha b) 2 L/ha	a) 1.08 kg Aclonifen/ha + 0.120 kg Flufenacet/ha b) 1.08 kg Aclonifen/ha + 0.120 kg Flufenacet/ha	200-300	Not relevant, see applicatio n stage	/	
4	PL	Winter Oat (AVESW) Winter Durum Wheat (TRZDW)	F	Blackgrass (ALOMY)	Normal downward spraying	BBCH 00-09 (Sep-Dec)	a) 1 b) 1	/	a) 2 L/ha b) 2 L/ha	a) 1.08 kg Aclonifen/ha + 0.120 kg Flufenacet/ha b) 1.08 kg Aclonifen/ha + 0.120 kg Flufenacet/ha	200-300	Not relevant, see applicatio n stage	/	
5	BE HU IE RO SI SK	Winter Wheat (TRZAW) Winter Barley (HORVW) Winter Oat (AVESW) Winter Rye (SECCW) Winter Triticale (TTLWI) Winter Durum Wheat (TRZDW)	F	Well controlled (S): <i>Apera spica-venti, Poa annua, Myosotis arvensis, Papaver rhoeas, Stellaria media, Veronica persica, Veronica hederifolia, Matricaria chamomilla, Thlaspi arvense</i> Partially controlled (MS): <i>Alopecurus myosuroides, Tripleuspermum inodorum</i>	Normal downward spraying	BBCH 00-09 (Sep-Dec)	a) 1 b) 1	/	a) 1.5 L/ha b) 1.5 L/ha	a) 0.810 kg Aclonifen/ha + 0.090 kg Flufenacet/ha b) 0.810 kg Aclonifen/ha + 0.090 kg Flufenacet/ha	200-300	Not relevant, see applicatio n stage	/	
6	BE HU IE RO SI	Winter Wheat (TRZAW) Winter Barley (HORVW) Winter Oat	F	Well controlled (S): <i>Apera spica-venti, Poa annua, Myosotis arvensis, Tripleuspermum inodorum, Papaver</i>	Normal downward spraying	BBCH 00-09 (Sep-Dec)	a) 1 b) 1	/	a) 2 L/ha b) 2 L/ha	a) 1.08 kg Aclonifen/ha + 0.120 kg Flufenacet/ha b) 1.08 kg	200-300	Not relevant, see applicatio n stage	/	

	SK	(AVESW) Winter Rye (SECCW) Winter Triticale (TTLWI) Winter Durum Wheat (TRZDW)		<i>rhoeas, Stellaria media, Veronica persica, Veronica hederifolia, Matricaria chamomilla, Thlaspi arvense</i> Partially controlled (MS): <i>Alopecurus myosuroides</i>						Aclonifen/ha + 0.120 kg Flufenacet/ha				
7	DE	Winter Wheat (TRZAW) Winter Barley (HORVW) Winter Rye (SECCW) Winter Triticale (TTLWI)	F	Well controlled (S): <i>Apera spica-venti, Poa annua, Myosotis arvensis, Papaver rhoeas, Stellaria media, Veronica persica, Veronica hederifolia, Matricaria chamomilla, Thlaspi arvense</i> Partially controlled (MS): <i>Alopecurus myosuroides, Tripleuspermum inodorum</i>	Normal downward spraying	BBCH 00- 09 (Sep-Dec)	a) 1 b) 1	/	a) 1.5 L/ha b) 1.5 L/ha	a) 0.810 kg Aclonifen/ha + 0.090 kg Flufenacet/ha b) 0.810 kg Aclonifen/ha + 0.090 kg Flufenacet/ha	200- 300	Not relevant, see applicatio n stage	/	
8	DE	Winter Wheat (TRZAW) Winter Barley (HORVW) Winter Rye (SECCW) Winter Triticale (TTLWI)	F	Well controlled (S): <i>Apera spica-venti, Poa annua, Myosotis arvensis, Tripleuspermum inodorum, Papaver rhoeas, Stellaria media, Veronica persica, Veronica hederifolia, Matricaria chamomilla, Thlaspi arvense</i> Partially controlled (MS): <i>Alopecurus myosuroides</i>	Normal downward spraying	BBCH 00- 09 (Sep-Dec)	a) 1 b) 1	/	a) 2 L/ha b) 2 L/ha	a) 1.08 kg Aclonifen/ha + 0.120 kg Flufenacet/ha b) 1.08 kg Aclonifen/ha + 0.120 kg Flufenacet/ha	200- 300	Not relevant, see applicatio n stage	/	
9	DE	Winter Oat (AVESW) Winter Durum Wheat (TRZDW)	F	Blackgrass (ALOMY)	Normal downward spraying	BBCH 00- 09 (Sep-Dec)	a) 1 b) 1	/	a) 2 L/ha b) 2 L/ha	a) 1.08 kg Aclonifen/ha + 0.120 kg Flufenacet/ha b) 1.08 kg Aclonifen/ha + 0.120 kg Flufenacet/ha	200- 300	Not relevant, see applicatio n stage	/	
10	DE	Winter Oat	F	Annual weeds (BBBBB)	Normal	BBCH 00-	a) 1	/	a) 1.5 L/ha	a) 0.810 kg	200 -	Not	/	

		(AVESW) Winter Durum Wheat (TRZDW)			downward spraying	09 (Sep-Dec)	b) 1		b) 1.5 L/ha	Aclonifen/ha + 0.090 kg Flufenacet/ha b) 0.810 kg Aclonifen/ha + 0.090 kg Flufenacet/ha	300	relevant, see applicatio n stage		
Remarks table heading:	(a)	e.g. wettable powder (WP), emulsifiable concentrate (EC), granule (GR)							(d)	Select relevant				
	(b)	Catalogue of pesticide formulation types and international coding system CropLife International Technical Monograph n°2, 6th Edition Revised May 2008							(e)	Use number(s) in accordance with the list of all intended GAPs in Part B, Section 0 should be given in column 1				
	(c)	g/kg or g/l							(f)	No authorization possible for uses where the line is highlighted in grey, Use should be crossed out when the notifier no longer supports this use.				
Remarks columns:	1	Numeration necessary to allow references							7	Growth stage at first and last treatment (BBCH Monograph, Growth Stages of Plants, 1997, Blackwell, ISBN 3-8263-3152-4), including where relevant, information on season at time of application				
	2	Use official codes/nomenclatures of EU Member States							8	The maximum number of application possible under practical conditions of use must be provided.				
	3	For crops, the EU and Codex classifications (both) should be used; when relevant, the use situation should be described (e.g. fumigation of a structure)							9	Minimum interval (in days) between applications of the same product				
	4	F: professional field use, Fn: non-professional field use, Fpn: professional and non-professional field use, G: professional greenhouse use, Gn: non-professional greenhouse use, Gpn: professional and non-professional greenhouse use, I: indoor application							10	For specific uses other specifications might be possible, e.g.: g/m ³ in case of fumigation of empty rooms. See also EPPG-Guideline PP 1/239 Dose expression for plant protection products.				
	5	Scientific names and EPPO-Codes of target pests/diseases/ weeds or, when relevant, the common names of the pest groups (e.g. biting and sucking insects, soil born insects, foliar fungi, weeds) and the developmental stages of the pests and pest groups at the moment of application must be named.							11	The dimension (g, kg) must be clearly specified. (Maximum) dose of a.s. per treatment (usually g, kg or L product / ha).				
	6	Method, e.g. high volume spraying, low volume spraying, spreading, dusting, drench Kind, e.g. overall, broadcast, aerial spraying, row, individual plant, between the plants - type of equipment used must be indicated.							12	If water volume range depends on application equipments (e.g. ULVA or LVA) it should be mentioned under "application: method/kind".				
									13	PHI - minimum pre-harvest interval				
									14	Remarks may include: Extent of use/economic importance/restrictions				

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

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

Column 15: zRMS conclusion.

A	Acceptable
R	Acceptable with further restriction
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 dossier summarises the information related to the efficacy of the plant protection product GLOB1310aH, containing the active ingredients aclonifen and flufenacet.

Both active substances have been used for many years in a multitude of products registered across the EU.

Aclonifen was approved on the 1st of August 2009 and included in Directive 91/414/EEC, amended by Commission Directive 2008/116/EC of December 15th, 2008. The approval period of aclonifen was last extended by Commission Implementing Regulation (EU) 2017/195 of February 3rd, 2017.

Flufenacet was approved on the 1st of January 2004 and included in Directive 91/414/EEC, amended by Commission Directive 2003/84/EC of September 25th 2003. The approval period of Flufenacet was last extended by Commission Implementing Regulation (EU) 2020/1511 of October 16th, 2020.

The Annex I Inclusion Directive for aclonifen and flufenacet provide specific provisions under Part B which need to be considered by the applicant in the preparation of their submission and by the MS prior to granting an authorisation.

For the implementation of the uniform principles of Annex VI, the conclusions of the review report on the active substances, and in particular Appendices I and II thereof, as finalised in the corresponding Standing Committee on Plants, Animals, Food and Feed shall be taken into account.

In this overall assessment there are however no efficacy related concerns.

Appendix 1: List of references included in this document for support of the evaluation.

Description of active substances

Aclonifen is a systemic, selective herbicide that belongs to the chemical family of the diphenyl ethers. It is used to control annual broadleaved weeds and grasses. This molecule has been used in winter wheat, sunflowers, peas, carrots, maize, garlic, dill, celery, shallot, fennel, beans, lentils, onion, parsley, aromatic plants and more.

Flufenacet is a broad-spectrum herbicide, often used in conjunction with other herbicides to control grasses and some broadleaved weeds. This molecule has been used in maize, soybean, cereals, potatoes, sunflowers and more.

Mode of action

Aclonifen belongs to HRAC/WSSA group 32 and is an inhibitor of Solanesyl Diphosphate Synthase.
 Flufenacet belongs to HRAC/WSSA Group 15 and is an inhibitor of Very Long-Chain Fatty Acid Synthesis.

Table 0-1 Details of the active substances in GLOB1310aH

Active substance	Aclonifen
Concentration	540 g/L
Chemical group	Diphenylether
Mode of action	Inhibition of Solanesyl Diphosphate Synthase (HRAC/WSSA group 32)
Biological action	Inhibition of carotenoid biosynthesis
Active substance	Flufenacet
Concentration	60 g/L
Chemical group	α -oxyacetamides
Mode of action	Inhibition of Very Long-Chain Fatty Acid Synthesis (HRAC/WSSA group 15)
Biological action	Inhibition of cell division

Description of the plant protection product

Information on the detailed composition can be found in the confidential dossier of this submission (Registration Report - Part C).

Table 0-2 Simplified table of currently requested uses for GLOB1310aH

Uses		Member State	Requested rate(s)	Comments / Other relevant details on GAPs
Crop(s)	Target(s)			
Winter cereals	Annual broadleaved weeds (BBBAN) and grasses (GGGAN)	zRMS + all cMSs	1.5 L/ha	Pre-emergence BBCH 00-09
Winter cereals	Blackgrass (ALOMY)	zRMS + all cMSs	2 L/ha	Pre-emergence BBCH 00-09

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

Table 0-3 **Glossary of pests mentioned in the dossier**

EPPO code	Scientific name
AFEGR	<i>Anethum graveolens</i>
ALOMY	<i>Alopecurus myosuroides</i>
APESV	<i>Apera spica-venti</i>
ATXSH	<i>Atriplex sphaeromorpha</i>
AVEFA	<i>Avena fatua</i>
AVEST	<i>Avena sterilis</i>
BRSNW	<i>Brassica napus</i>
CAPBP	<i>Capsella bursa-pastoris</i>
CENCY	<i>Centaurea cyanus</i>
CHEAL	<i>Chenopodium album</i>
CHYCO	<i>Glebionis coronaria</i>
CLDAR	<i>Calendula arvensis</i>
DESSO	<i>Descurainia sophia</i>
FUMOF	<i>Fumaria officinalis</i>
GALAP	<i>Galium aparine</i>
GERDI	<i>Geranium dissectum</i>
GERPU	<i>Geranium pusillum</i>
GERPR	<i>Geranium pratense</i>
LOLRI	<i>Lolium rigidum</i>
LYCAR	<i>Anchusa arvensis</i>
MATCH	<i>Matricaria chamomilla</i>
MATIN	<i>Tripleuspermum inodorum</i>
MYOAR	<i>Myosotis arvensis</i>
PAPRH	<i>Papaver rhoeas</i>
POAAN	<i>Poa annua</i>
POLAV	<i>Polygonum aviculare</i>
RAPRA	<i>Raphanus raphanistrum</i>
SSYOF	<i>Sisymbrium officinale</i>
STEME	<i>Stellaria media</i>
SINAR	<i>Sinapis arvensis</i>
THLAR	<i>Thlaspi arvense</i>
VERAR	<i>Veronica arvensis</i>
VERHE	<i>Veronica hederifolia</i>
VERPE	<i>Veronica persica</i>
VIOAR	<i>Viola arvensis</i>

The table below presents the susceptibility scales used in the EU and in the UK. For each summary of the efficacy data, regardless of the EPPO Zone the trials were performed in, the resulting susceptibility according to both scales is given.

Table 0-4 Susceptibility scales

Weed species susceptibility (EU)	Level of control
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 %
Weed species susceptibility (UK)	Level of control
Susceptible (S)	≥ 85 %
Moderately Susceptible (MS)	75 - 84.9 %
Moderately Tolerant (MT)	60 - 74.9 %
Tolerant (T)	0 - 59.9 %

Compliance with the Uniform Principles

All data submitted in this dossier are in compliance with the Uniform Principles.

Information on trials submitted (3.2 Efficacy data)

All trials presented in this dossier were carried out by the applicant. A summary of the number of trials per application timing and crop is given in the table below. The details of these trials can be found in section 3.2.3.

Table 0-5 Presentation of trials (efficacy trials, preliminary trials...)

Applic. timing	Crop*	Country	Type of trial**	Number of trials			Years	GEP, non-GEP, official***	Comments (any other relevant information)
				Maritime zone	North-East zone	Medit. zone			
Pre-emergence	HORVW	BE	MED + E	1			2019	GEP	
		DE	MED + E	2			2019	GEP	
		ES	MED + E			1	2019	GEP	
		FR	MED + E	2		1	2018, 2019	GEP	
		PL	MED + E		2		2019	GEP	
	SECCW	DE	MED + E	1			2018	GEP	
		PL	MED + E		2		2018	GEP	
	TRZAW	CZ	MED + E	4			2018, 2019	GEP	
		DE	MED + E	3			2018, 2019	GEP	
		DK	MED + E	1			2019	GEP	
		FR	MED + E	3		1	2018, 2019	GEP	
		HR	MED + E			2	2018, 2019	GEP	
		NL	MED + E	2			2018, 2019	GEP	

Applic. timing	Crop*	Country	Type of trial**	Number of trials			Years	GEP, non-GEP, official***	Comments (any other relevant information)
				Maritime zone	North-East zone	Medit. zone			
		PL	MED + E		5		2018, 2019	GEP	
		UK	MED + E	4			2018, 2019	GEP	
	TRZDW	IT	MED + E			4	2018-2020	GEP	
	TTLWI	DE	MED + E	2			2018	GEP	
		PL	MED + E		2		2018	GEP	
	TOTAL			25	11	9	2018-2020		

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

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

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

The table below presents all reference products used in this dossier. It should be noted that a lot of these reference products contain the same amount of active substance(s). When similar products were applied at the same dose rate the efficacy results are summarized together under the following treatment names. These can also be found in the 'Remark' column in Table 0-6.

Ref. Pro.

reference products containing 800 g/L prosulfocarb applied at 5 L/ha

Ref. Flu. Dif.

reference products containing 400 g/L flufenacet + 200 g/L diflufenican applied at 0.6 L/ha.

Table 0-6 Presentation of reference standards used in efficacy trials

Crop(s)	Reference standard	Country(ies) where the product is registered ⁽¹⁾	Authorization number	Active substance(s)	Formulation		Registered application rate ⁽³⁾	Application rate in trials (per treatment)	Remark ⁽⁴⁾
					Type ⁽²⁾	Concentration of a.s.			
Winter cereals	Boxer 800 EC	PL	R-88/2015	prosulfocarb	EC	800 g/L	3 L/ha	3 L/ha	Ref. Pro.
	Boxer	DE	033838-00	prosulfocarb	EC	800 g/L	5 L/ha	5 L/ha	
		NL	10701	prosulfocarb	EC	800 g/L	5 L/ha	5 L/ha	
	Roxy 800 EC	CZ	4929	prosulfocarb	EC	800 g/L	4 L/ha	5 L/ha	
		UK	17859	prosulfocarb	EC	800 g/L	5 L/ha	5 L/ha	
		FR	2090186	prosulfocarb	EC	800 g/L	5 L/ha	5 L/ha	
		IT	012799	prosulfocarb	EC	800 g/L	5 L/ha	5 L/ha	
		DE	008975-00	prosulfocarb	EC	800 g/L	5 L/ha	5 L/ha	
	Filon 80 EC	HR	753	prosulfocarb	EC	800 g/L	3-5 L/ha	5 L/ha	Ref. Flu. Dif.
	Polarpec	ES	ES-00293	prosulfocarb	EC	800 g/L	2-3 L/ha	5 L/ha	
	Naceto	DE	008362-60	flufenacet diflufenican	SC	400 g/L 200 g/L	0.3-0.6 L/ha	0.6 L/ha	
		CZ	5265-0	flufenacet diflufenican	SC	400 g/L 200 g/L	0.3-0.6 L/ha	0.6 L/ha	
		UK	18063	flufenacet diflufenican	SC	400 g/L 200 g/L	0.4-0.43	0.43-0.6 L/ha	
		IT	016944	flufenacet diflufenican	SC	400 g/L 200 g/L	0.6 L/ha	0.6 L/ha	
		BE	10603P/B	flufenacet diflufenican	SC	400 g/L 200 g/L	0.6 L/ha	0.6 L/ha	
	Naceto SC	PL	R-25/2019wu	flufenacet diflufenican	SC	400 g/L 200 g/L	0.6 L/ha	0.6 L/ha	
	Fosburi	FR	2080145	flufenacet diflufenican	SC	400 g/L 200 g/L	0.6 L/ha	0.6 L/ha	
	Fuga Delta	HR	1162	flufenacet diflufenican	SC	400 g/L 200 g/L	0.6 L/ha	0.6 L/ha	
	Herold	NL	13579	flufenacet diflufenican	SC	400 g/L 200 g/L	0.6 L/ha	0.6 L/ha	
		UK	16195	flufenacet diflufenican	SC	400 g/L 200 g/L	0.43 L/ha	0.43 L/ha	
		ES	25621	flufenacet diflufenican	SC	400 g/L 200 g/L	0.6 L/ha	0.6 L/ha	
	Naceto	BE	10603P/B	flufenacet diflufenican	SC	400 g/L 200 g/L	0.6 L/ha	0.6 L/ha	

Crop(s)	Reference standard	Country(ies) where the product is registered ⁽¹⁾	Authorization number	Active substance(s)	Formulation		Registered application rate ⁽³⁾	Application rate in trials (per treatment)	Remark ⁽⁴⁾
					Type ⁽²⁾	Concentration of a.s.			
		DE	005878-00	flufenacet diflufenican	SC	400 g/L 200 g/L	0.5-0.6 L/ha	0.6 L/ha	
	Arnold	BE	10877P/B	flufenacet diflufenican	SC	400 g/L 200 g/L	0.6 L/ha	0.6 L/ha	
	Battle Delta	FR	2171054	flufenacet diflufenican	SC	400 g/L 200 g/L	0.6 L/ha	0.6 L/ha	
		IT	016041	flufenacet diflufenican	SC	400 g/L 200 g/L	0.6 L/ha	0.6 L/ha	
	Mateno Duo SC 600	DK	18-631	aclonifen diflufenican	SC	500 g/L 100g/L	0.35-0.7 L:ha	0.35-0.7 L:ha	
	Jura	DK	613-14	prosulfocarb diflufenican	EC	667 g/L 14 g/L	2.5-4 L/ha	3.2 L/ha	

(1) only on use(s) applied for (with the GLOB1310aH).

(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.).

3.2.1 Preliminary tests (KCP 6.1)

Aclonifen and flufenacet have been widely and successfully used in plant protection practice in many countries across Europe for many years. The properties of these active substances and the performance of their formulations are well known and practically tested. However, this is the first product that combines both active substances.

Glosset (600 g/L flufenacet) is a product owned by Globachem which is registered for pre- and post-emergence use on a range of cereals with a dose rate of 0.2 L/ha (in some countries up to 0.4 L/ha), which equates to 120 g of flufenacet per hectare.

Aclonifen was only recently introduced as an active substance for the control of weeds in winter cereals. The applicant has developed multiple products containing aclonifen (solo and mixtures) and has a lot of experience with the characteristics of this active substance. Chanon (600 g/L aclonifen) is a product owned by Globachem which has recently acquired registration for the pre-emergence use on potatoes in multiple EU countries. Currently, the lowest registered dose rate of this product is 1.8 L/ha., which corresponds to 1080 g of aclonifen per hectare.

The highest requested dose rate of 2 L/ha GLOB1310aH (540 g/L aclonifen, 60 g/L flufenacet) results in the same amount of flufenacet per hectare as the lowest registered dose rate (0.2 L/ha) of Glosset (600 g/L flufenacet) and the same amount of aclonifen per hectare as the lowest registered dose rate (1.8 L/ha) of Chanon (600 g/L aclonifen). The applicant relies on the known efficacy of both products. However, from the efficacy results presented in this dossier it is clear that dose rates below 2 L/ha can also provide adequate control. This is demonstrated by the minimum effective dose results presented in section 0.

Taking into account the above, providing preliminary tests is not regarded essential for this submission.

Comments of zRMS:	The applicant claims that the active substances aclonifen and flufenacet which is contained in GLOB1310aH have been authorized for use in different European countries for several years as herbicides on a wide range of crops and as such the herbicidal activity aclonifen and flufenacet are well known. The efficacy data support justifies the ratio of active substances selected. The detailed data showed relevant efficacy ratings for different weed species in individual trials are in section 3.2.3. GLOB1310aH showed at least comparable control and frequently better weed control in winter cereals than standard products. Therefore, the inclusion of both active ingredients aclonifen and flufenacet in the formulation GLOB1310aH is fully justified.
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3.2.2 Minimum effective dose tests (KCP 6.2)

Reference is made to section 3.2.3 in which individual trials including several dose rates of GLOB1310aH are presented. Sites and application details of these trials and individual trials results are also presented in this section.

The efficacy of the pre-emergence application of GLOB1310aH is summarized for all winter cereals combined, because the BBCH stages at application for the respective application timings were highly similar. They therefore had a similar morphology and were at similar developmental stages at application (i.e. height and crop interception) the amount of product that reaches the weeds can be considered the same. Therefore it is acceptable to summarize the efficacy data obtained in all winter cereals together.

First, the minimum effective dose (MED) is demonstrated for all EPPO Zones combined to demonstrate the efficacy of the product across a wide variety of climatic and edaphic conditions. Next, the minimum effective dose is demonstrated for each climatic zone separately. Because Poland also accepts data from the Czech Republic and Germany this is also summarized in a separate table.

It is very important to note that for all tables below the results of the final assessments were used. For a limited amount of trials the efficacy of GLOB1310aH was very low at the final assessment due to weed regrowth. In these instances sometimes data from earlier timepoints was used.

The tables below summarize the minimum effective dose data gathered in the efficacy trials presented in this dossier.

Table 0-7 MED of GLOB1310aH in pre-emergence across all EPPO Zones

Target	Part	DA-A	n	Untreated			1 L/ha			1.2 L/ha			1.5 L/ha			2 L/ha		
				Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
ALOMY	PLANT	171 - 251	5	97.20	24.75	191.50	71.75	47.50	100.00				80.50	68.75	100.00	91.40	87.50	100.00
			11	64.15	5.75	252.00				75.30	40.00	95.00				85.20	55.00	99.00
			13	59.23	7.25	191.50							83.10	63.75	100.00	90.69	68.75	100.00
	EAR	188 - 251	4	248.45	24.75	615.25	77.51	49.26	97.99				79.60	55.09	98.91	91.69	81.44	100.00
			11	93.74	20.88	244.75				74.00	45.08	92.28				82.46	56.38	98.17
			13	160.95	11.25	615.25							81.47	55.09	98.91	88.72	66.11	100.00
APESV	PLANT	176 - 276	4	12.75	5.50	24.00	80.94	61.25	100.00				92.81	80.00	100.00	95.31	90.00	100.00
			4	23.20	5.25	52.00				92.25	71.25	100.00				97.25	87.50	100.00
			7	15.68	5.50	29.00							93.75	80.00	100.00	95.36	86.25	100.00
			4	12.75	5.50	24.00	80.94	61.25	100.00				92.81	80.00	100.00	95.31	90.00	100.00
	EAR		5	54.00	9.00	196.50				93.13	71.83	100.00				96.98	86.39	100.00
			4	17.19	5.00	33.25	83.65	50.00	100.00				96.67	91.67	100.00	97.92	91.67	100.00
AVEST	PLANT	104 - 182	2	6.25	5.00	7.50				60.00	47.50	72.50				88.13	85.00	91.25
	EAR	182 - 225	2	6.38	5.25	7.50				81.44	75.83	87.05				97.50	95.00	100.00
GALAP	PLANT	130 - 271	14	10.13	4.00	25.00				61.21	0.00	100.00				74.38	18.75	100.00
			10	9.13	1.25	16.25							72.50	30.00	100.00	74.63	33.75	100.00
			4	9.56	4.00	14.00	64.38	37.50	100.00				71.88	45.00	100.00	73.44	45.00	100.00
			2	18.30	18.30	18.30				81.00	80.00	82.00				87.88	87.50	88.25
LOLMU	PLANT	130 - 176	2	8.13	7.25	9.00							78.75	77.50	80.00	86.63	85.75	87.50
			1	9.00	9.00	9.00	70.00	70.00	70.00				80.00	80.00	80.00	87.50	87.50	87.50
			1	6.75	6.75	6.75	76.16	76.16	76.16				93.30	93.30	93.30	93.30	93.30	93.30
	EAR		1	6.75	6.75	6.75												
MATIN	PLANT	104 - 276	11	26.43	5.00	101.00				73.20	48.75	93.75				87.34	63.75	99.00
			13	18.60	5.00	64.50							83.40	0.00	100.00	86.42	0.00	100.00
PAPRH	PLANT	104 - 276	4	15.50	13.00	21.25	87.81	60.00	100.00				92.81	72.50	100.00	95.31	83.75	100.00
			4	12.20	5.00	18.50				82.50	73.75	100.00				90.38	83.75	100.00
			11	13.52	5.25	32.75							92.84	72.50	100.00	95.11	80.00	100.00
			4	15.50	13.00	21.25	87.81	60.00	100.00				92.81	72.50	100.00	95.31	83.75	100.00
POAAN	PLANT	130 - 271	8	24.47	5.00	93.25				85.28	65.00	100.00				90.47	72.50	100.00
	EAR	130 - 251	2	37.38	22.00	52.75				82.93	65.85	100.00				86.38	72.75	100.00
STELS	PLANT	132 - 140	2	15.30	15.30	15.30				71.63	69.50	73.75				83.50	80.00	87.00
STEME	PLANT	130 - 276	8	26.50	5.75	88.50				91.66	76.25	100.00				95.53	85.00	100.00
			4	26.56	10.50	55.25	93.13	72.50	100.00				95.00	80.00	100.00	97.50	90.00	100.00
VERHE	PLANT	200 - 239	3	9.33	5.00	14.00				83.75	72.50	100.00				93.33	87.50	100.00
			3	8.00	5.50	11.00							70.33	48.75	98.50	80.33	70.00	99.75
VIOAR	PLANT	167 - 271	9	30.07	6.75	64.75				48.47	0.00	77.50				65.97	0.00	91.50
			7	14.32	5.75	22.75							75.71	0.00	100.00	85.32	40.00	100.00
			3	17.92	15.00	20.00	83.33	50.00	100.00				87.50	62.50	100.00	90.00	70.00	100.00

Table 0-8 MED of GLOB1310aH in pre-emergence in the Maritime EPPO Zone

Target	Part	DA-A	n	Untreated			1 L/ha			1.2 L/ha			1.5 L/ha			2 L/ha		
				Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
ALOMY	PLANT	171 - 251	4	115.31	65.75	191.50	64.69	47.50	80.00				75.63	68.75	81.25	89.25	87.50	92.75
			10	69.19	5.75	252.00				74.23	40.00	95.00				84.35	55.00	99.00
			11	66.55	7.25	191.50							82.07	63.75	98.50	90.09	68.75	98.75
	EAR	188 - 251	3	304.38	128.75	615.25	72.39	49.26	94.40				74.77	55.09	96.71	89.61	81.44	96.96
			10	99.99	20.88	244.75				72.60	45.08	92.28				81.35	56.38	98.17
			11	184.53	11.25	615.25							79.89	55.09	98.25	87.58	66.11	98.56
APESV	PLANT	233 - 276	2	10.63	5.50	15.75	80.63	61.25	100.00				95.63	91.25	100.00	95.63	91.25	100.00
			3	16.75	5.50	29.00				97.08	91.25	100.00	97.08	91.25	100.00			
			2	10.63	5.50	15.75	80.63	61.25	100.00	95.63	91.25	100.00	95.63	91.25	100.00			
	EAR		1	10.75	10.75	10.75				100.00	100.00	100.00	100.00	100.00	100.00			
			2	19.88	6.50	33.25	75.00	50.00	100.00	95.84	91.67	100.00	95.84	91.67	100.00			
GALAP	PLANT	167 - 271	5	13.20	5.00	25.00				44.50	0.00	100.00				56.25	18.75	100.00
			6	8.83	1.25	16.25				73.13	45.00	92.50	74.79	33.75	96.25			
			2	7.75	4.00	11.50	47.50	37.50	57.50	52.50	45.00	60.00	55.00	45.00	65.00			
MATIN	PLANT	206 - 276	4	35.31	5.00	101.00				64.69	48.75	86.25				85.38	63.75	99.00
			5	18.05	5.00	29.75				99.50	97.50	100.00	99.65	98.25	100.00			
PAPRH	PLANT	190 - 276	1	13.00	13.00	13.00	100.00	100.00	100.00				100.00	100.00	100.00	100.00	100.00	100.00
			4	16.81	5.50	32.75				99.69	98.75	100.00	100.00	100.00	100.00			
			1	13.00	13.00	13.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00			
POAAN	PLANT	171 - 271	1	34.25	34.25	34.25				92.00	92.00	92.00				96.50	96.50	96.50
STEME	PLANT	188 - 276	3	29.50	6.00	61.50				98.67	96.75	100.00				99.33	98.00	100.00
			2	10.63	10.50	10.75	100.00	100.00	100.00				100.00	100.00	100.00	100.00	100.00	100.00
VERHE	PLANT	231 - 239	1	14.00	14.00	14.00				72.50	72.50	72.50				92.50	92.50	92.50
			1	5.50	5.50	5.50				98.50	98.50	98.50	99.75	99.75	99.75			
VIOAR	PLANT	167 - 271	6	33.23	6.75	64.75				41.88	0.00	67.50				57.25	0.00	91.25
			4	14.06	5.75	22.75				62.81	0.00	100.00	76.19	40.00	100.00			
			1	18.75	18.75	18.75	50.00	50.00	50.00	62.50	62.50	62.50	70.00	70.00	70.00			

Table 0-9 MED of GLOB1310aH in pre-emergence in Poland

Target	Part	DA-A	n	Untreated			1 L/ha			1.2 L/ha			1.5 L/ha			2 L/ha		
				Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
ALOMY	PLANT	209 - 232	1	24.75	24.75	24.75	100.00	100.00	100.00				100.00	100.00	100.00	100.00	100.00	100.00
			1	13.75	13.75	13.75				86.00	86.00	86.00				93.75	93.75	93.75
			2	19.00	13.25	24.75							88.75	77.50	100.00	94.00	88.00	100.00
	EAR	209 - 232	1	24.75	24.75	24.75	97.99	97.99	97.99				98.91	98.91	98.91	100.00	100.00	100.00
			1	31.25	31.25	31.25				88.00	88.00	88.00				93.57	93.57	93.57
			2	31.25	24.75	37.75							90.14	81.36	98.91	95.00	90.00	100.00
APESV	PLANT	193 - 257	1	24.00	24.00	24.00	100.00	100.00	100.00				100.00	100.00	100.00	100.00	100.00	100.00
			4	27.69	9.00	52.00				90.31	71.25	100.00				96.56	87.50	100.00
			3	17.92	7.25	24.00							95.00	85.00	100.00	95.42	86.25	100.00
			1	24.00	24.00	24.00	100.00	100.00	100.00				100.00	100.00	100.00	100.00	100.00	100.00
	EAR		4	64.81	9.00	196.50				91.42	71.83	100.00				96.23	86.39	100.00
			1	24.00	24.00	24.00	100.00	100.00	100.00				100.00	100.00	100.00	100.00	100.00	100.00
GALAP	PLANT	200 - 257	6	8.50	4.00	18.25				65.83	37.50	92.50				82.88	65.30	91.25
			2	8.25	7.75	8.75							65.00	30.00	100.00	70.00	40.00	100.00
			1	8.75	8.75	8.75	100.00	100.00	100.00				100.00	100.00	100.00	100.00	100.00	100.00
MATIN	PLANT	200 - 252	4	14.75	5.75	34.50				82.56	66.25	93.75				93.94	86.25	98.25
			3	11.08	8.50	14.50							94.17	82.50	100.00	98.75	96.25	100.00
PAPRH	PLANT	200 - 252	1	13.25	13.25	13.25	100.00	100.00	100.00				100.00	100.00	100.00	100.00	100.00	100.00
			3	10.83	5.00	18.50				83.33	73.75	100.00				90.83	83.75	100.00
			2	11.88	10.50	13.25							100.00	100.00	100.00	100.00	100.00	100.00
			1	13.25	13.25	13.25	100.00	100.00	100.00				100.00	100.00	100.00	100.00	100.00	100.00
POAAN	PLANT	200 - 231	4	12.31	5.00	19.00				89.13	65.00	100.00				93.13	72.50	100.00
	EAR	213 - 233	2	37.38	22.00	52.75				82.93	65.85	100.00				86.38	72.75	100.00
STEME	PLANT	200 - 231	4	8.75	5.75	13.25				89.31	76.25	100.00				93.75	85.00	100.00
			1	29.75	29.75	29.75	100.00	100.00	100.00				100.00	100.00	100.00	100.00	100.00	100.00
VERHE	PLANT	200 - 231	2	7.00	5.00	9.00				89.38	78.75	100.00				93.75	87.50	100.00
			2	9.25	7.50	11.00							56.25	48.75	63.75	70.63	70.00	71.25
VIOAR	PLANT	200 - 252	3	23.75	12.75	31.50				61.67	31.25	77.50				83.42	73.75	91.50
			3	14.67	9.00	20.00							92.92	78.75	100.00	97.50	92.50	100.00
			2	17.50	15.00	20.00	100.00	100.00	100.00				100.00	100.00	100.00	100.00	100.00	100.00

Table 0-10 MED of GLOB1310aH in pre-emergence in Poland, Czech and Germany

Target	Part	DA-A	n	Untreated			1 L/ha			1.2 L/ha			1.5 L/ha			2 L/ha		
				Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
ALOMY	PLANT	206 - 251	2	45.25	24.75	65.75	90.00	80.00	100.00				90.00	80.00	100.00	96.38	92.75	100.00
			6	91.21	5.75	252.00				76.08	40.00	95.00				87.75	55.00	99.00
			7	32.93	7.25	82.25							88.68	77.50	100.00	94.46	88.00	100.00
	EAR	206 - 251	1	93.38	24.75	162.00	90.40	82.81	97.99				91.47	84.02	98.91	96.52	93.04	100.00
			6	108.08	31.25	244.75				74.59	45.08	92.05				85.68	57.30	95.63
			7	80.72	11.25	164.50							86.97	78.15	98.91	92.43	82.82	100.00
APESV	PLANT	193 - 276	3	15.08	5.50	24.00	87.08	61.25	100.00				97.08	91.25	100.00	97.08	91.25	100.00
			4	23.20	5.25	52.00				92.25	71.25	100.00				97.25	87.50	100.00
			6	17.33	5.50	29.00							96.04	85.00	100.00	96.25	86.25	100.00
			3	15.08	5.50	24.00	87.08	61.25	100.00				97.08	91.25	100.00	97.08	91.25	100.00
	EAR		5	54.00	9.00	196.50				93.13	71.83	100.00				96.98	86.39	100.00
			3	21.25	6.50	33.25	83.33	50.00	100.00				97.22	91.67	100.00	97.22	91.67	100.00
GALAP	PLANT	188 - 271	9	11.06	4.00	25.00				57.64	0.00	100.00				73.59	18.75	100.00
			6	9.04	4.00	16.25							68.54	30.00	100.00	71.46	33.75	100.00
			3	8.08	4.00	11.50	65.00	37.50	100.00				68.33	45.00	100.00	70.00	45.00	100.00
MATIN	PLANT	200 - 276	6	12.00	5.00	34.50				79.42	60.00	93.75				94.13	86.25	99.00
			8	15.44	5.00	29.75							97.50	82.50	100.00	99.31	96.25	100.00
PAPRH	PLANT	200 - 276	2	13.13	13.00	13.25	100.00	100.00	100.00				100.00	100.00	100.00	100.00	100.00	100.00
			3	10.83	5.00	18.50				83.33	73.75	100.00				90.83	83.75	100.00
			5	11.65	5.50	16.00							100.00	100.00	100.00	100.00	100.00	100.00
			2	13.13	13.00	13.25	100.00	100.00	100.00				100.00	100.00	100.00	100.00	100.00	100.00
POAAN	PLANT	200 - 271	4	12.31	5.00	19.00				89.13	65.00	100.00				93.13	72.50	100.00
	EAR	213 - 233	2	37.38	22.00	52.75				82.93	65.85	100.00				86.38	72.75	100.00
STEME	PLANT	198 - 276	5	11.20	5.75	21.00				91.30	76.25	100.00				95.00	85.00	100.00
			3	17.00	10.50	29.75	100.00	100.00	100.00				100.00	100.00	100.00	100.00	100.00	100.00
VERHE	PLANT	200 - 239	2	7.00	5.00	9.00				89.38	78.75	100.00				93.75	87.50	100.00
			3	8.00	5.50	11.00							70.33	48.75	98.50	80.33	70.00	99.75
VIOAR	PLANT	188 - 271	6	24.25	6.75	56.25				43.75	0.00	77.50				65.25	0.00	91.50
			7	14.32	5.75	22.75							75.71	0.00	100.00	85.32	40.00	100.00
			3	17.92	15.00	20.00	83.33	50.00	100.00				87.50	62.50	100.00	90.00	70.00	100.00

Table 0-11 MED of GLOB1310aH in pre-emergence across the Mediterranean EPPO Zone

Target	Part	DA-A	n	Untreated			1 L/ha			1.2 L/ha			1.5 L/ha			2 L/ha		
				Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
APESV	PLANT	176 - 176	1	5.75	5.75	5.75	62.50	62.50	62.50				80.00	80.00	80.00	90.00	90.00	90.00
			1	5.75	5.75	5.75							80.00	80.00	80.00	90.00	90.00	90.00
			1	5.75	5.75	5.75	62.50	62.50	62.50				80.00	80.00	80.00	90.00	90.00	90.00
			1	5.00	5.00	5.00	84.58	84.58	84.58				95.00	95.00	95.00	100.00	100.00	100.00
AVEST	PLANT	104 - 182	2	6.25	5.00	7.50				60.00	47.50	72.50				88.13	85.00	91.25
	EAR	182 - 225	2	6.38	5.25	7.50				81.44	75.83	87.05				97.50	95.00	100.00
GALAP	PLANT	130 - 182	3	8.28	7.80	9.25				79.83	75.00	85.00				87.58	83.75	91.25
			2	10.88	7.75	14.00							78.13	73.75	82.50	78.75	73.75	83.75
			1	14.00	14.00	14.00	62.50	62.50	62.50				82.50	82.50	82.50	83.75	83.75	83.75
LOLMU	PLANT	130 - 176	2	18.30	18.30	18.30				81.00	80.00	82.00				87.88	87.50	88.25
			2	8.13	7.25	9.00							78.75	77.50	80.00	86.63	85.75	87.50
			1	9.00	9.00	9.00	70.00	70.00	70.00				80.00	80.00	80.00	87.50	87.50	87.50
	EAR		1	6.75	6.75	6.75	76.16	76.16	76.16				93.30	93.30	93.30	93.30	93.30	93.30
MATIN	PLANT	104 - 182	3	30.17	9.50	71.50				72.08	67.50	77.50				81.17	77.50	85.25
			5	23.65	8.00	64.50							60.85	0.00	98.00	65.80	0.00	96.50
PAPRH	PLANT	104 - 191	2	17.88	14.50	21.25	75.63	60.00	91.25				85.63	72.50	98.75	90.63	83.75	97.50
			1	16.30	16.30	16.30				80.00	80.00	80.00				89.00	89.00	89.00
			5	11.55	5.25	21.25							84.50	72.50	100.00	89.25	80.00	100.00
			2	17.88	14.50	21.25	75.63	60.00	91.25				85.63	72.50	98.75	90.63	83.75	97.50
POAAN	PLANT	130 - 182	3	37.42	9.50	93.25				77.92	72.50	85.00				84.92	79.50	88.75
STELS	PLANT	132 - 140	2	15.30	15.30	15.30				71.63	69.50	73.75				83.50	80.00	87.00
STEME	PLANT	130 - 182	1	88.50	88.50	88.50				80.00	80.00	80.00				91.25	91.25	91.25
			1	55.25	55.25	55.25	72.50	72.50	72.50				80.00	80.00	80.00	90.00	90.00	90.00

Conclusion

From the tables above it is clear that for the pre-emergence application of GLOB1310aH the 2 L/ha dose rate provides superior control of ALOMY compared to lower dose rates across a broad range of conditions. For the other weeds it is clear that the 1.5 L/ha dose rate of GLOB1310aH can already provide very good control.

Comments of zRMS:	<p>Maritime EPPO zone</p> <p>To determine the minimum effective dose for the control of weed in winter cereals by GLOB1310aH, the applicant presented data from 29 field trials. The trials submitted to support the MED of GLOB1310aH are the same as the efficacy trials described under section 6.2.3. GLOB1310aH was tested at doses 1; 1,2 and 1,5 L/ha was compared with the full recommended rate of 2 L/ha of GLOB1310aH, under EPPO standard PP 1/225 'Minimum effective dose'. A clear dose-response was observed for <i>Alopecurus myosuroides</i> and <i>Tripleuspermum inodorum</i>. On the other hand almost all tested weeds were sufficiently controlled with two application rates, the full application rate of 2 L/ha and a reduced application rate of 1,5 L/ha.</p> <p>A marked dosage response was observed for <i>Papaver rhoeas</i>, <i>Veronica persica</i>, <i>Veronica hederifolia</i> and <i>Matricaria chamomilla</i>. For these weeds the lower dosage rate (1,5 L/ha) provided slightly inferior but still good control and the increase of the dosage rate to the full application rate of 2 L/ha lead to very good control.</p> <p>The justification of the proposed application rate of 1,5 L/ha will be accepted.</p> <p>North-East EPPO zone</p> <p>To determine the minimum effective dose for the control of weed in winter cereals by GLOB1310aH, the applicant presented data from 11 field trials. The trials submitted to support the MED of GLOB1310aH are the same as the efficacy trials described under section 6.2.3. GLOB1310aH was tested at doses 1; 1,2 and 1,5 L/ha was compared with the full recommended rate of 2 L/ha of GLOB1817H, under EPPO standard PP 1/225 'Minimum effective dose'. No clear dose-response was observed for all tested weeds except for <i>Veronica hederifolia</i>, application rates 1,5 and 2 l/ha provided similar very good control of the tested weeds.</p> <p>The justification of the proposed application rate of 1,5 L/ha will be accepted.</p>
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3.2.3 Efficacy tests (KCP 6.2)

The trials presented in this dossier were conducted by contractor companies and official research institutes, all of which followed the EPPO standards and are officially recognized by the competent authorities to carry out field registration trials in accordance with the principles of Good Experimental Practice (GEP). Trials were conducted across a wide range of sites and across different EPPO Zones. The trials are therefore representative of a wide range of environmental conditions likely to be encountered in practice in the area of proposed use.

For a complete overview of the number of efficacy trials performed by crop and EPPO Climatic Zone, reference is made to Table 0-5. It is important to note that all trials performed with GLOB1310aH, from all EPPO Climatic Zones, are shown in the tables below.

The overall trial methodology is presented in the Table 0-12, for more detailed information on the individual trials reference is made to the BAD.

Table 0-12 Details on trial methodology

Guidelines	General guidelines	EPPO PP 1/152 (4), 1/135 (4), 1/181 (4), 1/225(2)
	Specific guidelines	EPPO PP 1/93(3)
Experimental design	Plot design	Field trials
	Number of replications	4
Crop	Trials per crop	HORVW 9 SECCW 3 TRZAW 25 TRZDW 4 TTLWI 3
	Varieties per crop	HORVW 9 SECCW 3 TRZAW 24 TRZDW 4 TTLWI 3
Application	Crop stage (BBCH) at application	Pre-em application ≤09
	Pest stage (BBCH) at application	Pre-em application ≤09
	Applications	1 (pre-crop emergence)
	Spray volumes	200-300 L/ha
Assessment	Assessment types	Efficacy against weeds (number of weeds, % ground coverage), phytotoxicity
	Assessment dates	Pre-emergence: from application until 276 DA-A
	Field / Greenhouse...	Field
	GEP	All trials were performed according to GEP

Assessment methods

The following assessments were made:

- Phytotoxicity (and description of the symptoms) was assessed by visual estimation of the intensity on an overall plot basis on a percentage scale 0-100% (0% = no damage).
- The efficacy was assessed by counting the number of weeds per plot. The % control (%UNCK; Abbott) for the treatments compared to the untreated control was then calculated.

Statistical analysis

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

3.2.3.1 Efficacy results for the pre-emergence application of GLOB1310aH

In the tables below orthogonal comparisons are made between GLOB1310aH the reference products. First, a comparison is made between GLOB1310aH at the 2 L/ha and the reference products containing 800 g/L prosulfocarb (Ref. Pro.). Next, a comparison is made between GLOB1310aH at the 1.5 L/ha and 2 L/ha dose rates and the reference products containing 400 g/L flufenacet and 200 g/L diflufenican (Ref. Flu. Dif.).

For country-specific names of the reference products, reference is made to Table 0-6.

For every dose rate / reference product combination an overall comparison is made for all EPPO Zones combined, followed by the tables for the Maritime EPPO Zone, the North-East EPPO Zone, the North-East EPPO Zone + Czech and German (for Poland) trials, and the Mediterranean EPPO Zone.

Table 0-13 Orthogonal comparison between GLOB1310aH at 2 L/ha and reference products containing 800 g/L **prosulfocarb in pre-emergence application across all EPPO Zones**

Target	Part rated	Timing	n	Infestation in the untreated control (#/m²)			Max. control						# trials >, <= comp. to standard > 5% diff.
							GLOB1310aH - 2 L/ha			Ref. Pro.			
				Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	
ALOMY	PLANT	171 - 251 DA-A	11	64.15	5.75	252.00	85.20	55.00	99.00	68.43	47.50	99.00	7x >, 3x =, 1x <
	EAR	188 - 251 DA-A	11	93.74	20.88	244.75	82.46	56.38	98.17	66.73	39.36	96.33	8x >, 3x =
APESV	PLANT	176 - 276 DA-A	5	23.20	5.25	52.00	97.25	87.50	100.00	97.25	91.25	100.00	5x =
	EAR	176 - 276 DA-A	5	54.00	9.00	196.50	96.98	86.39	100.00	96.71	90.31	100.00	1x >, 4x =
AVEFA	PLANT	148 - 238 DA-A	2	14.60	10.50	18.70	59.25	50.00	68.50	42.38	37.50	47.25	2x >
AVEST	PLANT	104 - 182 DA-A	2	6.25	5.00	7.50	88.13	85.00	91.25	88.13	83.75	92.50	2x =
	EAR	182 - 225 DA-A	2	6.38	5.25	7.50	97.50	95.00	100.00	95.00	90.00	100.00	2x =
BRSNW	PLANT	200 - 233 DA-A	1	10.00	10.00	10.00	88.75	88.75	88.75	90.00	90.00	90.00	1x =
CAPBP	PLANT	104 - 233 DA-A	1	19.50	19.50	19.50	100.00	100.00	100.00	100.00	100.00	100.00	1x =
CENCY	PLANT	240 - 271 DA-A	1	66.50	66.50	66.50	85.00	85.00	85.00	70.00	70.00	70.00	1x >
CHYCO	PLANT	132 - 146 DA-A	1	6.50	6.50	6.50	89.50	89.50	89.50	97.25	97.25	97.25	1x <
FUMOF	PLANT	104 - 271 DA-A	3	16.52	12.25	22.00	68.08	30.00	91.25	92.58	86.25	99.00	2x =, 1x <
GALAP	PLANT	130 - 271 DA-A	14	10.13	4.00	25.00	74.38	18.75	100.00	88.66	46.25	100.00	1x >, 6x =, 7x <
GERPU	PLANT	188 - 231 DA-A	2	7.00	5.25	8.75	65.00	30.00	100.00	100.00	100.00	100.00	1x =, 1x <
LOLMU	PLANT	130 - 176 DA-A	2	18.30	18.30	18.30	87.88	87.50	88.25	93.50	92.50	94.50	1x =, 1x <
MATCH	PLANT	213 - 215 DA-A	1	25.00	25.00	25.00	100.00	100.00	100.00	88.00	88.00	88.00	1x >
MATIN	PLANT	104 - 276 DA-A	11	26.43	5.00	101.00	87.34	63.75	99.00	70.11	16.25	95.00	7x >, 3x =, 1x <
MYOAR	PLANT	188 - 276 DA-A	1	5.00	5.00	5.00	100.00	100.00	100.00	100.00	100.00	100.00	1x =
PAPRH	PLANT	104 - 276 DA-A	14	22.10	4.50	81.50	91.41	71.25	100.00	70.38	5.00	100.00	9x >, 5x =
POAAN	PLANT	130 - 271 DA-A	8	24.47	5.00	93.25	90.47	72.50	100.00	89.97	71.25	100.00	2x >, 4x =, 2x <
	EAR	130 - 251 DA-A	2	37.38	22.00	52.75	86.38	72.75	100.00	86.25	72.50	100.00	2x =
SENVU	PLANT	190 - 251 DA-A	2	18.38	4.75	32.00	57.50	40.00	75.00	64.25	42.50	86.00	1x =, 1x <
STELS	PLANT	132 - 140 DA-A	2	15.30	15.30	15.30	83.50	80.00	87.00	87.38	85.75	89.00	1x =, 1x <
STEME	PLANT	130 - 276 DA-A	8	26.50	5.75	88.50	95.53	85.00	100.00	96.28	92.50	100.00	7x =, 1x <
VERHE	PLANT	200 - 239 DA-A	3	9.33	5.00	14.00	93.33	87.50	100.00	95.83	90.00	100.00	3x =
VERPE	PLANT	207 - 271 DA-A	1	13.75	13.75	13.75	100.00	100.00	100.00	100.00	100.00	100.00	1x =
VIOAR	PLANT	167 - 271 DA-A	9	30.07	6.75	64.75	65.97	0.00	91.50	63.14	0.00	82.50	4x >, 3x =, 3x <

Table 0-14 Orthogonal comparison between GLOB1310aH at 2 L/ha and reference products containing 800 g/L prosulfocarb in pre-emergence application in the Maritime EPPO Zone

Target	Part rated	Timing	n	Infestation in the untreated control (#/m ²)			Max. control					
							GLOB1310aH - 2 L/ha			Ref. Pro.		
				Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
ALOMY	PLANT	171 - 251 DA-A	10	69.19	5.75	252.00	84.35	55.00	99.00	68.03	47.50	99.00
	EAR	188 - 251 DA-A	10	99.99	20.88	244.75	81.35	56.38	98.17	65.65	39.36	96.33
APESV	PLANT	233 - 276 DA-A	1	5.25	5.25	5.25	100.00	100.00	100.00	100.00	100.00	100.00
	EAR	233 - 276 DA-A	1	10.75	10.75	10.75	100.00	100.00	100.00	100.00	100.00	100.00
AVEFA	PLANT	148 - 238 DA-A	2	14.60	10.50	18.70	59.25	50.00	68.50	42.38	37.50	47.25
FUMOF	PLANT	184 - 271 DA-A	3	16.52	12.25	22.00	68.08	30.00	91.25	92.58	86.25	99.00
GALAP	PLANT	167 - 271 DA-A	5	13.20	5.00	25.00	56.25	18.75	100.00	82.45	46.25	100.00
GERPU	PLANT	188 - 188 DA-A	1	8.75	8.75	8.75	30.00	30.00	30.00	100.00	100.00	100.00
MATCH	PLANT	213 - 215 DA-A	1	25.00	25.00	25.00	100.00	100.00	100.00	88.00	88.00	88.00
MATIN	PLANT	206 - 276 DA-A	4	35.31	5.00	101.00	85.38	63.75	99.00	53.13	16.25	76.25
MYOAR	PLANT	188 - 276 DA-A	1	5.00	5.00	5.00	100.00	100.00	100.00	100.00	100.00	100.00
PAPRH	PLANT	190 - 276 DA-A	5	33.20	5.75	81.50	92.35	71.25	100.00	59.10	5.00	100.00
SENVU	PLANT	190 - 251 DA-A	2	18.38	4.75	32.00	57.50	40.00	75.00	64.25	42.50	86.00
STEME	PLANT	188 - 276 DA-A	3	29.50	6.00	61.50	99.33	98.00	100.00	97.58	96.25	99.00
VERHE	PLANT	231 - 239 DA-A	1	14.00	14.00	14.00	92.50	92.50	92.50	97.50	97.50	97.50
VIOAR	PLANT	167 - 271 DA-A	6	33.23	6.75	64.75	57.25	0.00	91.25	57.08	0.00	82.50

Table 0-15 Orthogonal comparison between GLOB1310aH at 2 L/ha and reference products containing 800 g/L prosulfocarb in pre-emergence application in Poland

Target	Part rated	Timing	n	Infestation in the untreated control (#/m ²)			Max. control					
							GLOB1310aH - 2 L/ha			Ref. Pro.		
				Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
ALOMY	PLANT	209 - 232 DA-A	1	13.75	13.75	13.75	93.75	93.75	93.75	72.50	72.50	72.50
	EAR	209 - 232 DA-A	1	31.25	31.25	31.25	93.57	93.57	93.57	77.51	77.51	77.51
APESV	PLANT	193 - 257 DA-A	4	27.69	9.00	52.00	96.56	87.50	100.00	96.56	91.25	100.00
	EAR	230 - 257 DA-A	4	64.81	9.00	196.50	96.23	86.39	100.00	95.88	90.31	100.00
BRSNW	PLANT	200 - 200 DA-A	1	10.00	10.00	10.00	88.75	88.75	88.75	90.00	90.00	90.00
CAPBP	PLANT	213 - 213 DA-A	1	19.50	19.50	19.50	100.00	100.00	100.00	100.00	100.00	100.00
CENCY	PLANT	240 - 240 DA-A	1	66.50	66.50	66.50	85.00	85.00	85.00	70.00	70.00	70.00
GALAP	PLANT	200 - 257 DA-A	6	8.50	4.00	18.25	82.88	65.30	91.25	91.25	80.00	98.75
GERPU	PLANT	231 - 231 DA-A	1	5.25	5.25	5.25	100.00	100.00	100.00	100.00	100.00	100.00
MATIN	PLANT	200 - 252 DA-A	4	14.75	5.75	34.50	93.94	86.25	98.25	75.94	55.00	95.00
PAPRH	PLANT	200 - 252 DA-A	5	9.85	4.50	18.50	94.40	83.75	100.00	75.00	61.25	100.00
POAAN	PLANT	200 - 231 DA-A	4	12.31	5.00	19.00	93.13	72.50	100.00	89.31	71.25	100.00
	EAR	213 - 233 DA-A	2	37.38	22.00	52.75	86.38	72.75	100.00	86.25	72.50	100.00
STEME	PLANT	200 - 231 DA-A	4	8.75	5.75	13.25	93.75	85.00	100.00	96.25	92.50	100.00
VERHE	PLANT	200 - 231 DA-A	2	7.00	5.00	9.00	93.75	87.50	100.00	95.00	90.00	100.00
VERPE	PLANT	207 - 232 DA-A	1	13.75	13.75	13.75	100.00	100.00	100.00	100.00	100.00	100.00
VIOAR	PLANT	200 - 252 DA-A	3	23.75	12.75	31.50	83.42	73.75	91.50	75.25	70.75	78.75

Table 0-16 Orthogonal comparison between GLOB1310aH at 2 L/ha and reference products containing 800 g/L prosulfocarb in pre-emergence application in Poland, Czech and Germany

Target	Part rated	Timing	n	Infestation in the untreated control (#/m ²)			Max. control					
							GLOB1310aH - 2 L/ha			Ref. Pro.		
				Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
ALOMY	PLANT	206 - 251 DA-A	6	91.21	5.75	252.00	87.75	55.00	99.00	71.29	52.50	99.00
	EAR	206 - 251 DA-A	6	108.08	31.25	244.75	85.68	57.30	95.63	69.52	39.36	96.33
APESV	PLANT	193 - 276 DA-A	5	23.20	5.25	52.00	97.25	87.50	100.00	97.25	91.25	100.00
	EAR	230 - 276 DA-A	5	54.00	9.00	196.50	96.98	86.39	100.00	96.71	90.31	100.00
BRSNW	PLANT	200 - 233 DA-A	1	10.00	10.00	10.00	88.75	88.75	88.75	90.00	90.00	90.00
CAPBP	PLANT	213 - 233 DA-A	1	19.50	19.50	19.50	100.00	100.00	100.00	100.00	100.00	100.00
CENCY	PLANT	240 - 271 DA-A	1	66.50	66.50	66.50	85.00	85.00	85.00	70.00	70.00	70.00
FUMOF	PLANT	184 - 271 DA-A	2	13.78	12.25	15.30	56.50	30.00	83.00	92.63	86.25	99.00
GALAP	PLANT	188 - 271 DA-A	9	11.06	4.00	25.00	73.59	18.75	100.00	92.92	80.00	100.00
GERPU	PLANT	188 - 231 DA-A	2	7.00	5.25	8.75	65.00	30.00	100.00	100.00	100.00	100.00
MATCH	PLANT	213 - 213 DA-A	1	25.00	25.00	25.00	100.00	100.00	100.00	88.00	88.00	88.00
MATIN	PLANT	200 - 276 DA-A	6	12.00	5.00	34.50	94.13	86.25	99.00	75.00	55.00	95.00
MYOAR	PLANT	188 - 276 DA-A	1	5.00	5.00	5.00	100.00	100.00	100.00	100.00	100.00	100.00
PAPRH	PLANT	200 - 276 DA-A	6	9.50	4.50	18.50	95.33	83.75	100.00	79.17	61.25	100.00
POAAN	PLANT	200 - 271 DA-A	4	12.31	5.00	19.00	93.13	72.50	100.00	89.31	71.25	100.00
	EAR	213 - 233 DA-A	2	37.38	22.00	52.75	86.38	72.75	100.00	86.25	72.50	100.00
STEME	PLANT	198 - 276 DA-A	5	11.20	5.75	21.00	95.00	85.00	100.00	96.25	92.50	100.00
VERHE	PLANT	200 - 239 DA-A	2	7.00	5.00	9.00	93.75	87.50	100.00	95.00	90.00	100.00
VERPE	PLANT	207 - 271 DA-A	1	13.75	13.75	13.75	100.00	100.00	100.00	100.00	100.00	100.00
VIOAR	PLANT	188 - 271 DA-A	6	24.25	6.75	56.25	65.25	0.00	91.50	63.88	0.00	80.00

Table 0-17 Orthogonal comparison between GLOB1310aH at 2 L/ha and reference products containing 800 g/L prosulfocarb in pre-emergence application in the Mediterranean EPPO Zone

Target	Part rated	Timing	n	Infestation in the untreated control (#/m ²)			Max. control					
							GLOB1310aH - 2 L/ha			Ref. Pro.		
				Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
AVEST	PLANT	104 - 182 DA-A	2	6.25	5.00	7.50	88.13	85.00	91.25	88.13	83.75	92.50
	EAR	182 - 225 DA-A	2	6.38	5.25	7.50	97.50	95.00	100.00	95.00	90.00	100.00
CHYCO	PLANT	132 - 146 DA-A	1	6.50	6.50	6.50	89.50	89.50	89.50	97.25	97.25	97.25
GALAP	PLANT	130 - 182 DA-A	3	8.28	7.80	9.25	87.58	83.75	91.25	93.83	91.25	96.50
LOLMU	PLANT	130 - 176 DA-A	2	18.30	18.30	18.30	87.88	87.50	88.25	93.50	92.50	94.50
MATIN	PLANT	104 - 182 DA-A	3	30.17	9.50	71.50	81.17	77.50	85.25	85.00	80.00	87.75
PAPRH	PLANT	104 - 191 DA-A	4	23.53	5.00	56.50	86.50	75.00	95.00	78.69	65.00	93.25
STELS	PLANT	132 - 140 DA-A	2	15.30	15.30	15.30	83.50	80.00	87.00	87.38	85.75	89.00
STEME	PLANT	130 - 182 DA-A	1	88.50	88.50	88.50	91.25	91.25	91.25	92.50	92.50	92.50

Because all trials included a reference product with 400 g/L flufenacet and 200 g/L diflufenican, the orthogonal comparisons of GLOB1310aH to these reference products can also be considered an overall summary, the final two columns of these tables therefore show the susceptibility of each weed according to Table 0-4.

Table 0-18 Orthogonal comparison between GLOB1310aH at 2 L/ha and reference products containing 400 g/L flufenacet + 200 g/L diflufenican in pre-emergence application across all EPPO Zones + susceptibilities

Target	Part rated	Timing	n	Infestation in the untreated control (#/m²)			Max. control						# trials >, <, = comp. to standard > 5% diff.	Suscept. (EU)	Suscept. (UK)
							GLOB1310aH - 2 L/ha			Ref. Flu. Dif.					
				Mean	Min	Max	Mean	Min	Max	Mean	Min	Max			
ALOMY	PLANT	171 - 251 DA-A	24	61.48	5.75	252.00	88.18	55.00	100.00	93.90	76.25	100.00	1x >, 14x =, 9x <	S	S
	EAR	188 - 251 DA-A	24	130.14	11.25	615.25	85.85	56.38	100.00	91.28	64.13	100.00	1x >, 14x =, 9x <	S	S
APESV	PLANT	176 - 276 DA-A	12	18.81	5.25	52.00	96.15	86.25	100.00	97.69	86.25	100.00	10x =, 2x <	HS	S
	EAR	176 - 276 DA-A	12	42.58	5.00	196.50	97.22	86.39	100.00	99.48	97.33	100.00	9x =, 3x <	HS	S
AVEFA	PLANT	148 - 238 DA-A	3	21.15	10.50	34.25	67.17	45.00	87.00	63.51	58.50	67.50	1x >, 1x =, 1x <	MT	MT
	PLANT	104 - 182 DA-A	3	10.00	5.00	17.50	78.75	60.00	91.25	83.75	65.00	100.00	2x =, 1x <	MS	MS
AVEST	EAR	182 - 225 DA-A	2	6.38	5.25	7.50	97.50	95.00	100.00	100.00	100.00	100.00	2x =	HS	S
	BRSNW	200 - 233 DA-A	2	7.25	4.50	10.00	60.63	32.50	88.75	82.25	68.75	95.75	2x <	MT	MT
CAPBP	PLANT	104 - 233 DA-A	3	29.25	19.50	38.50	96.67	90.00	100.00	96.67	90.00	100.00	3x =	HS	S
CENCY	PLANT	240 - 271 DA-A	2	35.63	4.75	66.50	75.00	65.00	85.00	96.88	95.00	98.75	2x <	MS	MS
CHYCO	PLANT	132 - 146 DA-A	2	24.75	5.00	89.50	47.25	5.00	89.50	50.63	10.00	91.25	2x =	-	-
FUMOF	PLANT	104 - 271 DA-A	6	23.88	7.00	76.50	61.96	0.00	95.00	92.67	90.00	97.25	2x =, 4x <	MT	MT
GALAP	PLANT	130 - 271 DA-A	24	9.71	1.25	25.00	74.95	18.75	100.00	90.31	22.50	100.00	3x >, 9x =, 12x <	MS	MT
GERPU	PLANT	188 - 231 DA-A	2	7.00	5.25	8.75	65.00	30.00	100.00	97.50	95.00	100.00	1x =, 1x <	MT	MT
LOLMU	PLANT	130 - 176 DA-A	4	13.21	7.25	18.30	87.25	85.75	88.25	90.63	88.75	93.25	X +	S	S
	EAR	130 - 176 DA-A	2	38.38	6.75	70.00	93.23	93.16	93.30	95.13	93.38	96.88	2x =	S	S
MATCH	PLANT	213 - 215 DA-A	2	17.63	10.25	25.00	100.00	100.00	100.00	99.63	99.25	100.00	2x =	HS	S
MATIN	PLANT	104 - 276 DA-A	24	22.19	5.00	101.00	86.84	0.00	100.00	90.53	0.00	100.00	17x =, 7x <	S	S
MYOAR	PLANT	188 - 276 DA-A	2	6.00	5.00	7.00	100.00	100.00	100.00	100.00	100.00	100.00	2x =	HS	S
PAPRH	PLANT	104 - 276 DA-A	25	18.32	4.50	81.50	93.04	71.25	100.00	91.07	10.00	100.00	3x >, 18x =, 4x <	S	S
POAAN	PLANT	130 - 271 DA-A	12	21.77	5.00	93.25	91.88	72.50	100.00	94.29	78.75	100.00	8x =, 4x <	S	S
	EAR	130 - 251 DA-A	4	54.00	22.00	83.50	90.42	72.75	100.00	91.89	78.25	100.00	3x =, 1x <	S	S
SENVU	PLANT	190 - 251 DA-A	3	14.42	4.75	32.00	51.25	38.75	75.00	95.58	91.75	100.00	3x <	MT	-
STELS	PLANT	132 - 140 DA-A	2	15.30	15.30	15.30	83.50	80.00	87.00	89.88	88.75	91.00	1x =, 1x <	MS	MS
STEME	PLANT	130 - 276 DA-A	18	21.82	4.00	88.50	96.46	82.00	100.00	97.60	85.75	100.00	16x =, 2x <	HS	S
THLAR	PLANT	233 - 271 DA-A	2	9.13	7.50	10.75	100.00	100.00	100.00	100.00	100.00	100.00	2x =	HS	S
VERHE	PLANT	200 - 239 DA-A	6	8.67	5.00	14.00	86.83	70.00	100.00	96.67	92.50	100.00	2x =, 4x <	S	S
VERPE	PLANT	207 - 271 DA-A	6	19.00	5.50	26.50	99.38	96.25	100.00	100.00	100.00	100.00	6x =	HS	S
VIOAR	PLANT	167 - 271 DA-A	16	23.18	5.75	64.75	74.44	0.00	100.00	98.64	88.75	100.00	6x =, 10x <	MS	MT

Table 0-19 Orthogonal comparison between GLOB1310aH at 2 L/ha and reference products containing 400 g/L flufenacet + 200 g/L diflufenican in pre-emergence application in the Maritime EPPO Zone + susceptibilities

Target	Part rated	Timing	n	Infestation in the untreated control (#/m²)			Max. control							Suscept. (EU)	Suscept. (UK)
							GLOB1310aH - 2 L/ha			Ref. Flu. Dif.					
				Mean	Min	Max	Mean	Min	Max	Mean	Min	Max			
ALOMY	PLANT	171 - 251 DA-A	21	67.80	5.75	252.00	87.36	55.00	99.00	93.92	76.25	100.00		S	S
	EAR	188 - 251 DA-A	21	144.27	11.25	615.25	84.62	56.38	98.56	90.79	64.13	100.00		MS	MS
APESV	PLANT	233 - 276 DA-A	4	13.88	5.25	29.00	97.81	91.25	100.00	100.00	100.00	100.00		HS	S
	EAR	233 - 276 DA-A	4	41.75	6.50	116.50	97.92	91.67	100.00	100.00	100.00	100.00		HS	S
AVEFA	PLANT	148 - 238 DA-A	3	21.15	10.50	34.25	67.17	45.00	87.00	63.51	58.50	67.50		MT	MT
BRSNW	PLANT	233 - 233 DA-A	1	4.50	4.50	4.50	32.50	32.50	32.50	68.75	68.75	68.75			
CAPBP	PLANT	233 - 233 DA-A	1	29.75	29.75	29.75	100.00	100.00	100.00	100.00	100.00	100.00			S
CENCY	PLANT	271 - 271 DA-A	1	4.75	4.75	4.75	65.00	65.00	65.00	95.00	95.00	95.00		MT	MT
FUMOF	PLANT	184 - 271 DA-A	5	27.26	10.25	76.50	55.35	0.00	91.25	93.20	90.00	97.25		MT	
GALAP	PLANT	167 - 271 DA-A	11	10.82	1.25	25.00	67.39	18.75	100.00	94.18	72.50	100.00		MT	MT
GERPU	PLANT	188 - 188 DA-A	1	8.75	8.75	8.75	30.00	30.00	30.00	95.00	95.00	95.00			
MATCH	PLANT	213 - 215 DA-A	2	17.63	10.25	25.00	100.00	100.00	100.00	99.63	99.25	100.00		HS	S
MATIN	PLANT	206 - 276 DA-A	9	25.72	5.00	101.00	93.31	63.75	100.00	98.33	87.50	100.00		S	S
MYOAR	PLANT	188 - 276 DA-A	2	6.00	5.00	7.00	100.00	100.00	100.00	100.00	100.00	100.00		HS	S
PAPRH	PLANT	190 - 276 DA-A	9	25.92	5.50	81.50	95.75	71.25	100.00	99.25	95.50	100.00		HS	S
POAAN	PLANT	171 - 271 DA-A	3	24.25	13.50	34.25	98.83	96.50	100.00	98.92	96.75	100.00		HS	S
	EAR	251 - 251 DA-A	1	83.50	83.50	83.50	100.00	100.00	100.00	100.00	100.00	100.00		HS	S
SENVU	PLANT	190 - 251 DA-A	3	14.42	4.75	32.00	51.25	38.75	75.00	95.58	91.75	100.00		MT	
STEME	PLANT	188 - 276 DA-A	8	20.00	4.00	61.50	99.75	98.00	100.00	99.88	99.00	100.00		HS	S
THLAR	PLANT	233 - 271 DA-A	2	9.13	7.50	10.75	100.00	100.00	100.00	100.00	100.00	100.00		HS	S
VERHE	PLANT	231 - 239 DA-A	2	9.75	5.50	14.00	96.13	92.50	99.75	100.00	100.00	100.00		HS	S
VERPE	PLANT	233 - 271 DA-A	3	24.25	21.25	26.50	100.00	100.00	100.00	100.00	100.00	100.00		HS	S
VIOAR	PLANT	167 - 271 DA-A	10	25.56	5.75	64.75	64.83	0.00	100.00	99.70	98.00	100.00		MT	MT

Table 0-20 Orthogonal comparison between GLOB1310aH at 2 L/ha and reference products containing 400 g/L flufenacet + 200 g/L diflufenican in pre-emergence application in Poland + susceptibilities

Target	Part rated	Timing	n	Infestation in the untreated control (#/m²)			Max. control							Suscept. (EU)	Suscept. (UK)
							GLOB1310aH - 2 L/ha			Ref. Flu. Dif.					
				Mean	Min	Max	Mean	Min	Max	Mean	Min	Max			
ALOMY	PLANT	209 - 232 DA-A	3	17.25	13.25	24.75	93.92	88.00	100.00	93.75	90.00	100.00		S	S
	EAR	209 - 232 DA-A	3	31.25	24.75	37.75	94.52	90.00	100.00	94.69	92.03	100.00		S	S
APESV	PLANT	193 - 257 DA-A	7	23.50	7.25	52.00	96.07	86.25	100.00	98.00	90.00	100.00		HS	S
	EAR	230 - 257 DA-A	7	48.43	9.00	196.50	96.43	86.39	100.00	99.10	97.33	100.00		HS	S
BRSNW	PLANT	200 - 200 DA-A	1	10.00	10.00	10.00	88.75	88.75	88.75	95.75	95.75	95.75		S	S
CAPBP	PLANT	213 - 213 DA-A	1	19.50	19.50	19.50	100.00	100.00	100.00	100.00	100.00	100.00		HS	S
CENCY	PLANT	240 - 240 DA-A	1	66.50	66.50	66.50	85.00	85.00	85.00	98.75	98.75	98.75		S	S
GALAP	PLANT	200 - 257 DA-A	8	8.44	4.00	18.25	79.66	40.00	100.00	85.19	22.50	100.00		MS	MS
GERPU	PLANT	231 - 231 DA-A	1	5.25	5.25	5.25	100.00	100.00	100.00	100.00	100.00	100.00		HS	S
MATIN	PLANT	200 - 252 DA-A	7	13.18	5.75	34.50	96.00	86.25	100.00	98.07	95.75	100.00		HS	S
PAPRH	PLANT	200 - 252 DA-A	7	10.43	4.50	18.50	96.00	83.75	100.00	96.36	87.50	100.00		HS	S
POAAN	PLANT	200 - 231 DA-A	5	13.65	5.00	19.00	94.50	72.50	100.00	94.75	78.75	100.00		S	S
	EAR	213 - 233 DA-A	2	37.38	22.00	52.75	86.38	72.75	100.00	89.13	78.25	100.00		S	S
STEME	PLANT	200 - 231 DA-A	7	11.46	5.75	29.75	96.43	85.00	100.00	98.68	92.50	100.00		HS	S
VERHE	PLANT	200 - 231 DA-A	4	8.13	5.00	11.00	82.19	70.00	100.00	95.00	92.50	100.00		MS	MS
VERPE	PLANT	207 - 232 DA-A	3	13.75	5.50	22.00	98.75	96.25	100.00	100.00	100.00	100.00		HS	S
VIOAR	PLANT	200 - 252 DA-A	6	19.21	9.00	31.50	90.46	73.75	100.00	96.88	88.75	100.00		S	S

Table 0-21 Orthogonal comparison between GLOB1310aH at 2 L/ha and reference products containing 400 g/L flufenacet + 200 g/L diflufenican in pre-emergence application in Poland, Czech and Germany + susceptibilities

Target	Part rated	Timing	n	Infestation in the untreated control (#/m²)			Max. control							Suscept. (EU)	Suscept. (UK)
							GLOB1310aH - 2 L/ha			Ref. Flu. Dif.					
				Mean	Min	Max	Mean	Min	Max	Mean	Min	Max			
ALOMY	PLANT	206 - 251 DA-A	13	59.83	5.75	252.00	91.37	55.00	100.00	94.50	76.25	100.00		S	S
	EAR	206 - 251 DA-A	13	93.35	11.25	244.75	89.32	57.30	100.00	92.15	64.13	100.00		S	S
APESV	PLANT	193 - 276 DA-A	11	20.00	5.25	52.00	96.70	86.25	100.00	98.73	90.00	100.00		HS	S
	EAR	230 - 276 DA-A	11	46.00	6.50	196.50	96.97	86.39	100.00	99.43	97.33	100.00		HS	S
BRSNW	PLANT	200 - 233 DA-A	2	7.25	4.50	10.00	60.63	32.50	88.75	82.25	68.75	95.75		MT	MT
CAPBP	PLANT	213 - 233 DA-A	2	24.63	19.50	29.75	100.00	100.00	100.00	100.00	100.00	100.00		HS	S
CENCY	PLANT	240 - 271 DA-A	2	35.63	4.75	66.50	75.00	65.00	85.00	96.88	95.00	98.75			
FUMOF	PLANT	184 - 271 DA-A	4	28.58	10.25	76.50	46.38	0.00	83.00	93.06	90.00	97.25			
GALAP	PLANT	188 - 271 DA-A	15	10.25	4.00	25.00	73.49	18.75	100.00	89.52	22.50	100.00			MT
GERPU	PLANT	188 - 231 DA-A	2	7.00	5.25	8.75	65.00	30.00	100.00	97.50	95.00	100.00		MT	MT
MATCH	PLANT	213 - 213 DA-A	1	25.00	25.00	25.00	100.00	100.00	100.00	99.25	99.25	99.25		HS	S
MATIN	PLANT	200 - 276 DA-A	14	13.96	5.00	34.50	97.09	86.25	100.00	98.89	95.75	100.00		HS	S
MYOAR	PLANT	188 - 276 DA-A	2	6.00	5.00	7.00	100.00	100.00	100.00	100.00	100.00	100.00		HS	S
PAPRH	PLANT	200 - 276 DA-A	11	10.48	4.50	18.50	97.45	83.75	100.00	97.68	87.50	100.00		HS	S
POAAN	PLANT	200 - 271 DA-A	6	15.54	5.00	25.00	95.42	72.50	100.00	95.63	78.75	100.00		HS	S
	EAR	213 - 233 DA-A	2	37.38	22.00	52.75	86.38	72.75	100.00	89.13	78.25	100.00		S	S
STEME	PLANT	198 - 276 DA-A	11	11.25	4.50	29.75	97.73	85.00	100.00	99.16	92.50	100.00		HS	S
THLAR	PLANT	233 - 271 DA-A	2	9.13	7.50	10.75	100.00	100.00	100.00	100.00	100.00	100.00		HS	S
VERHE	PLANT	200 - 239 DA-A	5	7.60	5.00	11.00	85.70	70.00	100.00	96.00	92.50	100.00		S	S
VERPE	PLANT	207 - 271 DA-A	5	18.55	5.50	26.50	99.25	96.25	100.00	100.00	100.00	100.00		HS	S
VIOAR	PLANT	188 - 271 DA-A	13	18.90	5.75	56.25	76.06	0.00	100.00	98.56	88.75	100.00			

Table 0-22 Orthogonal comparison between GLOB1310aH at 2 L/ha and reference products containing 400 g/L flufenacet + 200 g/L diflufenican in pre-emergence application in the Mediterranean EPPO Zone + susceptibilities

Target	Part rated	Timing	n	Infestation in the untreated control (#/m²)			Max. control							Suscept. (EU)	Suscept. (UK)
							GLOB1310aH - 2 L/ha			Ref. Flu. Dif.					
				Mean	Min	Max	Mean	Min	Max	Mean	Min	Max			
APESV	PLANT	176 - 176 DA-A	1	5.75	5.75	5.75	90.00	90.00	90.00	86.25	86.25	86.25		S	S
	EAR	176 - 176 DA-A	1	5.00	5.00	5.00	100.00	100.00	100.00	100.00	100.00	100.00		HS	S
AVEST	PLANT	104 - 182 DA-A	3	10.00	5.00	17.50	78.75	60.00	91.25	83.75	65.00	100.00		MS	MS
	EAR	182 - 225 DA-A	2	6.38	5.25	7.50	97.50	95.00	100.00	100.00	100.00	100.00		HS	S
CAPBP	PLANT	104 - 104 DA-A	1	38.50	38.50	38.50	90.00	90.00	90.00	90.00	90.00	90.00		S	S
CHYCO	PLANT	132 - 146 DA-A	2	24.75	5.00	89.50	47.25	5.00	89.50	50.63	10.00	91.25			
FUMOF	PLANT	104 - 104 DA-A	1	7.00	7.00	7.00	95.00	95.00	95.00	90.00	90.00	90.00		HS	S
GALAP	PLANT	130 - 182 DA-A	5	9.32	7.75	14.00	84.05	73.75	91.25	90.00	86.25	93.00		MS	MS
LOLMU	PLANT	130 - 176 DA-A	4	13.21	7.25	18.30	87.25	85.75	88.25	90.63	88.75	93.25		S	S
	EAR	130 - 176 DA-A	2	38.38	6.75	70.00	93.23	93.16	93.30	95.13	93.38	96.88		S	S
MATIN	PLANT	104 - 182 DA-A	8	26.09	8.00	71.50	71.56	0.00	96.50	75.16	0.00	97.00		MS	MT
PAPRH	PLANT	104 - 191 DA-A	9	16.87	5.00	56.50	88.03	75.00	100.00	78.78	10.00	100.00		S	S
POAAN	PLANT	130 - 182 DA-A	4	30.06	8.00	93.25	83.38	78.75	88.75	90.25	88.50	95.00		MS	MS
	EAR	130 - 130 DA-A	1	57.75	57.75	57.75	88.92	88.92	88.92	89.32	89.32	89.32		S	S
STELS	PLANT	132 - 140 DA-A	2	15.30	15.30	15.30	83.50	80.00	87.00	89.88	88.75	91.00		MS	MS
STEME	PLANT	130 - 182 DA-A	3	50.83	8.75	88.50	87.75	82.00	91.25	89.00	85.75	95.00		S	S

Table 0-23 Orthogonal comparison between GLOB1310aH at 1.5 L/ha and reference products containing 400 g/L flufenacet + 200 g/L diflufenican in pre-emergence application across all EPPO Zones + susceptibilities

Target	Part rated	Timing	n	Infestation in the untreated control (#/m²)			Max. control						# trials >, <, = comp. to standard > 5% diff.	Suscept. (EU)	Suscept. (UK)
							GLOB1310aH - 1.5 L/ha			Ref. Flu. Dif.					
				Mean	Min	Max	Mean	Min	Max	Mean	Min	Max			
ALOMY	PLANT	171 - 251 DA-A	13	59.23	7.25	191.50	83.10	63.75	100.00	96.42	90.00	100.00	4x =, 9x <	MS	MS
	EAR	188 - 251 DA-A	13	160.95	11.25	615.25	81.47	55.09	98.91	93.72	77.13	100.00	4x =, 9x <	MS	MS
APESV	PLANT	176 - 276 DA-A	7	15.68	5.50	29.00	93.75	80.00	100.00	96.61	86.25	100.00	6x =, 1x <	S	S
	EAR	176 - 276 DA-A	7	34.43	5.00	116.50	96.10	86.04	100.00	99.69	97.86	100.00	6x =, 1x <	HS	S
AVEFA	PLANT	148 - 238 DA-A	1	34.25	34.25	34.25	56.00	56.00	56.00	64.54	64.54	64.54	1x =	MT	-
AVEST	PLANT	104 - 182 DA-A	1	17.50	17.50	17.50	55.00	55.00	55.00	65.00	65.00	65.00	1x <	MT	-
BRSNW	PLANT	200 - 233 DA-A	1	4.50	4.50	4.50	33.75	33.75	33.75	68.75	68.75	68.75	1x <	-	-
CAPBP	PLANT	104 - 233 DA-A	2	34.13	29.75	38.50	92.50	85.00	100.00	95.00	90.00	100.00	2x =	S	S
CENCY	PLANT	240 - 271 DA-A	1	4.75	4.75	4.75	50.00	50.00	50.00	95.00	95.00	95.00	1x <	MT	-
CHYCO	PLANT	132 - 146 DA-A	1	43.00	43.00	43.00	5.00	5.00	5.00	10.00	10.00	10.00	1x =	-	-
FUMOF	PLANT	104 - 271 DA-A	3	31.25	7.00	76.50	50.42	0.00	88.75	92.42	90.00	97.25	1x =, 2x <	MT	-
GALAP	PLANT	130 - 271 DA-A	10	9.13	1.25	16.25	72.50	30.00	100.00	85.08	22.50	100.00	2x >, 3x =, 5x <	MS	MT
	PLANT	130 - 176 DA-A	2	8.13	7.25	9.00	78.75	77.50	80.00	89.38	88.75	90.00	2x <	MS	MS
LOLMU	EAR	130 - 176 DA-A	2	38.38	6.75	70.00	92.47	91.63	93.30	95.13	93.38	96.88	2x =	S	S
	PLANT	213 - 215 DA-A	1	10.25	10.25	10.25	100.00	100.00	100.00	100.00	100.00	100.00	1x =	HS	S
MATIN	PLANT	104 - 276 DA-A	13	18.60	5.00	64.50	83.40	0.00	100.00	87.87	0.00	100.00	9x =, 4x <	MS	MS
MYOAR	PLANT	188 - 276 DA-A	1	7.00	7.00	7.00	100.00	100.00	100.00	100.00	100.00	100.00	1x =	HS	S
PAPRH	PLANT	104 - 276 DA-A	11	13.52	5.25	32.75	92.84	72.50	100.00	86.32	10.00	100.00	1x >, 8x =, 2x <	S	S
	PLANT	130 - 271 DA-A	4	16.38	8.00	25.00	93.13	72.50	100.00	97.13	88.50	100.00	3x >, 1x <	S	S
POAAN	EAR	130 - 251 DA-A	2	70.63	57.75	83.50	92.66	85.32	100.00	94.66	89.32	100.00	2x =	S	S
	PLANT	190 - 251 DA-A	1	6.50	6.50	6.50	46.25	46.25	46.25	100.00	100.00	100.00	1x <	-	-
SENVU	PLANT	130 - 276 DA-A	10	18.08	4.00	55.25	95.10	72.50	100.00	97.20	85.75	100.00	8x =, 2x <	HS	S
THLAR	PLANT	233 - 271 DA-A	2	9.13	7.50	10.75	100.00	100.00	100.00	100.00	100.00	100.00	2x =	HS	S
VERHE	PLANT	200 - 239 DA-A	3	8.00	5.50	11.00	70.33	48.75	98.50	95.42	92.50	100.00	1x =, 2x <	MS	MT
VERPE	PLANT	207 - 271 DA-A	5	20.05	5.50	26.50	96.60	92.50	100.00	100.00	100.00	100.00	4x =, 1x <	HS	S
VIOAR	PLANT	167 - 271 DA-A	7	14.32	5.75	22.75	75.71	0.00	100.00	99.46	96.25	100.00	3x =, 4x <	MS	MS

Table 0-24 Orthogonal comparison between GLOB1310aH at 1.5 L/ha and reference products containing 400 g/L flufenacet + 200 g/L diflufenican in pre-emergence application in the Maritime EPPO Zone + susceptibilities

Target	Part rated	Timing	n	Infestation in the untreated control (#/m²)			Max. control							Suscept. (EU)	Suscept. (UK)
							GLOB1310aH - 1.5 L/ha			Ref. Flu. Dif.					
				Mean	Min	Max	Mean	Min	Max	Mean	Min	Max			
ALOMY	PLANT	171 - 251 DA-A	11	66.55	7.25	191.50	82.07	63.75	98.50	96.57	90.00	100.00		MS	MS
	EAR	188 - 251 DA-A	11	184.53	11.25	615.25	79.89	55.09	98.25	93.31	77.13	100.00		MS	MS
APESV	PLANT	233 - 276 DA-A	3	16.75	5.50	29.00	97.08	91.25	100.00	100.00	100.00	100.00		HS	S
	EAR	233 - 276 DA-A	3	52.08	6.50	116.50	97.22	91.67	100.00	100.00	100.00	100.00		HS	S
AVEFA	PLANT	148 - 238 DA-A	1	34.25	34.25	34.25	56.00	56.00	56.00	64.54	64.54	64.54		MT	
BRSNW	PLANT	233 - 233 DA-A	1	4.50	4.50	4.50	33.75	33.75	33.75	68.75	68.75	68.75			
CAPBP	PLANT	233 - 233 DA-A	1	29.75	29.75	29.75	100.00	100.00	100.00	100.00	100.00	100.00		HS	S
CENCY	PLANT	271 - 271 DA-A	1	4.75	4.75	4.75	50.00	50.00	50.00	95.00	95.00	95.00		MT	
FUMOF	PLANT	184 - 271 DA-A	2	43.38	10.25	76.50	31.25	0.00	62.50	93.63	90.00	97.25			
GALAP	PLANT	167 - 271 DA-A	6	8.83	1.25	16.25	73.13	45.00	92.50	92.08	72.50	100.00		MS	MT
MATCH	PLANT	213 - 215 DA-A	1	10.25	10.25	10.25	100.00	100.00	100.00	100.00	100.00	100.00		HS	S
MATIN	PLANT	206 - 276 DA-A	5	18.05	5.00	29.75	99.50	97.50	100.00	100.00	100.00	100.00		HS	S
MYOAR	PLANT	188 - 276 DA-A	1	7.00	7.00	7.00	100.00	100.00	100.00	100.00	100.00	100.00		HS	S
PAPRH	PLANT	190 - 276 DA-A	4	16.81	5.50	32.75	99.69	98.75	100.00	99.69	98.75	100.00		HS	S
POAAN	PLANT	171 - 271 DA-A	2	19.25	13.50	25.00	100.00	100.00	100.00	100.00	100.00	100.00		HS	S
	EAR	251 - 251 DA-A	1	83.50	83.50	83.50	100.00	100.00	100.00	100.00	100.00	100.00		HS	S
SENVU	PLANT	190 - 251 DA-A	1	6.50	6.50	6.50	46.25	46.25	46.25	100.00	100.00	100.00			
STEME	PLANT	188 - 276 DA-A	5	14.30	4.00	45.00	99.70	98.50	100.00	100.00	100.00	100.00		HS	S
THLAR	PLANT	233 - 271 DA-A	2	9.13	7.50	10.75	100.00	100.00	100.00	100.00	100.00	100.00		HS	S
VERHE	PLANT	231 - 239 DA-A	1	5.50	5.50	5.50	98.50	98.50	98.50	100.00	100.00	100.00		HS	S
VERPE	PLANT	233 - 271 DA-A	3	24.25	21.25	26.50	96.00	92.50	100.00	100.00	100.00	100.00		HS	S
VIOAR	PLANT	167 - 271 DA-A	4	14.06	5.75	22.75	62.81	0.00	100.00	100.00	100.00	100.00		MT	MT

Table 0-25 Orthogonal comparison between GLOB1310aH at 1.5 L/ha and reference products containing 400 g/L flufenacet + 200 g/L diflufenican in pre-emergence application in Poland + susceptibilities

Target	Part rated	Timing	n	Infestation in the untreated control (#/m²)			Max. control							Suscept. (EU)	Suscept. (UK)
							GLOB1310aH - 1.5 L/ha			Ref. Flu. Dif.					
				Mean	Min	Max	Mean	Min	Max	Mean	Min	Max			
ALOMY	PLANT	209 - 232 DA-A	2	19.00	13.25	24.75	88.75	77.50	100.00	95.63	91.25	100.00		S	S
	EAR	209 - 232 DA-A	2	31.25	24.75	37.75	90.14	81.36	98.91	96.02	92.03	100.00		S	S
APESV	PLANT	193 - 257 DA-A	3	17.92	7.25	24.00	95.00	85.00	100.00	96.67	90.00	100.00		HS	S
	EAR	230 - 257 DA-A	3	26.58	22.50	33.25	95.35	86.04	100.00	99.29	97.86	100.00		HS	S
GALAP	PLANT	200 - 257 DA-A	2	8.25	7.75	8.75	65.00	30.00	100.00	61.25	22.50	100.00		MT	MT
MATIN	PLANT	200 - 252 DA-A	3	11.08	8.50	14.50	94.17	82.50	100.00	99.58	98.75	100.00		S	S
PAPRH	PLANT	200 - 252 DA-A	2	11.88	10.50	13.25	100.00	100.00	100.00	100.00	100.00	100.00		HS	S
STEME	PLANT	200 - 231 DA-A	3	15.08	7.50	29.75	100.00	100.00	100.00	100.00	100.00	100.00		HS	S
VERHE	PLANT	200 - 231 DA-A	2	9.25	7.50	11.00	56.25	48.75	63.75	93.13	92.50	93.75		MT	
VERPE	PLANT	207 - 232 DA-A	2	13.75	5.50	22.00	97.50	95.00	100.00	100.00	100.00	100.00		HS	S
VIOAR	PLANT	200 - 252 DA-A	3	14.67	9.00	20.00	92.92	78.75	100.00	98.75	96.25	100.00		S	S

Table 0-26 Orthogonal comparison between GLOB1310aH at 1.5 L/ha and reference products containing 400 g/L flufenacet + 200 g/L diflufenican in pre-emergence application in Poland, Czech and Germany + susceptibilities

Target	Part rated	Timing	n	Infestation in the untreated control (#/m²)			Max. control							Suscept. (EU)	Suscept. (UK)
							GLOB1310aH - 1.5 L/ha			Ref. Flu. Dif.					
				Mean	Min	Max	Mean	Min	Max	Mean	Min	Max			
ALOMY	PLANT	206 - 251 DA-A	7	32.93	7.25	82.25	88.68	77.50	100.00	97.54	91.25	100.00		S	S
	EAR	206 - 251 DA-A	7	80.72	11.25	164.50	86.97	78.15	98.91	95.06	86.08	100.00		S	S
APESV	PLANT	193 - 276 DA-A	6	17.33	5.50	29.00	96.04	85.00	100.00	98.33	90.00	100.00		HS	S
	EAR	230 - 276 DA-A	6	39.33	6.50	116.50	96.29	86.04	100.00	99.64	97.86	100.00		HS	S
BRSNW	PLANT	200 - 233 DA-A	1	4.50	4.50	4.50	33.75	33.75	33.75	68.75	68.75	68.75			
CAPBP	PLANT	213 - 233 DA-A	1	29.75	29.75	29.75	100.00	100.00	100.00	100.00	100.00	100.00		HS	S
CENCY	PLANT	240 - 271 DA-A	1	4.75	4.75	4.75	50.00	50.00	50.00	95.00	95.00	95.00		MT	
FUMOF	PLANT	184 - 271 DA-A	2	43.38	10.25	76.50	31.25	0.00	62.50	93.63	90.00	97.25			
GALAP	PLANT	188 - 271 DA-A	6	9.04	4.00	16.25	68.54	30.00	100.00	81.67	22.50	100.00		MT	MT
MATIN	PLANT	200 - 276 DA-A	8	15.44	5.00	29.75	97.50	82.50	100.00	99.84	98.75	100.00		HS	S
MYOAR	PLANT	188 - 276 DA-A	1	7.00	7.00	7.00	100.00	100.00	100.00	100.00	100.00	100.00		HS	S
PAPRH	PLANT	200 - 276 DA-A	5	11.65	5.50	16.00	100.00	100.00	100.00	100.00	100.00	100.00		HS	S
STEME	PLANT	198 - 276 DA-A	6	11.29	4.50	29.75	100.00	100.00	100.00	100.00	100.00	100.00		HS	S
THLAR	PLANT	233 - 271 DA-A	2	9.13	7.50	10.75	100.00	100.00	100.00	100.00	100.00	100.00		HS	S
VERHE	PLANT	200 - 239 DA-A	3	8.00	5.50	11.00	70.33	48.75	98.50	95.42	92.50	100.00		MS	MT
VERPE	PLANT	207 - 271 DA-A	4	19.75	5.50	26.50	96.88	92.50	100.00	100.00	100.00	100.00		HS	S
VIOAR	PLANT	188 - 271 DA-A	7	14.32	5.75	22.75	75.71	0.00	100.00	99.46	96.25	100.00		MS	MS

Table 0-27 Orthogonal comparison between GLOB1310aH at 1.5 L/ha and reference products containing 400 g/L flufenacet + 200 g/L diflufenican in pre-emergence application in the Mediterranean EPPO Zone + susceptibilities

Target	Part rated	Timing	n	Infestation in the untreated control (#/m²)			Max. control							Suscept. (EU)	Suscept. (UK)
							GLOB1310aH - 1.5 L/ha			Ref. Flu. Dif.					
				Mean	Min	Max	Mean	Min	Max	Mean	Min	Max			
APESV	PLANT	176 - 176 DA-A	1	5.75	5.75	5.75	80.00	80.00	80.00	86.25	86.25	86.25		MS	MS
	EAR	176 - 176 DA-A	1	5.00	5.00	5.00	95.00	95.00	95.00	100.00	100.00	100.00		HS	S
AVEST	PLANT	104 - 182 DA-A	1	17.50	17.50	17.50	55.00	55.00	55.00	65.00	65.00	65.00		MT	
CAPBP	PLANT	104 - 104 DA-A	1	38.50	38.50	38.50	85.00	85.00	85.00	90.00	90.00	90.00		S	S
CHYCO	PLANT	132 - 146 DA-A	1	43.00	43.00	43.00	5.00	5.00	5.00	10.00	10.00	10.00			
FUMOF	PLANT	104 - 104 DA-A	1	7.00	7.00	7.00	88.75	88.75	88.75	90.00	90.00	90.00		S	S
GALAP	PLANT	130 - 182 DA-A	2	10.88	7.75	14.00	78.13	73.75	82.50	87.88	86.25	89.50		MS	MS
	PLANT	130 - 176 DA-A	2	8.13	7.25	9.00	78.75	77.50	80.00	89.38	88.75	90.00		MS	MS
LOLMU	EAR	130 - 176 DA-A	2	38.38	6.75	70.00	92.47	91.63	93.30	95.13	93.38	96.88		S	S
MATIN	PLANT	104 - 182 DA-A	5	23.65	8.00	64.50	60.85	0.00	98.00	68.70	0.00	97.00		MT	MT
PAPRH	PLANT	104 - 191 DA-A	5	11.55	5.25	21.25	84.50	72.50	100.00	70.15	10.00	100.00		MS	MS
POAAN	PLANT	130 - 182 DA-A	1	8.00	8.00	8.00	72.50	72.50	72.50	88.50	88.50	88.50		MS	MT
	EAR	130 - 130 DA-A	1	57.75	57.75	57.75	85.32	85.32	85.32	89.32	89.32	89.32		S	S
STEME	PLANT	130 - 182 DA-A	2	32.00	8.75	55.25	76.25	72.50	80.00	86.00	85.75	86.25		MS	MS

The tables below show the summarized efficacy results of GLOB1310aH at the 1.5 L/ha dose rate. This table also includes efficacy data that was extrapolated from results obtained with the 1.2 L/ha dose rate, as it can be expected that the higher dose rate will perform at least as good as the lower dose rate.

Table 0-28 Summary of GLOB1310aH at 1.5 L/ha in pre-emergence application (incl. extrapolated data) across all EPPO Zones + susceptibilities

Target	Part rated	Timing	n	Infestation in the untreated control (#/m²)			Max. control			Suscept. (EU)	Suscept. (UK)	
							GLOB1310aH - 1.5 L/ha					
				Mean	Min	Max	Mean	Min	Max			
ALOMY	PLANT	171 - 251 DA-A	24	61.48	5.75	252.00	79.52	40.00	100.00	MS	MS	
	EAR	188 - 251 DA-A	24	130.14	11.25	615.25	78.04	45.08	98.91	MS	MS	
APESV	PLANT	176 - 276 DA-A	12	18.81	5.25	52.00	93.13	71.25	100.00	S	S	
	EAR	176 - 276 DA-A	12	42.58	5.00	196.50	94.86	71.83	100.00	S	S	
AVEFA	PLANT	148 - 238 DA-A	3	21.15	10.50	34.25	58.17	50.00	68.50	MT	-	
AVEST	PLANT	104 - 182 DA-A	3	10.00	5.00	17.50	58.33	47.50	72.50	MT	-	
	EAR	182 - 225 DA-A	2	6.38	5.25	7.50	81.44	75.83	87.05	MS	MS	
BR\$NW	PLANT	200 - 233 DA-A	2	7.25	4.50	10.00	58.75	33.75	83.75	MT		
CAPBP	PLANT	104 - 233 DA-A	3	29.25	19.50	38.50	95.00	85.00	100.00	HS	S	
CENCY	PLANT	240 - 271 DA-A	2	35.63	4.75	66.50	61.25	50.00	72.50	MT	MT	
CHYCO	PLANT	132 - 146 DA-A	2	24.75	6.50	43.00	40.38	5.00	75.75	-	-	
FUMOF	PLANT	104 - 271 DA-A	6	23.88	7.00	76.50	55.71	0.00	90.00	MT	-	
GALAP	PLANT	130 - 271 DA-A	24	9.71	1.25	25.00	65.92	0.00	100.00	MT	MT	
GERPU	PLANT	188 - 231 DA-A	2	7.00	5.25	8.75	50.63	5.00	96.25	MT	-	
LOLMU	PLANT	130 - 176 DA-A	4	13.21	7.25	18.30	79.88	77.50	82.00	MS	MS	
	EAR	130 - 176 DA-A	2	38.38	6.75	70.00	92.47	91.63	93.30	S	S	
LOLSS*	PLANT	130-181 DA-A	6	16.48	7.25	35.00	83.67	77.50	100.00	MS	MS	*LOLSS includes data from LOLMU, LOLPE and LOLRI
	EAR	130-219 DA-A	5	38.80	6.75	70.00	94.13	91.02	100.00	S	S	
MATCH	PLANT	213 - 215 DA-A	2	17.63	10.25	25.00	95.50	91.00	100.00	HS	S	
MATIN	PLANT	104 - 276 DA-A	24	22.19	5.00	101.00	78.73	0.00	100.00	MS	MS	
MYOAR	PLANT	188 - 276 DA-A	2	6.00	5.00	7.00	100.00	100.00	100.00	HS	S	
PAPRH	PLANT	104 - 276 DA-A	25	18.32	4.50	81.50	88.05	50.00	100.00	S	S	
POAAN	PLANT	130 - 271 DA-A	12	21.77	5.00	93.25	87.90	65.00	100.00	S	S	
	EAR	130 - 251 DA-A	4	54.00	22.00	83.50	87.79	65.85	100.00	S	S	
SENVU	PLANT	190 - 251 DA-A	3	14.42	4.75	32.00	52.08	37.50	72.50	MT	-	
STELS	PLANT	132 - 140 DA-A	2	15.30	15.30	15.30	71.63	69.50	73.75	MS	MT	
STEME	PLANT	130 - 276 DA-A	18	21.82	4.00	88.50	93.57	72.50	100.00	S	S	
THLAR	PLANT	233 - 271 DA-A	2	9.13	7.50	10.75	100.00	100.00	100.00	HS	S	
VERHE	PLANT	200 - 239 DA-A	6	8.67	5.00	14.00	77.04	48.75	100.00	MS	MS	
VERPE	PLANT	207 - 271 DA-A	6	19.00	5.50	26.50	97.13	92.50	100.00	HS	S	
VIOAR	PLANT	167 - 271 DA-A	16	23.18	5.75	64.75	60.39	0.00	100.00	MT	MT	

Table 0-29 Summary of GLOB1310aH at 1.5 L/ha in pre-emergence application (incl. extrapolated data) in the Maritime EPPO Zone + susceptibilities

Target	Part rated	Timing	n	Infestation in the untreated control (#/m²)			Max. control			Suscept. (EU)	Suscept. (UK)
							GLOB1310aH - 1.5 L/ha				
				Mean	Min	Max	Mean	Min	Max		
ALOMY	PLANT	171 - 251 DA-A	21	67.80	5.75	252.00	78.33	40.00	98.50	MS	MS
	EAR	188 - 251 DA-A	21	144.27	11.25	615.25	76.42	45.08	98.25	MS	MS
APESV	PLANT	233 - 276 DA-A	4	13.88	5.25	29.00	97.81	91.25	100.00	HS	S
	EAR	233 - 276 DA-A	4	41.75	6.50	116.50	97.92	91.67	100.00	HS	S
AVEFA	PLANT	148 - 238 DA-A	3	21.15	10.50	34.25	58.17	50.00	68.50	MT	

BRSNW	PLANT	233 - 233 DA-A	1	4.50	4.50	4.50	33.75	33.75	33.75		
CAPBP	PLANT	233 - 233 DA-A	1	29.75	29.75	29.75	100.00	100.00	100.00	HS	S
CENCY	PLANT	271 - 271 DA-A	1	4.75	4.75	4.75	50.00	50.00	50.00	MT	
FUMOF	PLANT	184 - 271 DA-A	5	27.26	10.25	76.50	49.10	0.00	90.00		
GALAP	PLANT	167 - 271 DA-A	11	10.82	1.25	25.00	60.11	0.00	100.00	MT	MT
GERPU	PLANT	188 - 188 DA-A	1	8.75	8.75	8.75	5.00	5.00	5.00		
MATCH	PLANT	213 - 215 DA-A	2	17.63	10.25	25.00	95.50	91.00	100.00	HS	S
MATIN	PLANT	206 - 276 DA-A	9	25.72	5.00	101.00	84.03	48.75	100.00	MS	MS
MYOAR	PLANT	188 - 276 DA-A	2	6.00	5.00	7.00	100.00	100.00	100.00	HS	S
PAPRH	PLANT	190 - 276 DA-A	9	25.92	5.50	81.50	93.47	56.25	100.00	S	S
POAAN	PLANT	171 - 271 DA-A	3	24.25	13.50	34.25	97.33	92.00	100.00	HS	S
	EAR	251 - 251 DA-A	1	83.50	83.50	83.50	100.00	100.00	100.00	HS	S
SENVU	PLANT	190 - 251 DA-A	3	14.42	4.75	32.00	52.08	37.50	72.50	MT	
STEME	PLANT	188 - 276 DA-A	8	20.00	4.00	61.50	99.31	96.75	100.00	HS	S
THLAR	PLANT	233 - 271 DA-A	2	9.13	7.50	10.75	100.00	100.00	100.00	HS	S
VERHE	PLANT	231 - 239 DA-A	2	9.75	5.50	14.00	85.50	72.50	98.50	S	S
VERPE	PLANT	233 - 271 DA-A	3	24.25	21.25	26.50	96.00	92.50	100.00	HS	S
VIOAR	PLANT	167 - 271 DA-A	10	25.56	5.75	64.75	50.25	0.00	100.00	MT	

Table 0-30 Summary of GLOB1310aH at 1.5 L/ha in pre-emergence application (incl. extrapolated data) in Poland + susceptibilities

Target	Part rated	Timing	n	Infestation in the untreated control (#/m²)			Max. control			Suscept. (EU)	Suscept. (UK)
							GLOB1310aH - 1.5 L/ha				
				Mean	Min	Max	Mean	Min	Max		
ALOMY	PLANT	209 - 232 DA-A	3	17.25	13.25	24.75	87.83	77.50	100.00	S	S
	EAR	209 - 232 DA-A	3	31.25	24.75	37.75	89.42	81.36	98.91	S	S
APESV	PLANT	193 - 257 DA-A	7	23.50	7.25	52.00	92.32	71.25	100.00	S	S
	EAR	230 - 257 DA-A	7	48.43	9.00	196.50	93.10	71.83	100.00	S	S
BRSNW	PLANT	200 - 200 DA-A	1	10.00	10.00	10.00	83.75	83.75	83.75	MS	MS
CAPBP	PLANT	213 - 213 DA-A	1	19.50	19.50	19.50	100.00	100.00	100.00	HS	S
CENCY	PLANT	240 - 240 DA-A	1	66.50	66.50	66.50	72.50	72.50	72.50	MS	MT
GALAP	PLANT	200 - 257 DA-A	8	8.44	4.00	18.25	65.63	30.00	100.00	MT	MT
GERPU	PLANT	231 - 231 DA-A	1	5.25	5.25	5.25	96.25	96.25	96.25	HS	S
MATIN	PLANT	200 - 252 DA-A	7	13.18	5.75	34.50	87.54	66.25	100.00		S
PAPRH	PLANT	200 - 252 DA-A	7	10.43	4.50	18.50	91.43	73.75	100.00	S	S
POAAN	PLANT	200 - 231 DA-A	5	13.65	5.00	19.00	91.30	65.00	100.00	S	S
	EAR	213 - 233 DA-A	2	37.38	22.00	52.75	82.93	65.85	100.00	MS	MS
STEME	PLANT	200 - 231 DA-A	7	11.46	5.75	29.75	93.89	76.25	100.00	S	S
VERHE	PLANT	200 - 231 DA-A	4	8.13	5.00	11.00	72.81	48.75	100.00	MS	MT
VERPE	PLANT	207 - 232 DA-A	3	13.75	5.50	22.00	98.25	95.00	100.00	HS	S
VIOAR	PLANT	200 - 252 DA-A	6	19.21	9.00	31.50	77.29	31.25	100.00	MS	MS

Table 0-31 Summary of GLOB1310aH at 1.5 L/ha in pre-emergence application (incl. extrapolated data) in Poland, Czech and Germany + susceptibilities

Target	Part rated	Timing	n	Infestation in the untreated control (#/m²)			Max. control			Suscept. (EU)	Suscept. (UK)
							GLOB1310aH - 1.5 L/ha				
				Mean	Min	Max	Mean	Min	Max		
ALOMY	PLANT	206 - 251 DA-A	13	59.83	5.75	252.00	82.87	40.00	100.00	MS	MS
	EAR	206 - 251 DA-A	13	93.35	11.25	244.75	81.26	45.08	98.91	MS	MS
APESV	PLANT	193 - 276 DA-A	11	20.00	5.25	52.00	94.32	71.25	100.00	S	S
	EAR	230 - 276 DA-A	11	46.00	6.50	196.50	94.85	71.83	100.00	S	S
BRSNW	PLANT	200 - 233 DA-A	2	7.25	4.50	10.00	58.75	33.75	83.75	MT	
CAPBP	PLANT	213 - 233 DA-A	2	24.63	19.50	29.75	100.00	100.00	100.00	HS	S
CENCY	PLANT	240 - 271 DA-A	2	35.63	4.75	66.50	61.25	50.00	72.50	MT	MT
FUMOF	PLANT	184 - 271 DA-A	4	28.58	10.25	76.50	38.88	0.00	83.00		
GALAP	PLANT	188 - 271 DA-A	15	10.25	4.00	25.00	62.00	0.00	100.00	MT	MT
GERPU	PLANT	188 - 231 DA-A	2	7.00	5.25	8.75	50.63	5.00	96.25	MT	
MATCH	PLANT	213 - 213 DA-A	1	25.00	25.00	25.00	91.00	91.00	91.00	S	S
MATIN	PLANT	200 - 276 DA-A	14	13.96	5.00	34.50	89.75	60.00	100.00	S	S
MYOAR	PLANT	188 - 276 DA-A	2	6.00	5.00	7.00	100.00	100.00	100.00	HS	S
PAPRH	PLANT	200 - 276 DA-A	11	10.48	4.50	18.50	94.55	73.75	100.00	S	S
POAAN	PLANT	200 - 271 DA-A	6	15.54	5.00	25.00	92.75	65.00	100.00	S	S
	EAR	213 - 233 DA-A	2	37.38	22.00	52.75	82.93	65.85	100.00	MS	MS
STEME	PLANT	198 - 276 DA-A	11	11.25	4.50	29.75	96.05	76.25	100.00	HS	S
THLAR	PLANT	233 - 271 DA-A	2	9.13	7.50	10.75	100.00	100.00	100.00	HS	S
VERHE	PLANT	200 - 239 DA-A	5	7.60	5.00	11.00	77.95	48.75	100.00	MS	MS
VERPE	PLANT	207 - 271 DA-A	5	18.55	5.50	26.50	97.45	92.50	100.00	HS	S
VIOAR	PLANT	188 - 271 DA-A	13	18.90	5.75	56.25	60.96	0.00	100.00	MT	MT

Table 0-32 Summary of GLOB1310aH at 1.5 L/ha in pre-emergence application (incl. extrapolated data) in the Mediterranean EPPO Zone + susceptibilities

Target	Part rated	Timing	n	Infestation in the untreated control (#/m²)			Max. control			Suscept. (EU)	Suscept. (UK)	
							GLOB1310aH - 1.5 L/ha					
				Mean	Min	Max	Mean	Min	Max			
APESV	PLANT	176 - 176 DA-A	1	5.75	5.75	5.75	80.00	80.00	80.00	MS	MS	
	EAR	176 - 176 DA-A	1	5.00	5.00	5.00	95.00	95.00	95.00	HS	S	
AVEST	PLANT	104 - 182 DA-A	3	10.00	5.00	17.50	58.33	47.50	72.50	MT		
	EAR	182 - 225 DA-A	2	6.38	5.25	7.50	81.44	75.83	87.05	MS	MS	
CAPBP	PLANT	104 - 104 DA-A	1	38.50	38.50	38.50	85.00	85.00	85.00	S	S	
CHYCO	PLANT	132 - 146 DA-A	2	24.75	6.50	43.00	40.38	5.00	75.75			
FUMOF	PLANT	104 - 104 DA-A	1	7.00	7.00	7.00	88.75	88.75	88.75	S	S	
GALAP	PLANT	130 - 182 DA-A	5	9.32	7.75	14.00	79.15	73.75	85.00	MS	MS	
LOLMU	PLANT	130 - 176 DA-A	4	13.21	7.25	18.30	79.88	77.50	82.00	MS	MS	
	EAR	130 - 176 DA-A	2	38.38	6.75	70.00	92.47	91.63	93.30	S	S	
LOLSS*	PLANT	130-181 DA-A	6	16.48	7.25	35.00	83.67	77.50	100.00	MS	MS	*LOLSS includes data from LOLMU, LOLPE and LOLRI
	EAR	130-219 DA-A	5	38.80	6.75	70.00	94.13	91.02	100.00	S	S	
MATIN	PLANT	104 - 182 DA-A	8	26.09	8.00	71.50	65.06	0.00	98.00	MT	MT	
PAPRH	PLANT	104 - 191 DA-A	9	16.87	5.00	56.50	80.00	50.00	100.00	MS	MS	
POAAN	PLANT	130 - 182 DA-A	4	30.06	8.00	93.25	76.56	72.50	85.00	MS	MS	
	EAR	130 - 130 DA-A	1	57.75	57.75	57.75	85.32	85.32	85.32	S	S	
STELS	PLANT	132 - 140 DA-A	2	15.30	15.30	15.30	71.63	69.50	73.75	MS	MT	
STEME	PLANT	130 - 182 DA-A	3	50.83	8.75	88.50	77.50	72.50	80.00	MS	MS	

Conclusion

The trial results and summaries demonstrate the good efficacy of the pre-emergence application of GLOB1310aH on winter cereals at the 2 L/ha dose rate against ALOMY and at the 1.5 L/ha dose rate against the other annual grasses and broadleaved weeds.

The orthogonal comparisons to the reference product included in the trials demonstrate equivalent performance of GLOB1310aH at the requested dose rate.

Pre-emergence application in the Maritime EPPO Zone

Data were obtained from a total of 29 trials in winter cereals, conducted between 2018 and 2020, to assess the effectiveness of GLOB1310aH for control of annual grasses and broadleaved weeds in winter cereals wheat (20) (TRZAW), barley (6)(HORVW), rye (1)(SECCW), and triticale (2) (TTLWI).

All trials have been carried out according to EPPO Standards EPPO PP 1/152 (4), 1/135 (4), 1/181 (4), 1/225(2) and 1/93(3) with the principles of Good Experimental Practice (GEP). Trials were undertaken either in the the Czech Republic, Northern France, Germany or the the United Kingdom. GLOB1310aH is proposed for use as a pre-emergence (BBCH 00-09) herbicide and was once applied at the full intended application rates of 1,5 or 2 L/ha. This product was applied with a water volume of 200-400 l/ha. Some results include efficacy data that were extrapolated from results obtained at 1.2 l/ha. This approach is considered to be acceptable as it can be expected that the higher dose rate will perform at least as good as the lower dose rate. All trials included the reference product NACETO with 400 g/L flufenacet and 200 g/L diflufenican, plus the reference product BOXER 800 SC in some trials. A comparison of the GLOB1310aH with the NACETO was considered a general summary. No trials were conducted in winter durum wheat (TRZDW) or winter oat (AVESW). Since application was carried out at early crop stages (BBCH 00-09), differences in efficacy are not expected and extrapolation from other presented crops is possible.

Control was assessed visually where 0% = no control, 100% = complete control. Based on “National guidance” the susceptibility will be rated on the following scale:

% efficacy	Weed species susceptibility
at least a 85 %	Susceptible (S)
70 - 85 %	Moderately Susceptible (MS)
60% - 70%	Moderately Resistant (MR)

Tab. 1. Summary of mean percentage control of weeds following a single application of GLOB1310aH in winter cereals – Maritime climatic zone trials

Target	Timing	Infestation in the untreated control (n/m ²)	% Mean Efficacy Achieved		
			GLOB1310aH – 1,5 L/ha	GLOB1310aH – 2 L/ha	NACETO – 0,6 L/ha
		Mean Min-max	(N) Mean Min-Max	(N) Mean Min-Max	Mean Min-Max
ALOMY <i>Alopecurus myosuroides</i>	171 - 251 DA-A	67,80 5,75-252,00	(21) 78,3 40,0-98,5	(21) 87,4 55,0-99,0	93,9 76,25-100
APESV <i>Apera spica-venti</i>	233 - 276 DA-A	13,88 5,25-29,00	(4) 97,8 91,2-100	(4) 97,8 91,25-100	100 100
POAAN <i>Poa annua</i>	171 - 271 DA-A	24,25 13,50-34,25	(3) 97,3 92,0-100	(3) 98,8 96,50-100	98,9 96,75-100
MYOAR <i>Myosotis arvensis</i>	188 - 276 DA-A	6,00 5,00-7,00	(2) 100 100	(2) 100 100	100 100
MATIN <i>Tripleusperrum inodorum</i>	206 - 276 DA-A	25,72 5,00-101	(9) 84,0 48,7-100	(9) 93,3 63,75-100	98,3 87,50-100

PAPRH <i>Papaver rhoeas</i>	190 - 276 DA-A	25,92 5,50-81,50	(9) 93,5 56,2-100	(9) 95,7 71,25-100	99,2 95,50-100
STEME <i>Stellaria media</i>	188 - 276 DA-A	20,00 4,00-61,50	(8) 99,3 96,7-100	(8) 99,7 98,00-100	99,9 99,00-100
VERPE <i>Veronica persica</i>	233 - 271 DA-A	24,25 21,25-26,50	(3) 96,0 92,5-100	(3) 100 100	100 100
VERHE <i>Veronica hederifolia</i>	231 - 239 DA-A	9,75 5,50-14,00	(2) 85,5 72,5-98,5	(2) 96,1 92,50-99,75	100 100
MATCH <i>Matricaria chamomilla</i>	213 - 215 DA-A	17,63 10,25-25,00	(2) 95,5 91,0-100	(2) 100 100	99,6 99,25-100
THLAR <i>Thlaspi arvense</i>	233 - 271 DA-A	9,13 7,5-10,75	(2) 100 100	(2) 100 100	100 100
GALAP <i>Galium aparine</i>	167 - 271 DA-A	10,82 1,25-25,00	(11) 60,1 0,0-100	(11) 67,4 18,75-100	94,2 72,50-100
VIOAR <i>Viola arvensis</i>	167 - 271 DA-A	25,56 5,75-64,75	(10) 50,2 0,0-100	(10) 64,8 0,0-100	99,7 98,00-100
FUMOF <i>Fumaria officinalis</i>	184 - 271 DA-A	27,26 10,25-76,50	(5) 49,1 0,0-90,0	(5) 55,3 0,0-91,2	93,2 90,00-97,25
AVEFA <i>Avena fatua</i>	148 - 238 DA-A	21,15 10,50-34,25	(3) 58,2 50,0-68,5	(3) 67,2 45,0-87,0	63,5 58,50-67,50
SENVU <i>Senecio vulgaris</i>	190 - 251 DA-A	14,42 4,75-32,00	(3) 52,08 37,5-72,5	(3) 51,2 38,7-75,0	95,6 91,75-100
BRSNW* <i>Brassica napus</i>	233 - 233 DA-A	4,50	(1) 33,7	(1) 32,5	68,7
CAPBP* <i>Capsella bursa-pastoris</i>	233 - 233 DA-A	29,75	(1) 100	(1) 100	100
CENCY* <i>Centaurea cyanus</i>	271 - 271 DA-A	4,75	(1) 50,0	(1) 65,00	95,00
GERPU* <i>Geranium pusillum</i>	188 - 188 DA-A	8,75	(1) 5,0	(1) 30,00	95,00

*The following weeds were only observed in 1 trial and therefore it is considered that there are insufficient data to support a claim against them: BRSNW, CAPBP, CENCY, GERPU.

In these trials GLOB1310aH at the recommended application rate of 2 L/ha provided very good control of the annual broadleaved weeds *Stellaria media*, *Veronica persica*, *Veronica hederifolia*, *Matricaria chamomilla*, *Myosotis arvensis* and *Thlaspi arvense* and annual grasses *Apera spica-venti*, *Poa annua*, minimum control level of greater than 90% was achieved in all trials, indicating that the weeds were fully susceptible. In case of *Papaver rhoeas* and *Tripleusperrum inodorum*, control of these weeds was slightly variable but also very good with an average above 90,0% which would support a claim of susceptible (S). For *Alopecurus myosuroides* from a significant number of trials (21), the average efficacy was just above 85%, indicating that it's fully susceptible (S) at a dose rate of 2 L/ha. However, this susceptibility should be downgraded to moderately susceptible (MS) due to the high variability in results, which ranged from 55 to 99%. *Galium aparine*, *Viola arvensis*, *Fumaria officinalis*, *Avena fatua* and *Senecio vulgaris* were not sufficiently controlled by GLOB1310aH.

A single application of 1,5 L/ha GLOB1310aH gives very good control of *Papaver rhoeas*, *Stellaria media*, *Veronica persica*, *Veronica hederifolia*, *Matricaria chamomilla*, *Thlaspi arvense*, *Myosotis arvensis* and annual grasses *Apera spica-venti*, *Poa annua*.

Looking at the single trial results for *Apera spica-venti*, *Poa annua*, *Myosotis arvensis*, *Stellaria media*, *Veronica persica*, *Matricaria chamomilla*, and *Thlaspi arvense*, their minimum control level was above 90%. Annual grass *Alopecurus myosuroides* and broadleaved weed *Tripleusperrum inodorum* were partially controlled (MS), while *Galium aparine*, *Viola arvensis*, *Fumaria officinalis*, *Avena fatua* and *Senecio vulgaris* were not sufficiently controlled by GLOB1310aH.

The applicant provided also supporting data from efficacy trials performed in the Mediterranean EPPO zone. Presented results are generally comparable to or slightly inferior (e.g. *papaver rhoeas*) to results from the Maritime and Northeast EPPO zones.

It is expected that the relevance of each weed will vary across the Central zone and the zRMS cannot confirm how important each weed is in each cMS. Therefore, the cMS will need to consider if the number of trials is sufficient for each weed depending on the importance of that weed in their country.

North East EPPO zone

A total of 11 trials were carried out in the North-East EPPO Zone to evaluate the efficacy of GLOB1817H for the control of weeds on winter wheat (5), winter barley (2), winter triticale (2), and winter rye (2). Those trials have been conducted between 2018 and 2019 in Poland. Additionally, those trials were combined with the results of the German and Czech trials of winter wheat (7), winter barley (2), winter triticale (2) and winter rye (1). All trials have been carried out according to EPPO Standards EPPO PP 1/152 (4), 1/135 (4), 1/181 (4), 1/225(2) and 1/93(3) with the principles of Good Experimental Practice (GEP). GLOB1310aH is proposed for use as a pre-emergence (BBCH 00-09) herbicide and was once applied at the full intended application rates of 1,5 or 2 L/ha. This product was applied with a water volume of 200-400 l/ha. Some results include efficacy data that were extrapolated from results obtained at 1.2 l/ha. This approach is considered to be acceptable as it can be expected that the higher dose rate will perform at least as good as the lower dose rate. No trials were conducted in winter durum wheat (TRZDW) or winter oat (AVESW). Since application was carried out at early crop stages (BBCH 00-09), differences in efficacy are not expected and extrapolation from other presented crops is possible.

Control was assessed visually where 0% = no control, 100% = complete control. Based on “National guidance” the susceptibility will be rated on the following scale:

% efficacy	Weed species susceptibility
at least a 85 %	Susceptible (S)
70 - 85 %	Moderately Susceptible (MS)
60% - 70%	Moderately Resistant (MR)

Tab. 2. Summary of mean percentage control of weeds following a single application of GLOB1310aH in winter cereals in North-East climatic zone trials

Target	Timing	Infestation in the untreated control (#/m ²)	% Mean Efficacy Achieved		
			GLOB1310aH 1,5 L/ha	GLOB1310aH 2 L/ha	Naceto
		Mean Min-Max	Mean Min-Max	Mean Min-Max	Mean Min-Max
MAJOR WEEDS					
<i>Apera spica-venti</i>	193 - 276 DA-A	23.20 5.25-52.00	(11) 94.3 71.2-100	(5) 97.25 87.5-100	97.25 91.2-100
<i>Alopecurus myosuroides</i>	206 - 251 DA-A	91.21 5.75-252.0	(13) 82.88 40.0-100	(6) 87.75 55.0-99.0	71.29 52.5-99.0
<i>Tripleusperrum inodorum</i>	200 - 276 DA-A	12.00 5.0-34.5	(14) 89.7 60.0-100.0	(6) 94.13 86.25-99.0	75.0 55.0-95.0
<i>Papaver rhoeas</i>	200 - 276 DA-A	9.50 4.50-18.5	(11) 94.5 73.7-100	(6) 95.33 83.75-100	79.2 61.2-100
<i>Galium aparine</i>	188 - 271 DA-A	11.06 4.0-25.0	(15) 62.0 0.0-100.0	(9) 73.59 18.75-100	92.92 80.0-100
<i>Viola arvensis</i>	188 - 271 DA-A	24.25 6.7-56.2	(13) 60.96 0.0-100	(6) 65.25 0.0-91.5	63.9 0.0-80.0
<i>Brassica napus</i>	200 - 233 DA-A	7.2 4.5-10.00	(2) 58.7 33.7-83.7	(1) 88.75	90.00
<i>Centaurea cyanus</i>	240 - 271 DA-A	35.6 4.8-66.5	(2) 61.2 50.0-72.5	(1) 85.0	70.00

MINOR WEEDS					
<i>Poa annua</i>	200 - 271 DA-A	15,54 5.0-25.0	(6) 92.7 65.0-100	(4) 93.13 72.5-100	89.3 71.2-100
<i>Stellaria media</i>	198 - 276 DA-A	11.20 5.7-29.7	(11) 96.0 76.2-100	(5) 95.0 85.0-100	96.2 92.5-100
<i>Veronica persica</i>	207 - 271 DA-A	13.75	(5) 97.4 92.5-100	(1) 100	100.00
<i>Veronica hederifolia</i>	200 - 239 DA-A	7.00 5.0-9.0	(5) 77.9 48.7-100	(2) 93.75 87.5-100	95.0 90.0-100
<i>Capsella bursa-pastoris</i>	213 - 233 DA-A	24,6 19.5-29,7	(2) 100 100	(1) 100	100.00
<i>Myosotis arvensis</i>	188 - 276 DA-A	6,0 5.0-7,0	(2) 100 100	(1) 100	100
<i>Thlaspi arvense</i>	233 - 271 DA-A	9,1 7,5-10,7	(2) 100 100	-	100 100
<i>Geranium pusillum</i>	188 - 231 DA-A	7.00 5.2-8.7	(2) 50.6 5.0-96.25	(2) 65.00 30.00-100.00	100 100
<i>Fumaria officinalis</i>	184 - 271 DA-A	13.78 12.25-15.30	(4) 38.9 0.0-83.0	(2) 56.50 30.0-83.0	92.63 86.2-99.0
<i>Matricaria chamomilla</i>	213 - 213 DA-A	25.00	(1) 91.0	(1) 100	88.0

GLOB1310aH contains a new combination of active ingredients, therefore national guidelines require at least six results for major weeds and at least three results for minor weeds. As the submitted number of results for *Capsella bursa-pastoris*, *Myosotis arvensis*, *Thlaspi arvense*, *Geranium pusillum* is lower than required, these results are considered as not significant and have not been included in the effectiveness assessment.

In these trials GLOB1310aH at the recommended application rate of 2 L/ha provided very good control of the annual broadleaved weeds *Apera spica-venti*, *Tripleusperrum inodorum*, *Papaver rhoeas*, *Poa annua* and *Stellaria media*. *Alopecurus myosuroides* and *Galium aparine* were partially controlled (MS), while *Viola arvensis* was not sufficiently controlled by GLOB1310aH.

A single application of 1,5 L/ha GLOB1310aH gives very good control of *Apera spica-venti*, *Tripleusperrum inodorum*, *Papaver rhoeas*, *Poa annua*, *Stellaria media*, *Veronica persica*. *Alopecurus myosuroides* and *Veronica hederifolia* were partially controlled (MS), while *Galium aparine*, *Viola arvensis*, *Brassica napus*, and *Centaurea cyanus* were not sufficiently controlled by GLOB1310aH.

The applicant provided also supporting data from efficacy trials performed in the Mediterranean EPPO zone. Presented results are generally comparable to or slightly inferior (e.g. *papaver rhoeas*) to results from the Maritime and Northeast EPPO zones.

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

For the intended uses of GLOB1310aH reference is made to the GAP table.

3.3.1 Mode of action and resistance mechanism

Aclofenfen belongs to the chemical family of the diphenyl ethers. Despite its structural similarities to

known inhibitors of protoporphyrinogen oxidase that cause leaf necrose (HRAC/WSSA group 14), it is classified as an inhibitor of Solanesyl Diphosphate Synthase, which is a novel mode of action (HRAC/WSSA group 32) that results in bleaching.

A 2010 study by Kılınç¹ demonstrated that aclonifen inhibits both carotenoid synthesis and chlorophyll synthesis, the latter through inhibition of protoporphyrinogen oxidase. These two modes of action are complementary and thus make resistance to aclonifen less likely to occur. There are no known resistance mechanisms for aclonifen.

Flufenacet belongs to the chemical family of the α -oxyacetamides. It is classified as an inhibitor of Very Long Chain Fatty Acids (HRAC/WSSA group 15). A publication from 2019² screened resistant *Lolium* spp. and demonstrated that resistance was acquired through enhanced glutathione transferase activity.

3.3.2 Evidence of resistance

Ian Heap's Database³ 'The International Survey of herbicide Resistant Weeds' was consulted to look for reported cases of resistance to aclonifen and flufenacet.

At the time of writing this dossier no resistance to aclonifen has been observed after its many years of use.

There are 6 reported instances of resistance to flufenacet, these are shown below.

Table 0-1 Resistance events for flufenacet

Year	Species	Country	MOAs	Actives	Crop
2018	<i>Lolium perenne</i> ssp. <i>multiflorum</i>	France	Very Long-Chain Fatty Acid Synthesis inhibitors (K3/15)	flufenacet	Wheat
2007	<i>Alopecurus myosuroides</i>	Germany	ACCase inhibitors (A/1), ALS inhibitors (B/2), PSII inhibitors - Serine 264 Binders (C2/5), Very Long-Chain Fatty Acid Synthesis inhibitors (K3/15)	fenoxaprop-P-ethyl, isoproturon, chlorotoluron, flufenacet, mesosulfuron-methyl, pinoxaden	Wheat
2018	<i>Lolium perenne</i> ssp. <i>multiflorum</i>	United Kingdom	Very Long-Chain Fatty Acid Synthesis inhibitors (K3/15)	flufenacet	Wheat
2005	<i>Lolium perenne</i> ssp. <i>multiflorum</i>	United States (Oregon)	ACCase inhibitors (A/1), ALS inhibitors (B/2), Very Long-Chain Fatty Acid Synthesis inhibitors (K3/15)	clodinafop-propargyl, diclofop-methyl, quizalofop-ethyl, clethodim, triasulfuron, flufenacet	Lentils, Wheat, Canola, Peas, Chickpea
2018	<i>Lolium perenne</i> ssp. <i>multiflorum</i>	United States (Oregon)	Very Long-Chain Fatty Acid Synthesis inhibitors (K3/15)	flufenacet	Wheat
2018	<i>Lolium perenne</i> ssp. <i>multiflorum</i>	United States (Washington)	Very Long-Chain Fatty Acid Synthesis inhibitors (K3/15)	flufenacet	Wheat

3.3.3 Inherent risk of target species

There are no reported cases of aclonifen resistance and there is a limited number of cases of resistance to flufenacet (section 0) in 2 of the target species of GLOB1310aH.

Because no resistance to aclonifen has been observed it is considered an essential active ingredient to

¹ Kılınç, Ozgur. (2010). Mode of action and fate of the herbicide aclonifen.

² Dücker R, Zöllner P, Lümmer P, Ries S, Collavo A, Beffa R. Glutathione transferase plays a major role in flufenacet resistance of ryegrass (*Lolium* spp.) field populations. Pest Manag Sci. 2019 Nov;75(11):3084-3092. doi: 10.1002/ps.5425. Epub 2019 Apr 29. PMID: 30920141.

³ Heap, I. The International Survey of Herbicide Resistant Weeds. www.weedscience.com

combat resistant weeds, the addition of flufenacet makes resistance to GLOB1310aH very unlikely to occur. This combination of active substances will also be effective to combat weeds that are already resistant to flufenacet.

3.3.4 Agronomic risk

Because the product is only applied once per year before there is a very limited selection pressure. This makes resistance unlikely to occur.

3.3.5 Cross resistance

As no resistance to aclonifen is reported, no existence of cross-resistance has been identified. On the contrary, a 2006⁴ found that metamiltron-resistant *Chenopodium album* populations showed negative cross-resistance to aclonifen, meaning their resistance to metamiltron made them more susceptible to aclonifen, which underscores the value of aclonifen in pest control.

There are a total of 6 reported cases of weeds resistant to flufenacet (see section 0). Of these cases there are 5 cases of resistant *Lolium perenne ssp. Multiflorum* where no resistance to other herbicides was found, in 1 instance there was multiple-resistance to members of HRAC/WSSA groups 1 and 2.

In the only case of flufenacet resistance in *Alopecurus myosuroides* there was also resistance to members of HRAC/WSSA groups 1 and 2 and no resistance to group 5 herbicides.

Because HRAC/WSSA groups 1, 2 and 5 have vastly different modes of action compared to group 15, the resistance to these modes of action is unlikely to be the result of cross-resistance.

3.3.6 Sensitivity data

No studies on baseline sensitivity data for aclonifen are available to the applicant.

3.3.7 Use pattern

The use pattern is detailed in the GAP table.

3.3.8 Resistance risk assessment of the unrestricted use pattern

Considering all of the above no label restrictions or other resistance measures are required.

Comments of zRMS:	The applicant addresses all points of EPPO Standard PP 1/213 to evaluate the possible actual risk of resistance to GLOB1310aH. The applicant states that since no resistance has been observed to aclonifen, which is considered the essential active ingredient for the control of resistant weeds, the addition of flufenacet makes the occurrence of resistance to GLOB1310aH very unlikely. This combination of active substances will also be effective against weeds that are already resistant to flufenacet. Because the product is only applied once per year before there is a very limited selection pressure. This makes resistance unlikely to occur.
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⁴ Mechant E, Bulcke R. Metamiltron-resistant *Chenopodium album* from sugar beet: cross-resistance profile. Commun Agric Appl Biol Sci. 2006;71(3 Pt A):725-32. PMID: 17390814.

	Overall, zRMS believes that the risk of developing resistance to aclonifen and flufenacet as a result of the proposed use of GLOB1310aH is moderate. The risk is primarily due to the inherent risk of certain target weeds. In view of this risk, an overall strategy to prevent and manage such resistance should be adopted in accordance with the HRAC.
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3.4 Adverse effects on treated crops (KCP 6.4)

Adverse effects on treated crops were assessed in separate selectivity trials.

In total, 188 weed-free crop safety trials were conducted between 2017 and 2019 with GLOB1310aH at dose rates ranging from 2 L/ha to 4 L/ha.

These trials were spread over the Maritime, North-East and Mediterranean EPPO Zone to cover a wide range of climatological conditions.

In these selectivity trials crop safety, yield, and relevant quality parameters like Hectolitre Weight (HLW) and moisture content (MOICON) were measured.

The number of trials per country and which year they were performed are shown in Table 0-1. The reference products used in the trials are described in Table 0-2.

Table 0-1 Presentation of selectivity trials

Applic. timing	Crop*	Country	Type of trial**	Number of trials			Years	GEP, non-GEP, official***	Comments (any other relevant information)
				Maritime zone	North-East zone	Medit. zone			
Pre-emergence	HORVW	BE	S, Y, Q	1			2017	GEP	
		CZ	S, Y, Q	3			2018, 2019	GEP	
		DE	S, Y, Q	1			2018	GEP	
		ES	S, Y, Q			3	2018, 2019	GEP	
		FR	S, Y, Q	2		2	2017-2019	GEP	
		HR	S, Y, Q			2	2018, 2019	GEP	
		IT	S, Y, Q			2	2018, 2019	GEP	
		NL	S, Y, Q	2			2018, 2019	GEP	
		PL	S, Y, Q		9 ^{1,2}		2017-2019	GEP	
		UK	S, Y, Q	1			2018	GEP	
	SECCW	CZ	S, Y, Q	3			2018, 2019	GEP	
		DE	S, Y, Q	4			2017-2019	GEP	
		FR	S, Y, Q	2			2017, 2018	GEP	
		NL	S, Y, Q	1			2018	GEP	
		PL	S, Y, Q		10 ^{1,2}		2017-2019	GEP	
	TRZAW	CZ	S, Y, Q	3			2018, 2019	GEP	
		DE	S, Y, Q	3			2017, 2018	GEP	
		ES	S, Y, Q			2	2018, 2019	GEP	

Applic. timing	Crop*	Country	Type of trial**	Number of trials			Years	GEP, non- GEP, official***	Comments (any other relevant information)
				Maritime zone	North-East zone	Medit. zone			
		FR	S, Y, Q	3		2	2017-2019	GEP	
		HR	S, Y, Q			1	2018	GEP	
		IT	S, Y, Q			2	2018, 2019	GEP	
		NL	S, Y, Q	1			2019	GEP	
		PL	S, Y, Q		8 ¹		2017-2019	GEP	
	TRZDW	ES	S, Y, Q			2	2019	GEP	
		FR	S, Y, Q	1		1	2019	GEP	
		HR	S, Y, Q			1	2019	GEP	
		IT	S, Y, Q			1	2019	GEP	
	TTLWI	BE	S, Y, Q	1			2017	GEP	
		CZ	S, Y, Q	2			2018	GEP	
		DE	S, Y, Q	2			2018, 2019	GEP	
		FR	S, Y, Q	3		2	2017-2019	GEP	
		IT	S, Y, Q			1	2019	GEP	
		NL	S, Y, Q	1			2018	GEP	
		PL	S, Y, Q		8 ¹		2017-2019	GEP	
TOTAL				40	35	24	2017-2019		

* According to the GAP table

** S = selectivity trial, Y = trial with yield assessment, Q = trial with quality assessment, T = trial on the basis of the study of impact on transformation process (TP: Physical transformation, TF: transformation involving microbial fermentation), P = trial with assessment of impact on propagation

*** Official: carried out by a national official organisation

¹ Incl. KCP 6.4-05

² Incl. KCP 6.4-150

Table 0-2 Presentation of reference standards used in the selectivity trials

Crop(s)	Reference standards	Country(ies) where the product is registered ⁽¹⁾	Authorization number	Active substance(s) (a.s)	Formulation		Registered application rate ⁽³⁾	Application rate in trials (per treatment)	Remark ⁽⁴⁾
					Type ⁽²⁾	Concentration of a.s.			
Winter cereals	Boxer 800 EC	PL	R-88/2015	prosulfocarb	EC	800 g/L	3 L/ha	3-8 L/ha	
	Boxer	CZ	4566-0	prosulfocarb	EC	800 g/L	4 L/ha	4-8 L/ha	
		NL	10701	prosulfocarb	EC	800 g/L	5 L/ha	4-8 L/ha	
		DE	033838-00	prosulfocarb	EC	800 g/L	5 L/ha	5-10 L/ha	
	Roxy 800 EC	CZ	4929	prosulfocarb	EC	800 g/L	4 L/ha	4-8 L/ha	
		FR	2090186	prosulfocarb	EC	800 g/L	5 L/ha	5-10 L/ha	
		IT	012799	prosulfocarb	EC	800 g/L	5 L/ha	4-10 L/ha	
		PL	R-31/2016 wu	prosulfocarb	EC	800 g/L	4 L/ha	4-8 L/ha	
	Roxy	NL	13164	prosulfocarb	EC	800 g/L	5 L/ha	5-10 L/ha	
	Filon 80 EC	HR	753	prosulfocarb	EC	800 g/L	3-5 L/ha	5-10 L/ha	
	Polarpec	ES	00293	prosulfocarb	EC	800 g/L	2-3 L/ha	5-10 L/ha	
	Auros	ES	24737	prosulfocarb	EC	800 g/L	5 L/ha	5-10 L/ha	
	Filon 80 EC	HR	753	prosulfocarb	EC	800 g/L	3-5 L/ha	5-10 L/ha	
	Défi	FR	8700462	prosulfocarb	EC	800 g/L	5 L/ha	3-10 L/ha	
	Defy	UK	16202	prosulfocarb	EC	800 g/L	5 L/ha	5-10 L/ha	
	Fidox 800 EC	NL	15029	prosulfocarb	EC	800 g/L	4 L/ha	4-8 L/ha	
	Naceto	CZ	5265-0	diflufenican flufenacet	SC	200 g/L 400 g/L	0.3-0.6 L/ha	0.6-1.2 L/ha	
		UK	18063	diflufenican flufenacet	SC	200 g/L 400 g/L	0.4-0.43	0.43-0.86 L/ha	
		IT	016944	diflufenican flufenacet	SC	200 g/L 400 g/L	0.6 L/ha	0.6-1.2 L/ha	
	Herold 600 SC	PL	R-192/2015	diflufenican flufenacet	SC	200 g/L 400 g/L	0.35 L/ha	0.35-0.7 L/ha	
	Herold SC	DE	005878-00	diflufenican flufenacet	SC	200 g/L 400 g/L	0.5-0.6 L/ha	0.5-1 L/ha 0.6-1.2 L/ha	
	Fosburi	FR	2080145	diflufenican flufenacet	SC	200 g/L 400 g/L	0.6 L/ha	0.6-1.2 L/ha	
	Fuga Delta	HR	1162	diflufenican flufenacet	SC	200 g/L 400 g/L	0.6 L/ha	0.6-1.2 L/ha	
	Battle Delta	DE	008226-00	diflufenican flufenacet	SC	200 g/L 400 g/L	0.425-0.6 L/ha	0.6-1.2 L/ha	
	Fuga	ES	00199	flufenacet	SC	500 g/L	0.5 L/ha	0.5-1 L/ha	
	Jura	DE	008324-00	prosulfocarb diflufenican	EC	667 g/L 14 g/L	4 L/ha	4-8 L/ha	
	Chanon	PL	R-37/2020wu	aclonifen	SC	600 g/L	2 L/ha	2-4 L/ha	

The trial overall trial methodology is presented in Table 0-3, for more detailed information on the individual trials reference is made to the BAD.

Table 0-3 Details on trial methodology

Guidelines	General guidelines	EPPO PP 1/152 (4), 1/135 (4), 1/181 (4)
	Specific guidelines	EPPO PP 1/93 (3) weeds in cereals
Experimental design	Plot design	Field trials
	Number of replications	4
Crop	Trials per crop	HORVW 11 SECCW 20 TRZAW 25 TRZDW 6 TTLWI 20
	Varieties per crop	HORVW 21 pre-em (26 incl. 6.4-05,150) SECCW 15 pre-em (20 incl. 6.4-05) TRZAW 21 pre-em (22 incl. 6.4-05) TRZDW 4 pre-em TTLWI 18 pre-em (22 incl. 6.4-05)
Application	Applications	Pre-emergence (all crops)
	Spray volumes	200-300 L/ha
Assessment	Assessment types	Phytotoxicity, emergence, yield, yield quality
	Assessment dates	Phytotoxicity: from application until harvest Yield and yield quality: harvest
	Field / Greenhouse...	Field (weedfree)
	GEP	All trials were performed according to GEP

3.4.1 Phytotoxicity to host crop (KCP 6.4.1)

For the description of the trials, reference is made to the efficacy trials under section 3.2 and the selectivity trials under section 3.4.

Crop phytotoxicity was visually assessed during the season after application in efficacy and selectivity trials. It should be noted that GLOB1310H (=Aclonifen 600 SC + Flufenacet 60 SC) which was tested in some selectivity trials contains a higher concentration of the active substance aclonifen than GLOB1310aH (600 g/L vs. 540 g/L aclonifen) in an otherwise identical formulation, these treatments can therefore be considered worst-case.

The results of all selectivity results are summarized in the tables below. It should be noted that because of the range of reference products and respective dose rates, the reference products are not specified in these tables. However, N stands for the maximum registered dose rate of the reference product within each trial, 2N for double the maximum registered dose rate.

Table 0-4: Phytotoxicity to winter barley in pre-emergence

Number of trials with...		Selectivity trials (26 trials)				Efficacy trials (9 trials)	
		GLOB1310aH		REF		GLOB1310aH	REF
		2 L/ha	4 L/ha	N	2N	2 L/ha	N
Maximum of phytotoxicity recorded during the trials	0% to 5%	18	16	20	21	6	6
	>5% to 10%	4 ^{3, 5, 8, 10}	2 ^{4, 8}	1 ⁸	1 ⁸		1 ¹²
	>10% to 15%	1 ²	3 ^{5, 7, 10}	1 ¹¹	1 ¹¹	1 ¹³	1 ¹⁴
	>15 %	3 ^{1, 9, 11}	5 ^{1, 2, 3, 9, 11}	4 ^{1, 6, 9, 10}	3 ^{1, 9, 10}	2 ^{12, 14}	1 ¹³
Level of symptoms at the last assessments	0% to 5%	24	19	23	23	9	8
	>5% to 10%	1 ¹	1 ⁵	1 ¹	1 ¹		
	>10% to 15%	1 ²	2 ^{1, 7}	1 ⁹			1 ¹³
	>15 %		4 ^{2, 3, 6, 9}	1 ¹⁰	2 ^{9, 10}		

¹KCP 6.4-01 (PL): emergence delay, bleaching, stunting, thinning

²KCP 6.4-07 (BE): discoloration, thinning, volume reduction

³KCP 6.4-36 (PL): stunting, thinning

⁴KCP 6.4-59 (UK): thinning

⁵KCP 6.4-60 (FR MAR): bleaching, discoloration, thinning

⁶KCP 6.4-62 (DE): growth reduction, bleaching

⁷KCP 6.4-115 (ES): bleaching, growth delay

⁸KCP 6.4-136 (ES): bleaching

⁹KCP 6.4-137 (FR MED) emergence delay, thinning

¹⁰KCP 6.4-139 (IT): stunting, thinning

¹¹KCP 6.4-142 (PL): bleaching

¹²KCP 6.2-60 (FR MAR): bleaching, thinning, emergence delay

¹³KCP 6.2-64 (BE): bleaching, thinning

¹⁴KCP 6.2-75 (PL): bleaching, thinning, emergence delay

Table 0-5: Relationship between phytotoxicity and yield

Test report KCP 6.4-	Variety	Maximum phyto. at 1N rate (%)		Maximum phyto. at 2N rate		Yield untreated control (t/ha)	Yield at 1N rate as % of untreated		Yield at 2N rate as % of untreated	
		GLOB131 0aH	REF	GLOB131 0aH	REF		GLOB131 0aH	REF	GLOB131 0aH	REF
01	Eufora	26.25	22.50	50.00	17.50	5.86	93.84	101.26	85.06	101.36
07	Monique	15.00	0.00	57.50	0.00	9.74	85.00	102.08	59.64	88.93
36	SY Tepee	6.25	3.75	27.50	3.75	7.45	100.89	98.91	92.60	101.56
59	Bazooka	0.00	0.00	10.00	0.00	10.19	98.87	103.91	95.01	103.25
60	Etincel	5.75	0.00	13.75	0.00	10.11	98.15	100.92	91.08	99.97
62	KWS Meridian	0.00	17.50	0.00	0.00	8.32	104.27	104.74	88.14	99.69
115	Traveler	1.25	0.00	12.50	0.00	2.80	90.53	103.64	92.90	98.91
136	Traveler	9.75	10.00	9.25	10.00	1.86	101.45	102.16	103.06	108.59
137	Rafaela ⁽¹⁾	32.50	47.50	52.50	67.50	3.95	117.92	99.95	92.93	90.20
139	Calanque	5.75	21.25	12.50	27.50	5.38	106.95	104.67	106.14	107.89
142	Veronika	52.50	11.25	47.50	11.25	5.30	67.86	100.03	66.70	102.05

⁽¹⁾ Rafaela was also tested in pre-emergence in KCP 6.4-61 with 108.38% of the yield in the untreated at the 2N dose rate

Conclusion

From the tables above it can be seen that in 18 out of the 26 selectivity trials performed on winter barley no phytotoxic effects were observed at the maximum requested dose rate of 2 L/ha, for the remaining trials a yield reduction of more than 5% for the N dose rate was only observed in 4 of the trials. For double the maximum requested dose rate it is clear that there is a greater risk of yield reduction. The applicant would like to add a label statement warning to avoid spray overlap.

Table 0-6: Phytotoxicity to winter rye in pre-emergence

Number of trials with...		Selectivity trials (18 trials)				Efficacy trials (3 trials)	
		GLOB1310aH		REF		GLOB1310aH	REF
		2 L/ha	4 L/ha	N	2N	2 L/ha	N
Maximum of phytotoxicity recorded during the trials	0% to 5%	5	4	11	10	3	2
	>5% to 10%	3 ^{6, 8, 9}	1 ¹³	2 ^{13, 14}			1 ¹⁵
	>10% to 15%	4 ^{1, 5, 14}	1 ⁴	1 ³	4 ^{1, 3, 13, 14}		
	>15 %	6 ^{2, 3, 7, 10-12}	12 ^{1-3, 5-12, 14}	4 ^{5, 7, 10, 12}	4 ^{5, 7, 10, 12}		
Level of symptoms at the last assessments	0% to 5%	11	6	14	11	3	3
	>5% to 10%	1 ⁷	2 ^{6, 13}	2 ^{10, 14}			
	>10% to 15%	4 ^{2, 5, 12, 14}	4 ^{1, 4, 5, 11}	1 ³	5 ^{2, 3, 7, 12, 14}		
	>15 %	2 ^{3, 10}	6 ^{2, 3, 7, 10, 12, 14}	1 ⁵	2 ^{5, 10}		

¹KCP 6.4-02 (PL): bleaching, chlorosis, growth delay, leaf drop, necrosis leaf spot, stunting, thinning

²KCP 6.4-09 (FR MAR): bleaching, stunting, thinning

³KCP 6.4-10 (DE): thinning

⁴KCP 6.4-27 (PL): bleaching, thinning

⁵KCP 6.4-38 (PL): emergence delay, thinning

⁶KCP 6.4-39 (PL): discoloration, stunting, thinning

⁷KCP 6.4-77 (FR MAR): emergence delay, growth delay, stunting, thinning

⁸KCP 6.4-78 (NL): bleaching

⁹KCP 6.4-79 (DE): growth reduction, bleaching

¹⁰KCP 6.4-80 (DE): emergence delay, growth reduction, bleaching, thinning

¹¹KCP 6.4-151 (CZ): stunting, thinning

¹²KCP 6.4-152 (DE): emergence delay, bleaching, thinning

¹³KCP 6.4-155 (PL): emergence delay, bleaching, thinning

¹⁴KCP 6.4-156 (PL): stunting, thinning

¹⁵KCP 6.2-25 (PL): bleaching

Table 0-7: Relationship between phytotoxicity and yield

Test report KCP 6.4-	Variety	Maximum phyto. at 1N rate (%)		Maximum phyto. at 2N rate		Yield untreated control (t/ha)	Yield at 1N rate as % of untreated		Yield at 2N rate as % of untreated	
		GLOB131 0aH	REF	GLOB131 0aH	REF		GLOB131 0aH	REF	GLOB131 0aH	REF
02	Tur Fl	12	5	45	15	3.23	113.11	96.76	94.15	95.61
09	Dańkowskie Rubin	33.05	0	48.05	0	6.95	102.48	101.85	99.14	105.13
10	Palazzo	25	13.75	73.75	15	4.71	106.33	103.22	79.24	100.36
27	KWS Gatano	2.5	0	12.5	0	5.6	100.58	103.58	103.81	99.96
38	Dańkowskie Diament	12.5	32.5	21.25	50	6.2	98.86	89.94	96.34	76.49
39	Dańkowskie Złote	8.75	3.75	31.25	5	4.38	95.95	99.56	91.18	96.06
77	Borwaldo	17.5	16.25	45	18.75	3.9	94.49	108.43	88.94	90.11
78	Matador	10	0	46.25	0	7.54	96.00	97.00	92.00	104.00
79	Mephisto	7.5	0	17.5	0	5.08	103.51	105.15	104.02	102.7
80	Conduct ⁽¹⁾	31.25	17.5	57.5	35	4.24	87.55	93.82	86.5	87.11
151	Inspector	17.5	0	38.75	2.5	5.46	95.41	104.58	137.25	106.98
152	HelTop	57.5	30	62.5	35	7.57	97.01	101.83	104.11	101.12
155	Dańkowskie Diament	2.5	6.5	9.25	15	7.26	98.94	99.29	96.35	97.65
156	Serafino	12.5	8.75	50	15	9.84	98.66	98.5	92.55	94.03

⁽¹⁾ Conduct was also tested in pre-emergence in KCP 6.4-100 with 97.78% of the yield in the untreated at the N dose rate.

Conclusion

From the tables above it can be seen that in 5 out of the 18 selectivity trials performed on winter rye no phytotoxic effects were observed at the maximum requested dose rate of 2 L/ha, for the remaining trials a yield reduction of more than 5% for the N dose rate was only observed in 2 of the trials. For double the maximum requested dose rate it is clear that there is a greater risk of yield reduction. The applicant would like to add a label statement warning to avoid spray overlap.

Table 0-8: Phytotoxicity to winter wheat in pre-emergence

Number of trials with...		Selectivity trials (24 trials)				Efficacy trials (25 trials)	
		GLOB1310aH		REF		GLOB1310aH	REF
		2 L/ha	4 L/ha	N	2N	2 L/ha	N
Maximum of phytotoxicity recorded during the trials	0% to 5%	19	14	21	19	23	23
	>5% to 10%	4 ^{5, 6, 8, 9}	3 ^{3, 8, 10}	2 ^{6, 7}	2 ^{4, 8}	2 ^{12, 13}	
	>10% to 15%	1 ⁴	3 ^{2, 6, 7}	1 ⁸	1 ⁹		
	>15 %		4 ^{1, 4, 5, 9}		2 ^{6, 7}		2 ^{11, 13}
Level of symptoms at the last assessments	0% to 5%	21	18	23	20	25	24
	>5% to 10%	3 ^{5, 8, 9}	3 ^{6, 7, 8}	1 ⁸	4 ^{6, 7, 8, 9}		
	>10% to 15%						
	>15 %		3 ^{1, 5, 9}				1 ¹¹

¹KCP 6.4-04 (PL): thinning

²KCP 6.4-13 (FR MAR): thinning

³KCP 6.4-14 (DE): stunting

⁴KCP 6.4-29 (PL): thinning

⁵KCP 6.4-65 (FR MAR): thinning

⁶KCP 6.4-68 (DE): thinning

⁷KCP 6.4-112 (FR MED): thinning

⁸KCP 6.4-167 (FR MED): thinning

⁹KCP 6.4-168 (IT): bleaching, stunting, thinning

¹⁰KCP 6.4-171 (PL): bleaching, thinning

¹¹KCP 6.2-62 (FR MAR): bleaching, volume reduction

¹²KCP 6.2-69 (ES): chlorosis

¹³KCP 6.2-70 (FR MED): thinning, bleaching

Table 0-9: Relationship between phytotoxicity and yield

Test report KCP 6.4-	Variety	Maximum phyto. at 1N rate (%)		Maximum phyto. at 2N rate		Yield untreated control (t/ha)	Yield at 1N rate as % of untreated		Yield at 2N rate as % of untreated	
		GLOB131 0aH	REF	GLOB131 0aH	REF		GLOB131 0aH	REF	GLOB131 0aH	REF
04	Arkadia	0.00	0.00	42.50	0.00	3.39	97.67	96.35	90.95	93.82
13	Graindor	0.00	0.00	10.50	3.75	8.87	100.11	99.97	99.25	98.58
14	Reform	4.25	0.00	6.50	1.50	8.40	97.97	97.51	91.84	96.26
29	Julia	12.50	0.00	35.00	6.00	13.97	105.14	107.91	99.57	102.05
65	Graindor	6.25	3.75	26.25	3.75	8.32	96.79	97.38	93.56	96.77
68	Tobak	8.75	10.00	10.50	16.75	9.12	97.78	98.56	96.63	98.40
112	Exelcior	3.75	10.00	15.00	3.75	No yield data				
167	Solendro	10.00	12.50	10.00	10.00	2.78	102.24	125.06	126.78	115.69
168	Giorgione	9.38	1.25	27.50	12.50	5.30	106.09	108.10	99.42	99.49
171	Viriato	0.00	0.00	9.00	0.00	9.30	101.40	99.63	95.07	100.69

Conclusion

From the tables above it can be seen that in 19 out of the 24 selectivity trials performed on winter wheat no phytotoxic effects were observed at the maximum requested dose rate of 2 L/ha, for the remaining trials a yield reduction of more than 5% for the N dose rate was never observed. For double the maximum requested dose rate it is clear that there is a greater risk of yield reduction. The applicant would like to add a label statement warning to avoid spray overlap.

Table 0-10: Phytotoxicity to winter durum wheat in pre-emergence

Number of trials with...		Selectivity trials (6 trials)				Efficacy trials (4 trials)	
		GLOB1310aH		REF		GLOB1310aH	REF
		2 L/ha	4 L/ha	N	2N	2 L/ha	N
Maximum of phytotoxicity recorded during the trials	0% to 5%	6	6	6	6	4	4
	>5% to 10%						
	>10% to 15%						
	>15 %						
Level of symptoms at the last assessments	0% to 5%	6	6	6	6	4	4
	>5% to 10%						
	>10% to 15%						
	>15 %						

Conclusion

From the tables above it can be seen that no phytotoxic effects were observed in any of the trials performed on durum wheat, not even at double the maximum requested dose rate. GLOB1310aH can therefore be considered safe for pre-emergence application on durum wheat.

Table 0-11: Phytotoxicity to winter triticales in pre-emergence

Number of trials with...		Selectivity trials (19 trials)				Efficacy trials (4 trials)	
		GLOB1310aH		REF		GLOB1310aH	REF
		2 L/ha	4 L/ha	N	2N	2 L/ha	N
Maximum of phytotoxicity recorded during the trials	0% to 5%	16	15	17	15	4	4
	>5% to 10%	1 ⁴		1 ⁴	1 ²		
	>10% to 15%						
	>15 %	2 ^{1,3}	4 ¹⁻⁴	1 ³	3 ^{1,3,4}		
Level of symptoms at the last assessments	0% to 5%	17	15	18	16	4	4
	>5% to 10%		1 ²				
	>10% to 15%	1 ¹			1 ⁴		
	>15 %	1 ³	3 ^{1,3,4}	1 ³	2 ^{1,3}		

¹KCP 6.4-03 (PL): bleaching, leaf drop, necrosis leaf spot, stunting, thinning

²KCP 6.4-11 (FR MAR): emergence delay, bleaching,

³KCP 6.4-71 (FR MAR): bleaching, discoloration, stunting, thinning

⁴KCP 6.4-76 (FR MAR): emergence delay, thinning, volume reduction

Table 0-12: Relationship between phytotoxicity and yield

Test report KCP 6.4-	Variety	Maximum phyto. at 1N rate (%)		Maximum phyto. at 2N rate		Yield untreated control (t/ha)	Yield at 1N rate as % of untreated		Yield at 2N rate as % of untreated	
		GLOB131 0aH	REF	GLOB131 0aH	REF		GLOB131 0aH	REF	GLOB131 0aH	REF
03	Tomko	20.00	2.50	53.75	27.50	5.68	100.46	100.11	92.86	110.32
11	RGT Eleac	4.25	2.75	15.50	7.25	5.25	110.97	111.14	111.69	107.27
71	Vuka	22.50	16.25	68.75	18.75	8.24	98.53	101.40	98.67	100.76
76	Kauleos	7.50	6.25	32.50	18.50	9.42	97.38	100.73	94.52	98.31

Conclusion

From the tables above it can be seen that in 16 out of the 19 selectivity trials performed on winter triticales no phytotoxic effects were observed at the maximum requested dose rate of 2 L/ha, a yield reduction of more than 5% for the N dose rate was never observed. For double the maximum requested dose rate it is clear that there is a greater risk of yield reduction. The applicant would like to add a label statement warning to avoid spray overlap.

Comments of zRMS:	<p>All trials have been carried out according to EPPO Standards PP1/135, PP1/152, PP1/181 and PP1/093, in accordance with GEP. Phytotoxicity in cereals was assessed in 41, efficacy trials. In addition, it was assessed in 80 specific crop safety trials conducted between 2018 and 2019 in the Czech Republic, Germany, northern part of France, the Netherlands, Belgium and the United Kingdom (46 trials belonging to the Maritime EPPO zone), in Poland (34 trials belonging to the North-East EPPO Zone). The applicant also provided supporting data from trials carried out with an analogous formulation GLOB1310H (Aclonifen 600 SC + Flufenacet 60 SC) which was tested in some selectivity trials contains a higher concentration of the active substance aclonifen than GLOB1310aH (600 g/L vs. 540 g/L aclonifen) in an otherwise identical formulation, these treatments can therefore be considered worst-case. This approach is considered to be acceptable.</p> <p>Maritime EPPO zone</p> <p>Winter barley</p> <p>Phytotoxicity was evaluated in all efficacy trials and in all of the 12 weed free selectivity trials. The trials were conducted in France (4), The Netherlands (2), United Kingdom (1), the Czech Republic (3), Belgium (1), and Germany (1). Crop phytotoxicity symptoms were seen in 5 selectivity trials and two efficacy trials in winter barley. The results of the selectivity trials in which phytotoxicity were observed are summarized by the applicant in Table 3.4-4. The majority of the symptoms observed in these trials were emergence delay, bleaching, and thinning. Table 3.4.-5 also shows the yield relative to the untreated control in the trials where phytotoxicity was observed. There were generally no large reductions in the yield in these trials, with the exception being 85% yield at N in trial KCP 6.4-07 (BE). The mean yield for all trials was calculated where GLOB1310aH caused phytotoxic symptoms. The mean yield in the 5 trials at N was 100,8% relative to the untreated and at 2N it was 85,3%.</p> <p>The zRMS considers that these values indicate that the phytotoxicity did not affect the yield at the recommended dose rate of 2 l/ha.</p> <p>Winter rye</p> <p>Phytotoxicity was evaluated in all efficacy trials and in all of the 10 weed free selectivity trials. The trials were conducted in France (2), The Netherlands (1), the Czech Republic (3), and Germany (4). Crop phytotoxicity symptoms were seen in 8 selectivity trials in winter rye. The results of the selectivity trials in which phytotoxicity were observed are summarized by the applicant in Table 3.4-6. The majority of the symptoms observed in these trials were emergence delay, bleaching, and thinning. Table 3.4.-7 also shows the yield relative to the untreated control in the trials where phytotoxicity was observed. There were generally no large reductions in the yield in these trials, with the exception being 87,5% yield at N in trial KCP 6.4-80 (DE). The mean yield for all trials was calculated where GLOB1310aH caused phytotoxic symptoms. The mean yield in the 8 trials at N was 97,9% relative to the untreated and at 2N it was 98,9%. <u>(In the trial 11KCP 6.4-151 (CZ), at 1N there was a yield reduction (95,4%), while there was no yield reduction at 2N and it was 137,2% relative to the untreated).</u></p> <p>Overall, it may be considering that these values indicate that the phytotoxicity may slightly affect the winter rye yield.</p> <p>Winter wheat</p> <p>Phytotoxicity was evaluated in all efficacy trials and in all of the 12 weed free selectivity trials. The trials were conducted in France (5), The Netherlands (1), the</p>
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Czech Republic (3), and Germany (3). Crop phytotoxicity symptoms were seen in 6 selectivity trials and two efficacy in winter wheat. The results of the selectivity trials in which phytotoxicity were observed are summarized by the applicant in Table 3.4-8. The majority of the symptoms observed in these trials were emergence delay, bleaching, and thinning.

Table 3.4.-9 also shows the yield relative to the untreated control in the trials where phytotoxicity was observed. The mean yield for all trials was calculated where GLOB1310aH caused phytotoxic symptoms. The mean yield in the 6 trials at N was 99,0% relative to the untreated and at 2N it was 101,6%.

Overall, it may be considering that these values indicate that the phytotoxicity did not affect the winter wheat yield.

Winter triticale

Phytotoxicity was evaluated in all efficacy trials and in all of the 11 weed free selectivity trials. The trials were conducted in France (5), The Netherland (1), the Czech Republic (2), Belgium (1), and Germany (2). Crop phytotoxicity symptoms were seen in 3 selectivity trials in winter triticale. The results of the selectivity trials in which phytotoxicity were observed are summarized by the applicant in Table 3.4-11. The majority of the symptoms observed in these trials were emergence delay, bleaching, and thinning.

Table 3.4.-12 also shows the yield relative to the untreated control in the trials where phytotoxicity was observed. The mean yield for all trials was calculated where GLOB1310aH caused phytotoxic symptoms. The mean yield in the 3 trials at N was 102,3% relative to the untreated and at 2N it was 101,6%.

Overall, it may be considering that these values indicate that the phytotoxicity did not affect the winter triticale yield.

Winter durum wheat

No phytotoxic effects were observed in any of the trials conducted on durum wheat, even at double the maximum required dose. It should be noted that only one trial was conducted in the EPPO Maritime zone and five trials in the EPPO Mediterranean zone. Therefore, concerned cMS, based on their national experience, should consider whether the data presented are representative and can be accepted.

General conclusion: Due to phytotoxicity effects in most cereal crops, extrapolation from other cereal crops is not possible. A label restriction regarding phytotoxicity should be addressed on the label.

North-East EPPO zone

Winter barley

Phytotoxicity was evaluated in all efficacy trials and in all of the 12 weed free selectivity trials. The trials were conducted in Poland (8), the Czech Republic (3), and Germany (1). Crop phytotoxicity symptoms were seen in 4 selectivity trials and one efficacy trial in winter barley. The results of the selectivity trials where phytotoxicity was observed were summarised by the applicant in Table 3.4-4.

Table 3.4.-5 also shows the yield relative to the untreated control in the trials where phytotoxicity was observed. There were generally no reductions or were slight reductions in the yield in these trials, with the exception being 67,6% yield at N in trial KCP 6.4-142 (PL). Overall, it may be considering that these values indicate that the phytotoxicity may affect the winter barley yield.

Winter rye

Phytotoxicity was evaluated in all efficacy trials and in all of the 10 weed free selectivity trials. The trials were conducted in Poland. Crop phytotoxicity symptoms

	<p>were seen in 6 selectivity trials and one in efficacy trial in winter rye. The results of the selectivity trials where phytotoxicity was observed were summarised by the applicant in Table 3.4-6. The majority of the symptoms observed in these trials were emergence delay, bleaching, thinning.</p> <p>Table 3.4.-7 also shows the yield relative to the untreated control in the trials where phytotoxicity was observed. There were generally no large reductions in the yield in these trials, with the exception being 95,9% yield at N in trial KCP 6.4-39. The mean yield for all trials was calculated where GLOB1310aH caused phytotoxic symptoms. The mean yield in the 6 trials at N was 101.0% relative to the untreated and at 2N it was 95,7%. Overall, it may be considering that these values indicate that the phytotoxicity did not affect the winter rye yield.</p> <p>Winter wheat</p> <p>Phytotoxicity was evaluated in all efficacy trials and in all of the 8 weed free selectivity trials. The trials were conducted in Poland. Crop phytotoxicity symptoms were seen in 3 selectivity trials in winter wheat. The results of the selectivity trials where phytotoxicity was observed were summarised by the applicant in Table 3.4-8. The majority of the symptoms observed in these trials were emergence delay, bleaching, thinning.</p> <p>Table 3.4.-9 also shows the yield relative to the untreated control in the trials where phytotoxicity was observed. The mean yield for all trials was calculated where GLOB1310aH caused phytotoxic symptoms. The mean yield in the 3 trials at N was 101.4% relative to the untreated and at 2N it was 95,2%. Overall, it may be considering that these values indicate that the phytotoxicity did not affect the winter wheat yield.</p> <p>Winter triticales</p> <p>Phytotoxicity was evaluated in all efficacy trials and in all of the 8 weed free selectivity trials. The trials were conducted in Poland. Crop phytotoxicity symptoms were seen in one selectivity trial in winter triticales. The results of the selectivity trials where phytotoxicity was observed were summarised by the applicant in Table 3.4-11. The majority of the symptoms observed in these trials were emergence delay, bleaching, thinning.</p> <p>Table 3.4.-12 also shows the yield relative to the untreated control in the trials where phytotoxicity was observed., The mean yields for trial KCP 6.4-03 (PL) where GLOB1310aH caused phytotoxic symptoms were 100,5% at N relative to untreated and 92,9 % at 2N. Overall, it may be considering that these values indicate that the phytotoxicity did not affect the winter triticales yield.</p> <p>General conclusion: Due to phytotoxicity effects in most cereal crops, extrapolation from other cereal crops is not possible. A label restriction regarding phytotoxicity should be addressed on the label.</p>
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3.4.2 Effect on yield of treated plants or plant product (KCP 6.4.2)

Overall there was only a limited amount of trials with a significant yield reduction due to application of GLOB1310aH at the maximum requested dose rate of 2 L/ha. At double the maximum requested dose rate however it is clear that there is an increased risk for yield reduction. The applicant would therefore like to add a label statement to avoid spray overlap.

Comments of zRMS:	As described in the previous section GLOB1310aH caused phytotoxic symptoms and some slight yield decreases were recorded in winter rye and winter wheat. Therefore, negative effects on yield cannot be excluded. A label-restriction regarding phytotoxicity should be addressed on the label.
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3.4.3 Effects on the quality of plants and plant products (KCP 6.4.3)

Overall, the yield quality was not negatively affected by GLOB1310aH, not even at double the maximum requested dose rate of 2 L/ha. Therefore it can be stated that the application of GLOB1310aH will not negatively affect the yield quality of winter cereals.

The following tables has been extracted from section 3.4.3 Effects on the quality of plants and plant products (KCP 6.4.3) of the BAD.

Maritime EPPO Zone

Czech and German trials (Maritime EPPO Zone, valid for Poland

North-East EPPO Zone

Mediterranean EPPO Zone

South-East EPPO Zone

Table 0-13 Yield quality parameters HORVW pre-emergence application

		KCP 6.4-01	KCP 6.4-07	KCP 6.4-08	KCP 6.4-30	KCP 6.4-35	KCP 6.4-36	KCP 6.4-37	KCP 6.4-59	KCP 6.4-60	KCP 6.4-61	
Crop Code		HORVW	HORVW	HORVW	HORVW	HORVW	HORVW	HORVW	HORVW	HORVW	HORVW	
Rating Type		HLW	HLW	HLW	HLW	HLW	HLW	HLW	HLW	HLW	HLW	
Rating Unit		%UNCK	%UNCK	%UNCK	%UNCK	%UNCK	%UNCK	%UNCK	%UNCK	%UNCK	%UNCK	
UNTREATED		60.46 -	52.55 ab	58.11 -	62.63 -	66.13 -	69.2 -	57.81 -	62.6 -	64.75 b	38.03 -	
GLOB1310aH	2 L/ha	100.36 -	100.16 a	99.63 -	97.87 -	100.12 -	97.11 -	101.33 -	101.3 -	101.47 a	104.1 -	
GLOB1310aH	4 L/ha	99.46 -	85.86 b	100.83 -	99.99 -	100.15 -	93.83 -	99.51 -	101.15 -	101.78 a	101.3 -	
Ref. Pro.	3 L/ha	100.49 -			102.05 -	100.39 -	100.5 -	99.89 -				
Ref. Pro.	4 L/ha	101.86 -										
Ref. Pro.	5 L/ha		109.61 a	100.02 -					100.67 -	101.12 a	103.08 -	
Ref. Pro.	6 L/ha	101.12 -			99.9 -	100.62 -	98.73 -	103.29 -				
Ref. Pro.	8 L/ha	96.69 -										
Ref. Pro.	10 L/ha		106.33 a	98.66 -					100.16 -	101.32 a	105.85 -	
		KCP 6.4-62	KCP 6.4-63	KCP 6.4-64	KCP 6.4-109	KCP 6.4-111	KCP 6.4-113	KCP 6.4-115	KCP 6.4-134	KCP 6.4-135	KCP 6.4-136	
Crop Code		HORVW	HORVW	HORVW	HORVW	HORVW	HORVW	HORVW	HORVW	HORVW	HORVW	
Rating Type		HLW	HLW	HLW	HLW	HLW	HLW	HLW	HLW	HLW	HLW	
Rating Unit		%UNCK	%UNCK	%UNCK	%UNCK	%UNCK	%UNCK	%UNCK	%UNCK	%UNCK	%UNCK	
UNTREATED		59.12 -	65.23 -	67.55 -	70.74 -	56.16 -	59.25 -	60.54 -	64.35 -	58.61 -	58.87 -	
GLOB1310aH	2 L/ha	102.67 -	100.43 -	100.74 -	100.07 -	100.55 -	100.45 -	99.72 -	99.99 -	99.55 -	100.69 -	
GLOB1310aH	4 L/ha	97.29 -	101.4 -	100.41 -	100.02 -	100.19 -	99.6 -	96.71 -	102.96 -	106.05 -	102.73 -	
Ref. Pro.	3 L/ha											
Ref. Pro.	4 L/ha		100.88 -	100.27 -			99.58 -		103.03 -			
Ref. Pro.	5 L/ha	98.9 -			99.77 -	100.46 -		96.77 -		98.24 -	102.1 -	
Ref. Pro.	6 L/ha											
Ref. Pro.	8 L/ha		99.72 -	100.32 -			100.01 -		102.98 -			
Ref. Pro.	10 L/ha	101.58 -			99.88 -	101.02 -		102.64 -		104.65 -	101.88 -	
		KCP 6.4-138	KCP 6.4-139	KCP 6.4-140	KCP 6.4-141	KCP 6.4-142						
Crop Code		HORVW	HORVW	HORVW	HORVW	HORVW						PRE-EM SUMMARY
Rating Type		HLW	HLW	HLW	HLW	HLW						
Rating Unit		%UNCK	%UNCK	%UNCK	%UNCK	%UNCK						n Mean Min Max Median Stdev
UNTREATED		67.92 -	59.35 -	40.05 -	56.25 -	56.75 a						25 59.72 38.03 70.74 59.35 7.71
GLOB1310aH	2 L/ha	100.64 -	98.69 -	104.79 -	99.93 -	85.12 b						25 99.90 85.12 104.79 100.36 3.48
GLOB1310aH	4 L/ha	100.44 -	99.97 -	104.56 -	94.47 -	82.94 b						25 98.94 82.94 106.05 100.15 5.14
Ref. Pro.	3 L/ha				99.64 -	100.99 a						7 100.56 99.64 102.05 100.49 0.79
Ref. Pro.	4 L/ha		98.62 -	101.92 -								7 100.88 98.62 103.03 100.88 1.52

Ref. Pro.	5	L/ha	99.13	-														12	100.82	96.77	109.61	100.24	3.24
Ref. Pro.	6	L/ha						97.6	-	98.15	a							7	99.92	97.60	103.29	99.90	1.97
Ref. Pro.	8	L/ha			101.31	-	101.56	-										7	100.37	96.69	102.98	100.32	1.97
Ref. Pro.	10	L/ha	99.71	-														12	101.97	98.66	106.33	101.45	2.47

Globachem N.V.																										
Crop Code		PRE-EM MARITIME						PRE-EM NORTH-EAST						PRE-EM NORTH-EAST + CZ/DE						PRE-EM MEDITERRANEAN						
Rating Type																										
Rating Unit		n	Mean	Min	Max	Median	Stdev	n	Mean	Min	Max	Median	Stdev	n	Mean	Min	Max	Median	Stdev	n	Mean	Min	Max	Median	Stdev	
UNTREATED		10	57.23	38.03	67.55	60.86	10.52	7	61.32	56.25	69.20	60.46	4.94	11	62.32	56.25	69.20	62.63	4.51	8	61.43	56.16	70.74	59.30	5.08	
GLOB1310aH	2	L/ha	10	101.53	99.63	104.79	101.02	1.77	7	97.41	85.12	101.33	99.93	5.61	11	98.70	85.12	102.67	100.12	4.75	8	100.05	98.69	100.69	100.26	0.69
GLOB1310aH	4	L/ha	10	99.75	85.86	104.56	101.23	5.22	7	95.76	82.94	100.15	99.46	6.25	11	97.49	82.94	102.96	99.51	5.56	8	100.71	96.71	106.05	100.11	2.70
Ref. Pro.	3	L/ha	-	-	-	-	-	-	7	100.56	99.64	102.05	100.49	0.79	7	100.56	99.64	102.05	100.49	0.79	-	-	-	-	-	-
Ref. Pro.	4	L/ha	4	101.53	100.27	103.03	101.40	1.21	1	101.86	101.86	101.86	101.86	-	4	101.51	100.27	103.03	101.37	1.21	2	99.10	98.62	99.58	99.10	0.68
Ref. Pro.	5	L/ha	6	102.23	98.90	109.61	100.90	3.87	-	-	-	-	-	-	1	98.90	98.90	98.90	98.90	-	6	99.41	96.77	102.10	99.45	1.84
Ref. Pro.	6	L/ha	-	-	-	-	-	-	7	99.92	97.60	103.29	99.90	1.97	7	99.92	97.60	103.29	99.90	1.97	-	-	-	-	-	-
Ref. Pro.	8	L/ha	4	101.15	99.72	102.98	100.94	1.44	1	96.69	96.69	96.69	96.69	-	4	99.93	96.69	102.98	100.02	2.58	2	100.66	100.01	101.31	100.66	0.92
Ref. Pro.	10	L/ha	6	102.32	98.66	106.33	101.45	3.10	-	-	-	-	-	-	1	101.58	101.58	101.58	101.58	-	6	101.63	99.71	104.65	101.45	1.86

		KCP 6.4-01	KCP 6.4-07	KCP 6.4-08	KCP 6.4-30	KCP 6.4-35	KCP 6.4-36	KCP 6.4-37	KCP 6.4-59	KCP 6.4-60	KCP 6.4-61											
Crop Code		HORVW	HORVW	HORVW	HORVW	HORVW	HORVW	HORVW	HORVW	HORVW	HORVW	HORVW										
Rating Type		MOICON	MOICON	MOICON	MOICON	MOICON	MOICON	MOICON	MOICON	MOICON	MOICON	MOICON										
Rating Unit		%	%	%	%	%	%	%	%	%	%	%										
UNTREATED		13.52	-	10.12	c	15.66	-	11.6	-	11.55	-	10.75	-	12.4	-	14.68	-	15.45	-	20.88	-	
GLOB1310aH	2	L/ha	13.45	-	11.41	c	18.55	-	11.08	-	11.1	-	10.43	-	12.63	-	14.75	-	15.15	-	20.63	-
GLOB1310aH	4	L/ha	13.51	-	13.88	b	16.95	-	11.75	-	11.35	-	10.4	-	12.2	-	14.53	-	16.23	-	21.18	-
Ref. Pro.	3	L/ha	13.56	-					12.3	-	11.28	-	10.6	-	12.53	-						
Ref. Pro.	4	L/ha	13.44	-																		
Ref. Pro.	5	L/ha			10.34	c	16.13	-									14.55	-	15.08	-	21.28	-
Ref. Pro.	6	L/ha	13.45	-					11.03	-	11.38	-	10.58	-	12.55	-						
Ref. Pro.	8	L/ha	13.41	-																		
Ref. Pro.	10	L/ha			10.04	c	16.8	-									14.73	-	15.1	-	20.71	-

		KCP 6.4-62	KCP 6.4-63	KCP 6.4-64	KCP 6.4-109	KCP 6.4-111	KCP 6.4-113	KCP 6.4-115	KCP 6.4-134	KCP 6.4-135	KCP 6.4-136											
Crop Code		HORVW	HORVW	HORVW	HORVW	HORVW	HORVW	HORVW	HORVW	HORVW	HORVW	HORVW										
Rating Type		MOICON	MOICON	MOICON	MOICON	MOICON	MOICON	MOICON	MOICON	MOICON	MOICON	MOICON										
Rating Unit		%	%	%	%	%	%	%	%	%	%	%										
UNTREATED		10.74	-	10.5	-	11.75	c	12.1	-	14.33	10.53	-	11.85	14.35	-	10.48	-	10	-			
GLOB1310aH	2	L/ha	10.51	-	10.5	-	12.4	a	12	-	13.77	-	10.43	-	11.6	-	14.78	-	10.38	-	9.93	-
GLOB1310aH	4	L/ha	10.57	-	10.48	-	11.98	bc	12.17	-	14.02	-	10.45	-	11.43	-	14.15	-	10.2	-	9.95	-
Ref. Pro.	3	L/ha																				
Ref. Pro.	4	L/ha			10.4	-	12.15	ab					10.53	-	13.93	-						
Ref. Pro.	5	L/ha	10.74	-					11.91	-	14.14	-			11.48	-	10.65	-	9.85	-		
Ref. Pro.	6	L/ha																				
Ref. Pro.	8	L/ha			10.45	-	12.03	bc					10.43	-	14.28	-						
Ref. Pro.	10	L/ha	10.73	-					12.12	-	14.09	-			11.75	-	10.58	-	10	-		

		KCP 6.4-137	KCP 6.4-138	KCP 6.4-139	KCP 6.4-140	KCP 6.4-141	KCP 6.4-142						
Crop Code		HORVW	HORVW	HORVW	HORVW	HORVW	HORVW	PRE-EM SUMMARY					
Rating Type		MOICON	MOICON	MOICON	MOICON	MOICON	MOICON						
Rating Unit		%	%	%	%	%	%						
		n	Mean	Min	Max	Median	Stdev						

UNTREATED		15.49	-	12.05	-	10.73	-	16.63	-	10.2	-	10.9	-	26	12.66	10.00	20.88	11.80	2.61
GLOB1310aH	2 L/ha	15.29	-	11.32	-	11.35	-	16.54	-	10.45	-	10.63	-	26	12.73	9.93	20.63	11.51	2.75
GLOB1310aH	4 L/ha	15.88	-	11.48	-	10.7	-	16.65	-	10.2	-	10.68	-	26	12.81	9.95	21.18	11.87	2.77
Ref. Pro.	3 L/ha									10.08	-	10.93	-	7	11.61	10.08	13.56	11.28	1.23
Ref. Pro.	4 L/ha					10.95	-	16.68	-					7	12.58	10.40	16.68	12.15	2.28
Ref. Pro.	5 L/ha	15.84	-	10.98	-									13	13.31	9.85	21.28	11.91	3.27
Ref. Pro.	6 L/ha									9.88	-	10.43	-	7	11.33	9.88	13.45	11.03	1.26
Ref. Pro.	8 L/ha					10.95	-	16.45	-					7	12.57	10.43	16.45	12.03	2.26
Ref. Pro.	10 L/ha	15.96	-	11.78	-									13	13.41	10.00	20.71	12.12	3.18

Globachem N.V.																										
Crop Code			PRE-EM MARITIME						PRE-EM NORTH-EAST						PRE-EM NORTH-EAST + CZ/DE						PRE-EM MEDITERRANEAN					
Rating Type																										
Rating Unit			n	Mean	Min	Max	Median	Stdev	n	Mean	Min	Max	Median	Stdev	n	Mean	Min	Max	Median	Stdev	n	Mean	Min	Max	Median	Stdev
UNTREATED			10	14.08	10.12	20.88	14.52	3.38	7	11.56	10.20	13.52	11.55	1.12	11	11.66	10.20	14.35	11.55	1.30	9	11.95	10.00	15.49	11.85	1.86
GLOB1310aH	2	L/ha	10	14.52	10.50	20.63	14.77	3.41	7	11.40	10.43	13.45	11.08	1.18	11	11.63	10.43	14.78	11.08	1.48	9	11.79	9.93	15.29	11.35	1.73
GLOB1310aH	4	L/ha	10	14.66	10.48	21.18	14.34	3.27	7	11.44	10.20	13.51	11.35	1.17	11	11.57	10.20	14.15	11.35	1.31	9	11.81	9.95	15.88	11.43	1.97
Ref. Pro.	3	L/ha	-	-	-	-	-	-	7	11.61	10.08	13.56	11.28	1.23	7	11.61	10.08	13.56	11.28	1.23	-	-	-	-	-	-
Ref. Pro.	4	L/ha	4	13.29	10.40	16.68	13.04	2.68	1	13.44	13.44	13.44	13.44	-	4	12.48	10.40	13.93	12.80	1.58	2	10.74	10.53	10.95	10.74	0.30
Ref. Pro.	5	L/ha	6	14.69	10.34	21.28	14.82	4.00	-	-	-	-	-	-	1	10.74	10.74	10.74	10.74	-	7	12.12	9.85	15.84	11.48	2.12
Ref. Pro.	6	L/ha	-	-	-	-	-	-	7	11.33	9.88	13.45	11.03	1.26	7	11.33	9.88	13.45	11.03	1.26	-	-	-	-	-	-
Ref. Pro.	8	L/ha	4	13.30	10.45	16.45	13.16	2.62	1	13.41	13.41	13.41	13.41	-	4	12.54	10.45	14.28	12.72	1.67	2	10.69	10.43	10.95	10.69	0.37
Ref. Pro.	10	L/ha	6	14.69	10.04	20.71	14.92	3.95	-	-	-	-	-	-	1	10.73	10.73	10.73	10.73	-	7	12.33	10.00	15.96	11.78	2.06

Table 0-14 **Yield quality parameters SECCW pre-emergence application**

			KCP 6.4-02	KCP 6.4-09	KCP 6.4-10	KCP 6.4-27	KCP 6.4-38	KCP 6.4-39	KCP 6.4-40	KCP 6.4-77	KCP 6.4-78	KCP 6.4-79																	
Crop Code			SECCW	SECCW	SECCW	SECCW	SECCW	SECCW	SECCW	SECCW	SECCW	SECCW																	
Rating Type			HLW	HLW	HLW	HLW	HLW	HLW	HLW	HLW	HLW	HLW																	
Rating Unit			%UNCK	%UNCK	%UNCK	%UNCK	%UNCK	%UNCK	%UNCK	%UNCK	%UNCK	%UNCK																	
UNTREATED			63.81	-	68.01	-	70.7	-	71.88	-	62.75	-	67.6	-	68.17	-	61.77	-	64.08	-	74.32	-							
GLOB1310aH	2	L/ha	101.27	-	105.01	-	99.69	-	100.16	-	99.13	-	100.39	-	96.39	-	96.6	-	99.4	-	98.76	-							
GLOB1310aH	4	L/ha	98.75	-	105.26	-	98.04	-	100.48	-	95.81	-	99.29	-	97.06	-	98.87	-	100.27	-	100.49	-							
Ref. Pro.	3	L/ha	99.02	-					101.14	-	97.4	-	100.6	-	99.57	-													
Ref. Pro.	4	L/ha	95.9	-																									
Ref. Pro.	5	L/ha			103.53	-	99.91	-									102.1	-	100.45	-	97.89	-							
Ref. Pro.	6	L/ha	96.56	-					100.4	-	95.18	-	100.39	-	100.48	-													
Ref. Pro.	8	L/ha	97.72	-																									
Ref. Pro.	10	L/ha			106.22	-	100.18	-									99.48	-	101.16	-	97.81	-							
			KCP 6.4-80	KCP 6.4-81	KCP 6.4-82	KCP 6.4-151	KCP 6.4-152	KCP 6.4-154	KCP 6.4-155	KCP 6.4-156																			
Crop Code			SECCW	SECCW	SECCW	SECCW	SECCW	SECCW	SECCW	SECCW	SECCW	PRE-EM SUMMARY																	
Rating Type			HLW	HLW	HLW	HLW	HLW	HLW	HLW	HLW	HLW																		
Rating Unit			%UNCK	%UNCK	%UNCK	%UNCK	%UNCK	%UNCK	%UNCK	%UNCK	%UNCK																		
UNTREATED			74.08	a	77.01	-	78.89	ab	67.53	b	74.55	a	71.85	-	71.01	-	70.39	-						18	69.91	61.77	78.89	70.55	4.88
GLOB1310aH	2	L/ha	98.99	b	100.82	-	99.85	b	99.04	b	99.36	ab	101.16	-	100.84	-	99.51	-						18	99.80	96.39	105.01	99.60	1.86
GLOB1310aH	4	L/ha	98.99	b	100.48	-	100.63	a	106.98	a	97.71	b	101.06	-	100.39	-	100.29	-						18	100.05	95.81	106.98	100.28	2.64
Ref. Pro.	3	L/ha											100.75	-										6	99.75	97.40	101.14	100.09	1.40
Ref. Pro.	4	L/ha			100.44	-	100.69	a	100.34	b					99.95	-	99.41	-						6	99.46	95.90	100.69	100.15	1.80
Ref. Pro.	5	L/ha	99.56	ab							99.47	a												7	100.42	97.89	103.53	99.91	1.86

Ref. Pro.		6	L/ha													6	99.03	95.18	101.19	100.40	2.51
Ref. Pro.		8	L/ha	100.16 - 100.32 ab				100.9 b				101.19 - 99.46 - 99.54 -				6	99.68	97.72	100.90	99.85	1.10
Ref. Pro.		10	L/ha	98.96 b				99 ab								7	100.40	97.81	106.22	99.48	2.77

Globachem N.V.																											
Crop Code Rating Type Rating Unit			PRE-EM MARITIME						PRE-EM NORTH-EAST						PRE-EM NORTH-EAST + CZ/DE						PRE-EM MEDITERRANEAN						
			n	Mean	Min	Max	Median	Stdev	n	Mean	Min	Max	Median	Stdev	n	Mean	Min	Max	Median	Stdev	n	Mean	Min	Max	Median	Stdev	
UNTREATED			10	71.09	61.77	78.89	72.39	5.63	8	68.43	62.75	71.88	69.28	3.55	15	70.97	62.75	78.89	71.01	4.51	-	-	-	-	-	-	
GLOB1310aH			2	L/ha	10	99.75	96.60	105.01	99.38	2.14	8	99.86	96.39	101.27	100.28	1.59	15	99.69	96.39	101.27	99.69	1.23	-	-	-	-	-
GLOB1310aH			4	L/ha	10	100.77	97.71	106.98	100.38	3.03	8	99.14	95.81	101.06	99.79	1.85	15	99.76	95.81	106.98	100.29	2.52	-	-	-	-	-
Ref. Pro.			3	L/ha	-	-	-	-	-	-	6	99.75	97.40	101.14	100.09	1.40	6	99.75	97.40	101.14	100.09	1.40	-	-	-	-	-
Ref. Pro.			4	L/ha	3	100.49	100.34	100.69	100.44	0.18	3	98.42	95.90	99.95	99.41	2.20	6	99.46	95.90	100.69	100.15	1.80	-	-	-	-	-
Ref. Pro.			5	L/ha	7	100.42	97.89	103.53	99.91	1.86	-	-	-	-	-	-	4	99.21	97.89	99.91	99.52	0.90	-	-	-	-	-
Ref. Pro.			6	L/ha	-	-	-	-	-	-	6	99.03	95.18	101.19	100.40	2.51	6	99.03	95.18	101.19	100.40	2.51	-	-	-	-	-
Ref. Pro.			8	L/ha	3	100.46	100.16	100.90	100.32	0.39	3	98.91	97.72	99.54	99.46	1.03	6	99.68	97.72	100.90	99.85	1.10	-	-	-	-	-
Ref. Pro.			10	L/ha	7	100.40	97.81	106.22	99.48	2.77	-	-	-	-	-	-	4	98.99	97.81	100.18	98.98	0.97	-	-	-	-	-

KCP 6.4-02															KCP 6.4-09															KCP 6.4-10															KCP 6.4-151															KCP 6.4-152															KCP 6.4-154															KCP 6.4-155															KCP 6.4-156															KCP 6.4-27															KCP 6.4-38																				
Crop Code			SECCW															SECCW															SECCW															SECCW															SECCW															SECCW															SECCW															SECCW															SECCW																																
Rating Type			MOICON															MOICON															MOICON															MOICON															MOICON															MOICON															MOICON															MOICON															MOICON																																
Rating Unit			%															%															%															%															%															%															%															%															%																																
UNTREATED			9.6 a			10.22 -			9.78 c			14.09 -			12.13 -			13.03 -			14.6 -			10.16 -			12.95 -			12.15 -																																																																																																																													
GLOB1310aH			2 L/ha			9.56 a			10.15 -			11.6 ab			14.31 -			12.35 -			12.73 -			14.69 -			10.3 -			12.78 -			12.08 -																																																																																																																										
GLOB1310aH			4 L/ha			7.16 a			10.16 -			12.33 a			14.32 -			12.95 -			12.88 -			14.51 -			10.15 -			13 -			12.03 -																																																																																																																										
Ref. Pro.			3 L/ha			7.13 a															12.58 -						13.05 -			12.2 -																																																																																																																													
Ref. Pro.			4 L/ha			7.13 a									14.36 -									14.69 -			10.29 -																																																																																																																																
Ref. Pro.			5 L/ha						10.2 -			10.63 bc						12.1 -																																																																																																																																									
Ref. Pro.			6 L/ha			9.41 a															12.98 -						12.85 -			12 -																																																																																																																													
Ref. Pro.			8 L/ha			9.57 a									14.44 -						14.6 -			10.13 -																																																																																																																																			
Ref. Pro.			10 L/ha						10.21 -			10.8 bc						12.45 -																																																																																																																																									

			KCP 6.4-39															KCP 6.4-40															KCP 6.4-77															KCP 6.4-78															KCP 6.4-79															KCP 6.4-80															KCP 6.4-81															KCP 6.4-82																																			
Crop Code			SECCW															SECCW															SECCW															SECCW															SECCW															SECCW															SECCW															SECCW															SECCW															PRE-EM SUMMARY					
Rating Type			MOICON															MOICON															MOICON															MOICON															MOICON															MOICON															MOICON															MOICON																																			
Rating Unit			%															%															%															%															%															%															%															%															n						Mean	Min	Max	Median	Stdev										
UNTREATED			14.75 -			11.74 -			17.2 -			18.7 -			10.95 -			13.33 -			14.08 -			12.28 -			18						12.87	9.60	18.70	12.62	2.47																																																																																																										
GLOB1310aH			2 L/ha			15.05 -			11.63 -			18.5 -			18.83 -			11.11 -			13.4 -			14.1 -			18						13.09	9.56	18.83	12.56	2.55																																																																																																										
GLOB1310aH			4 L/ha			14.6 -			11.56 -			18.06 -			18.43 -			10.93 -			13.2 -			14.1 -			18						12.92	7.16	18.43	12.92	2.67																																																																																																										
Ref. Pro.			3 L/ha			14.55 -			11.63 -																		6						11.86	7.13	14.55	12.39	2.52																																																																																																										
Ref. Pro.			4 L/ha																		14.13 -			12.45 -			6						12.18	7.13	14.69	13.29	2.97																																																																																																										
Ref. Pro.			5 L/ha									17.22 -			18.57 -			11.24 -			13.43 -						7						13.34	10.20	18.57	12.10	3.31																																																																																																										
Ref. Pro.			6 L/ha			14.53 -			11.85 -																		6						12.27	9.41	14.53	12.43	1.70																																																																																																										
Ref. Pro.			8 L/ha																		14.1 -			12.25 -			6						12.52	9.57	14.60	13.18	2.24																																																																																																										
Ref. Pro.			10 L/ha						16.75 -			18.49 -			11.26 -			13.38 -									7						13.33	10.21	18.49	12.45	3.15																																																																																																										

Globachem N.V.																										
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Crop Code Rating Type Rating Unit	PRE-EM MARITIME						PRE-EM NORTH-EAST						PRE-EM NORTH-EAST + CZ/DE						PRE-EM MEDITERRANEAN					
	n	Mean	Min	Max	Median	Stdev	n	Mean	Min	Max	Median	Stdev	n	Mean	Min	Max	Median	Stdev	n	Mean	Min	Max	Median	Stdev
UNTREATED	10	13.28	9.78	18.70	12.81	2.89	8	12.37	9.60	14.75	12.55	1.87	15	12.37	9.60	14.75	12.28	1.69	-	-	-	-	-	-
GLOB1310aH 2 L/ha	10	13.67	10.15	18.83	12.89	2.93	8	12.35	9.56	15.05	12.41	1.92	15	12.54	9.56	15.05	12.38	1.59	-	-	-	-	-	-
GLOB1310aH 4 L/ha	10	13.67	10.16	18.43	13.08	2.73	8	11.99	7.16	14.60	12.46	2.45	15	12.39	7.16	14.60	12.88	1.95	-	-	-	-	-	-
Ref. Pro. 3 L/ha	-	-	-	-	-	-	6	11.86	7.13	14.55	12.39	2.52	6	11.86	7.13	14.55	12.39	2.52	-	-	-	-	-	-
Ref. Pro. 4 L/ha	3	13.65	12.45	14.36	14.13	1.04	3	10.70	7.13	14.69	10.29	3.80	6	12.18	7.13	14.69	13.29	2.97	-	-	-	-	-	-
Ref. Pro. 5 L/ha	7	13.34	10.20	18.57	12.10	3.31	-	-	-	-	-	-	4	11.85	10.63	13.43	11.67	1.21	-	-	-	-	-	-
Ref. Pro. 6 L/ha	-	-	-	-	-	-	6	12.27	9.41	14.53	12.43	1.70	6	12.27	9.41	14.53	12.43	1.70	-	-	-	-	-	-
Ref. Pro. 8 L/ha	3	13.60	12.25	14.44	14.10	1.18	3	11.43	9.57	14.60	10.13	2.76	6	12.52	9.57	14.60	13.18	2.24	-	-	-	-	-	-
Ref. Pro. 10 L/ha	7	13.33	10.21	18.49	12.45	3.15	-	-	-	-	-	-	4	11.97	10.80	13.38	11.86	1.17	-	-	-	-	-	-

Table 0-15 Yield quality parameters TTLWI pre-emergence application

		KCP 6.4-03	KCP 6.4-11	KCP 6.4-12	KCP 6.4-28	KCP 6.4-41	KCP 6.4-42	KCP 6.4-43	KCP 6.4-71	KCP 6.4-72	KCP 6.4-73						
Crop Code		TTLWI	TTLWI	TTLWI	TTLWI	TTLWI	TTLWI	TTLWI	TTLWI	TTLWI	TTLWI						
Rating Type		HLW	HLW	HLW	HLW	HLW	HLW	HLW	HLW	HLW	HLW						
Rating Unit		%UNCK	%UNCK	%UNCK	%UNCK	%UNCK	%UNCK	%UNCK	%UNCK	%UNCK	%UNCK						
UNTREATED		66.75 -	58.33 -	73.05 -	67.4 -	69.88 -	63.7 -	65.3 -	63.5 -	68.73 -	68.68 -						
GLOB1310aH	2 L/ha	104.43 -	101.24 -	98.45 -	99.98 -	99.74 -	98.82 -	101.47 -	99.92 -	98.52 -	99.02 -						
GLOB1310aH	4 L/ha	100.19 -	103 -	99.45 -	99.9 -	98.94 -	97.88 -	98.66 -	99.73 -	97.73 -	98.25 -						
Ref. Pro.	3 L/ha	98.58 -			100.35 -	100.3 -	101.07 -	97.61 -									
Ref. Pro.	4 L/ha	104.7 -															
Ref. Pro.	5 L/ha		99.39 -	98.66 -					99.71 -	97.99 -							
Ref. Pro.	6 L/ha	101.55 -			100.84 -	99.97 -	101.69 -	102.59 -									
Ref. Pro.	8 L/ha	102.43 -															
Ref. Pro.	10 L/ha		102.03 -	99.88 -					100.23 -	99.49 -							
Ref. Flu. Dif.	0.6 L/ha										101.82 -						
Ref. Flu. Dif.	1.2 L/ha										97.43 -						
Jura	4 L/ha																
Jura	8 L/ha																
		KCP 6.4-74	KCP 6.4-75	KCP 6.4-76	KCP 6.4-174	KCP 6.4-175	KCP 6.4-176	KCP 6.4-177	KCP 6.4-178	KCP 6.4-179							
Crop Code		TTLWI	TTLWI	TTLWI	TTLWI	TTLWI	TTLWI	TTLWI	TTLWI	TTLWI	PRE-EM SUMMARY						
Rating Type		HLW	HLW	HLW	HLW	HLW	HLW	HLW	HLW	HLW							
Rating Unit		%UNCK	%UNCK	%UNCK	%UNCK	%UNCK	%UNCK	%UNCK	%UNCK	%UNCK							
UNTREATED		70.1 -	76.28 a	75.1 -	73.23 -	79.28 -	65.23 -	65.78 -	72.55 -	57.98 -	19	68.47	57.98	79.28	68.68	5.67	
GLOB1310aH	2 L/ha	100.58 -	99.01 b	99.84 -	101.58 -	99.21 -	99.35 -	99.19 -	99.82 -	101.38 -	19	100.08	98.45	104.43	99.82	1.45	
GLOB1310aH	4 L/ha	98.87 -	98.67 b	99.94 -	101.6 -	99.79 -	101.23 -	100.47 -	97.55 -	101.18 -	19	99.63	97.55	103.00	99.73	1.44	
Ref. Pro.	3 L/ha								100.4 -	99.8 -	7	99.73	97.61	101.07	100.30	1.21	
Ref. Pro.	4 L/ha	99.4 -	98.61 b								3	100.90	98.61	104.70	99.40	3.31	
Ref. Pro.	5 L/ha			100.14 -		100.2 -	98.38 -	98.51 -			8	99.12	97.99	100.20	99.03	0.85	
Ref. Pro.	6 L/ha								99.56 -	103.03 -	7	101.32	99.56	103.03	101.55	1.28	
Ref. Pro.	8 L/ha	99.25 -	98.79 b								3	100.16	98.79	102.43	99.25	1.98	
Ref. Pro.	10 L/ha			100.6 -		99.72 -	99.15 -	100.87 -			8	100.25	99.15	102.03	100.06	0.92	
Ref. Flu. Dif.	0.6 L/ha										1	101.82	101.82	101.82	101.82	-	
Ref. Flu. Dif.	1.2 L/ha										1	97.43	97.43	97.43	97.43	-	
Jura	4 L/ha				102.33 -						1	102.33	102.33	102.33	102.33	-	

Jura			8	L/ha	101.83														-	1	101.83	101.83	101.83	101.83	-														
Globachem N.V.			PRE-EM MARITIME						PRE-EM NORTH-EAST						PRE-EM NORTH-EAST + CZ/DE						PRE-EM MEDITERRANEAN																		
Crop Code																																							
Rating Type																																							
Rating Unit			n	Mean	Min	Max	Median	Stdev	n	Mean	Min	Max	Median	Stdev	n	Mean	Min	Max	Median	Stdev	n	Mean	Min	Max	Median	Stdev													
UNTREATED			11	70.33	58.33	79.28	70.10	5.99	6	66.03	57.98	72.55	66.03	5.07	10	68.45	57.98	76.28	69.28	5.28	2	65.51	65.23	65.78	65.51	0.39													
GLOB1310aH			2	L/ha	11	99.76	98.45	101.58	99.84	1.05	6	100.94	98.82	104.43	100.60	1.99	10	100.59	98.82	104.43	100.20	1.72	2	99.27	99.19	99.35	99.27	0.11											
GLOB1310aH			4	L/ha	11	99.72	97.73	103.00	99.73	1.50	6	99.07	97.55	101.18	98.80	1.39	10	99.18	97.55	101.60	98.77	1.37	2	100.85	100.47	101.23	100.85	0.54											
Ref. Pro.			3	L/ha	1	100.35	100.35	100.35	100.35	-	6	99.63	97.61	101.07	100.05	1.29	6	99.63	97.61	101.07	100.05	1.29	-	-	-	-	-	-											
Ref. Pro.			4	L/ha	2	99.01	98.61	99.40	99.01	0.56	1	104.70	104.70	104.70	104.70	-	3	100.90	98.61	104.70	99.40	3.31	-	-	-	-	-	-											
Ref. Pro.			5	L/ha	6	99.35	97.99	100.20	99.55	0.87	-	-	-	-	-	-	-	-	-	-	-	2	98.45	98.38	98.51	98.45	0.09												
Ref. Pro.			6	L/ha	1	100.84	100.84	100.84	100.84	-	6	101.40	99.56	103.03	101.62	1.39	6	101.40	99.56	103.03	101.62	1.39	-	-	-	-	-	-											
Ref. Pro.			8	L/ha	2	99.02	98.79	99.25	99.02	0.33	1	102.43	102.43	102.43	102.43	-	3	100.16	98.79	102.43	99.25	1.98	-	-	-	-	-	-											
Ref. Pro.			10	L/ha	6	100.33	99.49	102.03	100.06	0.92	-	-	-	-	-	-	-	-	-	-	-	2	100.01	99.15	100.87	100.01	1.22												
Ref. Flu. Dif.			0.6	L/ha	1	101.82	101.82	101.82	101.82	-	-	-	-	-	-	-	1	101.82	101.82	101.82	101.82	-	-	-	-	-	-	-											
Ref. Flu. Dif.			1.2	L/ha	1	97.43	97.43	97.43	97.43	-	-	-	-	-	-	-	1	97.43	97.43	97.43	97.43	-	-	-	-	-	-	-											
Jura			4	L/ha	1	102.33	102.33	102.33	102.33	-	-	-	-	-	-	-	1	102.33	102.33	102.33	102.33	-	-	-	-	-	-	-											
Jura			8	L/ha	1	101.83	101.83	101.83	101.83	-	-	-	-	-	-	-	1	101.83	101.83	101.83	101.83	-	-	-	-	-	-	-											
			KCP 6.4-03		KCP 6.4-11		KCP 6.4-12		KCP 6.4-28		KCP 6.4-41		KCP 6.4-42		KCP 6.4-43		KCP 6.4-71		KCP 6.4-72		KCP 6.4-73																		
Crop Code					TTLWI		TTLWI		TTLWI		TTLWI		TTLWI		TTLWI		TTLWI		TTLWI		TTLWI																		
Rating Type					MOICON		MOICON		MOICON		MOICON		MOICON		MOICON		MOICON		MOICON		MOICON																		
Rating Unit					%		%		%		%		%		%		%		%		%																		
UNTREATED					10.87		-	9.47		-	11.05		-	13.83		-	12.05		-	12.5		-	10.88		-	24.46		-	16.86		-	10.39		-					
GLOB1310aH			2	L/ha	11.02		-	9.79		-	10.98		-	13.93		-	11.98		-	13.5		-	10.88		-	24.5		-	16.65		-	10.34		-					
GLOB1310aH			4	L/ha	11.47		-	9.63		-	11.13		-	14.04		-	11.88		-	11.75		-	10.86		-	24.89		-	17.06		-	10.48		-					
Ref. Pro.			3	L/ha	10.84		-				13.99		-	11.93		-	12.83		-	10.88		-																	
Ref. Pro.			4	L/ha	10.94		-																																
Ref. Pro.			5	L/ha				9.6		-	11.03		-							24.77		-	16.34		-														
Ref. Pro.			6	L/ha	10.9		-				14.03		-	12.03		-	12.43		-	10.89		-																	
Ref. Pro.			8	L/ha	10.88		-																																
Ref. Pro.			10	L/ha				9.78		-	10.98		-							24.42		-	16.49		-														
Ref. Flu. Dif.			0.6	L/ha																									10.17		-								
Ref. Flu. Dif.			1.2	L/ha																									10.44		-								
Jura			4	L/ha																																			
Jura			8	L/ha																																			
			KCP 6.4-74		KCP 6.4-75		KCP 6.4-76		KCP 6.4-174		KCP 6.4-175		KCP 6.4-176		KCP 6.4-177		KCP 6.4-178		KCP 6.4-179																				
Crop Code					TTLWI		TTLWI		TTLWI		TTLWI		TTLWI		TTLWI		TTLWI		TTLWI		TTLWI		PRE-EM SUMMARY																
Rating Type					MOICON		MOICON		MOICON		MOICON		MOICON		MOICON		MOICON		MOICON		MOICON																		
Rating Unit					%		%		%		%		%		%		%		%		%		n	Mean	Min	Max	Median	Stdev											
UNTREATED					12.05		-	14.08		-	9.65		-	12.88		-	11.48		-	11.53		-	11.63		-	11.9		-	10.43		-			19	12.53	9.47	24.46	11.63	3.36
GLOB1310aH			2	L/ha	12.33		-	14.08		-	9.65		-	12.73		-	11.38		-	11.78		-	11.35		-	11.4		-	10.63		-			19	12.57	9.65	24.50	11.40	3.35

GLOB1310aH	4	L/ha	12	-	14.1	-	9.7	-	12.94	-	11.45	-	10.98	-	11.6	-	11.7	-	10.55	-	19	12.54	9.63	24.89	11.60	3.46
Ref. Pro.	3	L/ha															11.9	-	10.53	-	7	11.84	10.53	13.99	11.90	1.24
Ref. Pro.	4	L/ha	12	-	14.11	-															3	12.35	10.94	14.11	12.00	1.61
Ref. Pro.	5	L/ha					9.65	-			11.48	-	11.93	-	11.58	-					8	13.30	9.60	24.77	11.53	5.09
Ref. Pro.	6	L/ha															11.73	-	10.7	-	7	11.82	10.70	14.03	11.73	1.17
Ref. Pro.	8	L/ha	12	-	14.05	-															3	12.31	10.88	14.05	12.00	1.61
Ref. Pro.	10	L/ha					9.7	-			11.4	-	11.3	-	11.85	-					8	13.24	9.70	24.42	11.35	4.99
Ref. Flu. Dif.	0.6	L/ha																			1	10.17	10.17	10.17	10.17	-
Ref. Flu. Dif.	1.2	L/ha																			1	10.44	10.44	10.44	10.44	-
Jura	4	L/ha							12.91	-											1	12.91	12.91	12.91	12.91	-
Jura	8	L/ha							13.05	-											1	13.05	13.05	13.05	13.05	-

Globachem N.V.																										
Crop Code			PRE-EM MARITIME						PRE-EM NORTH-EAST						PRE-EM NORTH-EAST + CZ/DE						PRE-EM MEDITERRANEAN					
Rating Type																										
Rating Unit			n	Mean	Min	Max	Median	Stdev	n	Mean	Min	Max	Median	Stdev	n	Mean	Min	Max	Median	Stdev	n	Mean	Min	Max	Median	Stdev
UNTREATED			11	13.29	9.47	24.46	12.05	4.30	6	11.44	10.43	12.50	11.39	0.82	10	11.80	10.39	14.08	11.98	1.18	2	11.58	11.53	11.63	11.58	0.07
GLOB1310aH	2	L/ha	11	13.31	9.65	24.50	12.33	4.27	6	11.57	10.63	13.50	11.21	1.06	10	11.89	10.34	14.08	11.69	1.26	2	11.57	11.35	11.78	11.57	0.30
GLOB1310aH	4	L/ha	11	13.40	9.63	24.89	12.00	4.40	6	11.37	10.55	11.88	11.59	0.54	10	11.77	10.48	14.10	11.73	1.10	2	11.29	10.98	11.60	11.29	0.44
Ref. Pro.	3	L/ha	1	13.99	13.99	13.99	13.99	-	6	11.49	10.53	12.83	11.39	0.88	6	11.49	10.53	12.83	11.39	0.88	-	-	-	-	-	-
Ref. Pro.	4	L/ha	2	13.06	12.00	14.11	13.06	1.49	1	10.94	10.94	10.94	10.94	-	3	12.35	10.94	14.11	12.00	1.61	-	-	-	-	-	-
Ref. Pro.	5	L/ha	6	13.81	9.60	24.77	11.26	5.91	-	-	-	-	-	-	-	-	-	-	-	-	2	11.76	11.58	11.93	11.76	0.25
Ref. Pro.	6	L/ha	1	14.03	14.03	14.03	14.03	-	6	11.45	10.70	12.43	11.32	0.71	6	11.45	10.70	12.43	11.32	0.71	-	-	-	-	-	-
Ref. Pro.	8	L/ha	2	13.03	12.00	14.05	13.03	1.45	1	10.88	10.88	10.88	10.88	-	3	12.31	10.88	14.05	12.00	1.61	-	-	-	-	-	-
Ref. Pro.	10	L/ha	6	13.80	9.70	24.42	11.19	5.77	-	-	-	-	-	-	-	-	-	-	-	-	2	11.58	11.30	11.85	11.58	0.39
Ref. Flu. Dif.	0.6	L/ha	1	10.17	10.17	10.17	10.17	-	-	-	-	-	-	-	1	10.17	10.17	10.17	10.17	-	-	-	-	-	-	-
Ref. Flu. Dif.	1.2	L/ha	1	10.44	10.44	10.44	10.44	-	-	-	-	-	-	-	1	10.44	10.44	10.44	10.44	-	-	-	-	-	-	-
Jura	4	L/ha	1	12.91	12.91	12.91	12.91	-	-	-	-	-	-	-	1	12.91	12.91	12.91	12.91	-	-	-	-	-	-	-
Jura	8	L/ha	1	13.05	13.05	13.05	13.05	-	-	-	-	-	-	-	1	13.05	13.05	13.05	13.05	-	-	-	-	-	-	-

Table 0-16 Yield quality parameters TRZAW pre-emergence application

		KCP 6.4-102										
Crop Code	TTLWI											
Rating Type	TKW											
Rating Unit	%UNCK											
UNTREATED		38.87 -										
GLOB1310aH	2	L/ha	99.7 -									
GLOB1310aH	4	L/ha	99.72 -									
Ref. Pro.	4	L/ha	99.5 -									
Ref. Pro.	8	L/ha	99.66 -									
		KCP 6.4-04	KCP 6.4-13	KCP 6.4-14	KCP 6.4-29	KCP 6.4-44	KCP 6.4-45	KCP 6.4-46	KCP 6.4-65	KCP 6.4-66	KCP 6.4-67	
Crop Code	TRZAW		TRZAW	TRZAW	TRZAW	TRZAW	TRZAW	TRZAW	TRZAW	TRZAW	TRZAW	
Rating Type	HLW		HLW	HLW	HLW	HLW	HLW	HLW	HLW	HLW	HLW	
Rating Unit	%UNCK		%UNCK	%UNCK	%UNCK	%UNCK	%UNCK	%UNCK	%UNCK	%UNCK	%UNCK	
UNTREATED		70.41 -	79.35 -	82.2 -	72.43 -	67.85 -	70.8 -	62.01 -	76.85 ab	72.82 a	73.95 -	
GLOB1310aH	2	L/ha	96.71 -	101.41 -	100.22 -	99.6 -	98.03 -	100.43 -	96 -	98.98 ab	99.62 a	99.09 -
GLOB1310aH	4	L/ha	100.56 -	99.99 -	99.33 -	98.72 -	100.1 -	100.57 -	99.56 -	98.61 ab	99.82 a	99.49 -

Ref. Pro.		3	L/ha	100.96		-	101.39		-	99.3		-	99.58		-	95.54		-															
Ref. Pro.		4	L/ha																														
Ref. Pro.		5	L/ha				100.56		-	99.73		-																					
Ref. Pro.		6	L/ha	100.75		-				101.06		-	98.93		-	100.89		-							91.16		-						
Ref. Pro.		8	L/ha																														
Ref. Pro.		10	L/ha				100.18		-	100.34		-							99.46		ab	99.91		a	99.49		-						
				KCP 6.4-68		KCP 6.4-69		KCP 6.4-70		KCP 6.4-110		KCP 6.4-114		KCP 6.4-116		KCP 6.4-165		KCP 6.4-166		KCP 6.4-167		KCP 6.4-168											
Crop Code				TRZAW		TRZAW		TRZAW		TRZAW		TRZAW		TRZAW		TRZAW		TRZAW		TRZAW		TRZAW											
Rating Type				HLW		HLW		HLW		HLW		HLW		HLW		HLW		HLW		HLW		HLW											
Rating Unit				%UNCK		%UNCK		%UNCK		%UNCK		%UNCK		%UNCK		%UNCK		%UNCK		%UNCK		%UNCK											
UNTREATED				73.56		-	70		-	75.4		-	78.63		-	76.48		-	83.35		a	81		-	70.01		-	67.17		-	79.53		-
GLOB1310aH		2	L/ha	101.98		-	100.11		-	99.7		-	100.57		-	101.23		-	93.27		b	98.78		-	102.16		-	100.95		-	99.62		-
GLOB1310aH		4	L/ha	102.01		-	99.53		-	99.61		-	99.71		-	100.88		-	98.78		a	96.94		-	99.31		-	104.08		-	100.69		-
Ref. Pro.		3	L/ha																														
Ref. Pro.		4	L/ha				99.72		-	99.59		-				101.36		-				98.16		-						100.83		-	
Ref. Pro.		5	L/ha	102.14		-							100.32		-				96.25		ab				102.7		-	91.1		-			
Ref. Pro.		6	L/ha																														
Ref. Pro.		8	L/ha				99.54		-	99.79		-				100.73		-				98.18		-						100.14		-	
Ref. Pro.		10	L/ha	101.36		-							100.31		-				96.36		ab				102.29		-	101.87		-			
				KCP 6.4-169		KCP 6.4-170		KCP 6.4-171																									
Crop Code				TRZAW		TRZAW		TRZAW															PRE-EM SUMMARY										
Rating Type				HLW		HLW		HLW																									
Rating Unit				%UNCK		%UNCK		%UNCK															n Mean Min Max Median Stdev										
UNTREATED				52.53		-	75.83		-	47.59		a														23 72.16 47.59 83.35 73.56 8.72							
GLOB1310aH		2	L/ha	96.78		-	99.79		-	100.54		a														23 99.37 93.27 102.16 99.70 2.08							
GLOB1310aH		4	L/ha	93.16		-	99.65		-	96.47		b														23 99.46 93.16 104.08 99.61 2.04							
Ref. Pro.		3	L/ha				99.8		-	100.55		a														7 99.59 95.54 101.39 99.80 1.94							
Ref. Pro.		4	L/ha	104.55		-																				6 100.70 98.16 104.55 100.28 2.19							
Ref. Pro.		5	L/ha																							10 99.16 91.10 102.70 99.74 3.32							
Ref. Pro.		6	L/ha				100.79		-	100.73		a														7 99.19 91.16 101.06 100.75 3.61							
Ref. Pro.		8	L/ha	102.48		-																				6 100.14 98.18 102.48 99.97 1.42							
Ref. Pro.		10	L/ha																							10 100.16 96.36 102.29 100.25 1.65							
Globachem N.V.																																	
Crop Code				PRE-EM MARITIME						PRE-EM NORTH-EAST						PRE-EM NORTH-EAST + CZ/DE						PRE-EM MEDITERRANEAN											
Rating Type																																	
Rating Unit				n Mean Min Max Median Stdev						n Mean Min Max Median Stdev						n Mean Min Max Median Stdev						n Mean Min Max Median Stdev											
UNTREATED				12 71.47 47.59 82.20 73.76 10.69	5 69.38 62.01 75.83 70.41 5.03						11 73.00 62.01 82.20 73.56 5.76						6 75.86 67.17 83.35 77.56 6.12																
GLOB1310aH		2	L/ha	12 99.73 96.78 101.98 99.66 1.33	5 98.19 96.00 100.43 98.03 1.91						11 99.17 96.00 101.98 99.70 1.72						6 99.63 93.27 102.16 100.76 3.23																
GLOB1310aH		4	L/ha	12 98.64 93.16 102.01 99.41 2.24	5 100.09 99.56 100.57 100.10 0.48						11 99.76 96.94 102.01 99.61 1.22						6 100.58 98.78 104.08 100.20 1.90																
Ref. Pro.		3	L/ha	2 100.97 100.55 101.39 100.97 0.59	5 99.04 95.54 100.96 99.58 2.05						5 99.04 95.54 100.96 99.58 2.05						- - - - -																
Ref. Pro.		4	L/ha	4 100.51 98.16 104.55 99.66 2.79	- - - - -						3 99.16 98.16 99.72 99.59 0.87						2 101.10 100.83 101.36 101.10 0.37																
Ref. Pro.		5	L/ha	6 100.21 99.40 102.14 99.74 1.03	- - - - -						3 100.51 99.66 102.14 99.73 1.41						4 97.59 99.10 102.70 98.29 5.08																
Ref. Pro.		6	L/ha	2 100.90 100.73 101.06 100.90 0.23	5 98.50 91.16 100.89 100.75 4.19						5 98.50 91.16 100.89 100.75 4.19						- - - - -																
Ref. Pro.		8	L/ha	4 100.00 98.18 102.48 99.67 1.80	- - - - -						3 99.17 98.18 99.79 99.54 0.87						2 100.44 100.14 100.73 100.44 0.42																
Ref. Pro.		10	L/ha	6 100.12 99.46 101.36 100.05 0.70	- - - - -						3 100.40 99.49 101.36 100.34 0.94						4 100.21 96.36 102.29 101.09 2.70																

		KCP 6.4-04	KCP 6.4-110	KCP 6.4-114	KCP 6.4-116	KCP 6.4-13	KCP 6.4-14	KCP 6.4-165	KCP 6.4-166	KCP 6.4-167	KCP 6.4-168														
Crop Code		TRZAW	TRZAW	TRZAW	TRZAW	TRZAW	TRZAW	TRZAW	TRZAW	TRZAW	TRZAW														
Rating Type		MOICON	MOICON	MOICON	MOICON	MOICON	MOICON	MOICON	MOICON	MOICON	MOICON														
Rating Unit		%	%	%	%	%	%	%	%	%	%														
UNTREATED		13.46	-	13.03	-	11.55	-	11.48	-	11.16	-	12.18	-	14.58	-	10.95	-	26.48	-	11.23	-				
GLOB1310aH	2 L/ha	13.42	-	12.92	-	11.58	-	11.55	-	11.03	-	12.08	-	15.2	-	11.3	-	26.03	-	11.38	-				
GLOB1310aH	4 L/ha	13.45	-	12.89	-	11.35	-	11.33	-	11.03	-	12.05	-	14.53	-	11.05	-	20.79	-	11.28	-				
Ref. Pro.	3 L/ha	13.43	-																						
Ref. Pro.	4 L/ha					11.68	-							15	-					11.45	-				
Ref. Pro.	5 L/ha			12.97	-			11.45	-	11.07	-	12.05	-			11.18	-	23.77	-						
Ref. Pro.	6 L/ha	13.57	-																						
Ref. Pro.	8 L/ha					11.58	-							14.98	-					11.75	-				
Ref. Pro.	10 L/ha			12.96	-			11.45	-	11.04	-	12.13	-			11.05	-	26.92	-						
		KCP 6.4-169	KCP 6.4-170	KCP 6.4-171	KCP 6.4-29	KCP 6.4-44	KCP 6.4-45	KCP 6.4-46	KCP 6.4-65	KCP 6.4-66	KCP 6.4-67														
Crop Code		TRZAW	TRZAW	TRZAW	TRZAW	TRZAW	TRZAW	TRZAW	TRZAW	TRZAW	TRZAW														
Rating Type		MOICON	MOICON	MOICON	MOICON	MOICON	MOICON	MOICON	MOICON	MOICON	MOICON														
Rating Unit		%	%	%	%	%	%	%	%	%	%														
UNTREATED		17.62	-	13.2	-	10.48	-	14.74	-	13.13	-	12.53	-	12.81	-	13.61	-	14.56	-	13.53	-				
GLOB1310aH	2 L/ha	17.48	-	12.65	-	10.38	-	14.61	-	13.3	-	12.55	-	12.7	-	13.36	-	12.83	-	13.55	-				
GLOB1310aH	4 L/ha	17.57	-	12.88	-	10.38	-	14.77	-	13.73	-	12.53	-	12.81	-	13.36	-	12.83	-	13.43	-				
Ref. Pro.	3 L/ha			12.83	-	10.58	-	14.87	-	13.35	-	12.55	-	12.56	-										
Ref. Pro.	4 L/ha	17.61	-																						
Ref. Pro.	5 L/ha															13.64	-	14.53	-	13.43	-				
Ref. Pro.	6 L/ha			12.83	-	10.55	-	14.5	-	12.8	-	12.55	-	12.52	-										
Ref. Pro.	8 L/ha	17.57	-																						
Ref. Pro.	10 L/ha															13.53	-	14.41	-	13.4	-				
		KCP 6.4-68	KCP 6.4-69	KCP 6.4-70																					
Crop Code		TRZAW	TRZAW	TRZAW																					
Rating Type		MOICON	MOICON	MOICON																					
Rating Unit		%	%	%																					
UNTREATED		11.02	-	13.7	-	13.28	-																		
		23	13.49	10.48	26.48	13.13	3.26																		
GLOB1310aH	2 L/ha	10.76	-	13.9	-	13.28	-																		
GLOB1310aH	4 L/ha	10.43	-	13.68	-	13.45	-																		
Ref. Pro.	3 L/ha																								
Ref. Pro.	4 L/ha			13.7	-	13.25	-																		
Ref. Pro.	5 L/ha	10.7	-																						
Ref. Pro.	6 L/ha																								
Ref. Pro.	8 L/ha			13.85	-	13.45	-																		
Ref. Pro.	10 L/ha	10.94	-																						
Globachem N.V.																									
Crop Code		PRE-EM MARITIME						PRE-EM NORTH-EAST						PRE-EM NORTH-EAST + CZ/DE						PRE-EM MEDITERRANEAN					
Rating Type																									
Rating Unit		n	Mean	Min	Max	Median	Stdev	n	Mean	Min	Max	Median	Stdev	n	Mean	Min	Max	Median	Stdev	n	Mean	Min	Max	Median	Stdev
UNTREATED		12	13.37	10.48	17.62	13.57	1.98	5	13.03	12.53	13.46	13.13	0.36	11	13.04	11.02	14.58	13.20	0.92	6	14.12	10.95	26.48	11.52	6.10
GLOB1310aH	2 L/ha	12	13.21	10.38	17.48	13.32	2.02	5	12.92	12.55	13.42	12.70	0.40	11	13.04	10.76	15.20	13.28	1.12	6	14.13	11.30	26.03	11.57	5.86
GLOB1310aH	4 L/ha	12	13.13	10.38	17.57	13.40	2.03	5	13.08	12.53	13.73	12.88	0.49	11	13.00	10.43	14.53	13.43	1.08	6	13.12	11.05	20.79	11.34	3.82
Ref. Pro.	3 L/ha	2	12.73	10.58	14.87	12.73	3.03	5	12.94	12.55	13.43	12.83	0.42	5	12.94	12.55	13.43	12.83	0.42	-	-	-	-	-	-

Ref. Pro.	4	L/ha	4	14.89	13.25	17.61	14.35	1.96	-	-	-	-	-	-	3	13.98	13.25	15.00	13.70	0.91	2	11.57	11.45	11.68	11.57	0.16
Ref. Pro.	5	L/ha	6	12.57	10.70	14.53	12.74	1.53	-	-	-	-	-	-	3	12.06	10.70	13.43	12.05	1.37	4	14.84	11.18	23.77	12.21	6.00
Ref. Pro.	6	L/ha	2	12.53	10.55	14.50	12.53	2.79	5	12.85	12.52	13.57	12.80	0.42	5	12.85	12.52	13.57	12.80	0.42	-	-	-	-	-	
Ref. Pro.	8	L/ha	4	14.96	13.45	17.57	14.42	1.86	-	-	-	-	-	-	3	14.09	13.45	14.98	13.85	0.79	2	11.67	11.58	11.75	11.67	0.12
Ref. Pro.	10	L/ha	6	12.58	10.94	14.41	12.77	1.43	-	-	-	-	-	-	3	12.16	10.94	13.40	12.13	1.23	4	15.60	11.05	26.92	12.21	7.59

Table 0-17 **Yield quality parameters TRZDW pre-emergence application**

		KCP 6.4-184	KCP 6.4-185	KCP 6.4-186	KCP 6.4-187	KCP 6.4-188	KCP 6.4-189												
Crop Code		TRZDW	TRZDW	TRZDW	TRZDW	TRZDW	TRZDW	PRE-EM SUMMARY											
Rating Type		HLW	HLW	HLW	HLW	HLW	HLW												
Rating Unit		%UNCK	%UNCK	%UNCK	%UNCK	%UNCK	%UNCK												
UNTREATED		71.8	-	69.68	-	85.72	-	73.89	-	76.38	-	81.03	-	6	76.42	69.68	85.72	75.14	6.02
GLOB1310aH	2 L/ha	101.48	-	102.23	-	100.07	-	100	-	100.03	-	100.98	a	6	100.80	100.00	102.23	100.53	0.93
GLOB1310aH	4 L/ha	98.97	-	102.63	-	97.31	-	98.9	-	100.45	-	100.71	ab	6	99.83	97.31	102.63	99.71	1.84
Ref. Pro.	3 L/ha					99.25	-	99.83	-					2	99.54	99.25	99.83	99.54	0.41
Ref. Pro.	4 L/ha											100.82	ab	1	100.82	100.82	100.82	100.82	-
Ref. Pro.	5 L/ha	97.41	-	102	-									2	99.71	97.41	102.00	99.71	3.25
Ref. Pro.	6 L/ha					94.45	-	97.82	-					2	96.14	94.45	97.82	96.14	2.38
Ref. Pro.	8 L/ha													1	100.48	100.48	100.48	100.48	-
Ref. Pro.	10 L/ha	100.21	-	98.72	-									2	99.47	98.72	100.21	99.47	1.05
Ref. Flu. Dif.	0.6 L/ha									99.72	-			1	99.72	99.72	99.72	99.72	-
Ref. Flu. Dif.	1.2 L/ha									100.48	-			1	100.48	100.48	100.48	100.48	-

Globachem N.V.																									
Crop Code		PRE-EM MARITIME						PRE-EM NORTH-EAST						PRE-EM NORTH-EAST + CZ/DE						PRE-EM MEDITERRANEAN					
Rating Type																									
Rating Unit		n	Mean	Min	Max	Median	Stdev	n	Mean	Min	Max	Median	Stdev	n	Mean	Min	Max	Median	Stdev	n	Mean	Min	Max	Median	Stdev
UNTREATED		1	85.72	85.72	85.72	85.72	-	-	-	-	-	-	-	-	-	-	-	-	-	5	74.56	69.68	81.03	73.89	4.39
GLOB1310aH	2 L/ha	1	100.07	100.07	100.07	100.07	-	-	-	-	-	-	-	-	-	-	-	-	-	5	100.94	100.00	102.23	100.98	0.96
GLOB1310aH	4 L/ha	1	97.31	97.31	97.31	97.31	-	-	-	-	-	-	-	-	-	-	-	-	-	5	100.33	98.90	102.63	100.45	1.53
Ref. Pro.	3 L/ha	1	99.25	99.25	99.25	99.25	-	-	-	-	-	-	-	-	-	-	-	-	-	1	99.83	99.83	99.83	99.83	-
Ref. Pro.	4 L/ha	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	100.82	100.82	100.82	100.82	-
Ref. Pro.	5 L/ha	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	99.71	97.41	102.00	99.71	3.25
Ref. Pro.	6 L/ha	1	94.45	94.45	94.45	94.45	-	-	-	-	-	-	-	-	-	-	-	-	-	1	97.82	97.82	97.82	97.82	-
Ref. Pro.	8 L/ha	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	100.48	100.48	100.48	100.48	-
Ref. Pro.	10 L/ha	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	99.47	98.72	100.21	99.47	1.05
Ref. Flu. Dif.	0.6 L/ha	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	99.72	99.72	99.72	99.72	-
Ref. Flu. Dif.	1.2 L/ha	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	100.48	100.48	100.48	100.48	-

	KCP 6.4-184	KCP 6.4-185	KCP 6.4-186	KCP 6.4-187	KCP 6.4-188	KCP 6.4-189		
Crop Code	TRZDW	TRZDW	TRZDW	TRZDW	TRZDW	TRZDW		PRE-EM SUMMARY
Rating Type	MOICON	MOICON	MOICON	MOICON	MOICON	MOICON		

Rating Unit		%	%	%	%	%	%	n	Mean	Min	Max	Median	Stdev						
UNTREATED		11.28	-	10.93	-	11.36	-	14.61	-	13.13	-	11.65	-	6	12.16	10.93	14.61	11.51	1.42
GLOB1310aH	2 L/ha	11.03	-	11	-	11.32	-	14.32	-	13.27	-	11.43	-	6	12.06	11.00	14.32	11.38	1.39
GLOB1310aH	4 L/ha	11.1	-	10.93	-	11.14	-	13.06	-	13.54	-	11.48	-	6	11.88	10.93	13.54	11.31	1.13
Ref. Pro.	3 L/ha					11.33	-	14.74	-					2	13.04	11.33	14.74	13.04	2.41
Ref. Pro.	4 L/ha									11.5	-			1	11.50	11.50	11.50	11.50	-
Ref. Pro.	5 L/ha	11.2	-	11.03	-									2	11.12	11.03	11.20	11.12	0.12
Ref. Pro.	6 L/ha					11.16	-	14.64	-					2	12.90	11.16	14.64	12.90	2.46
Ref. Pro.	8 L/ha									11.63	-			1	11.63	11.63	11.63	11.63	-
Ref. Pro.	10 L/ha	11.15	-	10.9	-									2	11.03	10.90	11.15	11.03	0.18
Ref. Flu. Dif.	0.6 L/ha							13.29	-					1	13.29	13.29	13.29	13.29	-
Ref. Flu. Dif.	1.2 L/ha							13.04	-					1	13.04	13.04	13.04	13.04	-

Globachem N.V.		PRE-EM MARITIME						PRE-EM NORTH-EAST						PRE-EM NORTH-EAST + CZ/DE						PRE-EM MEDITERRANEAN					
Crop Code	Rating Type	n	Mean	Min	Max	Median	Stdev	n	Mean	Min	Max	Median	Stdev	N	Mean	Min	Max	Median	Stdev	n	Mean	Min	Max	Median	Stdev
UNTREATED		1	11.36	11.36	11.36	11.36	-	-	-	-	-	-	-	-	-	-	-	-	-	5	12.32	10.93	14.61	11.65	1.53
GLOB1310aH	2 L/ha	1	11.32	11.32	11.32	11.32	-	-	-	-	-	-	-	-	-	-	-	-	-	5	12.21	11.00	14.32	11.43	1.50
GLOB1310aH	4 L/ha	1	11.14	11.14	11.14	11.14	-	-	-	-	-	-	-	-	-	-	-	-	-	5	12.02	10.93	13.54	11.48	1.20
Ref. Pro.	3 L/ha	1	11.33	11.33	11.33	11.33	-	-	-	-	-	-	-	-	-	-	-	-	-	1	14.74	14.74	14.74	14.74	-
Ref. Pro.	4 L/ha	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	11.50	11.50	11.50	11.50	-
Ref. Pro.	5 L/ha	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	11.12	11.03	11.20	11.12	0.12
Ref. Pro.	6 L/ha	1	11.16	11.16	11.16	11.16	-	-	-	-	-	-	-	-	-	-	-	-	-	1	14.64	14.64	14.64	14.64	-
Ref. Pro.	8 L/ha	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	11.63	11.63	11.63	11.63	-
Ref. Pro.	10 L/ha	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	11.03	10.90	11.15	11.03	0.18
Ref. Flu. Dif.	0.6 L/ha	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	13.29	13.29	13.29	13.29	-
Ref. Flu. Dif.	1.2 L/ha	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	13.04	13.04	13.04	13.04	-

Overall, the data have shown that neither the proposed dose of GLOB1310aH nor 2N are likely to have a significant negative impact on the HLW or the moisture content of winter cereals. Therefore, the zRMS considers that the proposed uses of GLOB1310aH are unlikely to have a significant negative impact on quality.

3.4.4 Effects on transformation processes (KCP 6.4.4)

Trials investigating the effect on transformation processes were not necessary since no residues of aclonifen or flufenacet have been measured on any crop. Furthermore, flufenacet is approved on cereals for many years already and in many countries, the labels of the currently approved products do not contain such warnings either. It is known not to have negative effects on the processing procedure. It should also be noted that the application of GLOB1310aH is performed very early on in the growing season.

Comments of zRMS:	EPPO PP 1/243 states that where residues are undetectable, a reasoned case may be sufficient to address this point. The applicant stated that no detectable residues of aclonifen or flufenacet were detected on any crop. Given that the application of GLOB1310aH is performed very early on in the growing season, therefore, the zRMS considers that the proposed uses of the test product are unlikely to result in detectable residues in harvested grains.
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3.4.5 Impact on treated plants or plant products to be used for propagation (KCP

EPPO Guideline 1/135(4) states that no testing for the impact on propagation is required for application on cereals before BBCH stage 30.

Comments of zRMS:	Table 2 in EPPO PP 1/135 states that data on plant parts for propagation are only required for post-emergence foliar-applied herbicides when an application is made at or after inflorescence initiation or where detectable residues occur in a harvested seed. Therefore, it is considered that the proposed uses of the test product are unlikely to result in detectable residues in harvested grain. Overall, it is considered that no data on plant parts for propagation are required.
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3.5 Observations on other undesirable or unintended side-effects (KCP 6.5)

There were no adverse effects on beneficial and other non-target organisms observed in any of the effectiveness and phytotoxicity trials conducted.

It has been established that GLOB1310aH is not toxic to bees or other non-target organisms.

Comments of zRMS:	An adverse impact on beneficial and other non-target organisms was not observed in the course of efficacy and selectivity trials. Detailed studies on the possible adverse effects to beneficial organisms are submitted and summarised in Part B, Section 9 (Ecotoxicology).
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3.5.1 Impact on succeeding crops (KCP 6.5.1)

The impact of GLOB1310aH on succeeding crops is assessed by comparing the PEC_{soil} values to the values obtained in the seedling emergence study with soil incorporation (KCP 6.5-1). The methodology for the study was based on OECD Guideline 208 Terrestrial Plant Test: Seedling Emergence and Seedling Growth Test (July 2006) and EPPO Guideline PP 1/207 (2) (Effect on succeeding crops).

The seedling emergence study was performed with 4 dicotyledonous crops (bush bean, soybean, carrot, sunflower) and 2 monocotyledonous crops (wheat, corn), which can all be considered representative crops. The dose response data based on fresh shoot weight reduction and visual injury is used to assess the risk of GLOB1310aH to terrestrial non-target plants when the product is incorporated into the soil before sowing. The results found in the study are shown in the tables below. Worst-case EC_{10} values calculated from either the shoot fresh weight reduction or visual injury are marked in green for carrots and wheat. For all other crops, the EC_{10} is estimated to be above 3307.0 $\mu\text{g product/ha}$.

Table 0-1 Results of seedling emergence study based on shoot fresh weight reduction

Crop species	NOER ($\mu\text{g product/ha}$)	EC_{10} ($\mu\text{g product/ha}$)	EC_{25} ($\mu\text{g product/ha}$)	EC_{50} ($\mu\text{g product/ha}$)
Corn	≥ 3307.0	> 3307.0	> 3307.0	> 3307.0
Wheat	413.4	715.3	1160.8	1988.0
Soybean	≥ 3307.0	> 3307.0	> 3307.0	> 3307.0
Carrot	1653.5	1023.8	2424.7	> 3307.0
Sunflower	≥ 3307.0	> 3307.0	> 3307.0	> 3307.0
Bush bean	≥ 3307.0	> 3307.0	> 3307.0	> 3307.0

*Estimated as above the highest treatment rate

Table 0-2 Results of seedling emergence study based visual injury

Crop species	NOER (µg product/ha)	EC ₁₀ (µg product/ha)	EC ₂₅ (µg product/ha)	EC ₅₀ (µg product/ha)
Corn	≥ 3307.0	> 3307.0	> 3307.0	> 3307.0
Wheat	206.7	453.6	1021.9	2519.3
Soybean	≥ 3307.0	> 3307.0	> 3307.0	> 3307.0
Carrot	1653.5	2960.4	> 3307.0	> 3307.0
Sunflower	≥ 3307.0	> 3307.0	> 3307.0	> 3307.0
Bush bean	≥ 3307.0	> 3307.0	> 3307.0	> 3307.0

From the above tables it is clear that wheat and carrot are the most sensitive crops in the study, based on the EC₁₀ values. The amount of product expressed as µg/kg of soil is converted to the amount of active substance. It should be noted that GLOB1310aH consists of 540 g/L aclonifen and 60 g/L flufenacet, which have a DT₅₀ of 195 and 54 days, respectively. As a worst-case scenario a DT₅₀ of 195 days is used for the total amount of active substance.

The EC₁₀ values shown above are then converted to mg a.i. per kg of soil by taking into account the density of GLOB1310aH (1228.2 mg/ml) and the total amount of active substance in the formulation (600 g/L).

Table 0-3 Conversion of EC₁₀ values

Species	EC ₁₀ (µg product/kg soil)	EC ₁₀ (mg product/kg soil)	EC ₁₀ (ml product/kg soil)	EC ₁₀ (mg a.i./kg soil)
Carrot	1023.8	1.0238	8.336E-04	0.5001
Wheat	453.6	0.4536	3.693E-04	0.2216
All other crops	≥ 3307.0	≥ 3.3070	≥ 2.693E-03	≥ 1.6155

Calculation of the PEC_{soil} for the intended uses of GLOB1914H

The initial and actual PEC_{soil} are calculated with equation 1 and 2 respectively:

PEC_{initial}

$$PEC_{ini} = \frac{A \cdot (1 - f_{int})}{100 \cdot d \cdot bd} \quad (1)$$

where

A = application rate [g/ha]
 f_{int} = fraction intercepted by plant cover
 d = depth of the soil layer [cm]
 bd = bulk soil density [g/cm³]

PEC_{actual}

$$PEC_{act}(t) = PEC_{ini} \cdot e^{-kt} = PEC_{ini} \cdot e^{-\frac{t \cdot \ln 2}{DT_{50}}} \quad (2)$$

The worst-case scenario with regards to the amount of active substance that reaches the soil is the pre-emergence application (0% crop interception) of the maximum requested dose rate of 2 L/ha. The soil bulk density was set to 1.5 g/cm³. For the depth of the soil layer both 5 cm (uncultivated soil) and 20 cm (cultivated soil) was used. The DT₅₀ of 195 days for aclonifen was used, in accordance with the EFSA peer review of the pesticide risk assessment of the active substance.

Calculation of the PEC_{soil} for the intended use of GLOB1310aH

The initial and actual PEC_{soil} are calculated with equation 1 and 2 respectively:

$PEC_{initial}$

$$PEC_{ini} = \frac{A \cdot (1 - f_{int})}{100 \cdot d \cdot bd} \quad (1)$$

where

A = application rate [g/ha]
 f_{int} = fraction intercepted by plant cover
 d = depth of the soil layer [cm]
 bd = bulk soil density [g/cm³]

PEC_{actual}

$$PEC_{act}(t) = PEC_{ini} \cdot e^{-kt} = PEC_{ini} \cdot e^{-\frac{t \cdot \ln 2}{DT_{50}}} \quad (2)$$

PEC_{ini} was calculated for a pre-emergence ($f_{int} = 0$) application of GLOB1310aH at a dose rate of 2 L/ha (N) with a soil bulk density of 1.5 g/cm³ and a DT_{50} of 195 days as a worst-case scenario (DT_{50} is estimated to be between 13 and 195 days in soil according to EFSA). For the depth of the soil layer both 5 cm (no soil cultivation) and 20 cm (with soil cultivation).

The PEC_{soil} values over time for the pre-emergence application of GLOB1310aH are shown in the table below.

Table 0-4 **PEC over time**

Days after application	mg a.i. / kg soil	
	PECsoil 5 cm	PECsoil 20 cm
0	1.6000	0.4000
7	1.5607	0.3902
14	1.5223	0.3806
21	1.4849	0.3712
30	1.4382	0.3595
39	1.3929	0.3482
60	1.2927	0.3232
100	1.1214	0.2803
150	0.9388	0.2347
167	0.8837	0.2209
250	0.6579	0.1645
330	0.4951	0.1238
429	0.3482	0.0871
559	0.2194	0.0548

The TER can be calculated for these crops by dividing the EC_{10} by the PEC_{soil} . When the TER is >1 the toxicity exposure rate is considered acceptable. Therefore the PEC_{soil} has to be smaller than the EC_{10} value.

Table 0-5 Waiting periods based on EC₁₀ values with and without soil cultivation

Species	EC ₁₀ [*]	No soil cultivation			Soil cultivated		
		days	PEC _{soil} [*]	TER	days	PEC _{soil} [*]	TER
Wheat	0.2216 ⁽¹⁾	559	0.2194	1.0100	167	0.2209	1.0032
Carrot	0.5001 ⁽²⁾	330	0.4951	1.0101	0	0.4000	1.2503
Other crops	≥ 1.6155	0	1600	≥ 1.0097	0	0.4000	≥ 4.0388

*Expressed as mg of a.i./kg of soil

⁽¹⁾Based on visual injury

⁽²⁾Based on fresh shoot weight

Regarding wheat it should be noted that the lowest EC₁₀ value used for the calculations above (453.6 µg product/kg soil = 0.2216 mg a.i./kg of soil) was calculated from the phytotoxicity data. However, from the selectivity trials performed on winter wheat described in section 0 it is clear that although phytotoxic symptoms might occur when GLOB1310aH is applied in pre-emergence this does not negatively affect the final yield.

Alternatively, the EC₁₀ value can be calculated from the EC₁₀ values based on fresh shoot weight. This alternative EC₁₀ based on biomass was more than 1.5 times greater (715.3 µg product/kg soil) than the worst-case EC₁₀ calculated from phytotoxic symptoms (453.6 µg product/kg soil). The EC₁₀ value for biomass can be converted to mg a.i. per kg of soil by taking into account the density of GLOB1310aH (1.2282 mg/ml) and the total amount of active substance in the formulation (600 g/L), this results in an EC₁₀ of 0.3494 mg a.i./kg of soil. This means a TER >1 is reached 429 days after application when the soil is not cultivated and after just 39 days when the soil is cultivated both (PEC 0.3699 mg a.i./kg of soil for both).

Table 0-6 Waiting periods based on EC₁₀ values with and without soil cultivation

Species	EC ₁₀ [*]	No soil cultivation			Soil cultivated		
		days	PEC _{soil} [*]	TER	days	PEC _{soil} [*]	TER
Wheat	0.3494	429	0.3482	1.003	39	0.3482	1.003

*Expressed as mg of a.i./kg of soil

⁽¹⁾Based on fresh shoot weight

It is important to keep in mind that the biomass data in the seedling emergence study was gathered just 21 days after 50% of the plants had emerged and that there was 100% emergence in all tested crops. From our selectivity trials we know that the crop can recover from any negative effects observed during the growing season. No significant yield reduction was observed in any of the 23 selectivity trials performed on wheat that recorded yield, no more than 3.21% yield reduction was observed at the 2 L/ha dose rate.

Additionally, the results obtained with these selectivity trials are for uncultivated soil. Therefore the applicant believes wheat can be considered a safe replacement crop, even without soil cultivation.

From the results above it can be concluded that all tested crops can be planted immediately after application of GLOB1310aH if the soil is cultivated. In case the soil is not cultivated corn, wheat, soybean, sunflower, and bush bean can be sown. In case the soil is not cultivated carrots can be sown one year after application.

Comments of zRMS:	From the results presented and current knowledge, it can be concluded that there is a risk of adverse effects of GLOB1310aH herbicide on succeeding crops. There is a particular risk if cereal crops have to be liquidated. In case of crop failure, for any reason, when the soil is not cultivated corn, wheat, soybean, sunflower, and bush bean can be sown. In case the soil is not cultivated carrots can be sown one year after application. The recommendations proposed by the applicant is acceptable and should be included on the national label.
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3.5.2 Impact on other plants including adjacent crops (KCP 6.5.2)

The impact on adjacent crops is calculated in accordance with EPPO guideline PP 1/256(1) by comparing the drift rates to ED₅₀ values found in the vegetative vigour study discussed in the ecotox section (KCP 10.6.2).

The drift rates were calculated for a dose rate of 2 L/ha using the 90th percentile estimates derived by the BBA (2000) from the spray-drift predictions of Ganzelmeier & Rautmann (2000) and using the total amount of active substance (600 g/L).

Table 0-7 PEC values (mg/ha) (drift)

Crop application rate	Distance to adjacent crop	amount of drift	Drift
2000 ml product/ha	1 m	2.77%	55.4 ml/ha
	3 m	0.95%	19 ml/ha
	5 m	0.57%	11.4 ml/ha
	10 m	0.29 %	5.8 ml/ha
	15 m	0.20 %	4 ml/ha

The table below shows the calculated values that were found in the seedling emergence study and the vegetative vigour study.

Table 0-8 ED₅₀ values (mg/ha) of different test plants

Common name	NOER	ER ₂₅	ER ₅₀
Oilseed rape	≥ 223.4	≥ 223.4	≥ 223.4
Cucumber	≥ 223.4	≥ 223.4	≥ 223.4
Lettuce	129.1	232.0	269.0
Soybean	≥ 386.5	≥ 386.5	≥ 386.5
Ryegrass	≥ 386.5	≥ 386.5	≥ 386.5
Great millet	≥ 386.5	≥ 386.5	≥ 386.5
Sugar beet	≥ 1156.7	≥ 1156.7	≥ 1156.7
Flax	386.5	875.6	1149.0
Onion	≥ 1156.7	≥ 1156.7	≥ 1156.7
Oat	≥ 1156.7	≥ 1156.7	≥ 1156.7

If we compare the amount of GLOB1310aH that can be expected on neighbouring field due to drift calculated in Table 0-7 to the sensitivities found in the vegetative vigour study shown in Table 0-8 it is clear that even at 1m distance the amount of GLOB1310aH (55.4 ml/ha) is still far below the ER₅₀ (or even the NOER) of the most sensitive species in the vegetative vigour study (lettuce; NOER 129.1

ml/ha). Therefore it can be considered safe to adjacent crops to use a 1m buffer zone. Because this is the smallest possible buffer zone no buffer requirements must be put on the label.

Comments of zRMS:	The presented data correspond with the requirements of the EPPO Standard PP 1/256. Results from vegetative vigour test and seedling emergence test were submitted by the applicant. No negative effect of aclonifen and flufenacet on adjacent crops was observed.
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3.6 Other/special studies

No additional studies were performed.

3.7 List of test facilities including the corresponding certificates

Table 0-1: List of test facilities

Test facility	Address	Certificate (Yes or No)
Anadiag CZ	Chleny 46 517 45 Chleny Czech Republic	Y
Anadiag DE (Quintus)	Liepen 7 17194 Liepen Germany	Y
Anadiag FR	13 rue de la Bourbre 38300 Ruy France	Y
Agrigeos	Via San Girolamo, 82 95024 Acireale (CT) Italy	Y
Agrartest	Palmbachstrasse 37 65326 Aarbergen-Panrod Germany	Y
Agreco	Al. Lipowa 21 lok. 1 53-124 Wroclaw Poland	Y
Agrolab DK	Røjleskovvej 18 5500 Middelfart Denmark	Y
Aarhus University	Technical Sciences Department of Agroecology Flakkebjerg 4200 Slagelse Denmark	Y
Antedis FR	48 rue de la Madeleine	Y

Test facility	Address	Certificate (Yes or No)
	60000 Beauvais France	
Biotek	Route de Viélines 10120 Saint Pouange France	Y
Eurofins PL	ul. Parkowa 6 64-530 Kaźmierz Poland	Y
Field Research Support (FRS) DE	Max-Planck-Straße 5 31515 Wunstorf Germany	Y
Field Research Support (FRS) PL	Dworcowa 2 64-000 Kościan Poland	Y
InTec CZ	Blatnicka 179 687 24 Uhersky Ostroh Czech Republic	Y
IOR Sosnicowiche	ul. Gliwicka 29 44-153 Sosnicowice Poland	Y
Poznan University	ul. Wojska Polskiego 28 60-637 Poznań Poland	Y
Kromeriz	Havlickova 2787 767 01 Kromeriz Czech Republic	Y
Oxford Agricultural Trials (OAT)	West Farm Barns, Launton Road, Stratton Audley, Bicester Oxfordshire OX27 9AS UK	Y
Pest-Pro	Stjepana Gradićeva 5 10010 Zagreb Croatia	Y
Promo-vert FR	Rue d'Aste Béon 64121 Serres-Castet France	Y
Promo-vert ES	Avd. Espartinas 35A 41110-Bollullos de la Mitación. Sevilla. Spain	Y
Promo-vert IT	Via Marzabotto 51 48024 Massa Lombarda (RA) Italy	Y
Quintus	Liepen 7 17194 Liepen Germany	Y

Test facility	Address	Certificate (Yes or No)
Sagea	Via San Sudario, 15 12050 Castagnito d'Alba (CN) Italy	Y
Staphyt PL	Ziębicka 2 60-164 Poznań Poland	Y
Staphyt FR	23 rue de Moeuvres 62860 Inchy en Artois France	Y
Staphyt DE	Langenburger Straße 35 74572 Blaufelden Germany	Y
Staphyt BE	Rue Grosse Borne 2 1360 Perwez Belgium	Y
Staphyt ES	B-41840596 C/. Sevilla, 21 41960 Gines-Sevilla Spain	Y
Staphyt IT	Viz Leone XII 14-20145 Milano Italy	Y
Syntech	ul. Jagiellonska 69/1 85-027 Kujawsko-pomorskie Poland	Y
Zemservis	Domaninek, K Zamecku 1231 593 01 Bystrice nad Pernštejnem Czech Republic	Y
ZZS Kluky	Kluky 201 398 19 Kluky Czech Republic	Y
Ing. Jitka Mareckova (ZS Krasne Udoli)	Krasne Udoli 141 364 01 Touzím Czech Republic	Y
ZS Kujavy	Kujavy 48 742 44 Czech Republic	Y
ZS Rymarov	8. května 771/61 79501 Rýmařov Czech Republic	Y
ZS Trutnov	Volanovská 409 541 01 Trutnov Czech Republic	Y

Test facility	Address	Certificate (Yes or No)
ZVU Kromeriz	Havlickova 2787 767 01 Kromeriz Czech Republic	Y
Zwaagdijk	Tolweg 13 1681 Zwaagdijk-Oost the Netherlands	Y

Appendix 1 Lists of data considered in support of the evaluation

List of data submitted by the applicant and relied on

Data point	Author(s)	Year	Title Company Report No. Source (where or different from company) GLP or GEP Published or not	Data protection claimed	Owner
KCP 6.2-01	Lopez Alvarez S.	2018	Efficacy and selectivity of GLOB1310aH and Prosulfocarb 900 against weeds applied pre-emergence in winter cereals. 2018 HE-18-A-GLOB1310aH-PRO900-FR02 Promo-Vert FR GEP, not published	Y	Globachem N.V.
KCP 6.2-02	Lay E.	2018	Efficacy and visual selectivity of GLOB1310aH and Prosulfocarb 900 against weeds applied pre-emergence in winter cereals. 2018 HE-18-A-GLOB1310aH-PRO900-FR03 Staphyt FR GEP, not published	Y	Globachem N.V.
KCP 6.2-03	Ströbele U.	2018	Efficacy and selectivity of GLOB1310aH and Prosulfocarb 900 against weeds applied pre-emergence in winter cereals. 2018 HE-18-A-GLOB1310aH-PRO900-DE04 Quintus GEP, not published	Y	Globachem N.V.
KCP 6.2-04	Ströbele U.	2018	Efficacy and selectivity of GLOB1310aH and Prosulfocarb 900 against weeds applied pre-emergence in winter cereals. 2018 HE-18-A-GLOB1310aH-PRO900-DE05 Quintus GEP, not published	Y	Globachem N.V.
KCP 6.2-05	Zöllner H.	2018	Efficacy and selectivity of GLOB1310aH and Prosulfocarb 900 against weeds applied pre-emergence in winter cereals. 2018	Y	Globachem N.V.

			HE-18-A-GLOB1310aH-PRO900-DE06 Field Research Support DE GEP, not published		
KCP 6.2-06	Zöllner H.	2018	Efficacy and selectivity of GLOB1310aH and Prosulfocarb 900 against weeds applied pre-emergence in winter cereals. 2018 HE-18-A-GLOB1310aH-PRO900-DE07 Field Research Support DE GEP, not published	Y	Globachem N.V.
KCP 6.2-07	de Vries H.	2018	Efficacy and selectivity of GLOB1310aH and Prosulfocarb 900 against weeds applied pre-emergence in winter cereals. 2018 HE-18-A-GLOB1310aH-PRO900-NL08 Proeftuin Zwaagdijk GEP, not published	Y	Globachem N.V.
KCP 6.2-08	Hruška J.	2018	Efficacy and selectivity of GLOB1310aH and Prosulfocarb 900 against weeds applied pre-emergence in winter cereals. 2018 HE-18-A-GLOB1310aH-PRO900-CZ09 ZS Trutnov GEP, not published	Y	Globachem N.V.
KCP 6.2-09	Chris Kay	2018	Efficacy and selectivity of GLOB1310aH and Prosulfocarb 900 against weeds applied pre-emergence in winter cereals. 2018 HE-18-A-GLOB1310aH-PRO900-UK10 Oxford Agricultural Trials GEP, not published	Y	Globachem N.V.
KCP 6.2-16	Gobin C.	2018	Efficacy and selectivity of GLOB1310aH, GLOB1318H and PROSULFOCARB 900 CS against weeds applied pre-emergence in winter cereals 2018. HE-18-B-GLOB1310aH-PRO900-FR01 Biotek GEP, not published	Y	Globachem N.V.
KCP 6.2-17	Chris Kay	2018	Efficacy and selectivity of GLOB1310aH and Prosulfocarb 900 against weeds applied pre-emergence in winter cereals. 2018 HE-18-B-GLOB1310aH-PRO900-UK02 Oxford Agricultural Trials GEP, not published	Y	Globachem N.V.
KCP 6.2-	Zagi H.	2018	Efficacy and selectivity of GLOB1310aH and Prosulfocarb 900 against weeds	Y	Globachem

18			applied pre-emergence in winter cereals. 2018 HE-18-C-GLOB1310aH-PRO900-HR01 Pest-Pro GEP, not published		N.V.
KCP 6.2-19	Lopez Alvarez S.	2018	Efficacy and selectivity of GLOB1310aH and Prosulfocarb 900 against weeds applied pre-emergence in winter cereals. 2018 HE-18-C-GLOB1310aH-PRO900-FR02 Promo-Vert FR GEP, not published	Y	Globachem N.V.
KCP 6.2-20	Degoses S.	2018	Efficacy and selectivity of GLOB1310aH and Prosulfocarb 900 against weeds applied pre-emergence in winter cereals. 2018 HE-18-C-GLOB1310aH-PRO900-IT03 Sagea GEP, not published	Y	Globachem N.V.
KCP 6.2-25	Fuman-Fratczak K.	2018	Efficacy and selectivity of GLOB1310aH and Prosulfocarb 900 against weeds applied pre-emergence in winter cereals. 2018 HE-18-D-GLOB1310aH-PRO900-PL01 Agreco GEP, not published	Y	Globachem N.V.
KCP 6.2-26	Szrama K.	2018	Efficacy and selectivity of GLOB1310aH and Prosulfocarb 900 against weeds applied pre-emergence in winter cereals. 2018 HE-18-D-GLOB1310aH-PRO900-PL02 Staphyt PL GEP, not published	Y	Globachem N.V.
KCP 6.2-27	Umiński P.	2018	Efficacy and selectivity of GLOB1310aH and Prosulfocarb 900 against weeds applied pre-emergence in winter cereals. 2018 HE-18-D-GLOB1310aH-PRO900-PL03 Field Research Support PL GEP, not published	Y	Globachem N.V.
KCP 6.2-28	Sobiech L	2018	Efficacy and selectivity of GLOB1310aH and Prosulfocarb 900 against weeds applied pre-emergence in winter cereals. 2018 HE-18-D-GLOB1310aH-PRO900-PL04 UP Poznań GEP, not published	Y	Globachem N.V.

KCP 6.2-29	Glazek M.	2018	Efficacy and selectivity of GLOB1310aH and Prosulfocarb 900 against weeds applied pre-emergence in winter cereals. 2018 HE-18-D-GLOB1310aH-PRO900-PL05 IOR Sosnicowice GEP, not published	Y	Globachem N.V.
KCP 6.2-30	Plawusewski M.	2018	Efficacy and selectivity of GLOB1310aH and Prosulfocarb 900 against weeds applied pre-emergence in winter cereals. 2018 HE-18-D-GLOB1310aH-PRO900-PL06 Eurofins PL GEP, not published	Y	Globachem N.V.
KCP 6.2-45	Degoses S.	2018	Efficacy and selectivity of GLOB1310aH and Prosulfocarb 900 against weeds applied pre-emergence in winter cereals. 2018 HE-18-G-GLOB1310aH-PRO900-IT03 Sagea GEP, not published	Y	Globachem N.V.
KCP 6.2-53	Mareckova J.	2019	Efficacy and selectivity of GLOB1310aH, GLOB1921H, GLOB1925H against weeds applied pre-emergence in winter cereals HE-19-A-GLOB1310aH-1921H-CZ01 Ing. Jitka Mareckova GEP, not published	Y	Globachem N.V.
KCP 6.2-54	Tvaruzek L.	2019	Efficacy and selectivity of GLOB1310aH, GLOB1921H, GLOB1925H against weeds applied pre-emergence in winter cereals HE-19-A-GLOB1310aH-1921H-CZ02 ZVU Kromeriz GEP, not published	Y	Globachem N.V.
KCP 6.2-55	Laštovičková H.	2019	Efficacy and selectivity of GLOB1310aH, GLOB1921H, GLOB1925H against weeds applied pre-emergence in winter cereals HE-19-A-GLOB1310aH-1921H-CZ03 ZS Trutnov GEP, not published	Y	Globachem N.V.
KCP 6.2-56	Schmidt I.	2019	Efficacy and selectivity of GLOB1310aH, GLOB1921H, GLOB1925H against weeds applied pre-emergence in winter cereals HE-19-A-GLOB1310aH-1921H-DE04 Staphyt DE	Y	Globachem N.V.

			GEP, not published		
KCP 6.2-57	Schmidt I.	2019	Efficacy and selectivity of GLOB1310aH, GLOB1921H, GLOB1925H against weeds applied pre-emergence in winter cereals HE-19-A-GLOB1310aH-1921H-DE05 Staphyt GEP, not published DE	Y	Globachem N.V.
KCP 6.2-58	Zöllner H.	2019	Efficacy and selectivity of GLOB1310aH, GLOB1921H, GLOB1925H against weeds applied pre-emergence in winter cereals HE-19-A-GLOB1310aH-1921H-DE06 Field Research Support GEP, not published DE	Y	Globachem N.V.
KCP 6.2-59	Zöllner H.	2019	Efficacy and selectivity of GLOB1310aH, GLOB1921H, GLOB1925H against weeds applied pre-emergence in winter cereals HE-19-A-GLOB1310aH-1921H-DE07 Field Research Support GEP, not published DE	Y	Globachem N.V.
KCP 6.2-60	Lay E.	2019	Efficacy and selectivity of GLOB1310aH, GLOB1921H, GLOB1925H against weeds applied pre-emergence in winter cereals HE-19-A-GLOB1310aH-1921H-FR08 Staphyt GEP, not published FR	Y	Globachem N.V.
KCP 6.2-62	Negrini P.	2019	Efficacy and selectivity of GLOB1310aH, GLOB1921H, GLOB1925H against weeds applied pre-emergence in winter cereals HE-19-A-GLOB1310aH-1921H-FR10 Antedis GEP, not published	Y	Globachem N.V.
KCP 6.2-63	de Vries H.	2019	Efficacy and selectivity of GLOB1310aH, GLOB1921H, GLOB1925H against weeds applied pre-emergence in winter cereals HE-19-A-GLOB1310aH-1921H-NL11 Proeftuin Zwaagdijk GEP, not published	Y	Globachem N.V.
KCP 6.2-64	Venard H.	2019	Efficacy and selectivity of GLOB1310aH, GLOB1921H, GLOB1925H against weeds applied pre-emergence in winter cereals HE-19-A-GLOB1310aH-1921H-BE12	Y	Globachem N.V.

			Staphyt GEP, not published	BE		
KCP 6.2-65	Sørensen S.	2019	Efficacy and selectivity of GLOB1310aH, GLOB1921H, GLOB1925H against weeds applied pre-emergence in winter cereals HE-19-A-GLOB1310aH-1912H-DK13 Aarhus University GEP, not published	Y		Globachem N.V.
KCP 6.2-66	Chris Kay	2019	Efficacy and selectivity of GLOB1310aH, GLOB1921H, GLOB1925H against weeds applied pre-emergence in winter cereals HE-19-A-GLOB1310aH-1921H-UK14 Oxford Agricultural Trials GEP, not published	Y		Globachem N.V.
KCP 6.2-67	Chris Kay	2019	Efficacy and selectivity of GLOB1310aH, GLOB1921H, GLOB1925H against weeds applied pre-emergence in winter cereals HE-19-A-GLOB1310aH-1921H-UK15 Oxford Agricultural Trials GEP, not published	Y		Globachem N.V.
KCP 6.2-68	Zagi H.	2019	Efficacy and selectivity of GLOB1310aH, GLOB1921H, GLOB1925H against weeds applied pre-emergence in winter cereals HE-19-B-GLOB1310aH-1921H-HR01 Pest-Pro GEP, not published	Y		Globachem N.V.
KCP 6.2-69	Camuñez S.	2019	Efficacy and selectivity of GLOB1310aH, GLOB1921H, GLOB1925H against weeds applied pre-emergence in winter cereals HE-19-B-GLOB1310aH-1921H-ES02 Staphyt ES GEP, not published	Y		Globachem N.V.
KCP 6.2-70	Lay E.	2019	Efficacy and selectivity of GLOB1310aH, GLOB1921H, GLOB1925H against weeds applied pre-emergence in winter cereals HE-19-B-GLOB1310aH-1921H-FR03 Staphyt FR GEP, not published	Y		Globachem N.V.
KCP 6.2-71	Degoses S.	2019	Efficacy and selectivity of GLOB1310aH, GLOB1921H, GLOB1925H against weeds applied pre-emergence in winter cereals	Y		Globachem N.V.

			HE-19-B-GLOB1310aH-1921H-IT04 Sagea GEP, not published		
KCP 6.2-72	Forte G.	2020	Efficacy and selectivity of GLOB1310aH, GLOB1921H, GLOB1925H against weeds applied pre-emergence in winter cereals. HE-19-B-GLOB1310aH-1921H-IT05 Agrigeos GEP, not published	Y	Globachem N.V.
KCP 6.2-73	Fuman-Fratczak K.	2019	Efficacy and selectivity of GLOB1310aH, GLOB1921H, GLOB1925H against weeds applied pre-emergence in winter cereals HE-19-C-GLOB1310aH-1921H-PL01 Agreco GEP, not published	Y	Globachem N.V.
KCP 6.2-74	Szrama K.	2019	Efficacy and selectivity of GLOB1310aH, GLOB1921H, GLOB1925H against weeds applied pre-emergence in winter cereals HE-19-C-GLOB1310aH-1921H-PL02 Staphyt PL GEP, not published	Y	Globachem N.V.
KCP 6.2-75	Kozłowski J.	2019	Efficacy and selectivity of GLOB1310aH, GLOB1921H, GLOB1925H against weeds applied pre-emergence in winter cereals HE-19-C-GLOB1310aH-1921H-PL03 Syntech GEP, not published	Y	Globachem N.V.
KCP 6.2-76	Umiński P.	2019	Efficacy and selectivity of GLOB1310aH, GLOB1921H, GLOB1925H against weeds applied pre-emergence in winter cereals HE-19-C-GLOB1310aH-1921H-PL04 Field Research Support PL GEP, not published	Y	Globachem N.V.
KCP 6.2-77	Szrama K.	2019	Efficacy and selectivity of GLOB1310aH, GLOB1921H, GLOB1925H against weeds applied pre-emergence in winter cereals HE-19-C-GLOB1310aH-1921H-PL05 Staphyt PL GEP, not published	Y	Globachem N.V.
KCP 6.4-	Szrama K.	2017	Selectivity of GLOB1310H, GLOB1312H applied pre-emergence in winter	Y	Globachem

01			cereals. HS-17-A-ACNMIX-PL01 Staphyt PL GEP, not published		N.V.
KCP 6.4-02	Szrama K.	2017	Selectivity of GLOB1310H, GLOB1312H applied pre-emergence in winter cereals. HS-17-A-ACNMIX-PL02 Staphyt PL GEP, not published	Y	Globachem N.V.
KCP 6.4-03	Szrama K.	2017	Selectivity of GLOB1310H, GLOB1312H applied pre-emergence in winter cereals. HS-17-A-ACNMIX-PL03 Staphyt PL GEP, not published	Y	Globachem N.V.
KCP 6.4-04	Szrama K.	2017	Selectivity of GLOB1310H, GLOB1312H applied pre-emergence in winter cereals. HS-17-A-ACNMIX-PL04 Staphyt PL GEP, not published	Y	Globachem N.V.
KCP 6.4-05	Umiński P.	2017	Selectivity of herbicide mixtures applied in pre-emergence in winter cereals. Poland 2017 HS-17-MULTIV-PL01 pre PL Field Research Support GEP, not published	Y	Globachem N.V.
KCP 6.4-07	Bourgeois X.	2017	Selectivity of GLOB1310H, GLOB1312H applied pre-emergence in winter cereals. HS-17-B-ACNMIX-BE01 Staphyt BE GEP, not published	Y	Globachem N.V.
KCP 6.4-08	D'Haunaut T.	2017	Selectivity of GLOB1310H, GLOB1312H applied pre-emergence in winter cereals. HS-17-B-ACNMIX-FR02 Staphyt FR GEP, not published	Y	Globachem N.V.

KCP 6.4-09	D'Haunaut T.	2017	Selectivity of GLOB1310H, GLOB1312H applied pre-emergence in winter cereals. HS-17-B-ACNMIX-FR03 Staphyt GEP, not published FR	Y	Globachem N.V.
KCP 6.4-10	Szrama K.	2017	Selectivity of GLOB1310H, GLOB1312H applied pre-emergence in winter cereals. HS-17-B-ACNMIX-DE04 Staphyt GEP, not published DE	Y	Globachem N.V.
KCP 6.4-11	D'Haunaut T.	2017	Selectivity of GLOB1310H, GLOB1312H applied pre-emergence in winter cereals. HS-17-B-ACNMIX-FR05 Staphyt GEP, not published FR	Y	Globachem N.V.
KCP 6.4-12	Bourgeois X.	2017	Selectivity of GLOB1310H, GLOB1312H applied pre-emergence in winter cereals. HS-17-B-ACNMIX-BE06 Staphyt GEP, not published BE	Y	Globachem N.V.
KCP 6.4-13	D'Haunaut T.	2017	Selectivity of GLOB1310H, GLOB1312H applied pre-emergence in winter cereals. HS-17-B-ACNMIX-FR07 Staphyt GEP, not published FR	Y	Globachem N.V.
KCP 6.4-14	Schmidt I.	2017	Selectivity of GLOB1310H, GLOB1312H applied pre-emergence in winter cereals. HS-17-B-ACNMIX-DE08 Staphyt GEP, not published DE	Y	Globachem N.V.
KCP 6.4-27	Furman-Fratczak K.	2018	Selectivity of GLOB1310aH, Prosulfocarb 900 and GLOB1818H applied pre-emergence in winter cereals. HS-18-A-GLOB1310aH-PRO900-PL01 Agreco	Y	Globachem N.V.

			GEP, not published		
KCP 6.4-28	Szrama K.	2018	Selectivity of GLOB1310aH, Prosulfocarb 900 and GLOB1818H applied pre-emergence in winter cereals. KSA-19-37731-PL01 Staphyt GEP, not published	Y	Globachem N.V.
KCP 6.4-29	Szrama K.	2018	Selectivity of GLOB1310aH, Prosulfocarb 900 and GLOB1818H applied pre-emergence in winter cereals. KSA-19-37731-PL02 Staphyt GEP, not published	Y	Globachem N.V.
KCP 6.4-30	Springer M.	2018	Selectivity of GLOB1310aH and Boxer 800 EC applied pre-emergence in winter cereals HS-18-A-GLOB1310aH-PRO900-PL04 Syntech GEP, not published	Y	Globachem N.V.
KCP 6.4-35	Ćwiek M.	2018	Selectivity of GLOB1310aH, Prosulfocarb 900 and GLOB1818H applied pre-emergence in winter cereals. HS-18-B-GLOB1310aH-PRO900-PL01 Syntech GEP, not published	Y	Globachem N.V.
KCP 6.4-36	Umiński P.	2018	Selectivity of GLOB1310aH, Prosulfocarb 900 and GLOB1818H applied pre-emergence in winter cereals. HS-18-B-GLOB1310aH-PRO900-PL02 Field Research Support GEP, not published	Y	Globachem N.V.
KCP 6.4-37	Szrama K.	2018	Selectivity of GLOB1310aH applied pre-emergence in winter cereals. KSA-19-37732-PL01 Staphyt GEP, not published	Y	Globachem N.V.
KCP 6.4-38	Kasperek M.	2018	Selectivity of GLOB1310aH applied pre-emergence in winter cereals. HS-18-B-GLOB1310aH-PRO900-PL04 Syntech GEP, not published	Y	Globachem N.V.

KCP 6.4-39	Umiński P.	2018	Selectivity of GLOB1310aH, Prosulfocarb 900 and GLOB1818H applied pre-emergence in winter cereals. HS-18-B-GLOB1310aH-PRO900-PL05 Field Research Support PL GEP, not published	Y	Globachem N.V.
KCP 6.4-40	Szrama K.	2018	Selectivity of GLOB1310aH applied pre-emergence in winter cereals. KSA-19-37732-PL02 Staphyt IDA PL GEP, not published	Y	Globachem N.V.
KCP 6.4-41	Świtkowski M.	2018	Selectivity of GLOB1310aH, Prosulfocarb 900 and GLOB1818H applied pre-emergence in winter cereals. HS-18-B-GLOB1310a-PRO900-PL07 Syntech GEP, not published	Y	Globachem N.V.
KCP 6.4-42	Umiński P.	2018	Selectivity of GLOB1310aH, Prosulfocarb 900 and GLOB1818H applied pre-emergence in winter cereals. HS-18-B-GLOB1310aH-PRO900-PL08 Field Research Support PL GEP, not published	Y	Globachem N.V.
KCP 6.4-43	Szrama K.	2018	Selectivity of GLOB1310aH applied pre-emergence in winter cereals. KSA-19-37732-PL Staphyt PL GEP, not published	Y	Globachem N.V.
KCP 6.4-44	Umiński P.	2018	Selectivity of GLOB1310aH, Prosulfocarb 900 and GLOB1818H applied pre-emergence in winter cereals. HS-18-B-GLOB1310aH-PRO900-PL10 Field Research Support PL GEP, not published	Y	Globachem N.V.
KCP 6.4-45	Szrama K.	2018	Selectivity of GLOB1310aH applied pre-emergence in winter cereals. KSA-19-37732-PL04 Staphyt SCI PL GEP, not published	Y	Globachem N.V.
KCP 6.4-46	Szrama K.	2018	Selectivity of GLOB1310aH applied pre-emergence in winter cereals. KSA-19-37732-PL05 KMR	Y	Globachem N.V.

			Staphyt GEP, not published	PL		
KCP 6.4-59	Chris Kay	2018	Selectivity of GLOB1310aH, Prosulfocarb 900 and GLOB1818H applied pre-emergence in winter cereals. HS-18-C-GLOB1310aH-PRO900-UK01 Oxford Agricultural Trials GEP, not published	Y		Globachem N.V.
KCP 6.4-60	Lay E.	2018	Selectivity of GLOB1310aH applied pre-emergence in winter cereals. SCZ-19-37733-FR01 Staphyt FR GEP, not published	Y		Globachem N.V.
KCP 6.4-61	de Vries H.	2018	Selectivity of GLOB1310aH applied pre-emergence in winter cereals. HS-18-C-GLOB1310a-PRO900-NL03 Proeftuin Zwaagdijk GEP, not published	Y		Globachem N.V.
KCP 6.4-62	Zöllner H.	2018	Selectivity of GLOB1310aH, Prosulfocarb 900 and GLOB1818H applied pre-emergence in winter cereals. HS-18-C-GLOB1310a-PRO900-DE04 Field Research Support DE GEP, not published	Y		Globachem N.V.
KCP 6.4-63	Gezova V.	2018	Selectivity of GLOB1310aH applied pre-emergence in winter cereals. HS-18-C-GLOB1310aH-PRO900-CZ05 InTec GEP, not published	Y		Globachem N.V.
KCP 6.4-64	Tvaruzek L.	2018	Selectivity of GLOB1310aH, Prosulfocarb 900 and GLOB1818H applied pre-emergence in winter cereals. HS-18-C-GLOB1310aH-PRO900-CZ06 ZVU Kromeriz GEP, not published	Y		Globachem N.V.
KCP 6.4-65	Lay E.	2018	Selectivity of GLOB1310aH, Prosulfocarb 900 and GLOB1818H applied pre-emergence in winter cereals. SCZ-19-37734-FR01 Staphyt FR GEP, not published	Y		Globachem N.V.

KCP 6.4-66	Lay E.	2018	Selectivity of GLOB1310aH applied pre-emergence in winter cereals. SCZ-19-37735-FR01 Staphyt GEP, not published FR	Y	Globachem N.V.
KCP 6.4-67	Magyaróvári V.	2018	Selectivity of GLOB1310aH applied pre-emergence in winter cereals. HS-18-C-GLOB1310aH-PRO900-DE09-12 Agrartest GEP, not published	Y	Globachem N.V.
KCP 6.4-68	Zöllner H.	2018	Selectivity of GLOB1310aH applied pre-emergence in winter cereals. HS-18-C-GLOB1310a-PRO900-DE10 Field Research Support GEP, not published DE	Y	Globachem N.V.
KCP 6.4-69	Gezova V.	2018	Selectivity of GLOB1310aH applied pre-emergence in winter cereals. HS-18-C-GLOB1310aH-PRO900-CZ11 InTec GEP, not published	Y	Globachem N.V.
KCP 6.4-70	Tvaruzek L.	2018	Selectivity of GLOB1310aH, Prosulfocarb 900 and GLOB1818H applied pre-emergence in winter cereals. HS-18-C-GLOB1310aH-PRO900-CZ12 ZVU GEP, not published Kromeriz	Y	Globachem N.V.
KCP 6.4-71	Lay E.	2018	Selectivity of GLOB1310aH applied pre-emergence in winter cereals. SCZ-19-37735-FR02 Staphyt GEP, not published FR	Y	Globachem N.V.
KCP 6.4-72	de Vries H.	2018	Selectivity of GLOB1310aH applied pre-emergence in winter cereals. HS-18-C-GLOB1310aH-PRO900-NL14 Proeftuin GEP, not published Zwaagdijk	Y	Globachem N.V.
KCP 6.4-73	Zöllner H.	2018	Selectivity of GLOB1310aH, Prosulfocarb 900 and GLOB1818H applied pre-emergence in winter cereals. HS-18-C-GLOB1310a-PRO900-DE15 Field Research Support GEP, not published DE	Y	Globachem N.V.

KCP 6.4-74	Gezova V.	2018	Selectivity of GLOB1310aH, Prosulfocarb 900 and GLOB1818H applied pre-emergence in winter cereals. HS-18-C-GLOB1310aH-PRO900-CZ16 InTec GEP, not published	Y	Globachem N.V.
KCP 6.4-75	Tvaruzek L.	2018	Selectivity of GLOB1310aH, Prosulfocarb 900 and GLOB1818H applied pre-emergence in winter cereals. HS-18-C-GLOB1310aH-PRO900-CZ17 ZVU Kromeriz GEP, not published	Y	Globachem N.V.
KCP 6.4-76	Lay E.	2018	Selectivity of GLOB1310aH applied pre-emergence in winter cereals. SCZ-19-37735-FR03 Staphyt FR GEP, not published	Y	Globachem N.V.
KCP 6.4-77	Lay E.	2018	Selectivity of GLOB1310aH applied pre-emergence in winter cereals. SCZ-19-37735-FR04 Staphyt FR GEP, not published	Y	Globachem N.V.
KCP 6.4-78	de Vries H.	2018	Selectivity of GLOB1310aH applied pre-emergence in winter cereals. HS-18-C-GLOB1310aH-PRO900-NL20 Proeftuin Zwaagdijk GEP, not published	Y	Globachem N.V.
KCP 6.4-79	Zöllner H.	2018	Selectivity of GLOB1310aH applied pre-emergence in winter cereals. HS-18-C-GLOB1310a-PRO900-DE21 Field Research Support DE GEP, not published	Y	Globachem N.V.
KCP 6.4-80	Zöllner H.	2018	Selectivity of GLOB1310aH applied pre-emergence in winter cereals. HS-18-C-GLOB1310a-PRO900-DE22 Field Research Support DE GEP, not published	Y	Globachem N.V.
KCP 6.4-81	Tvaruzek L.	2018	Selectivity of GLOB1310aH, Prosulfocarb 900 and GLOB1818H applied pre-emergence in winter cereals. HS-18-C-GLOB1310aH-PRO900-CZ23 ZVU Kromeriz	Y	Globachem N.V.

			GEP, not published		
KCP 6.4-82	Mareckova J.	2018	Selectivity of GLOB1310aH, Prosulfocarb 900 and GLOB1818H applied pre-emergence in winter cereals. HS-18-C-GLOB1310a-PRO900-CZ24 Ing. Jitka Mareckova GEP, not published	Y	Globachem N.V.
KCP 6.4-109	Zagi H.	2018	Selectivity of GLOB1310aH, Prosulfocarb 900 and GLOB1818H applied pre-emergence in winter cereals. HS-18-D-GLOB1310aH-PRO900-HR01 Pest-Pro GEP, not published	Y	Globachem N.V.
KCP 6.4-110	Zagi H.	2018	Selectivity of GLOB1310aH applied pre-emergence in winter cereals. HS-18-D-GLOB1310aH-PRO900-HR02 Pest-Pro GEP, not published	Y	Globachem N.V.
KCP 6.4-111	Lay E.	2018	Selectivity of GLOB1310aH applied pre-emergence in winter cereals. SCZ-19-37736-FR01 Staphyt FR GEP, not published	Y	Globachem N.V.
KCP 6.4-112	Lay E.	2018	Selectivity of GLOB1310aH applied pre-emergence in winter cereals. SCZ-19-37736-FR02 Staphyt FR GEP, not published	Y	Globachem N.V.
KCP 6.4-113	Desogus S.	2018	Selectivity of GLOB1310aH applied pre-emergence in winter cereals. Italy HS-18-D-GLOB1310aH-PRO900-IT05 Sagea GEP, not published	Y	Globachem N.V.
KCP 6.4-114	Mazzi F.	2018	Selectivity of GLOB1310aH applied pre-emergence in winter cereals. SCZ-19-37736-IT03 Staphyt IT GEP, not published	Y	Globachem N.V.
KCP 6.4-115	Camuñez S.	2018	Selectivity of GLOB1310aH applied pre-emergence in winter cereals. SCZ-19-37736-ES04 Staphyt ES	Y	Globachem N.V.

			GEP, not published		
KCP 6.4-116	Camuñez S.	2018	Selectivity of GLOB1310aH applied pre-emergence in winter cereals. SCZ-19-37736-ES05 Staphyt GEP, not published	Y	Globachem N.V.
KCP 6.4-134	Hrabovský J.	2019	Selectivity of GLOB1310aH, GLOB1921bH, Prosulfocarb 900 CS and GLOB1818H applied pre-emergence in winter cereals. HS-19-A-GLOB1310aH-1921H-CZ01 ZZS GEP, not published	Y	Globachem N.V.
KCP 6.4-135	Camuñez S.	2019	Selectivity of GLOB1310aH, GLOB1921bH, Prosulfocarb 900 CS and GLOB1818H applied pre-emergence in winter cereals. SCZ-19-42535-ES01 Staphyt GEP, not published	Y	Globachem N.V.
KCP 6.4-136	Camuñez S.	2019	Selectivity of GLOB1310aH, GLOB1921bH, Prosulfocarb 900 CS and GLOB1818H applied pre-emergence in winter cereals. SCZ-19-42535-ES02 Staphyt GEP, not published	Y	Globachem N.V.
KCP 6.4-137	Lay E.	2019	Selectivity of GLOB1310aH, GLOB1921bH, Prosulfocarb 900 CS and GLOB1818H applied pre-emergence in winter cereals. SCZ-19-42535-FR03 Staphyt GEP, not published	Y	Globachem N.V.
KCP 6.4-138	Zagi H.	2019	Selectivity of GLOB1310aH, GLOB1921bH, Prosulfocarb 900 CS and GLOB1818H applied pre-emergence in winter cereals. HS-19-A-GLOB1310aH-1921H-HR05 Pest-Pro GEP, not published	Y	Globachem N.V.
KCP 6.4-139	Mazzi F.	2019	Selectivity of GLOB1310aH, GLOB1921bH, Prosulfocarb 900 CS and GLOB1818H applied pre-emergence in winter cereals. SCZ-19-42535-IT04 Staphyt	Y	Globachem N.V.

			GEP, not published		
KCP 6.4-140	de Vries H.	2019	Selectivity of GLOB1310aH, GLOB1921bH, Prosulfocarb 900 CS and GLOB1818H applied pre-emergence in winter cereals. HS-19-A-GLOB1310aH-1921H-NL07 Proeftuin Zwaagdijk GEP, not published	Y	Globachem N.V.
KCP 6.4-141	Umiński P.	2019	Selectivity of GLOB1310aH, GLOB1921bH, Prosulfocarb 900 CS and GLOB1818H applied pre-emergence in winter cereals. HS-19-A-GLOB1310aH-1921H-PL08 Field Research Support PL GEP, not published	Y	Globachem N.V.
KCP 6.4-142	Kozłowski J.	2019	Selectivity of GLOB1310aH, GLOB1921bH, Prosulfocarb 900 CS and GLOB1818H applied pre-emergence in winter cereals. HS-19-A-GLOB1310aH-1921H-PL09 Syntech GEP, not published	Y	Globachem N.V.
KCP 6.4-150	Umiński P.	2019	Selectivity of GLOB1921bH in SECCW and HORVW HS-19-MULTV-GLOB1921bH-PL01 Field Research Support PL GEP, not published	Y	Globachem N.V.
KCP 6.4-151	Posdiena T.	2019	Selectivity of GLOB1310aH, GLOB1921bH, Prosulfocarb 900 CS and GLOB1818H applied pre-emergence in winter cereals. HS-19-B-GLOB1310aH-1921H-CZ01 ZS Trutnov GEP, not published	Y	Globachem N.V.
KCP 6.4-152	Schmidt I.	2019	Selectivity of GLOB1310aH, GLOB1921bH, Prosulfocarb 900 CS and GLOB1818H applied pre-emergence in winter cereals. SCZ-19-42536-DE01 Staphyt DE GEP, not published	Y	Globachem N.V.
KCP 6.4-154	Umiński P.	2019	Selectivity of GLOB1310aH, GLOB1921bH, Prosulfocarb 900 CS and GLOB1818H applied pre-emergence in winter cereals. HS-19-B-GLOB1310aH-1921H-PL04 Field Research Support PL	Y	Globachem N.V.

			GEP, not published		
KCP 6.4-155	Kmieciak L.	2019	Selectivity of GLOB1310aH, GLOB1921bH, Prosulfocarb 900 CS and GLOB1818H applied pre-emergence in winter cereals. HS-19-B-GLOB1310aH-1921H-PL05 Staphyt GEP, not published PL	Y	Globachem N.V.
KCP 6.4-156	Kmieciak L.	2019	Selectivity of GLOB1310aH, GLOB1921bH, Prosulfocarb 900 CS and GLOB1818H applied pre-emergence in winter cereals. HS-19-B-GLOB1310aH-1921H-PL06 Staphyt GEP, not published PL	Y	Globachem N.V.
KCP 6.4-165	Trojan Z.	2019	Selectivity of GLOB1310aH, GLOB1921bH, Prosulfocarb 900 CS and GLOB1818H applied pre-emergence in winter cereals. HS-19-C-GLOB1310aH-1921H-CZ01 Zemservis GEP, not published	Y	Globachem N.V.
KCP 6.4-166	Camuñez S.	2019	Selectivity of GLOB1310aH, GLOB1921cH, Prosulfocarb 900 CS and GLOB1818H applied pre-emergence in winter cereals. SCZ-19-42647-ES01 Staphyt GEP, not published ES	Y	Globachem N.V.
KCP 6.4-167	Lay E.	2019	Selectivity of GLOB1310aH, GLOB1921cH, Prosulfocarb 900 CS and GLOB1818H applied pre-emergence in winter cereals. SCZ-19-42647-FR02 Staphyt GEP, not published FR	Y	Globachem N.V.
KCP 6.4-168	Mazzi F.	2019	Selectivity of GLOB1310aH, GLOB1921cH, Prosulfocarb 900 CS and GLOB1818H applied pre-emergence in winter cereals. SCZ-19-42647-IT03 Staphyt GEP, not published IT	Y	Globachem N.V.
KCP 6.4-169	de Vries H.	2019	Selectivity of GLOB1310aH, GLOB1921cH, Prosulfocarb 900 CS and GLOB1818H applied pre-emergence in winter cereals. HS-19-C-GLOB1310aH-1921H-NL05	Y	Globachem N.V.

			Zwaagdijk GEP, not published		
KCP 6.4-170	Umiński P.	2019	Selectivity of GLOB1310aH, GLOB1921bH, Prosulfocarb 900 CS and GLOB1818H applied pre-emergence in winter cereals. HS-19-C-GLOB1310aH-1921H-PL06 Field Research Support PL GEP, not published	Y	Globachem N.V.
KCP 6.4-171	Szrama K.	2019	Selectivity of GLOB1310aH, GLOB1921cH, Prosulfocarb 900 CS and GLOB1818H applied pre-emergence in winter cereals. KSA-19-42648-PL01 Staphyt PDT PL GEP, not published	Y	Globachem N.V.
KCP 6.4-174	Zöllner H.	2019	Selectivity of GLOB1310aH, GLOB1921bH, Prosulfocarb 900 CS and GLOB1818H applied pre-emergence in winter cereals. HS-19-D-GLOB1310aH-1921H-DE01 Field Research Support DE GEP, not published	Y	Globachem N.V.
KCP 6.4-175	Junglee S.	2019	Selectivity of GLOB1310aH, GLOB1921cH, Prosulfocarb 900 CS and GLOB1818H applied pre-emergence in winter cereals. HS-19-D-GLOB1310aH-1921H-FR02 Promo-Vert FR GEP, not published	Y	Globachem N.V.
KCP 6.4-176	Junglee S.	2019	Selectivity of GLOB1310aH, GLOB1921cH, Prosulfocarb 900 CS applied pre-emergence in winter cereals. HS-19-D-GLOB1310aH-1921H-FR03 Promo-Vert FR GEP, not published	Y	Globachem N.V.
KCP 6.4-177	Junglee S.	2019	Selectivity of GLOB1310aH, GLOB1921cH, Prosulfocarb 900 CS applied pre-emergence in winter cereals. HS-19-D-GLOB1310aH-1921H Promo-Vert FR GEP, not published	Y	Globachem N.V.
KCP 6.4-178	Umiński P.	2019	Selectivity of GLOB1310aH, GLOB1921bH, Prosulfocarb 900 CS and GLOB1818H applied pre-emergence in winter cereals.	Y	Globachem N.V.

			HS-19-D-GLOB1310aH-1921H-PL05 Field Research Support PL GEP, not published		
KCP 6.4-179	Kozłowski J.	2019	Selectivity of GLOB1310aH, GLOB1921cH, Prosulfocarb 900 CS and GLOB1818H applied pre-emergence in winter cereals. HS-19-D-GLOB1310aH-1921H-PL06 Syntech GEP, not published	Y	Globachem N.V.
KCP 6.4-184	Camuñez S.	2019	Selectivity of GLOB1310aH, GLOB1921cH, Prosulfocarb 900 CS and GLOB1818H applied pre-emergence in winter cereals. SCZ-19-42649-ES01 Staphyt ES GEP, not published	Y	Globachem N.V.
KCP 6.4-185	Camuñez S.	2019	Selectivity of GLOB1310aH, GLOB1921cH, Prosulfocarb 900 CS and GLOB1818H applied pre-emergence in winter cereals. SCZ-19-42649-ES02 Staphyt ES GEP, not published	Y	Globachem N.V.
KCP 6.4-186	Lay E.	2019	Selectivity of GLOB1310aH, GLOB1921cH, Prosulfocarb 900 CS and GLOB1818H applied pre-emergence in winter cereals. SCZ-19-42649-FR03 Staphyt FR GEP, not published	Y	Globachem N.V.
KCP 6.4-187	Lay E.	2019	Selectivity of GLOB1310aH, GLOB1921cH, Prosulfocarb 900 CS and GLOB1818H applied pre-emergence in winter cereals. SCZ-19-42649-FR04 Staphyt FR GEP, not published	Y	Globachem N.V.
KCP 6.4-188	Zagi H.	2019	Selectivity of GLOB1310aH, GLOB1921bH, Prosulfocarb 900 CS and GLOB1818H applied pre-emergence in winter cereals. HS-19-E-GLOB1310aH-1921H-HR05 Pest-Pro GEP, not published	Y	Globachem N.V.
KCP 6.4-	Mazzi F.	2019	Selectivity of GLOB1310aH, GLOB1921cH, Prosulfocarb 900 CS and	Y	Globachem

189			GLOB1818H applied pre-emergence in winter cereals. SCZ-19-42649-IT05 Staphyt IT GEP, not published		N.V.
KCP 6.5-1	Friedemann A.	2021	Effects of GLOB1310aH on seedling emergence and seedling growth of six non-target terrestrial plant species under greenhouse conditions. 21 46 PSE 0006 BioChem agrar GLP, not published	Y	Globachem N.V.

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

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

The following tables are to be completed by MS

List of data submitted by the applicant and not relied on

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

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

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

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