REGISTRATION REPORT

Part B

Section 3

Efficacy Data and Information

Concise summary

Product code: ADM.09050.H.1.A

Product name(s): **STEMPER**

Chemical active substance:

Trinexapac-ethyl, 175 g/L

Central Zone

Zonal Rapporteur Member State: Poland

CORE ASSESSMENT

(authorization)

Applicant: **ADAMA**

Submission date: May 2022

Evaluation date: March 2023

Version history

When	What
May 2022	dRR submitted by applicant (ADAMA)
March 2023	Version evaluated by zRMS

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

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

This is the version of dRR from May 2022, submitted by the applicant in the framework of Article 33 of Regulation (EC) 1107/2009. The applicant´s text is commented by the zRMS and the comments and conclusions are placed in commenting boxes shaded in grey at the end of each chapter of the dRR. Amendments in the text are highlighted in yellow.

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

Abstract

This application has been made to authorize the registration of growth regulator ADM.09050.H.1.A (Stemper) containing the active substance Trinexapac-ethyl (175 g/L) with extension uses (under Article 33) to prevent the lodging in winter wheat, winter barley, spring barley, winter rye, winter triticale and spring oat, in the European Central registration zone. This application was submitted in view to a first authorization of the product. In most trials tested product was used with code name AG-T3-175 EC, which is the same formulation as ADM.09050.H.1.A, so the code AG-T3-175 EC was used by applicant in this report, whereas zRMS uses both names together in evaluation text.

All submitted trials were carried out by organizations officially recognized for efficacy testing of plant protection products, by the authorities of relevant countries, in accordance with GEP rules and with EPPO general guidelines: PP1/135(4), PP1/152(4), PP1/181(4) and specific EPPO standard PP 1/144(3). The major deviation from the guidelines were not found. The overall assessment was performed according to the uniform principles.

In dossier the applicant described the active substance trinexapac-ethyl and its mode of action, the plant protection product, presented the information on trials submitted, including the Minimum effective dose, efficacy and selectivity data, the occurrence or possible occurrence of the development of resistance, data on impact of tested growth regulator on the yield of treated plants or plant product and undesirable or unintended side-effects.

The applicant submitted 37 reports in total, carried out in 2014-2016, showing the results on efficacy of plant growth regulator ADM.09050.H.1.A in cereal crops. The results show that ADM.09050.H.1.A (Stemper) applied post-emergence, effectively reduces the lodging and is selective to tested cereal crops, has no negative effect on the yields of cereals and their quality and also poses no risk to succeeding crops and adjacent crops.

Considering the following facts: 1) high efficiency of growth regulator in reducing the cereals lodging; 2) effectiveness comparable to reference growth regulators; 3) no phytotoxicity to cereal crops; 4) low risk of developing of resistance to trinexapac-ethyl ZRMS suggests allowing the growth regulator ADM.09050.H.1.A (AG-T3-175 EC) for the use in Poland in the species listed in GAP.

Conclusion. ZRMS considers that the data provided support the registration of growth regulator ADM.09050.H.1.A (AG-T3-175 EC) containing the active substance of Trinexapac-ethyl (175 g/l) for preventing the lodging in winter wheat, winter barley, spring barley, winter triticale, winter rye and spring oats. The tested product is intended to use post-emergence in winter wheat at the rate of 0.4-0.6 L/ha (at growth stages BBCH 29-39) or with split application method (0.3 + 0.3 L/ha, at growth stages BBCH 31-32 and 37-39); in winter barley (0.6-0.9 L/ha, at growth stages BBCH 31-39), in spring barley(0.4-0.6 L/ha, at growth stages BBCH 30-34); in winter triticale (0.6 L/ha, at growth stages BBCH 31-32); in win-

ter rye (0.6 L/ha, at growth stages BBCH 31-39) and in spring oat (0.4-0.6 L/ha, at growth stages BBCH 31-33. The recommended spray volume is 200-300 L/ha. The plant growth regulator ADM.09050.H.1.A (Stemper) in all tested crops should be applied in one treatment (at full dose rate), except split application method in winter wheat, where two treatments are allowed.

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

Critical GAP

Use-No. *	Member state(s)	Crop and/or situation (crop destination / purpose of crop)	F, Fn, Fpn G, Gn, Gpn or I **	Pests or Group of pests controlled (additionally: develop-mental stages of the pest or pest group)	**Application**				**Application rate**			PHI (days)	Remarks: e.g. g safener/ synergist per ha
					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		
1	EU	Winter barley (HORVW)	F	Prevention of lodging	Foliar spray	BBCH 25-49	a) 1 b) 1	n/a	a) 0.8 L/ha b) 0.8 L/ha	a) 200 g/ha b) 200 g/ha	100-400	n/a	
2	EU	Spring barley (HORVS)	F	Prevention of lodging	Foliar spray	BBCH 25-37	a) 1 b) 1	n/a	a) 0.6 L/ha b) 0.6 L/ha	a) 150 g/ha b) 150 g/ha	100-400	n/a	
3	EU	Winter wheat (TRZAW)	F	Prevention of lodging	Foliar spray	BBCH 25-49	a) 1 b) 1	n/a	a) 0.5 L/ha b) 0.5 L/ha	a) 125 g/ha b) 125 g/ha	100-400	n/a	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Use-No. *	**Member state(s)**	**Crop and/ or situation** (crop destination / purpose of crop)	**F, Fn, Fnp G, Gn, Gnp or I ****	**Pests or Group of pests controlled** (additionally: develop-mental stages of the pest or pest group)	**Application**				**Application rate**			**PHI** (days)	**Remarks:** e.g. g safener/ synergist per ha, other dose rate expression, dose range (min-max)	**zRMS Conclusion (efficacy)**
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	kg or L product / ha a) max. rate per appl. b) max. total rate per crop/season	g or kg as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max			
Zonal uses (field or outdoor uses, certain types of protected crops)														
1	PL	Winter wheat (TRZAW)	F	Plant Growth Regulator PGR	Spray, medium sprayer	Spring, BBCH 29-39	a)1 b)1	n/a	a) 0.4-0.6 l//ha b) 0.4-0.6 l//ha	a) 70-105 g a.s./ha b) 70-105 g a.s./ha	200-300	n/a		
2	PL	Winter wheat (TRZAW)	F	Plant Growth Regulator PGR	Spray, medium sprayer	Spring, A: BBCH 31-32 B: BBCH 37-39	a)2x50% b)2x50%	14-32	a) 2x 0.3 l//ha b) 2x 0.3 l//ha	a) 2x 52.5 g a.s./ha b) 2x 52.5 g a.s./ha	200-300	n/a	Split dose: 2 x 50% max. rate for TRZAW	
3	PL	Spring oat (AVESA)	F	Plant Growth Regulator PGR	Spray, medium sprayer	Spring, BBCH 31-33	a)1 b)1	n/a	a) 0.4-0.6 l//ha b) 0.4-0.6 l//ha	a) 70-105 g a.s./ha b) 70-105 g a.s./ha	200-300	na		
4	PL	Spring barley (HORVS)	F	Plant Growth Regulator PGR	Spray, medium sprayer	Spring BBCH 30-34	a)1 b)1	n/a	a) 0.4-0.6 l//ha b) 0.4-0.6 l//ha	a) 70-105 g a.s./ha b) 70-105 g a.s./ha	200-300	n.a		
5	PL	Winter barley (HORVW)	F	Plant Growth Regulator PGR	Spray, medium sprayer	Spring BBCH 31-39	a)1 b)1	n/a	a) 0.6-0.9 l//ha b) 0.6-0.9 l//ha	a)105 – 157,5 gas/ha b) 105 – 157,5 gas/ha	200-300	n.a		
6	PL	Winter rye (SECCW)	F	Plant Growth Regulator PGR	Spray, medium sprayer	Spring BBCH 31-39	a)1 b)1	n/a	a) 0.6 l//ha b) 0.6 l//ha	a)105 gas/ha b) 105 gas/ha	200-300	n.a		
7	PL	Winter triticale (TTLWI)	F	Plant Growth Regulator PGR	Spray, medium sprayer	Spring BBCH 31-32	a)1 b)1	n/a	a) 0.6 l//ha b) 0.6 l//ha	a)105 gas/ha b) 105 gas/ha	200-300	n.a		

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

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

Column 15: zRMS conclusion.

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

3.2 Efficacy data (KCP 6)

Introduction

This document summarises the information related to the efficacy of the plant protection product **ADM.09050.H.1.A** (commercial name STEMPER) containing 175 g/L of Trinexapac-ethyl.
Authorizations to control lodging in cereals in the European Central registration zone were already obtained under several commercial names such as OPTIMUS (PL). In 2018, those authorizations were transferred from Adama to NUFARM without changes.
ADAMA is now submitting this dossier to register the product with extended GAP as previously authorised.
Trinexapac-ethyl was included into Annex I of Regulation (EC) no 1107/2009 (Reg. (EU) 2020/421). The SANCO report for active substance (SANCO/10011/06 – 04/04/2006) is considered to provide the relevant review information or a reference to where such information can be founded.

The Annex I Inclusion Directive for active substance (Reg. (EU) 2020/421) provides 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.

This document is submitted in view to a first authorization of the product.

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

In most of trials this product has the formulation code AG-T3-175 EC. AG-T3-175 EC and **ADM.09050.H.1.A** are the same formulation and have the same composition without affecting the efficacy or crop safety of the product. However as the code used in most trials is AG-T3-175 EC, as a matter of simplification this is the code used throughout this document

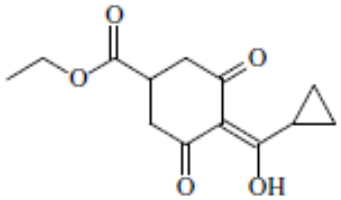
Description of active substances

AG-T3-175 EC is an emulsifiable concentrate (EC) containing 175 g/L of Trinexapac-ethyl for use as a plant growth regulator on winter wheat, spring wheat, winter barley, spring barley, oat, triticale, spelt, rye and grass for seed.
Trinexapac-ethyl belonging to the cyclohexandione group is a dioxocyclohexane carboxylic acid derivative.
Trinexapac-ethyl is the precursor of the biologically active acid metabolite Trinexapac-acid.

Mode of action

Trinexapac-ethyl is predominately taken up by the leaves and shoots, while the uptake via roots is limited. It is transported acropetal in plants, largely to areas of rapid vegetative growth. Trinexapac-ethyl inhibits the gibberellin biosynthesis which leads to a reduced elongation of the basal or upper inter-nodes and thus a reduction of crop height. This together with increased stem diameter results in reduction of lodging and maintains high quality of yield. Depending on the application timing, Trinexapac-ethyl applied in early growth stages (BBCH 20–30) increases the growth of crown roots and prevents root lodging while applications in later stages of development (BBCH 30–39) reduces the length of the lower part of the stem.

Table 3.2-1: Details of the active substances

Active substance	**Trinexapac-ethyl**
Concentration (Unit: g/kg or g/L)	175 g/L
Systematic name	4-(cyclopropyl-alpha-hydroxymethylene)-3, 5-dioxo-cyclohexanecarboxylic acid ethyl ester
Chemical group	Cyclohexandione
Mode of action	Inhibition of gibberellin synthesis
Biological action	Selective growth regulator for post-emergence application in cereals
Molecular formula	$C_{13}H_{16}O_5$
Molecular mass	252.26 g/mol
Molecular formula	

Description of the plant protection product

AG-T3-175 EC is an emulsifiable concentrate (EC) containing 175 g/L of Trinexapac-ethyl.
AG-T3-175 EC is a plant growth regulator developed for use in cereals. AG-T3-175 EC is targeted at height reduction and culm stabilizing to prevent lodging.

Table 3.2-2: Simplified table of currently registered uses and requested uses for the product code ADM.09050.H.1.A

Uses		**Member State**	**Currently registered rate(s)**	**Requested rate(s)**	**Comments / Other relevant details on GAPs**
Crop(s)	**Target(s)**				
Winter wheat (TRZAW)	Growth regulator (YHALM) lodging control (YELDU)	PL	a) 0,6 l/ha b) 0,4 + 0,4 l/ha	a) 0,4–0,6 l/ha b) 0,3 + 0,3 l/ha	BBCH 31-39
Winter barley (HORVW)	Growth regulator (YHALM) lodging control (YELDU)	PL	a) 0,6 l/ha b) 0,9 l/ha	a) 0,6–0,9 l/ha	BBCH 31-39
Spring barley (HORVS)	Growth regulator (YHALM) lodging control (YELDU)	PL	a) 0,6 l/ha b) 0,7 l/ha	a) 0,4–0,6 l/ha	BBCH 31-34
Winter rye (SECCW)	Growth regulator (YHALM) lodging control (YELDU)	PL	a) 0,3–0,6 l/ha b) 0,2 + 0,2 l/ha	a) 0,6 l/ha	BBCH 31-39
Winter triticale (TTLWI)	Growth regulator (YHALM) lodging control (YELDU)	PL	a) 0,6–0,8 l/ha	a) 0,6 l/ha	BBCH 31-32

Uses		Member State	Currently registered rate(s)	Requested rate(s)	Comments / Other relevant details on GAPs
Crop(s)	Target(s)				
Oats (AVESA)	Growth regulator (YHALM) lodging control (YELDU)	PL	a) 0,6 l/ha	a) 0,4–0,6 l/ha	BBCH 31-33

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

General information about lodging
Lodging is a process where plant stems bend (stem lodging) or plants loose hold in the soil (root lodging) during heavy rainstorms.
Lodging causes a delay in the harvest, because aeration of lodged cereals is incomplete resulting in technical problems at combine-harvest and in high moisture of the grain. Moreover, high moisture promotes fungi and outgrowth (premature germination) and may degrade the yield quality from flour to fodder grade.
Lodging can be reduced by agronomical production methods i.e. selecting short growing varieties, low seeding rates and by low dosing of N-fertilizer.
However, these practices are competing with the objectives of modern intensive cereal production applied to maximize the yield. Cereals varieties with a high yield potential are sown with high seeding rates and treated with high dose rates of N-fertilizer.
High plants with heavy grains have a large lodging risk and therefore require lodging control. Plant growth regulators (PGR) are applied in cereals to prevent or reduce lodging. They are cost-efficient and a very effective means to reach this target. Culm stabilizing in cereals is aimed at safeguarding the quantity and quality of the yield

Table 3.2-3: Major / minor status of intended uses (for all cMS and zRMS).

Crop and/or situation	Crop status		Pests or group of pests controlled	Pest status	
	Major	minor		Major	minor
winter wheat	PL	-	plant growth regulator	n/a	n/a
winter triticale	PL	-	plant growth regulator	n/a	n/a
winter rye	PL	-	plant growth regulator	n/a	n/a
winter barley	PL	-	plant growth regulator	n/a	n/a
spring barley	PL	-	plant growth regulator	n/a	n/a
spring oat	PL	-	plant growth regulator	n/a	n/a

Compliance with the Uniform Principles

The overall assessment was performed according to the uniform principles, by officially recognized organizations.

Information on trials submitted (3.1 Efficacy data)

The applicant submitted 37 reports (in total) showing the results in research into product efficacy carried out in 2014-2016 in winter wheat, winter triticale, winter rye, winter barley, spring barley, spring oat.
24 trials were conducted in North-East EPPO zone (Poland):
Winter wheat :12

Oats: 3
Spring barley: 2
Winter barley: 2
Winter rye: 3
Winter triticale: 2

13 trials were conducted in Maritime EPPO zone, in Czech Republic and Germany:
Spring barley: 3 (CZ)
Winter barley: 2 (CZ) + 2 (DE)
Winter rye: 3 (DE)
Winter triticale: 3 (DE)

Table 3.2-4: Presentation of trials (efficacy trials)

Crop(s) *	Target(s)*	Country	Years	Type of trial**	Number of trials (number of valid trials)		GEP, non-GEP, official***	Comments (any other relevant information)
					Maritime zone	North-Eastern zone		
Winter wheat	Lodging	POLAND	2016-2017	MED + E		11 (11)	GEP	
		POLAND	2016-2017	E		1 (1)	GEP	
TOTAL	-	-	2016 -2017	-		**12 (12)**	-	
Winter barley	Lodging	POLAND	2016	MED + E		2 (2)	GEP	
		GERMANY	2017	MED + E	2 (2)	-	GEP	
		CZECH REPUBLIC	2017	MED + E	2 (2)	-	GEP	
TOTAL	-	-	2016-2017	-	4 (4)	**2 (2)**	-	
Spring barley	Lodging	POLAND	2016-2017	MED + E	-	2 (2)	GEP	
		CZECH REPUBLIC	2009-2017	MED + E	3 (3)	-	GEP	
TOTAL	-	-	2009-2017	-	**3 (3)**	**2 (2)**	-	
Winter rye	Lodging	POLAND	2016-2017	MED + E		3 (3)	GEP	
		GERMANY	2016-2017	MED + E	3 (3)	-	GEP	
TOTAL	-	-	2016-2017	-	**3 (3)**	**3 (3)**	-	
Winter triticale	Lodging	POLAND	2016	MED + E		2 (2)	GEP	
		GERMANY	2014-2016	MED + E	3 (3)	-	GEP	
TOTAL	-	-	2014-2016	-	**3 (3)**	**2 (2)**	-	
Oat	Lodging	POLAND	2016-2017	MED + E		3 (3)	GEP	
TOTAL	-	-	2016-2017	-	-	**3 (3)**	-	
GRAND TOTAL	-	-	**2009-2017**	-	**13**	**24 (24)**		

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

Table 3.2-5: Presentation of reference standards used in trials (efficacy trials)

Crop(s)	Reference standard	Country(ies) where the product is registered (1)	Authorization number	Active sub-stance(s)	Formulation		Registered application rate(3)	Application rate in trials (per treatment)	Remark(4)
					Type(2)	Concentration of a.s.			
Winter wheat (TRZAW)	Moddus 250 EC	PL	Decyzja nr R-31/2012 wydana dnia 30/01/2012	trinexapac-ethyl	EC	250 g/l	0,4 l/ha	0,4 l/ha	
	Moddus Start 250 DC	PL	Decyzja nr R-191/2015 wydana dnia 29.10.2015	trinexapac-ethyl	EC	250 g/l	0,3 l/ha		
	Antywylegacz płynny 725 SL	PL	R - 69/2015 (15/04/2015)	Chloromekwate chloride	SL	725 g/l	2,1 l/ha	2,1 l/ha	
Winter barley (HORVW)	Moddus 250 EC	PL	Decyzja nr R-31/2012 wydana dnia 30/01/2012	trinexapac-ethyl	EC	250 g/l	0,6 l/ha	0,6 l/ha	
	Moddus Calma	DE DE		trinexapac-ethyl trinexapac-ethyl	EC EC	250 g/l 175 g/l		0,8 l/ha 0,8 l/ha	
Winter barley (HORVW)	Moddus	CZ		trinexapac-ethyl	EC	250 g/l		0,8 l/ha	
Spring Barley (HORVS)	Moddus 250 EC	PL	Decyzja nr R-31/2012 wydana dnia 30/01/2012	trinexapac-ethyl	EC	250 g/l	0,4 l/ha	0,4 l/ha	
Spring Barley (HORVS)	Moddus	CZ		trinexapac-ethyl	EC	250 g/l		0,4 l/ha	
Spring Barley (HORVS)	Calma	CZ		trinexapac-ethyl	EC	175 g/l		0,6 l/ha	
Winter rye (SECCW)	Moddus 250 EC	PL	Decyzja nr R-31/2012 wydana dnia 30/01/2012	trinexapac-ethyl	EC	250 g/l		0,3 l/ha	
Winter rye (SECCW)	Moddus	DE		trinexapac-ethyl	EC	250 g/l			
Oats (AVESA)	Moddus 250 EC	PL	Decyzja nr R-31/2012 wydana dnia 30/01/2012	trinexapac-ethyl	EC	250 g/l	0,4 l/ha	0,4 l/ha	

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

Comments of zRMS:	**Efficacy data – general information** This application has been made to authorize the registration of plant growth regulator ADM.09050.H.1.A, containing active substance trinexapac-ethyl (175 g/L), with extension uses, to prevent or reduce the lodging of winter wheat, winter barley, spring barley, winter triticale, winter rye and spring oat in European Central regulatory zone. This application was submitted in a view to a first authorization of the product.

	Trinexapac-ethyl has been applied for many years in Poland and in many European countries. This active substance was registered in Poland for the first time on 27.11.2013 as growth regulator Bold 175 EC and some other products having the same active substance were authorized in the next years. Currently, in Poland the growth regulators containing 175 g/l of Trinexapac-ethyl (Bold 175 EC, Calma 175 EC, Optimus 175 EC), and also many products containing 250 g/l of this active substance (e.g. Bombay 250 EC, Consul 250 EC, Hamil 250 EC, Heltar 250 EC, Midas 250 EC, Momos 250 EC, Paket 250 EC, Retard, Terplex EC, Tridus 250 EC, Windsar 250 EC) are registered as major use. The adverse effects on cereal crops in typical cropping practices were not observed. The tested PGR is intended to post-emergence use in one treatment, at the following growth stages in BBCH: 29-39 in winter wheat; 31-32 in winter triticale; 31-33 in spring oat; 30-34 in spring barley; 31-39 in winter barley and winter rye and also with split application method at BBCH 31-32 (I treatment) and BBCH 37-39 (II treatment). In the most of trials tested product was used with code name AG-T3-175 EC, which is the same formulation as ADM.09050.H.1.A, so the applicant presented data at this code name. ZRMS for transparency also uses the name AG-T3-175 EC in evaluated text. In this dossier the applicant described the active substance Trinexapac-ethyl and its mode of action, the plant protection product, presented general information about lodging and submitted trials, including the Minimum effective dose, efficacy and selectivity data, the occurrence or possible occurrence of the development of resistance, data on impact of tested growth regulator on the yield of treated plants or plant product and its quality and undesirable or unintended side-effects. In the text the applicant presented general information about lodging, description of active substance and its mode of action, description of the plant protection product, information on trials submitted. All the trials were carried out by organizations officially recognized for efficacy testing of plant protection products, by the authorities of relevant countries, and the overall assessment was performed according to the uniform principles. The applicant submitted 37 reports in total, carried out in 2014-2016, showing the results on efficacy of PGR in winter wheat, winter barley, spring barley, winter triticale, winter rye and spring oat. In the trials the products containing Trinexapac-ethyl such as: Moddus Calma (175 g/L or 250 g/L), Moddus, Moddus 250 EC, Moddus Start 250 EC (250 g/L), Calma (175 g/L) or Chloromekwate chloride (Antywylegacz płynny 725 SL – 725 g/L) were used as reference product.

3.2.1 Preliminary tests (KCP 6.1)

Preliminary studies on product AG-T3-175 EC were not carried out because this plant growth regulator containing of trinexapac-ethyl which is a well-known active substance that has been used for many years in agricultural practice.

Comments of zRMS:	ZRMS accepts the applicant explanation.

3.2.2 Minimum effective dose tests (KCP 6.2)

The applicant submitted 37 reports (in total) showing the results of research into product efficacy carried out in 2014-2016 in winter wheat, winter triticale, winter rye, winter barley, spring barley, spring oat.
24 trials were conducted in the North-East EPPO zone (Poland):
Winter wheat: 12

Oats: 3
Spring barley: 2
Winter barley: 2
Winter rye: 3
Winter triticale: 2

13 trials were conducted in the Maritime EPPO zone, in Czech Republic and Germany:
Spring barley: 3 (CZ)
Winter barley: 2 (CZ) + 2 (DE)
Winter rye: 3 (DE)
Winter triticale: 3 (DE)

3.2.2.1 Minimum effective dose tests for winter wheat - TRZAW

12 trials are available to support the minimum effective dose evaluation of AG-T3-175 EC against lodging on winter wheat.
Application of AG-T3-175 EC at dose rates: 0.4-0.6 l/ha was performed at 2 application terms:
BBCH 31-32 (A/B) and BBCH 31-39 (code B/C)
Application of AG-T3-175 EC at dose rate: 0.21 l/ha was performed at BBCH 29, application code: A*
Application of AG-T3-175 EC at dose rate: 0.3 l/ha was performed at BBCH 31-32, application code: B*
Applications of AG-T3-175 EC at dose rate: 0.6l/ha was performed at 2 application terms: BBCH 31-32: code A/B and BBCH 31-39, code B/C
Applications of AG-T3-175 EC at split dose rates pattern: 0.3 l/ha + 0.3 l/ha, first application at BBCH 31-32 second application at BBCH 31-39, application code: A/B/C

The minimum effective dose evaluation will be conducted focussing on the plant growth regulator effect of AG-T3-175 EC sprayed at:

- 0.2 l/ha tested in 4 trials
- 0.3 l/ha tested in 6 trials
- 0.4 l/ha tested in 11 trials (A/B) and in 9 trials (B/C)
- 0.6 l/ha tested in 12 trials (A/B) and 9 trials (B/C)
- 0.3 l/ha + 0.3 l/ha (split dose pattern) tested in 9 trials

Crop height

Crop height was evaluated in 12 trials available on winter wheat.
AG-T3-175 EC reduced crop height compared to the untreated control (table 3.2.2-1)

- -4% when sprayed at 0.2 l/ha on 4 trials,
- -5.03 % when sprayed at 0.3 l/ha on 6 trials,
- -9.26 % when sprayed at 0.4 l/ha at BBCH 31-32 (A/B) on 11 trials and -10.13% sprayed at BBCH 31-39 on 9 trials.
- -10.53% applied at 0.6 l/ha at BBCH 31-32 (A/B) on 12 trials and 13.69% once applied at BBCH 31-39 on 9 trials.

Table 3.2.2.1-1 Minimum effective dose rate in winter wheat: crop height (cm) at BBCH 75-87

treatment application code	**UNCK**	**AG-T3-175 EC 0.2l/ha**	**AG-T3-175 EC 0.3 l/ha**	**AG-T3-175 EC 0.4 l/ha A/B**	**AG-T3-175 EC 0.4 l/ha B/C**	**AG-T3-175 EC 0.6 l/ha A/B**	**AG-T3-175 EC 0.6 l/ha B/C**
no of values	4	4	-	-	-	-	-
mean	**97.55**	**93.55**	-	-	-	-	-
min	90.50	85.00	-	-	-	-	-
max	104.70	101.30	-	-	-	-	-
mean UTC	100%	96%	-	-	-	-	-
no of values	6	-	6	-	-	-	-
mean	**97.04**	-	**92.505**	-	-	-	-

min	84.40	-	80.7	-	-	-	-
max	107.63	-	105.13	-	-	-	-
mean UTC	100%	-	94.97%	-	-	-	-
no of values	11	-	-	11	-	-	-
mean	**104.46**	**-**	**-**	**94.51**	**-**	**-**	**-**
min	90.50	-	-	77.30	-	-	-
max	125.75	-	-	116.75	-	-	-
mean UTC	100%	-	-	90.74%	-	-	-
no of values	9	-	-	-	9	-	-
mean	**104.11**	**-**	**-**	**-**	**93.57**	**-**	**-**
min	90.50	-	-	-	80.60	-	-
max	125.75	-	-	-	113.60	-	-
mean UTC	100%	-	-	-	89.87%	-	-
no of values	12	-	-	-	-	12	-
mean	**102.87**	**-**	**-**	**-**	**-**	**92.04**	**-**
min	84.40	-	-	-	-	77.10	-
max	125.75	-	-	-	-	108.35	-
mean UTC	100.00%	-	-	-	-	89.47%	-
no of values	9	-	-	-	-	-	9
mean	**104.11**	**-**	**-**	**-**	**-**	**-**	**89.86**
min	90.50	-	-	-	-	-	75.50
max	125.75	-	-	-	-	-	107.55
mean UTC	100.00%	-	-	-	-	-	86.31%
no of values	9	-	-	-	-	-	-
mean	**104.11**	**-**	**-**	**-**	**-**	**-**	**-**
min	90.50	-	-	-	-	-	-
max	125.75	-	-	-	-	-	-
mean UTC	100.00%	-	-	-	-	-	-

Lodging

Lodging was evaluated in 12 trials available on winter wheat.
2 trials were not affected by lodging and were therefore excluded from the following analysis (PL16GETRZAW112D, PL17GETRZAW050A).

When assessing lodging area, it has been recorded:

- A reduction of 36.59% following 1 application at 0.2 l/ha on 3 trials
- A reduction of 49.54% following 1 application at 0.3 l/ha on 4 trials
- A reduction of 58.14% following 1 application at 0.4 l/ha at BBCH 31-32 on 9 trials and 60.52% when sprayed at BBCH 31-39 on 8 trials
- A reduction of 91.55 ~~83.77~~% following 1 application at 0.6 l/ha at BBCH 31-32 on 10 trials and 83.56% at BBCH 31-39 on 8 trials

Table 3.2.2.1-2 Minimum effective dose rate in winter wheat: lodging (LODARE) at BBCH 85-99

treatment application code	**UNCK**	**AG-T3-175 EC 0.2 l/ha A***	**AG-T3-175 EC 0.3 l/ha B***	**AG-T3-175 EC 0.4 l/ha A/B**	**AG-T3-175 EC 0.4 l/ha B/C**	**AG-T3-175 EC 0.6 l/ha A/B**	**AG-T3-175 EC 0.6 l/ha B/C**
no of values	3	3	-	-	-	-	-
mean	**29.60**	**18.77**	-	-	-	-	-

min	12.50	0.00	-	-	-	-	-
max	42.50	30.00	-	-	-	-	-
mean UTC	100%	63.41%	-	-	-	-	-
no of values	4	-	4	-	-	-	-
mean	**36.58**	**-**	**18.46**	**-**	**-**	**-**	**-**
min	12.50	-	0.00	-	-	-	-
max	57.50	-	26.25	-	-	-	-
mean UTC	100%	-	50.46%	-	-	-	-
no of values	9	-	-	9	-	-	-
mean	**46.12**		**-**	**19.31**	**-**	**-**	**-**
min	12.50		-	0.00	-	-	-
max	85.00		-	57.50	-	-	-
mean UTC	100.00%	-	-	41.86%	-	-	-
no of values	8	-	-	-	8	-	-
mean	**44.70**	**-**	**-**	**-**	**17.65**	**-**	**-**
min	12.50	-	-	-	0.00	-	-
max	85.00	-	-	-	68.70	-	-
mean UTC	100.00%	-	-	-	39.48%	-	-
no of values	10	-	-	-	-	10	-
mean	**46.26**	**-**	**-**	**-**	**-**	**7.51**	**-**
min	12.50	-	-	-	-	0.00	-
max	85.00	-	-	-	-	16.23%	-
mean UTC	100.00%	-	-	-	-	8.45%	-
no of values	8	-	-	-	-	-	8
mean	**44.70**	**-**	**-**	**-**	**-**	**-**	**7.35**
min	12.50	-	-	-	-	-	0.00
max	85.00	-	-	-	-	-	47.50
mean UTC	100%	-	-	-	-	-	16.44%
no of values	8	-	-	-	-	-	-
mean	**44.70**	**-**	**-**	**-**	**-**	**-**	**-**
min	12.50	-	-	-	-	-	-
max	85.00	-	-	-	-	-	-
mean UTC	100%	-	-	-	-	-	-

Summary
The data demonstrate that the highest plant growth regulator effect was provided by AG-T3-175 EC at dose range 0.4-0.6 l/ha. Clear dose-response effect is visible for tested dose rates.
Efficacy of AG-T3-175 EC in reduction of crop height and reduction of lodged surface gradually increase starting from dose rate 0.4 till 0.6 l/ha.
Considering all elements presented above, the range of 0.4 - 0.6 l/ha is the minimum effective dose to reduce lodging in winter wheat.

3.2.2.2 Minimum effective dose tests for oats – AVESA

In total 3 efficacy trials are available for efficacy evaluation of AG-T3-175 EC against lodging on oats.
In 2 of these trials, AG-T3-175 EC was tested at dose rates: 0.4; 0.5; 0.6 and 1.2 l/ha. In trial: PL17GEAVESA040A, AG-T3-175 EC was tested only in dose rates 0.6 l/ha and 1.2 l/ha.
Application of AG-T3-175 EC at dose rates: 0.4-0.5-0.6 l/ha was performed at BBCH 31-33.
No other specific minimum effective dose rates were tested.

Crop height
Crop height was evaluated in the 3 trials available on oats.

Whatever the dose rate considered, AG-T3-175 EC reduced crop height compared to the untreated control (Table 3.2.2.2-1):
- -9.01% when sprayed at 0.4 l/ha over the 2 trials
- -13.02% when sprayed at 0.5 l/ha over the 2 trials
- -18.39 ~~14.85~~% when sprayed at 0.6 l/ha over the 3 trials

Table 3.2.2.2-1 Minimum effective dose rate in oats: crop height (cm) at BBCH 75-85

treatment application code	UNCK	AG-T3-175 EC 0.4 l/ha	AG-T3-175 EC 0.5 l/ha	AG-T3-175 EC 0.6 l/ha
no of values	2	2	2	-
mean	**104.90**	**95.45**	**91.25**	-
min	102.60	94.40	91.20	-
max	107.20	96.50	91.30	-
mean UTC	100%	90.99%	86.98%	-
no of values	3	-	-	3
mean	**104.33**	-	-	**85.15**
min	102.60	-	-	76.85
max	107.20	-	-	92.40
mean UTC	100%	-	-	81.61%

Lodging
Lodging was evaluated in 3 trials available on oats.
All trials were affected by lodging.

When assessing lodging area, it has been recorded:
- A reduction of 20 % following 1 application at 0.4 l/ha on 2 trials
- A reduction of 33.34 % following 1 application at 0.5 l/ha on 2 trials
- A reduction of 96.88% following 1 application at 0.6 l/ha on 3 trials

Table 3.2.2.2-2 Minimum effective dose rate in oats: lodging (LODARE) at BBCH 85-97

treatment application code	UNCK	AG-T3-175 EC 0.4 l/ha	AG-T3-175 EC 0.5 l/ha	AG-T3-175 EC 0.6 l/ha
no of values	2	2	2	
mean	**37.50**	**30.00**	**25.00**	-
min	5.00	0.00	0.00	-
max	70.00	60.00	50.00	-
mean UTC	100%	80%	66.66%	-
no of values	3	-	-	3
mean	**50.83**	-	-	**6.67**
min	5.00	-	-	0.00
max	77.50	-	-	12.50
mean UTC	100%	-	-	3.12%

Summary
The data demonstrate that the highest plant growth regulator effect was provided by AG-T3-175 EC at dose range 0.4 l/ha-0.6 l/ha. Clear dose response effect is visible for tested dose rates.
Efficacy of AG-T3-175 EC in reduction of crop height and reduction of lodged surface gradually increase starting from dose rate 0.4 till 0.6 l/ha.
Considering all elements presented above, the range of 0.4 l/ha- 0.6 l/ha is the minimum effective dose to reduce lodging in oats.

3.2.2.3 Minimum effective dose tests for spring barley – HORVS

In total 5 efficacy trials are available for efficacy evaluation of AG-T3-175 EC against lodging on spring barley. 2 trials were conducted in Poland (NE), 2016, other 3 trials were conducted in Czech Republic (MAR) in 2104-2017.
In 2 trials conducted in Poland, AG-T3-175 EC was tested at dose rates: 0.4; 0.5; 0.6 l/ha.
Application: BBCH 31-32
In 3 trials conducted in Czech Republic (MAR) AG-T3-175 EC was tested at dose rates: 0.25; 0.3; 0.4; 0.5 and 0.6 l/ha. Application: BBCH 21-34.

Crop height
North-East EPPO zone (Poland)
Crop height was evaluated in the 2 trials available on spring barley (Table 3.2.2.1).
AG-T3-175 EC reduced crop height compared to the untreated control:
- -9.03% when sprayed at 0.4 l/ha over the 2 trials
- -13.16% when sprayed at 0.5 l/ha over the 2 trials
- -13.57% when sprayed at 0.6 l/ha over the 2 trials

Table 3.2.2.1 Minimum effective dose rate in spring barley (NE): crop height (cm) at BBCH 75

treatment application code	**UNCK**	**AG-T3-175 EC 0.4 l/ha**	**AG-T3-175 EC 0.5 l/ha**	**AG-T3-175 EC 0.6 l/ha**
no of values	2	2	2	2
mean	**72.6**	**66.05**	**63.05**	**62.75**
min	70.5	61	60	61
max	74.7	71.1	66.1	64.5
mean UTC	100%	90.97%	86.84%	86.43%

Maritime EPPO zone (Czech Republic)
Crop height was evaluated in the 3 trials available on spring barley.
Crop height was evaluated in the 3 trials available on spring barley (Table 3.2.2.2).
AG-T3-175 EC reduced crop height compared to the untreated control:
- -8.02% when sprayed at 0.25 l/ha over the 1 trial
- -3.35% when sprayed at 0.3 l/ha over the 2 trials
- -6.26% when sprayed at 0.4 l/ha over the 2 trials
- -9.51% when sprayed at 0.5 l/ha over the 2 trials
- -14.69% when sprayed at 0.6 l/ha over the 3 trials

Table 3.2.2.2 Minimum effective dose rate in spring barley (MAR): crop height (cm) at BBCH 75-85

treatment application code	**UNCK**	**AG-T3-175 EC 0.25 l/ha**	**AG-T3-175 EC 0.3 l/ha**	**AG-T3-175 EC 0.4 l/ha**	**AG-T3-175 EC 0.5 l/ha**	**AG-T3-175 EC 0.6 l/ha**
no of values	1	1	-	-	-	-
mean	**86.73**	**79.78**	-	-	-	-

min	86.73	79.78	-	-	-	-
max	86.73	79.78	-	-	-	-
mean UTC	100%	91.98%	-	-	-	-
no of values	2		2	2	2	-
mean	**87.08**	-	**84.17**	**81.63**	**78.80**	-
min	75.40	-	74.50	74.30	73.80	-
max	98.75	-	93.83	88.95	83.80	-
mean UTC	100%	-	96.65%	93.74%	90.49%	-
no of values	3	-	-	-	-	3
mean	**86.96**	-	-	-	-	**74.19**
min	75.40	-	-	-	-	72.20
max	98.75	-	-	-	-	77.40
mean UTC	100%	-	-	-	-	85.31%

Lodging
North-East EPPO zone (Poland)
Lodging was evaluated in 1 trial available on spring barley.
Other trial were not affected by lodging and were therefore excluded from the following analysis (PL16GEHORVS114B).

When assessing lodging area, it has been recorded:
- A reduction of 23.53 % following 1 application at 0.4 l/ha on 1 trial
- A reduction of 52.95 % following 1 application at 0.5 l/ha on 1 trial
- A reduction of 77.89% following 1 application at 0.6 l/ha on 1 trial

Table 3.2.2.3 Minimum effective dose rate in spring barley (NE): lodging (%) at BBCH 89

treatment application code	**UNCK**	**AG-T3-175 EC 0.4 l/ha**	**AG-T3-175 EC 0.5 l/ha**	**AG-T3-175 EC 0.6 l/ha**
no of values	1	1	1	1
mean	**85**	**65**	**40**	**18.8**
min	85	65	40	18.8
max	85	65	40	18.8
mean UTC	100%	76.47%	47.05%	22.11%

Maritime EPPO zone (Czech Republic)
Lodging was evaluated in 2 trials available on spring barley.
One trial was not affected by lodging and were therefore excluded from the following analysis (CZ17GEHORVS011A).

When assessing lodging area, it has been recorded:
- -35.3% when sprayed at 0.25 l/ha over the 1 trial
- -12.5% when sprayed at 0.3 l/ha over the 1 trial
- -41.67% when sprayed at 0.4 l/ha over the 1 trial
- -83.34% when sprayed at 0.5 l/ha over the 1 trial
- -967.56% when sprayed at 0.6 l/ha over the 2 trials

Table 3.2.2.4 Minimum effective dose rate in spring barley (MAR): lodging (%) at BBCH 87-89

treatment application code	**UNCK**	**AG-T3-175 EC 0.25 l/ha**	**AG-T3-175 EC 0.3 l/ha**	**AG-T3-175 EC 0.4 l/ha**	**AG-T3-175 EC 0.5 l/ha**	**AG-T3-175 EC 0.6 l/ha**
no of values	1	1	-	-	-	-
mean	**85**	**55**	-	-	-	-
min	85	55	-	-	-	-
max	85	55	-	-	-	-
mean UTC	100%	64.70%	-	-	-	-
no of values	1	-	1	1	1	-
mean	**60**	-	**52.5**	**35**	**10**	-
min	60	-	52.5	35	10	-
max	60	-	52.5	35	10	-
mean UTC	100%	-	87.50%	58.33%	16.66%	-
no of values	2	-	-	-	-	2
mean	**72.5**	-	-	-	-	**2.5**
min	60	-	-	-	-	0
max	85	-	-	-	-	5
mean UTC	100%	-	-	-	-	3.44%

Summary and conclusions on the minimum effective dose
The data demonstrate that the highest plant growth regulator effect was provided by AG-T3-175 EC at dose range 0.4 l/ha-0.6 l/ha. Clear dose response effect is visible for tested dose rates from both EPPO zones. Efficacy of AG-T3-175 EC in reduction of crop height and reduction of lodged surface gradually increase starting from dose rate 0.25 till 0.6 l/ha.
Considering all elements presented above, the range of 0.4 - 0.6 l/ha is the minimum effective dose to reduce lodging in spring barley.

3.2.2.4 Minimum effective dose tests for winter barley – HORVW

In total 6 efficacy trials are available for efficacy evaluation of AG-T3-175 EC against lodging on winter barley.
2 trials were conducted in Poland (NE) in 2016, 2 trials were conducted in Czech Republic (MAR) in 2017 and 2 trials were conducted in Germany (MAR) in 2017.
In 2 trials conducted in Poland, AG-T3-175 EC was tested at dose rates: 0.4; 0.6; 0.9 l/ha.
One application was performed at 2 terms:
treatments with dose rates: 0.4 l/ha and 0.6 l/ha – BBCH 31-32 (A)
treatment: 0.9 l/ha - BBCH 37-39 (B)
No other specific minimum effective dose rates in Poland were tested.
In total 4 trials were conducted in Maritime EPPO zone, 2 in Czech Republic and 2 in Germany.
AG-T3-175 EC was tested at dose rates: 0.4 l/ha; 0.6 l/ha; 0.8 l/ha.
Application: BBCH 31-34 .

Crop height
North – East EPPO zone
Crop height was evaluated in the 2 trials available on winter barley.
Data presented in Table 3.2.2.5.
AG-T3-175 EC reduced crop height compared to the untreated control:
- -6.04% when sprayed at 0.4 l/ha over the 2 trials
- -8.06% when sprayed at 0.6 l/ha over the 2 trials

- -12.25% when sprayed at 0.9 l/ha over the 2 trials

Table 3.2.2.5 Minimum effective dose rate in winter barley (NE): crop height (cm) at BBCH 77

treatment application code	**UNCK**	**AG-T3-175 EC 0.4 l/ha**	**AG-T3-175 EC 0.6 l/ha**	**AG-T3-175 EC 0.9 l/ha**
no of values	2	2	2	2
mean	**108.6**	**102.05**	**99.85**	**95.3**
min	99.8	91.2	90.7	88.3
max	117.4	112.9	109	102.3
mean UTC	100%	93.96%	91.94%	87.75%

Maritime EPPO zone (Czech Republic and Germany)
Crop height was evaluated in the 4 trials: 2 from Czech Republic and 2 from Germany available on winter barley. Data presented in Table 3.2.2.6.

AG-T3-175 EC reduced crop height compared to the untreated control:
- -5.31% when sprayed at 0.4 l/ha over the 4 trials
- -8.98% when sprayed at 0.6 l/ha over the 4 trials
- -12.05% when sprayed at 0.8 l/ha over the 4 trials

Table 3.2.2.6 Minimum effective dose rate in winter barley (MAR): crop height (cm) at BBCH 73-92

treatment application code	**UNCK**	**AG-T3-175 EC 0.4 l/ha**	**AG-T3-175 EC 0.6 l/ha**	**AG-T3-175 EC 0.8 l/ha**
no of values	4	4	4	4
mean	100.85	95.5	91.8	88.7
min	80.2	78.4	73	67.7
max	126.6	122.8	119.7	116.2
mean UTC	100%	94.69%	91.02%	87.95%

Lodging
North – East EPPO zone
Lodging was evaluated in 2 trial available on winter barley.
All 2 trials were affected by lodging
Results presented in Table 3.2.2.7

When assessing lodging area, it has been recorded:
- A reduction of 39.5 % following 1 application at 0.4 l/ha on 2 trials
- A reduction of 52% following 1 application at 0.6 l/ha on 2 trials
- A reduction of 79.17 % following 1 application at 0.9 l/ha on 2 trials

Table 3.2.2.7 Minimum effective dose rate in winter barley (NE): lodging (%) at BBCH 89-99

treatment application code	**UNCK**	**AG-T3-175 EC 0.4 l/ha**	**AG-T3-175 EC 0.6 l/ha**	**AG-T3-175 EC 0.9 l/ha**
no of values	2	2	2	2
mean	**30**	**18.15**	**14.4**	**6.25**
min	12.5	0	0	0
max	47.5	36.3	28.8	12.5
mean UTC	100%	60.50%	48%	20.83%

Maritime EPPO zone (Czech Republic and Germany)
Lodging was evaluated in 2 out of 4 trials available on winter barley.
All 2 trials were not affected by lodging: CZ17GEHORVW015A and CZ17GEHORVW015B.
Results presented in Table 3.2.2.8

When assessing lodging area, it has been recorded:
- A reduction of 22.29 % following 1 application at 0.4 l/ha on 2 trials
- A reduction of 61.01% following 1 application at 0.6 l/ha on 2 trials
- A reduction of 43.24 % following 1 application at 0.8 l/ha on 2 trials

Table 3.2.2.8 Minimum effective dose rate in winter barley (MAR): lodging (%) at BBCH 89

treatment application code	**UNCK**	**AG-T3-175 EC 0.4 l/ha**	**AG-T3-175 EC 0.6 l/ha**	**AG-T3-175 EC 0.8 l/ha**
no of values	2	2	2	2
mean	**89.75**	**69.75**	**35**	**50.95**
min	89.5	49.5	0	33.2
max	90	90	70	68.7
mean UTC	100%	77.71%	38.99%	56.76%

Summary
The data demonstrate that the highest plant growth regulator effect was provided by AG-T3-175 EC at dose range 0.6 - 0.9 l/ha. Clear dose response effect is visible for tested dose rates from both EPPO zones. As maximum dose rate of AG-T3-175 EC tested in Maritime EPPO zone, both in Czech Republic and Germany is 0.8 l/ha, these results can be treated as supportive.
Efficacy of AG-T3-175 EC in reduction of crop height and reduction of lodged surface gradually increase starting from dose rate 0.6 till 0.9 l/ha.
Considering all elements presented above, the range of 0.6-0.9 l/ha is the minimum effective dose to reduce lodging in winter barley.

3.2.2.5 Minimum effective dose tests for winter rye – SECCW

In total 6 efficacy trials are available for efficacy evaluation of AG-T3-175 EC against lodging on winter rye. 3 trials were conducted in Poland (NE) in 2016, 3 trials were conducted in Germany (MAR) in 2016-2017. In 3 trials conducted in Poland, AG-T3-175 EC was tested at dose rates: 0.3; 0.4 and 0.6 l/ha.
Application: 31-32
In total 3 trials were conducted in Maritime EPPO zone (Germany). AG-T3-175 EC was tested at dose rates: 0.3 l/ha, 0.4 l/ha and 0.6 l/ha.
Application: BBCH 32-39 .

Crop Height
North-East EPPO zone(Poland)
Crop height was evaluated in the 3 trials available on winter rye.
Data presented in Table 3.2.2.9.
AG-T3-175 EC reduced crop height compared to the untreated control:
- -8.38% when sprayed at 0.3 l/ha over the 2 trials
- -10.46% when sprayed at 0.4 l/ha over the 2 trials
- -15.65% when sprayed at 0.6 l/ha over the 3 trials

Table 3.2.2.9 Minimum effective dose rate in winter rye (NE): crop height (cm) at BBCH 77-85

treatment application code	**UNCK**	**AG-T3-175 EC 0.3 l/ha**	**AG-T3-175 EC 0.4 l/ha**	**AG-T3-175 EC 0.6 l/ha**
no of values	2	2	2	
mean	**152.15**	**139.4**	**136.25**	**-**
min	140.1	133	124.8	-
max	164.2	145.8	147.7	-
mean UTC	100%	91.62%	89.54%	-
no of values	3	-	-	3
mean	**145.93**	**-**	**-**	**123.1**
min	133.5	-	-	113.5
max	164.2	-	-	139.5
mean UTC	100%	-	-	84.35%

Maritime EPPO zone (Germany)
Crop height was evaluated in the 3 trials from Germany available on winter rye.
Data presented in Table 3.2.2.10.

AG-T3-175 EC reduced crop height compared to the untreated control:
- -14.63% when sprayed at 0.3 l/ha over the 3 trials
- -16.24% when sprayed at 0.4 l/ha over the 3 trials
- -18.02% when sprayed at 0.6 l/ha over the 3 trials

Table 3.2.2.10 Minimum effective dose rate in winter rye (MAR): crop height (cm) at BBCH 77-89

treatment application code	**UNCK**	**AG-T3-175 EC 0.3 l/ha**	**AG-T3-175 EC 0.4 l/ha**	**AG-T3-175 EC 0.6 l/ha**
no of values	3	3	3	3
mean	**160.97**	**137.43**	**134.83**	**131.97**
min	152.80	119.70	117.10	117.20
max	174.90	147.00	145.00	139.60
mean UTC	100%	85.37%	83.76%	81.98%

Lodging
North-East EPPO zone(Poland)
Lodging was evaluated in 3 trials available on winter rye.
All 3 trials were affected by lodging
Results presented in Table 3.2.2.11

When assessing lodging area, it has been recorded:
- A reduction of 63.78 % following 1 application at 0.3 l/ha on 2 trials
- A reduction of 89.29 % following 1 application at 0.4 l/ha on 2 trials
- A reduction of 100% following 1 application at 0.6 l/ha on 3 trials

Table 3.2.2.11 Minimum effective dose rate in winter rye (NE): lodging (%) at BBCH 85-99

treatment application code	**UNCK**	**AG-T3-175 EC 0.3 l/ha**	**AG-T3-175 EC 0.4 l/ha**	**AG-T3-175 EC 0.6 l/ha**
no of values	2	2	2	
mean	**29.40**	**10.65**	**3.15**	**-**
min	23.80	7.50	0.00	-

max	35.00	13.80	6.30	-
mean UTC	100%	36.22%	10.71%	-
no of values	3	-	-	3
mean	**25.03**	-	-	**0.00**
min	16.30	-	-	0.00
max	35.00	-	-	0.00
mean UTC	100%	-	-	0%

Maritime EPPO zone (Germany)
Lodging was evaluated in 3 trials available on winter rye.
All 3 trials were affected by lodging
Results presented in Table 3.2.2.12

When assessing lodging area, it has been recorded:
- A reduction of 8.33 % following 1 application at 0.3 l/ha on 2 trials
- A reduction of 23.33 % following 1 application at 0.4 l/ha on 2 trials
- A reduction of 51.67% following 1 application at 0.6 l/ha on 3 trials

Table 3.2.2.12 Minimum effective dose rate in winter rye (MAR): lodging (%) at BBCH 89

treatment application code	**UNCK**	**AG-T3-175 EC 0.3 l/ha**	**AG-T3-175 EC 0.4 l/ha**	**AG-T3-175 EC 0.6 l/ha**
no of values	3	3	3	3
mean	**100.00**	**91.67**	**76.67**	**48.33**
min	100.00	75.00	50.00	20.00
max	100.00	100.00	100.00	75.00
mean UTC	100%	91.67%	76.67%	48.33

Summary
The data demonstrate that the highest plant growth regulator effect was provided by AG-T3-175 EC at dose 0.6 l/ha. Clear dose response effect is visible for tested dose rates from both EPPO zones.
Efficacy of AG-T3-175 EC in reduction of crop height and reduction of lodged surface gradually increase starting from dose rate 0.3 till 0.6 l/ha.
Considering all elements presented above, the dose rate: 0.6 l/ha is the minimum effective dose to reduce lodging in winter rye.

3.2.2.6 Minimum effective dose tests for winter triticale – TTLWI

In total 5 efficacy trials are available for efficacy evaluation of AG-T3-175 EC against lodging on winter triticale. 2 trials were conducted in Poland (NE) in 2016, 3 trials were conducted in Germany (MAR) in 2014-2016. In 2 trials conducted in Poland, AG-T3-175 EC was tested at dose rates: 0.3; 0.4 and 0.6 l/ha.
Application: 31-32.
In total 3 trials were conducted in Maritime EPPO zone (Germany). AG-T3-175 EC was tested at dose rates: 0.25; 0.3; 0.4 and 0.6 l/ha.
Application: BBCH 31-32

Crop Height
North-East EPPO zone(Poland)
Crop height was evaluated in the 2 trials available on winter triticale.
Data presented in Table 3.2.2.13.

AG-T3-175 EC reduced crop height compared to the untreated control:
- -7.61% when sprayed at 0.3 l/ha over the 2 trials

- -9.19% when sprayed at 0.4 l/ha over the 2 trials
- -12.9455% when sprayed at 0.6 l/ha over the 2 trials

Table 3.2.2.13 Minimum effective dose rate in winter triticale (NE): crop height (cm) at BBCH 77-85

treatment application code	UNCK	AG-T3-175 EC 0.3 l/ha	AG-T3-175 EC 0.4 l/ha	AG-T3-175 EC 0.6 l/ha
no of values		2	2	
mean	**94.7**	**87.5**	**86**	**82.45**
min	75.3	68.5	67.4	65.3
max	114.1	106.5	104.6	99.6
mean UTC	100%	92.39%	90.81%	87.06%

Maritime EPPO zone (Germany)
Crop height was evaluated in the 3 trials from Germany available on winter triticale.
Data presented in Table 3.2.2.14.

AG-T3-175 EC reduced crop height compared to the untreated control:
- -1.56% when sprayed at 0.25 l/ha over the 1 trial
- -2.54% when sprayed at 0.3 l/ha over the 2 trials
- -4.06% when sprayed at 0.4 l/ha over the 2 trials
- -6.15% when sprayed at 0.6 l/ha over the 3 trials

Table 3.2.2.14 Minimum effective dose rate in winter triticale (MAR): crop height (cm) at BBCH 77

treatment application code	UNCK	AG-T3-175 EC 0.25 l/ha	AG-T3-175 EC 0.3 l/ha	AG-T3-175 EC 0.4 l/ha	AG-T3-175 EC 0.6 l/ha
no. of values	1	1	-	-	-
mean	**109.00**	**107.30**	-	-	-
min	109.00	107.30	-	-	-
max	109.00	107.30	-	-	-
mean UTC	100%	98.44%	-	-	-
no of values	2	-	2	2	-
mean	**114.60**	-	**111.70**	**109.95**	-
min	112.70	-	111.10	109.30	-
max	116.50	-	112.30	110.60	-
mean UTC	100%	-	97.46%	95.94%	-
no of values	3	-	-	-	3
mean	**112.73**	-	-	-	**105.80**
min	109.00	-	-	-	103.50
max	116.50	-	-	-	109.20
mean UTC	100%	-	-	-	93.85%

Lodging
North-East EPPO zone(Poland)
Lodging was evaluated in 2 trials available on winter triticale.
All 2 trials were affected by lodging
Results presented in Table 3.2.2.15

When assessing lodging area, it has been recorded:
- A reduction of 45.46 % following 1 application at 0.3 l/ha on 2 trials

- A reduction of 58.91 % following 1 application at 0.4 l/ha on 2 trials
- A reduction of 100 % following 1 application at 0.6 l/ha on 2 trials

Table 3.2.2.15 Minimum effective dose rate in winter triticale (NE): lodging (%) at BBCH 89-99

treatment application code	**UNCK**	**AG-T3-175 EC 0.3 l/ha**	**AG-T3-175 EC 0.4 l/ha**	**AG-T3-175 EC 0.6 l/ha**
no of values	2		2	2
mean	**13.75**	**7.5**	**5.65**	**0**
min	5	0	0	0
max	22.5	15	11.3	0
mean UTC	100%	54.54%	41.09%	0%

Maritime EPPO zone (Germany)
Any of 3 trials were affected by lodging.

Summary
The data demonstrate that the highest plant growth regulator effect was provided by AG-T3-175 EC at dose 0.6 l/ha. Clear dose response effect is visible for tested dose rates from both EPPO zones.
Efficacy of AG-T3-175 EC in reduction of crop height and reduction of lodged surface gradually increase starting from dose rate 0.25 till 0.6 l/ha.
Considering all elements presented above, the dose rate: 0.6 l/ha is the minimum effective dose to reduce lodging in winter triticale.

Comments of zRMS:	**<u>Minimum effective dose (MED) for cereal crops</u>** Minimum effective dose for growth regulator AG-T3-175 EC (ADM.09050.H.1.A) was determine in 37 trials carried out in Poland (North-East EPPO zone), Germany and Czech Republic (Maritime EPPO zone). MED was tested in winter wheat (12 trials in PL), winter barley (2 trials in PL; 2 in DE and 2 in CZ), spring barley (2 trials in PL; 3 in CZ), winter rye (3 trials in PL; 3 in DE), in winter triticale (2 trials in PL; 3 in DE), and in oat (3 in PL). The trials on MED for cereal crops lodging prevention were carried out properly, in accordance to EPPO standard PP1/225(2) "Minimum effective dose". Presented trials has been recognized as valid for assessment. **Winter wheat**. AG-T3-175 EC (ADM.09050.H.1.A) was used at the rates of 0.2; 0.3; 0.4; 0.6 L/ha and with split application method (0.3 + 0.3 L/ha) and the number of trials for each dose rate ranged from 4 to 9. The crops height was reduced by 4.0-13.7% and lodging area by 36.6-83.8%, depends of the rate. Considering the presented data the range of 0.4–0.6 l/ha should be the minimum effective dose to reduce the lodging of winter wheat. **Oat.** Tested PGR was used at the rates of 0.4; 0.5; 0.6 and 1.2 l/ha in 2 trials and 0.6 and 1.2 L/ha in 1 trial. The crops height was reduced by 9.0-18.39% and lodging area by 20-96.9%. Considering the presented data the range of 0.4–0.6 l/ha should be the minimum effective dose to reduce the lodging of oats. **Spring barley.** AG-T3-175 EC (ADM.09050.H.1.A) was used at the rates of 0.4; 0.5; 0.6 L/ha in 2 trials (PL) and in 0.25; 0.3; 0.4; 0.5 and 0.6 L/ha in 3 trials (CZ). The crops height was reduced by 9-13.6% in N-E zone (PL) and 3.4-14.7% in Maritime zone (CZ), while the lodging area was reduced by 23.5-77.9% in N-E zone and 12.5-96.6% in Maritime zone. Considering the presented data the range of 0.4–0.6 l/ha should be the minimum effective dose to reduce the lodging of spring barley. **Winter barley.** AG-T3-175 EC (ADM.09050.H.1.A) was used at the rates of 0.4; 0.6; 0.9 l/ha in 2 trials (PL) and in 0.4; 0.6 and 0.8 L/ha in 4 trials (2 in CZ; 2 in DE). The crops height was reduced by 6-12.3% in N-E zone (PL) and 5.3-12.1% in Maritime zone (CZ, DE), while the lodging area was reduced by 39.5-79.2% in N-E zone and 22.3-61% in Maritime zone. Considering the presented data the range of 0.6–0.9 l/ha should be the

	minimum effective dose to reduce the lodging of winter barley. **Winter rye.** AG-T3-175 EC (ADM.09050.H.1.A) was used at the rates of 0.3; 0.4 and 0.6 L/ha in 6 trials (3 in PL and 3 in DE). The crops height was reduced by 8.4-15.7% in N-E zone (PL) and 14.6-18.0% in Maritime zone (DE), while the lodging area was reduced by 63.8-100% in N-E zone and 8.3-51.7% in Maritime zone. Considering the presented data the range of 0.6 l/ha should be the minimum effective dose to reduce the lodging of winter rye. **Winter triticale.** AG-T3-175 EC (ADM.09050.H.1.A) was used at the rates of 0.3; 0.4 and 0.6 L/ha in 2 trials in Poland and in 0.25; 0.3; 0.4 and 0.6 L/ha in 3 trials in Maritime zone (DE). The crops height was reduced by 7.6-12.9% in N-E zone (PL) and 1.6-6.2% in Maritime zone (DE), while the lodging area was reduced by 45.5-100% in N-E zone and the trials in N-E zone were not affected by lodging. Considering the presented data the range of 0.6 l/ha should be the minimum effective dose to reduce the lodging of winter triticale. The data show that growth regulator AG-T3-175 EC (ADM.09050.H.1.A) prevents the cereals lodging, but its efficacy may change due to agricultural and weather conditions. Increasing the doses of PGR resulted in decreasing the height of the stems and the lodging area. The plant growth limitation as well as the lodging may depend on many factors. **Conclusion**. ZRMS agree with applicant that the proposed rate of 0,6 L/ha should be considered as the Minimum effective dose of ALB135, to ensure sufficient prevention of cereals lodging. A good efficacy in winter wheat, spring barley and spring oat was also ensured by the rates of 0.4 and 0.5 L/ha, therefore it should be assumed that in favorable conditions the lower doses are acceptable. The lower rates of growth regulator seems to be rational and favorable for Integrated Pest Management.

3.2.3 Efficacy tests (KCP 6.2)

Material and methods:

Materials and methods
The applicant submitted 37 reports (in total) showing the results in research into product efficacy carried out in 2014-2016 in winter wheat, winter triticale, winter rye, winter barley, spring barley, spring oat.
24 trials were conducted in North-East EPPO zone (Poland):
- Winter wheat :12
- Oats: 3
- Spring barley: 2
- Winter barley: 2
- Winter rye: 3
- Winter triticale: 2

13 trials were conducted in Maritime EPPO zone, in Czech Republic and Germany:
- Spring barley: 3 (CZ)
- Winter barley: 2 (CZ) + 2 (DE)
- Winter rye: 3 (DE)
- Winter triticale: 3(DE)

Site
Trials were conducted in different soil and climate condition where winter wheat, winter triticale, winter rye, winter barley, spring barley and spring oat are grown commercially. The experiment was established on a set of complete randomized blocks in 4 replications

Assessment methods

Statistical Analysis

In case of statistical analysis, data were analyzed using a two-way analysis of variance (ANOVA). The probability of no significant differences occurring between treatment means is calculated as the F proba-

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

Assessment of efficacy

Height of plants (cm): the height evaluation was done by measuring the height of 5 plants randomly taken from each plot. The measurements is to be done from the soil surface to the ear/panicle tip without awns

Lodging (%): % of lodged area per plot.

Evaluation lodging index (% surface lodged) and the angle of lodging (100 % total lie stalks per plot, 0 – lack of lodging or classes (Lodging index = [(% lodging class 0 x 0) + (% lodging class 1 x 1) + (% lodging class 2 x 2) + …]/5)

Assessment of phytotoxicity

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

Assessment of yield

Grain yield from the plot was harvested using small plot harvester. Weight and moisture of grains (seeds) from each plots. The yield of grains (seeds) recalculated to standard 15% moisture content and presented as t/ha and dt/ha.

On the basis of harvester grains was evaluated the following parameters:

- yield of grain [t/ha]
- MOICON: moisture content [%]
- TKW: thousand grain weight [g]
- HLW: weight of hectoliter [kg/hl]
- GERM: germination [%]
- Germination: seedlings count (numbers)
- WEIFRE: Weight fresh (kg/plot)
- EAR COUNT: Number of ears (/m²),
- EAR COUNT/GRAIN: Number of grains (/ear),

Winter wheat

Total of 12 efficacy trials in winter wheat conducted in Poland (NE) are available to support the evaluation of AG-T3-175 EC against lodging on winter wheat.

Application of AG-T3-175 EC at dose rates: 0.4 l/ha, 0.6 l/ha was performed at 2 application terms: BBCH 31-32 (A/B) and BBCH 31-39 (B/C)

Application of AG-T3-175 EC at dose rate: 0.2 1 l/ha was performed at BBCH 29, application code: A*

Application of AG-T3-175 EC at dose rate: 0.3 l/ha was performed at BBCH 31-32, application code: B*

Applications of AG-T3-175 EC at dose rate: 0.6 l/ha was performed at 2 application terms: BBCH 31-32: code A/B and BBCH 31-39 code BC

Applications of AG-T3-175 EC at split dose rates pattern: 0.3 + 0.3 l/ha, first application at BBCH 31-32 second application at BBCH 31-39, application code: A/B/C

Evaluation is focussing on the plant growth regulator effect sprayed at:

AG-T3-175 EC – 0.2 l/ha application term: 29 BBCH – 4 trials
AG-T3-175 EC – 0.3 l/ha application term: 31 BBCH – 6 trials
AG-T3-175 EC – 0.4 l/ha application term: 31-32 BBCH (A/B) – 11 trials
AG-T3-175 EC – 0.4 l/ha application term: 31-39 BBCH (B/C) – 9 trials
AG-T3-175 EC – 0.6 l/ha application term: 31-32 BBCH (A/B) – 12 trials
AG-T3-175 EC – 0.6 l/ha application term: 31-39 BBCH (B/C) – 9 trials
AG-T3-175 EC – 0.6 l/ha application term: 31-32 BBCH (A/B) – 12 trials
AG-T3-175 EC – 0.3 l/ha + 0.3 l/ha (split dose pattern) application term: first application at BBCH 31-32

second application at BBCH 31-39 - 9 trials.

The reference products included in the trials: Moddus 250 EC applied at 0.4 l/ha or Antywylegacz Płynny 725 SL applied at 2.1 l/ha.

Crop(s) *	Target(s)*	Country	Years	Type of trial**	Number of trials (number of valid trials)		GEP, non-GEP, official***	Comments (any other relevant information)
					Maritime zone	North-Eastern zone		
Winter wheat	Lodging	POLAND	2016-2017	MED + E		11 (11)	GEP	
		POLAND	2016-2017	E		1 (1)	GEP	
TOTAL	-	-	2016 -2017	-		12 (12)	-	

Out of 12 trials lodging was observed on 10 trials.

Oat

In 2016-2017 the total of 3 efficacy trials were conducted in Poland (NE) to evaluate the growth regulatory activity of the formulation AG-T3-175 EC as presented in table below .

Crop(s) *	Target(s)*	Country	Years	Type of trial**	Number of trials (number of valid trials)		GEP, non-GEP, official***	Comments (any other relevant information)
					Maritime zone	North-Eastern zone		
Oat	Lodging	POLAND	2016-2017	E		3 (3)	GEP	
TOTAL	-	-	2016-2017	-	-	3 (3)	-	

Reference products used in trials are presented in Table 3.2 6.
AG-T3-175 EC was tested at several dose rates: 0.4; 0.5; 0.6 l/ha.
Lodging was observed on all 3 trials.

Spring barley
In total 5 efficacy trials are available for efficacy evaluation of AG-T3-175 EC against lodging on spring barley. 2 trials were conducted in Poland (NE), 2016, other 3 trials were conducted in Czech Republic (MAR) in 2104-2017.
In 2 trials conducted in Poland, AG-T3-175 EC was tested at dose rates: 0.4; 0.5; 0.6 l/ha.
Application: BBCH 31-32
In 3 trials conducted in Czech Republic (MAR) AG-T3-175 EC was tested at dose rates: 0.25; 0.3; 0.4; 0.5 and 0.6 l/ha. Application: BBCH 21-34.

Crop(s) *	Target(s)*	Country	Years	Type of trial**	Number of trials (number of valid trials)		GEP, non-GEP, official***	Comments (any other relevant information)
					Maritime zone	North-Eastern zone		
Spring barley	Lodging	POLAND	2016-2017	E	-	2 (2)	GEP	
		CZECH REPUBLIC	2009-2017	MED + E	3 (3)	-	GEP	
TOTAL	-	-	2008-2017	-	3 (3)	2 (2)	-	

Reference products used in the trials are presented in Table 3.2 6.
Lodging was evaluated on 1 trial on spring barley from NE EPPO zone (Poland) and 2 trials on spring

barley from MAR EPPO zone (Czech Republic).
In MAR EPPO zone one trial was not affected by lodging and were therefore excluded from the following analysis (CZ17GEHORVS011A).
In NE EPPO zone two trials were not affected by lodging and were therefore excluded from the following analysis (PL16GEHORVS114B, PL17GEHORVS037B).

Winter barley
In total 6 efficacy trials are available for efficacy evaluation of AG-T3-175 EC against lodging on winter barley.
2 trials were conducted in Poland (NE), 2016, 2 trials were conducted in Czech Republic (MAR) in 2017 and 2 trials were conducted in Germany (MAR) in 2017.
In 2 trials conducted in Poland, AG-T3-175 EC was tested at dose rates: 0.4; 0.6; and 0.9 l/ha.
One application was performed at 2 terms:
treatments with dose rates: 0.4 and 0.6 l/ha – BBCH 31-32 (A)
treatment: 0.9 l/ha - BBCH 37-39 (B)
In total 4 trials were conducted in Maritime EPPO zone, 2 in Czech Republic and 2 in Germany.
AG-T3-175 EC was tested at dose rates: 0.4; 0.6 and 0.8 l/ha
Application: BBCH 31-34 .

Crop(s) *	Target(s)*	Country	Years	Type of trial**	Number of trials (number of valid trials)		GEP, non-GEP, official***	Comments (any other relevant information)
					Maritime zone	North-Eastern zone		
Winter barley	Lodging	POLAND	2016	MED + E		2 (2)	GEP	
		GERMANY	2017	MED + E	2 (2)	-	GEP	
		CZECH REPUBLIC	2017	MED + E	2 (2)	-	GEP	
TOTAL	-	-	2013-2015	-	4 (4)	2 (2)	-	

Reference products used in trials are presented in Table 3.2 6.
Crop height was evaluated in the 2 trials from North-East EPPO zone (Poland) and 4 trials from Maritime EPPO zone: 2 from Czech Republic and 2 from Germany available on winter barley.
Lodging was evaluated in 2 trial from North-East EPPO zone (Poland) and 2 trials from Maritime EPPO zone (Germany) available on winter barley.
All 2 trials were not affected by lodging: CZ17GEHORVW015A and CZ17GEHORVW015B.

Winter rye
In total 6 efficacy trials are available for efficacy evaluation of AG-T3-175 EC against lodging on winter rye. 3 trials were conducted in Poland (NE), 2016, 3 trials were conducted in Germany (MAR) in 2016-2017. In 3 trials conducted in Poland, AG-T3-175 EC was tested at dose rates: 0.3; 0.4 and 0.6 l/ha.
Application: 31-32. In total 3 trials were conducted in Maritime EPPO zone (Germany). AG-T3-175 EC was tested at dose rates: 0.3; 0.4 and 0.6 l/ha.
Application: BBCH 32-39 .

Crop(s) *	Target(s)*	Country	Years	Type of trial**	Number of trials (number of valid trials)		GEP, non-GEP, official***	Comments (any other relevant information)
					Maritime zone	North-Eastern zone		
Winter rye	Lodging	POLAND	2016-2017	MED + E		3 (3)	GEP	
		GERMANY	2016-2017	MED + E	3 (3)	-	GEP	
TOTAL	-	-	2008-2017	-	3 (3)	3 (3)	-	

Reference products used in trials are presented in Table 3.2 6.
Crop height and lodging was evaluated in the 3 trials from North-East EPPO zone (Poland) and 3 trials from Maritime EPPO zone (Germany) available on winter rye.

Winter triticale
In total 5 efficacy trials are available for efficacy evaluation of AG-T3-175 EC against lodging on winter triticale. 2 trials were conducted in Poland (NE) in 2016, 3 trials were conducted in Germany (MAR) in 2014-2016. In 2 trials conducted in Poland, AG-T3-175 EC was tested at dose rates: 0.3; 0.4 ; 0.6 l/ha.
Application: 31-32
In total 3 trials were conducted in Maritime EPPO zone (Germany). AG-T3-175 EC was tested at dose rates: 0.25; 0.3; 0.4 and 0.6 l/ha.
Application: BBCH 31-32

Crop(s) *	Target(s)*	Country	Years	Type of trial**	Number of trials (number of valid trials)		GEP, non-GEP, official***	Comments (any other relevant information)
					Maritime zone	North-Eastern zone		
Winter triticale	Lodging	POLAND	2016	MED + E		2 (2)	GEP	
		GERMANY	2014-2016	MED + E	3 (3)	-	GEP	
TOTAL	-	-	2014-2016	-	3 (3)	2 (2)	-	

Reference products used in trials are presented in Table 3.2 6.
Crop height was evaluated in the 2 trials from North-East EPPO zone (Poland) and 3 trials from Maritime EPPO zone (Germany) available on winter triticale.
Lodging was evaluated in the 2 trials from North-East EPPO zone (Poland), any of the trials from Maritime EPPO zone (Germany) were affected by lodging.

Table 3.2-6: Details on trial methodology

Guidelines	General guidelines	EPPO PP 1/135(4), EPPO PP 1/152(4), EPPO PP 1/181(4)
	Specific guidelines	EPPO PP 1/144(3)
Experimental design	Plot design	TRZAW: RCBD (12),
	Plot size	TRZAW: 25-12 m² HORVS: 17.5-24 m2 AVESA: 17.5-24 m2 HORVW: 12.27 – 24.3 m2 SECCW: 21-30 m2 TTLWI: 17.5-30 m2
	Number of replications	4
Crop	Trials per crop	Winter wheat (12) Winter triticale (5) Winter barley (6) Winter rye (6) Spring barley (5) Oat (3)
	Varieties per crop	Winter wheat: Bamberka, Meteor, Julius, Bogatka, Arkadia, Batuta, Muszelka Winter triticale: KWS Trisol, Twingo, Averdo(2x), Tantris Winter barley: Gloria, Rosita, Meridian, Tenor, Henriette, Sandra Winter rye: Dankowskie Złote, KWS BONO, Agrikolo, SU Composit, Palazzo,

		Brasetto Spring barley: KWS Irina, Stratus, Bojos (2x), Malz Oat: Bingo (x2), komfort
	Sowing period	Winter wheat: 07/10/2015,28/09/2015,25/09/2015,29/09/2016,17/10/2016,26/09/2016,21/09/2016 21/10/2016,17/10/2016,24/09/2016,27/09/2016 Winter triticale: 25/09/2015,17/09/2015,04/10/2013,30/09/2015,23/10/2015 Winter barley: 05/10/2015,30/09/2015,28/09/2016,28/09/2016,24/09/2016, 30/09/2016 Winter rye: 24/09/2016,25/09/2015,17/09/2015, 28/09/2016,25/10/2015 09/10/2015 Spring barley:19/03/2016,05/04/2016, 13/03/2014,16/03/2017, 29/03/2017 Oat: 10/03/2016,24/03/2016,16/03/2017
Application	Crop stage (BBCH)* at application	Winter wheat: BBCH 29-39 Winter triticale: BBCH 31-32 Winter barley BBCH 31-39 Winter rye: BBCH 31-39 Spring barley: BBCH 31-34 Oat: BBCH 31-33
	Timing Pest stage at application (1)	Post-emergence
	Number of applications Intervals between applications	1 n.a.
	Spray volumes	Winter wheat: 230-300 L/ha Oat: 230-250 L/ha Spring barley: 200-300 l/ha Winter barley: 200-300 L/ha Winter rye: 230-300 L/ha Winter triticale: 230-300 L/ha
Assessment	Assessment types	Height (cm), Lodging:lodging area (%), lodging Index Yield and quality: Yield (t/ha; kg/ha; dt/ha), Weight fresh (kg/plot), Number of ears (/m²), Number of grains (/ear), TKW (g), HLW (kg/hL), MOICON (Moisture content) (%), Germination (%), Seedling count: normal , abnormal, dead Phytotoxicity (%), Bleaching (%), Chlorosis (%), Necrosis (%), Stunting (%), Thining (%), Delay (%)
	Assessment dates	TRZAW: BBCH 63-67; BBCH 75-87; BBCH 85-99, AVESA: BBCH 75-85; BBCH 85-97, HORVS: BBCH 75;BBCH 85-97, HORVW: BBCH 77, BBCH 73-92, BBCH 89-99, BBCH 89, SECCW: BBCH 77-85; BBCH 85-99; BBCH 77-89; BBCH 89, TTLWI: BBCH 77-85, BBCH 89-99; BBCH 75
Other relevant information	Soil type	sandy loam, loamy sand, clay, loamy fine sand, sandy silt, clay loam, sandy clay loam, brown soil,loam
	e.g. Natural / artificial	N

	innoculation…	
	e.g. Field / Greenhouse...	F

* BBCH for ~~weeds~~ crops, pre-emergence, preventive / curative application, insect stage…

Efficacy lodging reduction of AG-T3-175 EC applied in winter wheat
Total of 12 trials are available to support the efficacy evaluation of AG-T3-175 EC against lodging on winter wheat.
Tested dose rates:
AG-T3-175 EC – 0.2 l/ha application term: 29 BBCH – 4 trials
AG-T3-175 EC – 0.3 l/ha application term: 31 BBCH – 6 trials
AG-T3-175 EC – 0.4 l/ha application term: 31-32 BBCH (A/B) – 11 trials
AG-T3-175 EC – 0.4 l/ha application term: 31-39 BBCH (B/C) – 9 trials
AG-T3-175 EC – 0.6 l/ha application term: 31-32 BBCH (A/B) – 12 trials
AG-T3-175 EC – 0.6 l/ha application term: 31-39 BBCH (B/C) – 9 trials
AG-T3-175 EC – 0.6 l/ha application term: 31-32 BBCH (A/B) – 12 trials
AG-T3-175 EC – 0.3 l/ha+ 0.3 l/ha (split dose pattern) application term: first application at BBCH 31-32 second application at BBCH 31-39- 9 trials.

The reference products included in the trials: Moddus 250 EC applied at the rate of 0.4 l/ha or Antywylegacz Płynny 725 SL applied at 2.1 l/ha.

Crop height
Crop height was evaluated in all 12 trials available on winter wheat.
Data demonstrated positive effect of 1 application of AG-T3-175 EC at the dose rate range: 0.4–0.6 l/ha on crop height (Table 3.2-11).

Crop height was evaluated in 12 trials available on winter wheat.
AG-T3-175 EC reduced crop height compared to the untreated control (table 3.2-11)
- -9.26 % when sprayed at 0.4 l/ha at BBCH 31-32 (A/B) on 11 trials and – 10.13% sprayed at BBCH 31-39 on 9 trials.
- -10.53% applied at 0.6 l/ha at BBCH 31-32 (A/B) on 12 trials and 13.69% once applied at BBCH 31-39 on 9 trials.
- -12.42% applied at split dose rates pattern: 0.3 l/ha + 0.3 l/ha, first application at BBCH 31-32 second application at BBCH 31-39, on 9 trials

Reference product Moddus 250 EC:
- -10.43% when sprayed at 0.4 l/ha over 4 trials

Reference product Antywylegacz Płynny 725 SL:
- -13.13% when sprayed at 2.1 l/ha over 7 trials

Table 3.2-11 Efficacy of AG-T3-175 EC in winter wheat: crop height (cm) at BBCH 75-87

treatment application code	**UNCK**	**AG-T3-175 EC 0.4 l/ha A/B**	**AG-T3-175 EC 0.4 l/ha B/C**	**AG-T3-175 EC 0.6 l/ha A/B**	**AG-T3-175 EC 0.6 l/ha B/C**	**AG-T3-175 EC 0.3 + 0.3 l/ha A/B/C**	**Moddus 250 EC 0.4 l/ha**	**Antywylegacz Płynny 725 SL 2.1 l/ha**
no. of values	11	11	-	-	-	-	-	-
mean	**104.46**	**94.51**	-	-	-	-	-	-
min	90.50	77.30	-	-	-	-	-	-
max	125.75	116.75	-	-	-	-	-	-
mean UTC	100%	90.74%	-	-	-	-	-	-

no. of values	9	-	9	-	-	-	-	-
mean	**104.11**	-	**93.57**	-	-	-	-	-
min	90.50	-	80.60	-	-	-	-	-
max	125.75	-	113.60	-	-	-	-	-
mean UTC	100%	-	89.87%	-	-	-	-	-
no. of values	12	-	-	12	-	-	-	-
mean	**102.87**	-	-	**92.04**	-	-	-	-
min	84.40	-	-	77.10	-	-	-	-
max	125.75	-	-	108.35	-	-	-	-
mean UTC	100%	-	-	89.47%	-	-	-	-
no. of values	9	-	-	-	9	-	-	-
mean	**104.11**	-	-	-	**89.86**	-	-	-
min	90.50	-	-	-	75.50	-	-	-
max	125.75	-	-	-	107.55	-	-	-
mean UTC	100%	-	-	-	86.31%	-	-	-
no. of values	9	-	-	-	-	9	-	-
mean	**104.11**	-	-	-	-	**91.18**	-	-
min	90.50	-	-	-	-	74.90	-	-
max	125.75	-	-	-	-	110.25	-	-
mean UTC	100%	-	-	-	-	87.58%	-	-
no. of values	4	-	-	-	-	-	4	-
mean	**97.55**	-	-	-	-	-	**87.38**	-
min	90.50	-	-	-	-	-	77.10	-
max	104.70	-	-	-	-	-	97.10	-
mean UTC	100%	-	-	-	-	-	89.57%	-
no. of values	7	-	-	-	-	-	-	7
mean	**105.54**	-	-	-	-	-	-	**91.69**
min	84.40	-	-	-	-	-	-	79.40
max	125.75	-	-	-	-	-	-	106.25
mean UTC	100%	-	-	-	-	-	-	86.87%

Lodging

Lodging was evaluated in 12 trials available on winter wheat. (Table 3.2-12)
2 trials were not affected by lodging and were therefore excluded from the following analysis (PL16GETRZAW112D. PL17GETRZAW050A).

When assessing lodging area, it has been recorded:

- A reduction of 58.14% following 1 application at 0.4 l/ha at BBCH 31-32 on 9 trials and 60.52% when sprayed at BBCH 31-39 on 8 trials
- A reduction of 83.77% following 1 application at 0.6 l/ha at BBCH 31-32 on 10 trials and 83.56% at BBCH 31-39 on 8 trials
- A reduction of 75.51% applied at split dose rates pattern: 0.3 l/ha + 0.3 l/ha, first application at BBCH 31-32 second application at BBCH 31-39, on 8 trials.

Reference product Moddus 250 EC:

- -77.37% when sprayed at 0.4 l/ha over 3 trials

Reference product Antywylegacz Płynny 725 SL:

- -92.34% when sprayed at 2.1 l/ha over 6 trials

Table 3.2-12 Efficacy of AG-T3-175 EC in winter wheat: lodging (LODARE) at BBCH 85-99

treatment application code	**UNCK**	**AG-T3-175 EC 0.4 l/ha A/B**	**AG-T3-175 EC 0.4 l/ha B/C**	**AG-T3-175 EC 0.6 l/ha A/B**	**AG-T3-175 EC 0.6 l/ha B/C**	**AG-T3-175 EC 0.3 + 0.3 l/ha A/B/C**	**AG-T3-175 EC 0.4 l/ha**	**Antywylegacz Plynny 725 SL 2.1 l/ha**
no. of values	9	9	-	-	-	-	-	-
mean	**46.12**	**19.31**	-	-	-	-	-	-
min	12.50	0.00	-	-	-	-	-	-
max	85.00	57.50	-	-	-	-	-	-
mean UTC	100%	41.86%	-	-	-	-	-	-
no. of values	8	-	8	-	-	-	-	-
mean	**44.70**	-	**17.65**	-	-	-	-	-
min	12.50	-	0.00	-	-	-	-	-
max	85.00	-	68.70	-	-	-	-	-
mean UTC	100%	-	39.48%	-	-	-	-	-
no. of values	10	-	-	10	-	-	-	-
mean	**46.26**	-	-	**7.51**	-	-	-	-
min	12.50	-	-	0.00	-	-	-	-
max	85.00	-	-	42.50	-	-	-	-
mean UTC	100%	-	-	16.23%	-	-	-	-
no. of values	8	-	-	-	8	-	-	-
mean	**44.70**	-	-	-	**7.35**	-	-	-
min	12.50	-	-	-	0.00	-	-	-
max	85.00	-	-	-	47.50	-	-	-
mean UTC	100%	-	-	-	16.44%	-	-	-
no. of values	8	-	-	-	-	8	-	-
mean	**44.70**	-	-	-	-	**10.95**	-	-
min	12.50	-	-	-	-	0.00	-	-
max	85.00	-	-	-	-	40.00	-	-
mean UTC	100%	-	-	-	-	24.49%	-	-
no. of values	3	-	-	-	-	-	3	-
mean	**29.6**	-	-	-	-	-	**6.7**	-
min	12.5	-	-	-	-	-	0	-
max	42.5	-	-	-	-	-	11.3	-
mean UTC	100%	-	-	-	-	-	22.63%	-
no. of values	6	-	-	-	-	-	-	6
mean	**54.38**	-	-	-	-	-	-	**4.17**
min	30	-	-	-	-	-	-	0
max	85	-	-	-	-	-	-	22.5
mean UTC	100%	-	-	-	-	-	-	7.66%

Table 3.2-13 lodging index in winter wheat

treatment application code	**UNCK**	**AG-T3-175 EC 0.4 l/ha A/B**	**AG-T3-175 EC 0.4 l/ha B/C**	**AG-T3-175 EC 0.6 l/ha A/B**	**AG-T3-175 EC 0.6 l/ha B/C**	**AG-T3-175 EC 0.3 + 0.3 l/ha A/B/C**	**Moddus 250 EC 0.4 l/ha**	**Antywylegacz Plynny 725 SL 2.1 l/ha**
no. of values	3	-	-	-	-	-	3	-
mean	**29.60**	-	-	-	-	-	**1.93**	-

min	12.50	-	-	-	-	-	0.00	-
max	42.50	-	-	-	-	-	6.52%	-
mean UTC	100%	-	-	-	-	-		-
no. of values	9	9	-	-	-	-	-	-
mean	**29.74**	**11.12**	-	-	-	-	-	-
min	3.80	0.00	-	-	-	-	-	-
max	73.00	38.80	-	-	-	-	-	-
mean UTC	100%	37.36%	-	-	-	-	-	-
no. of values	8	-	8	-	8	8	-	-
mean	**28.59**	-	**9.35**	-	**3.85**	**4.54**	-	-
min	3.80	-	0.00	-	0.00	0.00	-	-
max	73.00	-	40.30	-	28.00	19.50	-	-
mean UTC	100%	-	32.70%	-	13.46%	15.87%	-	-
no. of values	10	-	-	10	-	-	-	-
mean	**28.98**	-	-	**3.63**	-	-	-	-
min	3.80	-	-	0.00	-	-	-	-
max	73.00	-	-	25.50	-	-	-	-
mean UTC	100%	-	-	12.52%	-	-	-	-
no. of values	6	-	-	-	-	-	-	6
nan	**54.38**	-	-	-	-	-	-	2.38
min	30	-	-	-	-	-	-	**0.00**
max	85	-	-	-	-	-	-	13.50
mean UTC	100%	-	-	-	-	-	-	43.76%

Summary

The data demonstrate that the high comparable level of efficacy in plant growth regulator effect: reduction of crop height preventing from lodging provided by AG-T3-175 EC applied at dose range 0.4-0.6 l/ha within BBCH 31-39 and AG-T3-175 EC applied at split dose rates pattern: 0.3 + 0.3 l/ha in winter wheat.

AG-T3-175 EC applied at dose 0.4 l/ha gives reduction of crop height, within application window BBCH 31-39: 9.26-10.13% which stands for 9.95-10.54 cm average crop height reduction in comparison to untreated control.

AG-T3-175 EC applied at dose 0.4 l/ha reduced the mean area lodged by 58.14-60.52% which gives 19.31-17.65% of lodged area on treated plots compare to 46.12-44.70% of lodged area on untreated control.

AG-T3-175 EC applied at dose 0.6 l/ha gives reduction of crop height, within application window BBCH 31-39: 10.53-13.69% corresponding with 10.83–14.25 cm average crop height reduction in comparison to untreated control.

AG-T3-175 EC applied at dose 0.6 l/ha reduced the mean area lodged by 83.77-83.56% which gives 7.51-7.35% of lodged area on treated plots compare to 46.26-44.70% of lodged area on untreated control

AG-T3-175 EC applied at split dose rates pattern: 0.3 + 0.3 l/ha gives reduction of crop height: 12.42% corresponding with 12.93 cm average crop height reduction in comparison to untreated control.

AG-T3-175 EC applied at split dose rates pattern: 0.3 + 0.3 l/ha reduced the mean area lodged by 75.51% which gives 10.95% of lodged area on treated plots compare to 44.70% of lodged area on untreated control

AG-T3-175 EC applied at dose 0.6 l/ha and split dose rates pattern: 0.3 + 0.3 l/ha appeared statistically better than the standard reference product Moddus 250 EC applied at registered dose rate 0.4 l/ha.

AG-T3-175 EC applied at dose 0.6 l/ha is performs better crop height reduction than reference product Antywylegacz Płynny 725 SL applied at registered dose rate: 2.1 l/ha.

The positive performance of AG-T3-175 EC at dose rates range: 0.4-0.6 l/ha as well as, at split dose rates

pattern: 0.3 + 0.3 l/ha on lodged area was confirmed by the calculated lodging index.
Considering all elements presented above, the range of 0.4-0.6 l/ha and at split dose rates pattern: 0.3 + 0.3 l/ha effective reduce lodging in winter wheat.

Lodging reduction of AG-T3-175 EC applied in oats.
In total 3 efficacy trials are available for efficacy evaluation of AG-T3-175 EC against lodging on oat.
In 2 of these trials, AG-T3-175 EC was tested at dose rates: from 0.4; 0.5; 0.6 and 1.2 l/ha. In trial: PL17GEAVESA040A, AG-T3-175 EC was tested only in dose rates 0.6 and 1.2 l/ha.
Application of AG-T3-175 EC at dose rates: 0.4-0.6 l/ha was performed at BBCH 31-33.
The reference products included: Moddus 250 EC applied at 0.4 l/ha.

Crop height
Crop height was evaluated in all 3 trials available on oats.
Data demonstrated positive effect of 1 application of AG-T3-175 EC at dose rates: 0.4-0.6 l/ha on crop height.
Whatever the dose rate considered, AG-T3-175 EC reduced crop height compared to the untreated control (Table 3.2-14) :

- -9.01% when sprayed at 0.4 l/ha over the 2 trials
- -18.39% when sprayed at 0.6 l/ha over the 3 trials

Reference product Moddus 250 EC:

- -14.02% when sprayed at 0.4 l/ha over 2 trials

Table 3.2-14. Efficacy evaluation in oats: crop height (cm) at BBCH 75-85

treatment application code	**UNCK**	**AG-T3-175 EC 0.4 l/ha**	**AG-T3-175 EC 0.6 l/ha**	**Moddus 25 EC 0.4 l/ha**
no. of values	2	2	-	2
mean	**104.90**	**95.45**	-	**90.20**
min	102.60	94.40	-	87.20
max	107.20	96.50	-	93.20
mean UTC	100%	90.99%	-	85.98%
no. of values	3	-	3	-
mean	**104.33**	-	**85.15**	-
min	102.60	-	76.85	-
max	107.20	-	92.40	-
mean UTC	100%	-	81,61%	-

Lodging
Lodging was evaluated in 3 trials available on oats.
On all trials lodging was observed.
When assessing lodging area, it has been recorded:

- A reduction of 20 % following 1 application at 0.4 l/ha on 2 trials
- A reduction of 96.88% following 1 application at 0.6 l/ha on 3 trials

Reference product Moddus 250 EC:

- -78.27% when sprayed at 0.4 l/ha over 2 trials

Table 3.2-15 Efficacy evaluation in oats: lodging area (%) at BBCH 85-97

treatment application code	**UNCK**	**AG-T3-175 EC 0.4 l/ha**	**AG-T3-175 EC 0.6 l/ha**	**Moddus 25 EC 0.4 l/ha**
no. of values	2	2		2
mean	**37.50**	**30.00**	**-**	**8.15**
min	5.00	0.0	-	0.0
max	70.00	60.00	-	16.30
mean UTC	100%	80%	-	21.73%
no. of values	3	-	3	-
mean	**50.83**	**-**	**6.67**	**-**
min	5.00	-	0.0	-
max	77.50	-	12.50	-
mean UTC	100%	-	3.12%	-

Table 3.2-16 lodging index in oats

treatment application code	**UNCK**	**AG-T3-175 EC 0.4 l/ha**	**AG-T3-175 EC 0.6 l/ha**	**Moddus 25 EC 0.4 l/ha**
no. of values	2	2	-	2
mean	**22.65**	**17.15**	**-**	**2.40**
min	2.00	0.0	-	0.0
max	43.30	34.30	-	4.80
mean UTC	100%	75.71%	-	10.59%
no. of values	3	-	3	-
mean	**33.43**	**-**	**1.83**	**-**
min	2.00	-	0.0	-
max	55.00	-	3.50	-
mean UTC	100%	-	0%	-

Summary

The data demonstrate that the highest plant growth regulator effect was provided by AG-T3-175 EC at dose range 0.4-0.6 l/ha.

For AG-T3-175 EC applied at dose rate: 0.4 l/ha a mean reduction of 9.01% and 0.6 l/ha: 18.39% on crop height.

Following one application of AG-T3-175 EC at dose rate range: 0.4-0.6 l/ha, oats measured in average: the height 95.45 cm (0.4 l/ha) versus 104.9 cm in the untreated control and 85.15 cm (0.6 l/ha) versus 104.33 cm in the untreated control.

AG-T3-175 EC at applied at the dose range: 0.4-0.6 l/ha provided a significant reduction of crop height in 3 trials (18.39%) in comparison to the untreated control (in 2 trials 9.01%).

In 3 trials where lodging was observed, the mean percentage of crop lodged area reached 30% and 6.67%. respectively for dose rates: 0.4 l/ha and 0.6 l/ha, following 1 application of AG-T3-175 EC versus 37.50 % in untreated control. This corresponds to a reduction of 20%-96.88% of the lodged surface

The positive performance of AG-T3-175 EC at dose rates range: 0.4 l/ha and 0.6 l/ha, on lodged area was confirmed by the calculated lodging index.

Considering all elements presented above, the range of 0.4–0.6 l/ha is the effective dose to reduce lodging in oats.

Lodging reduction of AG-T3-175 EC applied in spring barley.
In total 5 efficacy trials are available for efficacy evaluation of AG-T3-175 EC against lodging on spring barley. 2 trials were conducted in Poland (NE), 2016, other 3 trials were conducted in Czech Republic (MAR) in 2104-2017.
In 2 trials conducted in Poland, AG-T3-175 EC was tested at dose rates: 0.4; 0.5 and 0.6 l/ha.
Application: BBCH 31-32
In 3 trials conducted in Czech Republic(MAR) AG-T3-175 EC was tested at dose rates: 0.25; 0.3; 0.4; 0.5 and 0.6 l/ha. Application: BBCH 21-34.
Reference products used in trials are presented in Table 3.2 6.
Lodging was evaluated on 1 trial on spring barley from NE EPPO zone (Poland) and 2 trials on spring barley from MAR EPPO zone (Czech Republic) .
In MAR EPPO zone one trial was not affected by lodging and were therefore excluded from the following analysis (CZ17GEHORVS011A).
In NE EPPO zone two trials were not affected by lodging and were therefore excluded from the following analysis (PL16GEHORVS114B).

Crop height
North-East EPPO zone (Poland)
Crop height was evaluated in the 2 trials available on spring barley (Table 3.2.-17).
AG-T3-175 EC reduced crop height compared to the untreated control:
- -9.03% when sprayed at 0.4 l/ha over the 2 trials
- -13.57% when sprayed at 0.6 l/ha over the 2 trials

Reference product Moddus 250 EC:
- -10.13% when sprayed at 0.4 l/ha over 2 trials

Table 3.2.-17 Efficacy evaluation in spring barley (NE): crop height (cm) at BBCH 75

treatment application code	**UNCK**	**AG-T3-175 EC 0.4 l/ha**	**AG-T3-175 EC 0.6 l/ha**	**Moddus 25 EC 0.4 l/ha**
no. of values	2	2	2	2
mean	**72.6**	**66.05**	**62.75**	**65.25**
min	70.5	61	61	62.2
max	74.7	71.1	64.5	68.3
mean UTC	100%	90.97%	86.43%	89.87%

Maritime EPPO zone (Czech Republic)

Crop height was evaluated in the 3 trials available on spring barley.

Crop height was evaluated in the 3 trials available on spring barley (Table 3.2.-18).
AG-T3-175 EC reduced crop height compared to the untreated control:
- -6.26% when sprayed at 0.4 l/ha over the 2 trials
- -14.69% when sprayed at 0.6 l/ha over the 3 trials

Reference product Moddus 250 EC:
- -12.1% when sprayed at 0.4 l/ha over 2 trials

Reference product Calma:
- -12.97% when sprayed at 0.4 l/ha over 2 trials

Table 3.2.-18 Efficacy evaluation in spring barley (MAR): crop height (cm) at BBCH 75-85

treatment application code	**UNCK**	**AG-T3-175 EC 0.4 l/ha**	**AG-T3-175 EC 0.6 l/ha**	**Moddus 25 EC 0.4 l/ha**	**Calma 0.6 l/ha**
no. of values	2	2	-	2	2
mean	**87.08**	**81.63**	-	**76.55**	**75.79**
min	75.40	74.30	-	72.80	72.30
max	98.75	88.95	-	80.30	79.28
mean UTC	100%	93.74%	-	87.90%	87.03%
no. of values	3	-	3	-	-
mean	**86.96**	-	**74.19**	-	-
min	75.40	-	72.20	-	-
max	98.75	-	77.40	-	-
mean UTC	100%	-	85.31%	-	-

Lodging

North-East EPPO zone (Poland)

Lodging was evaluated in 1 trial available on spring barley (Table 3.2.-19)

One trial were not affected by lodging and were therefore excluded from the following analysis (PL16GEHORVS114B).

When assessing lodging area, it has been recorded:

- A reduction of 23.53 % following 1 application at 0.4 l/ha on 1 trial
- A reduction of 77.89% following 1 application at 0.6 l/ha on 1 trial

Reference product Moddus 250 EC:

- -66.12% when sprayed at 0.4 l/ha over 1 trial.

Table 3.2.-19 Efficacy evaluation in spring barley (NE): lodging area (%) at BBCH 89

treatment application code	**UNCK**	**AG-T3-175 EC 0.4 l/ha**	**AG-T3-175 EC 0.6 l/ha**	**Moddus 25 EC 0.4 l/ha**
no. of values	1	1	1	1
mean	**85**	**65**	**18.8**	**28.8**
min	85	65	18.8	28.8
max	85	65	18.8	28.8
mean UTC	100%	76.47%	22.11%	33.88%

Table 3.2.-20 Lodging index spring barley (NE)

treatment application code	**UNCK**	**AG-T3-175 EC 0.4 l/ha**	**AG-T3-175 EC 0.6 l/ha**	**Moddus 25 EC 0.4 l/ha**
no. of values		1	1	1
mean	**66.5**	**49**	**6.3**	**16.5**
min	66.5	49	6.3	16.5
max	66.5	49	6.3	16.5
mean UTC	100%	73.68%	9.47%	24.81%

Maritime EPPO zone (Czech Republic)

Lodging was evaluated in 2 trials available on spring barley (Table 3.2.-21) .

One trial was not affected by lodging and were therefore excluded from the following analysis

(CZ17GEHORVS011A).
When assessing lodging area, it has been recorded:
- -41.67% when sprayed at 0.4 l/ha over the 1 trial
- -97.56% when sprayed at 0.6 l/ha over the 2 trials

Reference product Moddus 250 EC:
- -95.84% when sprayed at 0.4 l/ha over 1 trial

Reference product Calma:
- -100% when sprayed at 0.4 l/ha over 1 trial

Table 3.2.-21 Efficacy evaluation in spring barley (MAR): lodging area (%) at BBCH 87-89

treatment application code	**UNCK**	**AG-T3-175 EC 0.4 l/ha**	**AG-T3-175 EC 0.6 l/ha**	**Moddus 25 EC 0.4 l/ha**	**Calma 0.6 l/ha**
no. of values	1	1	-	1	1
mean	**60**	**35**	-	**2.5**	**0**
min	60	35	-	2.5	0
max	60	35	-	2.5	0
mean UTC	100%	58.33%	-	4.16%	0%
no. of values	2	-	2	-	-
mean	**72.5**	-	**2.5**	-	-
min	60	-	0	-	-
max	85	-	5	-	-
mean UTC	100%	-	3.44%	-	-

Table 3.2.-22 lodging index in spring barley (MAR)

treatment application code	**UNCK**	**AG-T3-175 EC 0.4 l/ha**	**AG-T3-175 EC 0.6 l/ha**	**Moddus 25 EC 0.4 l/ha**	**Calma 0.6 l/ha**
no. of values	1	-	-	-	-
mean	**66.5**	-	-	-	-
min	66.5	-	-	-	-
max	66.5	-	-	-	-
mean UTC	100%	-	-	-	-
no. of values	1	1		1	1
mean	**19.5**	**10.5**		**0**	**0**
min	19.5	10.5		0	0
max	19.5	10.5		0	0
mean UTC	100%	53.84%		0%	0%
no. of values	2	-	2	-	-
mean	**43**	-	**1**	-	-
min	19.5	-	0	-	-
max	66.5	-	2	-	-
mean UTC	100%	-	2.32%	-	-

Summary

The data demonstrate that the highest plant growth regulator effect was provided by AG-T3-175 EC at dose range 0.4 - 0.6 l/ha.

North-East EPPO zone – Poland

For AG-T3-175 EC applied at dose rate: 0.4 l/ha a mean reduction of 9.03% which gives reduction of 6.55 cm average and 0.6 l/ha: 13.57 % corresponding witch 9.85 cm average on crop height comparing to

untreated control.
Efficacy of reference product Moddus 250 EC applied at registered dose rate 0.4 l/ha is placed between efficacy of test item applied at minimum dose rate: 0.4 l/ha, it is slightly better: 1.1% which corresponds with 0.8 cm average and maximum dose rate of test item: 0.6 l/ha which is 3.44% and 2.5 cm better then applied reference.
Regarding influence of AG-T3-175 EC on lodging, based on results from one assessed trial the best effect was observed for AG-T3-175 EC applied at maximum rate: 0. 6 l/ha – -77.89% (18.8% of lodged area), reference product Moddus 250 EC applied at registered dose rate: 0.4 l/ha -66.12% (28.8% of lodged area). AG-T3-175 EC applied at minimum dose rate: 0.4 l/ha gives effect of 23.53% which corresponds with 65% of lodged area in comparison to untreated control with 85% of lodged area.
Maritime EPPO zone (Czech Republic)
Reduction of crop height effect of test item AG-T3-175 EC was compared to untreated control and 2 reference product: Moddus 250 EC applied at registered dose rate: 0.4 l/ha and Calma applied at registered dose rate: 0.6 l/ha which corresponds with AG-T3-175 EC applied at maximum dose: 0.6 l/ha as both products contain the same active substance at the same concentration: 175 g/l.
AG-T3-175 EC applied at dose rate range: 0.4-0.6 l/ha gives crop height reduction effect , respectively: 23.53% - 5.45 cm average and 11.69% - 12.77 cm average in comparison to untreated control.
The result obtain by maximum dose rate of test item is 2.59% and 2.24 cm better the results of reference product Moddus 250EC and comparable with results of application of reference product Calma.
Regarding influence on lodging, the best effect observed for reference product Calma applied at dose rate 0.6 l/ha – 100% of efficacy – 0% (60% of lodged area on untreated control) of lodging but results obtain just from one trial.
The best effect of test item AG-T3-175 EC was observed for maximum dose rate: 0.6 l/ha: -97.56% (72.5% lodged area on untreated control) which is slightly better than results of application of reference product Moddus 250 EC. AG-T3-175 EC applied at minimum dose rate: 0.4 l/ha gives the effect of 41.67% reduction in lodging in comparison to untreated control.
The positive performance of AG-T3-175 EC at dose rates range: 0.4 l/ha and 0.6 l/ha, in both North- East and Maritime EPPO zone, on lodged area was confirmed by the calculated lodging index.
Results obtain for North-East and Maritime EPPO zone by application of test item AG-T3-175 EC in crop height reduction and reduction of lodging in spring barley are comparable.

Lodging reduction of AG-T3-175 EC applied in winter barley.
In total 6 efficacy trials are available for efficacy evaluation of AG-T3-175 EC against lodging on winter barley.
2 trials were conducted in Poland (NE), 2016, 2 trials were conducted in Czech Republic (MAR) in 2017 and 2 trials were conducted in Germany (MAR) in 2017.
In 2 trials conducted in Poland, AG-T3-175 EC was tested at dose rates: 0.4; 0.6 and 0.9 l/ha.
One application was performed at 2 terms:
treatments with dose rates: 0.4 and 0.6 l/ha – BBCH 31-32 (A)
treatment: 0.9 l/ha - BBCH 37-39 (B)
In total 4 trials were conducted in Maritime EPPO zone, 2 in Czech Republic and 2 in Germany.
AG-T3-175 EC was tested at dose rates: 0.4; 0.6 and 0.8 l/ha.
Application: BBCH 31-34 .
Reference products used in trials are presented in Table 3.2 6.
Crop height was evaluated in the 2 trials from North-East EPPO zone (Poland) and 4 trials from Maritime EPPO zone: 2 from Czech Republic and 2 from Germany available on winter barley.
Lodging was evaluated in 2 trial from North-East EPPO zone (Poland) and 2 trials from Maritime EP-PO zone (Germany) available on winter barley.
All 2 trials were not affected by lodging: CZ17GEHORVW015A and CZ17GEHORVW015B.

Crop height
North-East EPPO zone (Poland)
Crop height was evaluated in the 2 trials available on winter barley (Table 3.2.-23).

AG-T3-175 EC reduced crop height compared to the untreated control:

- -8.06% when sprayed at 0.6 l/ha over the 2 trials
- -12.25% when sprayed at 0.9 l/ha over the 2 trials

Reference product Moddus 250 EC:

- -8.25% when sprayed at 0.6 l/ha over 2 trials

Table 3.2.-23 Efficacy evaluation in winter barley (NE): crop height (cm) at BBCH 77

treatment application code	**UNCK**	**AG-T3-175 EC 0.6 l/ha**	**AG-T3-175 EC 0.9 l/ha**	**Moddus 25 EC 0.6 l/ha**
no. of values	2	2	2	2
mean	**108.6**	**99.85**	**95.3**	**99.65**
min	99.8	90.7	88.3	92
max	117.4	109	102.3	107.3
mean UTC	100%	91.94%	87.75%	91.75%

Maritime EPPO zone (Czech Republic and Germany)
Crop height was evaluated in the 4 trials: 2 from Czech Republic and 2 from Germany available on winter barley. Data presented in Table 3.2-24.

AG-T3-175 EC reduced crop height compared to the untreated control:

- -8.98% when sprayed at 0.6 l/ha over the 4 trials
- -12.05% when sprayed at 0.8 l/ha over the 4 trials

Reference product Moddus 250 EC:

- -11.01% when sprayed at 0.8 l/ha over 4 trials

Reference product Calma:

- -11.89% when sprayed at 0.8 l/ha over 2 trials

Table 3.2.-24 Efficacy evaluation in winter barley (MAR): crop height (cm) at BBCH 73-92

treatment application code	**UNCK**	**AG-T3-175 EC 0.6 l/ha**	**AG-T3-175 EC 0.8 l/ha**	**Moddus 25 EC 0.8 l/ha**	**Calma 0.8 l/ha**
no. of values	4	4	4	4	-
mean	**100.85**	**91.8**	**88.7**	**89.75**	-
min	80.2	73	67.7	64.4	-
max	126.6	119.7	116.2	113	-
mean UTC	100%	91.02%	87.95%	88.99%	-
no. of values	2	-	-	-	2
mean	**118.6**	-	-	-	**104.5**
min	110.6	-	-	-	94.3
max	126.6	-	-	-	114.7
mean UTC	100%	-	-	-	88.11%

Lodging
North-East EPPO zone (Poland)

Lodging was evaluated in 2 trial available on winter barley. All 2 trials were affected by lodging
Results presented in Table 3.2.-25

When assessing lodging area, it has been recorded:

- A reduction of 52% following 1 application at 0.6 l/ha on 2 trials

- A reduction of 79.17% following 1 application at 0.9 l/ha on 2 trials

Reference product Moddus 250 EC:

- -68.67% when sprayed at 0.6 l/ha over 2 trials.

Table 3.2.-25 Efficacy evaluation in winter barley (NE): lodging area (%) at BBCH 89-99

treatment application code	**UNCK**	**AG-T3-175 EC 0.6 l/ha**	**AG-T3-175 EC 0.9 l/ha**	**Moddus 25 EC 0.6 l/ha**
no. of values	2	2	2	2
mean	30	14.4	6.25	9.4
min	12.5	0	0	0
max	47.5	28.8	12.5	18.8
mean UTC	100%	48%	20.83%	31.33%

Table 3.2.-26 Lodging index in winter barley (NE)

treatment application code	**UNCK**	**AG-T3-175 EC 0.6 l/ha**	**AG-T3-175 EC 0.9 l/ha**	**Moddus 25 EC 0.6 l/ha**
no. of values	2	2	2	2
mean	**14.79**	**6.15**	**2**	**4.25**
min	4.38	0	0	0
max	25	12.3	4	8.5
mean UTC	100%	41.86%	13.56%	28.93%

Maritime EPPO zone (Czech Republic and Germany)
Lodging was evaluated in 2 out of 4 trials available on winter barley.
All 2 trials were not affected by lodging: CZ17GEHORVW015A and CZ17GEHORVW015B.
Results presented in Table 3.2.-26

When assessing lodging area, it has been recorded:

- A reduction of 61.01% following 1 application at 0.6 l/ha on 2 trials
- A reduction of 43.24% following 1 application at 0.8 l/ha on 2 trials

Reference product Moddus 250 EC:

- -58.22% when sprayed at 0.8 l/ha over 2 trials

Reference product Calma:

- -48.75% when sprayed at 0.8 l/ha over 2 trials

Table 3.2.-27 Efficacy evaluation in winter barley (MAR): lodging (%) at BBCH 89

treatment application code	**UNCK**	**AG-T3-175 EC 0.6 l/ha**	**AG-T3-175 EC 0.8 l/ha**	**Moddus 25 EC 0.8 l/ha**	**Calma 0.8 l/ha**
no. of values	2	2	2	2	2
mean	**89.75**	**35**	**50.95**	**37.5**	**46**
min	89.5	0	33.2	25	34.5
max	90	70	68.7	50	57.5
mean UTC	100%	38.99%	56.76%	41.78%	51.25%

Table 3.2.-28 lodging index in winter barley (MAR)

treatment application code	**UNCK**	**AG-T3-175 EC 0.6 l/ha**	**AG-T3-175 EC 0.8 l/ha**	**Moddus 25 EC 0.8 l/ha**
no. of values	2	2	2	2
mean	**76.35**	**25.5**	**29.25**	**18.65**
min	72	0	10.2	7.3
max	80.7	51	48.3	30
mean UTC	100%	33.39%	38.31%	24.42%

Summary
The data demonstrate that the highest plant growth regulator effect was provided by AG-T3-175 EC at dose range 0.6 - 0.9 l/ha.
North-East EPPO zone – Poland
Application of AG-T3-175 EC at minimum dose rate: 0.6 l/ha mean reduction of 8.06% which corresponds with 8.75 cm reduction of crop height average in comparison with untreated control and is less than 1% and less than 0.5 cm worse than results obtain from of reference product Moddus 250 EC applied at registered dose rate: 0.6 l/ha. Application of AG-T3-175 EC at maximum dose rate: 0.9 l/ha mean reduction 12.95% which corresponds with 13.3 cm reduction of crop height average in comparison to untreated control and this result is 4% and 4.35 cm better then result obtain from application of reference product Moddus 250 EC applied at registered dose rate.
Regarding influence of AG-T3-175 EC on lodging, based on results from 2 assed trials the best effect was observed for AG-T3-175 EC applied at maximum rate: 0.9 l/ha – -79.17% (6.25% of lodged area), reference product Moddus 250 EC applied at registered dose rate: 0.6 l/ha -68.67% (9.4% of lodged area). AG-T3-175 EC applied at minimum dose rate: 0.6 l/ha gives effect of 52% which corresponds with 14.4% of lodged area in comparison to untreated control with 30% of lodged area.
Maritime EPPO zone (Germany)
Reduction of crop height effect of test item AG-T3-175 EC was compared to untreated control and 2 reference product: Moddus 250 EC applied at registered dose rate: 0.8 l/ha (4 trials) and Calma applied at registered dose rate: 0.8 l/ha (2 trials) which corresponds with AG-T3-175 EC applied at maximum dose: 0.8 l/ha as both products contain the same active substance at the same concentration: 175 g/l.
AG-T3-175 EC applied at dose rate range: 0.6-0.8 l/ha gives crop height reduction effect, respectively: 8.98% - 9.05 cm average and 12.05% - 12.15 cm average in comparison to untreated control.
The result obtain by dose rate: 0.8 l/ha of test item is comparable with results obtain from both reference products: Moddus 250 EC and Calma.
Regarding influence on lodging, the best effect observed for reference AG-T3-175 EC applied at dose rate 0.6 l/ha reduction of 61.01% compared to untreated control (89.75% of lodged area on untreated control) and was slightly lower then effect of application of reference product Moddus 250 EC.

The positive performance of AG-T3-175 EC at dose rates range: 0.6 l/ha and 0.9 l/ha, in both North- East and Maritime EPPO zone, on lodged area was confirmed by the calculated lodging index.
Results obtain for North-East and Maritime EPPO zone by application of test item AG-T3-175 EC in crop height reduction and reduction of lodging in winter barley are comparable .

Lodging reduction of AG-T3-175 EC applied in winter rye.
In total 6 efficacy trials are available for efficacy evaluation of AG-T3-175 EC against lodging on winter rye. 3 trials were conducted in Poland (NE), 2016, 3 trials were conducted in Germany (MAR) in 2016-2017. In 3 trials conducted in Poland, AG-T3-175 EC was tested at dose rates: 0.3; 0.4 and 0.6 l/ha.
Application: 31-32
In total 3 trials were conducted in Maritime EPPO zone (Germany). AG-T3-175 EC was tested at dose rates: 0.3; 0.4 and 0.6 l/ha.
Application: BBCH 32-39 .

Crop Height
North-East EPPO zone(Poland)
Crop height was evaluated in the 3 trials available on winter rye.
Data presented in Table 3.2.-27.

AG-T3-175 EC reduced crop height compared to the untreated control:
– -15.65% when sprayed at 0.6 l/ha over the 3 trials
Reference product Moddus 250 EC:
– -10.49% when sprayed at 0.3 l/ha over 2 trials

Table 3.2.-29 Efficacy evaluation in winter rye (NE): crop height (cm) at BBCH 77-85

Treatment, application code	**UNCK**	**AG-T3-175 EC 0.6 l/ha**	**Moddus 25 EC 0.3 l/ha**
no. of values	2	-	2
mean	**152.15**	-	**136.2**
min	140.1	-	127.1
max	164.2	-	145.3
mean UTC	100%	-	89.51%
no. of values	3	3	-
mean	**145.93**	**123.1**	-
min	133.5	113.5	-
max	164.2	139.5	-
mean UTC	100%	84.35%	-

Maritime EPPO zone (Germany)
Crop height was evaluated in the 3 trials from Germany available on winter rye.
Data presented in Table 3.2-28.

AG-T3-175 EC reduced crop height compared to the untreated control:
– -18.02% when sprayed at 0.6 l/ha over the 3 trials
Reference product Moddus 250 EC:
– -15.27% when sprayed at 0.3 l/ha over 3 trials

Table 3.2.-30 Efficacy evaluation in winter rye (MAR): crop height (cm) at BBCH 77-89

treatment application code	**UNCK**	**AG-T3-175 EC 0.6 l/ha**	**Moddus 25 EC 0.3 l/ha**
no. of values	3	3	3
mean	**160.97**	**131.97**	**136.40**
min	152.80	117.20	115.40
max	174.90	139.60	152.20
mean UTC	100%	81.98%	84.73%

Lodging
North-East EPPO zone(Poland)
Lodging was evaluated in 3 trials available on winter rye.
All 3 trials were affected by lodging
Results presented in Table 3.2-29

When assessing lodging area, it has been recorded:
– A reduction of 100% following 1 application at 0.6 l/ha on 3 trials

Reference product Moddus 250 EC:
– -91.5 % when sprayed at 0.3 l/ha over 2 trials

Table 3.2.-31 Efficacy evaluation in winter rye (NE): lodging (%) at BBCH 89-99

treatment application code	**UNCK**	**AG-T3-175 EC 0.6 l/ha**	**Moddus 25 EC 0.3 l/ha**
no. of values	2	-	2
mean	**29.40**	-	**2.50**
min	23.80	-	0.00
max	35.00	-	5.00
mean UTC	100%	-	8.50%
no. of values	3	3	-
mean	**25.03**	**0.00**	-
min	16.30	0.00	-
max	35.00	0.00	-
mean UTC	100%	0%	-

Table 3.2.-32 lodging index in winter rye (NE)

treatment application code	**UNCK**	**AG-T3-175 EC 0.6 l/ha**	**Moddus 25 EC 0.3 l/ha**
no. of values	2	-	2
mean	**17.90**	-	**0.65**
min	11.00	-	0.00
max	24.80	-	1.30
mean UTC	100%	-	3.63%
no. of values	3	3	-
mean	**22.77**	**0.00**	-
min	11.00	0.00	-
max	32.50	0.00	-
mean UTC	100%	0%	-

Maritime EPPO zone (Germany)
Lodging was evaluated in 3 trials available on winter rye.
All 3 trials were affected by lodging
Results presented in Table 3.2-30
When assessing lodging area, it has been recorded:
– A reduction of 51.67% % following 1 application at 0.6 l/ha on 3 trials

Reference product Moddus 250 EC:
– -30.83% when sprayed at 0.3 l/ha over 3 trials

Table 3.2.-33 Efficacy evaluation in winter rye (MAR): lodging (%) at BBCH 89

treatment application code	**UNCK**	**AG-T3-175 EC 0.6 l/ha**	**Moddus 25 EC 0.3 l/ha**
no. of values	3	3	3
mean	**100.00**	**48.33**	**69.17**
min	100.00	20.00	25.00

max	100.00	75.00	100.00
mean UTC	100%	48.33%	69.17%

Table 3.2.-34 Lodging index in winter rye (MAR)

treatment application code	**UNCK**	**AG-T3-175 EC 0.6 l/ha**	**Moddus 25 EC 0.3 l/ha**
no. of values	3	3	3
mean	**87.45**	**31.50**	**33.68**
min	83.00	22.50	16.30
max	94.35	48.50	48.25
mean UTC	100%	36.02%	38.51%

Summary
The data demonstrate that the highest plant growth regulator effect was provided by AG-T3-175 EC at dose :0.6 l/ha.
North-East EPPO zone – Poland
Application of AG-T3-175 EC at dose rate: 0.6 l/ha mean reduction of 15.65% which corresponds with 22.83 cm reduction of crop height average in comparison with untreated control and over 5% and 6.9 cm more than results obtain from reference product Moddus 250 EC applied at registered dose rate: 0.3 l/ha.
Regarding influence of AG-T3-175 EC on lodging, based on results from 3 assed trials AG-T3-175 EC applied at dose rate: 0.6 l/ha gives 100% efficacy in protecting crop from lodging (UTC 25.03% of lodged area). Reference product Moddus 250 EC applied at registered dose rate: 0.3 l/ha shows -91.5% efficacy (UTC 29.40% of lodged area)
Maritime EPPO zone (Germany)
Application of test item AG-T3-175 EC at dose rate 0.6 l/ha in comparison to untreated control shows efficacy: 18.02% which corresponds with 29 cm of crop height reduction was compared to untreated control.
Reference product: Moddus 250 EC applied at registered dose rate: 0.3 l/ha mean reduction 15.27% which stands for 24.57 cm reduction of crop height average.
Regarding influence on lodging, the best effect observed for AG-T3-175 EC applied at dose rate 0.6 l/ha reduction of 51.67% which means 48.33% of lodged are compared to 100% of lodged are on untreated control. Reference product Moddus 250 EC applied at dose rate 0.3 l/ha gives reduction 30.83% which means 69.17% of lodged area compared to 100% of lodged are on untreated control.
The positive performance of AG-T3-175 EC at dose rate: 0.6 l/ha, in both North- East and Maritime EPPO zone ,on lodged area was confirmed by the calculated lodging index
Results obtain for North- East and Maritime EPPO zone by application of test item AG-T3-175 EC in crop height reduction and reduction of lodging in winter rye are comparable .

Lodging reduction of AG-T3-175 EC applied in winter triticale.
In total 5 efficacy trials are available for efficacy evaluation of AG-T3-175 EC against lodging on winter triticale. 2 trials were conducted in Poland (NE) in 2016, 3 trials were conducted in Germany (MAR) in 2014-2016. In 2 trials conducted in Poland, AG-T3-175 EC was tested at dose rates: 0.3; 0.4 and 0.6 l/ha.
Application: BBCH 31-32
In total 3 trials were conducted in Maritime EPPO zone (Germany). AG-T3-175 EC was tested at dose rates: 0.25; 0,3; 0.4 and 0.6 l/ha.
Application: BBCH 31-32
Reference products used in trials are presented in Table 3.2 6.
Crop height was evaluated in the 2 trials from North-East EPPO zone (Poland) and 3 trials from Maritime EPPO zone (Germany) available on winter triticale.
Lodging was evaluated on 2 trials from North-East EPPO zone (Poland), any of the trials from Maritime EPPO zone (Germany) were affected by lodging.

Crop Height

North-East EPPO zone(Poland)
Crop height was evaluated in the 2 trials available on winter triticale.
Data presented in Table 3.2.-31.

AG-T3-175 EC reduced crop height compared to the untreated control:
– -12.4% when sprayed at 0.6 l/ha over the 2 trials
Reference product Moddus 250 EC:
– -11.04% when sprayed at 0.6 l/ha over 2 trials

Table 3.2.-35 Efficacy evaluation in winter triticale (NE): crop height (cm) at BBCH 77-85

treatment application code	**UNCK**	**AG-T3-175 EC 0.6 l/ha**	**Moddus 25 EC 0.6 l/ha**
no. of values	2	2	2
mean	**94.7**	**82.45**	**84.25**
min	75.3	65.3	71.2
max	114.1	99.6	97.3
mean UTC	100%	87.06%	88.96%

Maritime EPPO zone (Germany)
Crop height was evaluated in the 3 trials from Germany available on winter triticale.
Data presented in Table 3.2-32.

AG-T3-175 EC reduced crop height compared to the untreated control:
– -6.15% when sprayed at 0.6 l/ha over the 3 trials
Reference product Moddus 250 EC:
– -6.42% when sprayed at 0.6 l/ha over 2 trials

Table 3.2.-36 Efficacy evaluation in winter triticale (MAR): crop height (cm) at BBCH 75

treatment application code	**UNCK**	**AG-T3-175 EC 0.6 l/ha**	**Moddus 25 EC 0.6 l/ha**
no. of values	2	-	2
mean	**114.60**	**-**	**107.25**
min	112.70	-	104.80
max	116.50	-	109.70
mean UTC	100%	-	93.58%
no. of values	3	3	-
mean	**112.73**	**105.80**	-
min	109.00	103.50	-
max	116.50	109.20	-
mean UTC	100%	93.85%	-

Lodging
North-East EPPO zone(Poland)
Lodging was evaluated in 2 trials available on winter triticale.
All 2 trials were affected by lodging
Results presented in Table 3.2-33

When assessing lodging area, it has been recorded:
– A reduction of 100% following 1 application at 0.6 l/ha on 2 trials
Reference product Moddus 250 EC:

– 100% when sprayed at 0.6 l/ha over 2 trials

Table 3.2.-37 Efficacy evaluation in winter triticale (NE): lodging (%) at BBCH 89-99

treatment application code	**UNCK**	**AG-T3-175 EC 0.6 l/ha**	**Moddus 25 EC 0.6 l/ha**
no. of values	2	2	2
mean	**13.75**	**0**	**0**
min	5	0	0
max	22.5	0	0
mean UTC	100%	0%	0%

Table 3.2.-38 lodging index winter triticale (NE)

treatment application code	**UNCK**	**AG-T3-175 EC 0.6 l/ha**	**Moddus 25 EC 0.6 l/ha**
no. of values	2	2	2
mean	**5.15**	**0**	**0**
min	2.3	0	0
max	8	0	0
mean UTC	100%	0%	0%

Maritime EPPO zone (Germany)
Any of 3 trials were affected by lodging

Summary
The data demonstrate that the highest plant growth regulator effect was provided by AG-T3-175 EC at dose: 0.6 l/ha.
North-East EPPO zone – Poland
Application of AG-T3-175 EC at dose rate: 0.6 l/ha mean reduction of 12.4% which corresponds with 12.29 cm reduction of crop height average in comparison with untreated control and it is slightly higher then results obtain from of reference product Moddus 250 EC applied at registered dose rate: 0.6 l/ha.
Regarding influence of AG-T3-175 EC on lodging, based on results from 2 assed trials both AG-T3-175 EC applied at dose rate: 0.6 l/ha and Moddus 250 EC applied at registered dose rate: 0.6 l/ha, gave 100% efficacy in protecting crop from lodging (UTC 13.75% of lodged area).
Maritime EPPO zone (Germany)
Application of test item AG-T3-175 EC at dose rate 0.6 l/ha in comparison to untreated control shows efficacy: 6.15% which corresponds with 6.93 cm ~~cm~~ of crop height reduction was compared to untreated control.
Reference product: Moddus 250 EC applied at registered dose rate: 0.6 l/ha mean reduction 6.42% which stands for 7.35cm cm reduction of crop height average. Any of 3 trials from Maritime EPPO zone (Germany) were affected by lodging thus was not evaluated.
The positive performance of AG-T3-175 EC at dose rate: 0.6 l/ha, in North-East EPPO zone, on lodged area was confirmed by the calculated lodging index.
Results obtain for North-East and Maritime EPPO zone by application of test item AG-T3-175 EC in crop height reduction and reduction of lodging in winter triticale are comparable .

Minor use

n.a

Comments of zRMS:	**Efficacy** The efficacy of plant growth regulator ADM.09050.H.1.A (AG-T3-175 EC) was determine in 37 trials carried out in Poland (North-East EPPO zone), Germany and Czech Republic (Maritime EPPO zone). The efficacy was tested in winter wheat (12 trials in Poland), winter barley (2 trials in PL, 2 in DE and 2 in CZ), spring barley (2 trials in PL, 3 in CZ), winter rye (3 trials in PL, 3 in DE), winter triticale (2 trials in PL, 3 in DE) and in oat (3 trials in PL). In total 24 trials were conducted in Poland and 13 trials in Maritime EPPO zone (DE and CZ). The activity of AG-T3-175 EC was compared to the products containing the active substance trinexapac-ethyl (175 or 250 g/L) and chloromekwate chloride (725 g/L). All the trials were carried out by organizations officially recognized by authorities of relevant countries, for efficacy testing of plant protection products, according to GEP, in accordance with EPPO general guidelines: PP1/135(4), PP1/152(4), PP1/181(4) and specific EPPO standard PP 1/144(3) "Reduction of lodging in cereals and maize". The applicant submitted the efficacy data for doses intended for registration and some additional data for lower or higher doses than intended to registration. For assessment the data for doses intended for registration were used only, and the data of remaining doses were treated as supplementary data. Some trials were not affected by lodging, therefore they were excluded from the assessment. **Winter wheat** (12 trials; 10 with lodging) AG-T3-175 EC (ADM.09050.H.1.A) was used at the rates of 0.2; 0.3; 0.4; 0.6 L/ha in one treatment and with split application method at the rates of 0.3 + 0.3 L/ha. The critical GAP for winter wheat in EU include the intended rate of 0.5 L/ha and for Poland 0.4-0.6 L/ha in one treatment or 0.3 + 0.3 L/ha, as split application method. In the trials the winter wheat plants height was reduced by 9.3-13.7% after one treatment of PGR and 12.4% after split application and the lodging area was reduced by 58.1-83.8% after one treatment and by 75.5% after split application. The plant height reduction by AG-T3-175 EC at the rate of 0.6 L/ha was higher than after the use of both reference growth regulators: Moddus 250 EC and Antywylegacz Płynny 725 SL, while lodging area reduction was greater compared to Moddus 250 EC and slightly lower than after using of Antywylegacz Płynny 725 SL. **Oat** (3 trials in PL; valid - all). In oat the growth regulator was tested at the rates of: 0.4, 0.5 and 0.6 L/ha, intended for registration. The lodging was observed in all trials, so all trials are valid. The results show the lower crop height after PGR treatment, compared to untreated plots – it was reduced by 9% after the use of 0.4 L/ha and by 18.4% after 6 l/ha. The effect was better in comparison to reference product, too. The lodging area was reduced by 20% after the use of 4 l/ha and by 96.9% after 6 l/ha. Thus, the higher dose rate of PGR gave much better effects than lower ones. **Spring barley** (5 trials) In spring barley AG-T3-175 EC (ADM.09050.H.1.A) was tested at the rates of 0.4; 0.5; 0.6 L/ha in 2 trials (PL) and at 0.25; 0.3; 0.4; 0.5 and 0.6 L/ha in 3 trials (CZ). The critical GAP for spring barley in EU include the rate of 0.6 L/ha and the intended uses for Poland is 0.4-0.6 L/ha. In the trials carried out in Poland the crop height was reduced by 9% after the use of PGR at the rate of 0.4 L/ha to 13.6% after 0.6 l/ha and in Maritime zone by 6.3-14,7%, respectively. In both zones the results obtained after the maximum dose were better than after application of standard product. The lodging was not effected in 2 trials in N-E EPPO zone and in 1 trial in Maritime zone, therefore these trials were excluded from the

	analysis of lodging area. In remain trials the lodging area in N-E zone was reduced by 23.5% after the use the PGR at the rate of 0.4 L/ha and by 77.9% after the use of rate 0.6 L/ha , while in Maritime zone by 41.7-95.8%, respectively. **Winter barley** (6 trials, valid - 4) In winter barley tested PGR was used at the rates of 0.4; 0.6; 0.9 L/ha in 2 trials conducted in PL and 0.4; 0.6; and 0.8 L/ha in 4 trials in Maritime zone (CZ - 2; DE - 2). Two of the trials were not affected by lodging, so were executed from assessment of lodging area. The critical GAP for winter wheat in EU include the intended rate of 0.5 L/ha and for Poland the intended use is 0.6-0.9 L/ha in one treatment. In the trials carried out in Poland the crops height reduction ranged from 8.1% after the use of PGR at the rate of 0.6 L/ha to 12.3% after the rate of 0.9 l/ha and in Maritime zone from 9% to 12.1%, respectively. The reference product in Poland caused the height reduction close to the lower dose of tested PGR, while in Maritime zone both reference products reduced the height similarly to higher dose of PGR. Lodging area was reduced by PGR from 52 to 79.2% in Poland (N-E zone and from 43.2% to 61% in Maritime zone. **Winter rye** (6 trials, valid – all) In all trials in winter rye (3 in PL, 3 in DE) the tested PGR was used at the rates of 0.3; 0.4 and 0.6 L/ha. The intended rate for winter rye in Poland is 0.6 L/ha in one treatment. In the trials carried out in Poland the average crops height reduction by PGR applied at the rate of 0.6 l/ha was 15.7% (by standard 10.5%) and in Maritime zone 18% (standard – 15.3%). The lodging area was not observed (100% reduction) in N-E zone and was reduced of 51.7% in Maritime zone, while the standard product has reduced the lodging area by 95.1% and 30.8%, respectively. The results show the highest effect caused by tested PGR than by reference product. **Winter triticale** (5 trials, valid – 2 from N-E) In winter triticale the PGR was tested in 2 trials conducted in PL, at the rates of 0.3; 0.4; 0.6 L/ha and in 3 trials carried out in Maritime zone (DE), at the rates of 0.25; 0.3; 0.4; and 0.6 L/ha. The intended dose of tested PGR for Poland is 0.6 L/ha. In the trials carried out in Maritime zone the lodging was not observed, so the crop heights was measured only. In the trials carried out in Poland the crops height reduction was 12.4% (standard 11%) after the use of PGR at the rate of 0.6 L/ha and 6.2% in Maritime zone (standard 6.4%). The results were compared. The lodging area reduction in Poland by tested PGR and reference product amounted 100%. In winter wheat, winter barley, spring barley and winter triticale some trials were not affected by lodging, therefore they were excluded from the analysis. Lodging was observed in all trials in oat and winter rye. The trials in which the lodging was observed were chosen as valid. For assessment the results for doses intended for registration were used only, and the remaining doses were treated as supplementary data. Taking into account the presented data, ZRMS suggests the registration of plant growth regulator ADM.09050.H.1.A in Poland within the scope given in the GAP table. **Conclusion**. ZRMS recommends to extend the ADM.09050.H.1.A (AG-T3-175 EC) registration in Poland for winter wheat, winter barley, spring barley, winter rye, winter triticale and spring oat. The data show comparable efficacy of ADM.09050.H.1.A to reference products and sufficient number of the trials for the extend of registration. ADM.09050.H.1.A (AG-T3-175 EC) can be registered in Poland as post-emergence application in winter wheat at the rates of 0.4-0.6 L/ha at the growth stages BBCH 29-39 in one treatment and with split application method (BBCH 31-39), in winter barley at 0.6-0.9 L/ha (BBCH 31-39), in spring barley at 0.4-0.6 L/ha (BBCH 30-34), in winter rye at 0.6 L/ha (BBCH 31-39), in winter triticale at 0.6 L/ha (BBCH 31-32) and in spring oat at 0.4-0.6 L/ha (BBCH 31-33).

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

n.a

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

AG-T3-175 EC is a plant growth regulator containing the active substance Trinexapac-ethyl.
Trinexapac-ethyl acts as an inhibitor of the action of a key enzyme in the formation of gibberellic acid (GA1), preventing the formation of the plant growth regulator gibberellins, which promotes cell elongation. In the absence of gibberellins the internodes of the plants fail to grow and prevent the plant from growing taller.
No case of resistance (or in this case, rather increased tolerance) was reported in the literature so far.

Comments of zRMS:	**Resistance** The action of trinexapac-ethyl was shortly and enough described by applicant. This active substance is include in tested growth regulator AG-T3-175 EC and many others growth regulators registered in Poland and other countries. It means it is often used in cereal crops and considering the frequency of cereal cultivation in crop rotation, the risk of resistance development e.g. in comparison to fungicides should be significant, meanwhile no case of resistance (rather increased tolerance) was reported in the literature so far. Trinexapac-ethyl for the first time was registered in Poland in August 2010. Trinexapac-ethyl inhibits the gibberellin biosynthesis which leads to a reduced elongation of the basal or upper internodes and thus a reduction of crop height. This together with increased stem diameter results in reduction of lodging and maintains high quality of yield. ZRMS states that the risk for development of resistance in cereals is low and does not consider it necessary to include the resistance development strategy in the label. The introduction of growth regulator ADM.09050.H.1.A (AG-T3-175 EC) on the market will not lead to an increased risk of resistance. **Conclusion**. Considering that trinexapac-ethyl is used for many years in Europe as an active substance of many products available on the market, and no resistance of cereal crops on this substance wa snoted, the introduction of ALB135 on the market will not increase the risk of resistance.

3.4 Adverse effects on treated crops (KCP 6.4)

3.4.1 Phytotoxicity to host crop (KCP 6.4.1)

Oats
In total 3 efficacy trials are available for efficacy evaluation of AG-T3-175 EC against lodging on oats.
In 2 of these trials, AG-T3-175 EC was tested at dose rates: from 0.4; 0.5; 0.6 and 1.2 l/ha. In trial: PL17GEAVESA040A, AG-T3-175 EC was tested only in dose rates 0.6 l/ha and 1.2 l/ha.
Application of AG-T3-175 EC at dose rates: 0.4-0.6 l/ha was performed at BBCH 31-33.
AG-T3-175 EC did not induce phytotoxicity symptoms at any of assessment intervals.

Number of trials with		Selectivity/Efficacy trials: 3 trials in oat, NE			
		AG-T3-175 EC		Standard 1 Moddus 250 EC	
		N	2N (or other)	N	2N (or other)
Maximum of phytotoxicity recorded during the trials	0% to 5%	0	0	0	0
	>5% to 10%	0	0	0	0
	>10% to 15%	0	0	0	0
	>15 %	0	0	0	0
Level of symptoms at the last assessments	0% to 5%	0	0	0	0
	>5% to 10%	0	0	0	0
	>10% to 15%	0	0	0	0
	>15 %	0	0	0	0

Spring barley

In total 5 efficacy trials are available for efficacy evaluation of AG-T3-175 EC against lodging on spring barley. 2 trials were conducted in Poland (NE) in 2016, other 3 trials were conducted in Czech Republic (MAR) in 2104-2017.
In 2 trials conducted in Poland, AG-T3-175 EC was tested at dose rates: 0.4; 0.5 l/ha and 0.6 l/ha.
Application: BBCH 31-32.
In 3 trials conducted in Czech Republic (MAR) AG-T3-175 EC was tested at dose rates: 0.25; 0.3; 0.4; 0.5 and 0.6 l/ha. Application: BBCH 21-34.
In Poland there were observed some phytotoxicity symptoms on tested product and standard.
The phytotoxicity was transient and did not cause any effect at yield. AG-T3-175 EC may cause phytotoxicity on sensitive varieties of spring barley.
No phytotoxicity observed on trials in Czech Republic.

Number of trials with		Selectivity/Efficacy trials: 2 trials in spring barley, NE - PL			
		AG-T3-175 EC		Standard 1 - Moddus 250 EC	
		N	~~2N (or~~ other ~~)~~	N	~~2N (or~~ other ~~)~~
Maximum of phytotoxicity recorded during the trials	0% to 5%	1	0	0	0
	>5% to 10%	1	1	1	0
	>10% to 15%	0	0	0	0
	>15 %	0	1	1	1
Level of symptoms at the last assessments	0% to 5%	3.8-5	0	0	0
	>5% to 10%	5-10	10	7.5	0
	>10% to 15%	0	0	0	10
	>15 %	0	25	20	17.5

Winter barley

In total 6 efficacy trials are available for efficacy evaluation of AG-T3-175 EC against lodging on winter barley. 2 trials were conducted in Poland (NE) in 2016, 2 trials were conducted in Czech Republic (MAR) in 2017 and 2 trials were conducted in Germany (MAR) in 2017.

In 2 trials conducted in Poland, AG-T3-175 EC was tested at dose rates: 0.4; 0.6 and 0.9 l/ha.
One application was performed at 2 terms:
0.4 l/ha and 0.6 l/ha – BBCH 31-32 (A)
0.9 l/ha - BBCH 37-39 (B)
In total 4 trials were conducted in Maritime EPPO zone, 2 in Czech Republic and 2 in Germany.
AG-T3-175 EC was tested at dose rates: 0.4 l/ha, 0.6 l/ha; 0.8 l/ha
Application: BBCH 31-34 .

The phytotoxicity was transient and did not cause any effect at yield.
AG-T3-175 EC may cause phytotoxicity on sensitive varieties of winter barley in situation of high temperature amplitudes between days and nights.
No phytotoxicity observed on trials in Czech Republic and Germany

Number of trials with		Selectivity/Efficacy trials: 2 trials in winter barley, NE			
		AG-T3-175 EC		Standard 1: Moddus 250 EC	
		N	~~2N (or~~ other ~~)~~	N	~~2N (or~~ other ~~)~~
Maximum of phytotoxicity recorded during the trials	0% to 5%	1	0	1	1
	>5% to 10%	0	1		0
	>10% to 15%	0	0	0	0
	>15 %	0	0	0	0
Level of symptoms at the last assessments	0% to 5%	2	0	2	4
	>5% to 10%	0	9	0	0
	>10% to 15%	0	0	0	0
	>15 %	0	0	0	0

Winter rye
In total 6 efficacy trials are available for efficacy evaluation of AG-T3-175 EC against lodging on winter rye. 3 trials were conducted in Poland (NE) in 2016, 3 trials were conducted in Germany (MAR) in 2016-2017.
In 3 trials conducted in Poland, AG-T3-175 EC was tested at dose rates: 0.3; 0.4 and 0.6 l/ha.
Application: BBCH 31-32.
In total 3 trials were conducted in Maritime EPPO zone (Germany). AG-T3-175 EC was tested at dose rates: 0.3; 0.4 and 0.6 l/ha.
Application: BBCH 32-39.
No phytotoxic effect observed on any of the trial at assessment intervals.

Number of trials with		Selectivity/Efficacy trials: 3 trials ~~oat~~ in winter rye, NE			
		AG-T3-175 EC		Standard 1, Moddus 250 EC	
		N	~~2N (or~~ other ~~)~~	N	~~2N (or~~ other ~~)~~
Maximum of phytotoxicity recorded during the trials	0% to 5%	0	0	0	0
	>5% to 10%	0	0	0	0
	>10% to 15%	0	0	0	0
	>15 %	0	0	0	0
Level of symptoms at the last assessments	0% to 5%	0	0	0	0
	>5% to 10%	0	0	0	0
	>10% to 15%	0	0	0	0
	>15 %	0	0	0	0

Winter triticale
In total 5 efficacy trials are available for efficacy evaluation of AG-T3-175 EC against lodging on winter triticale. 2 trials were conducted in Poland (NE) in 2016, 3 trials were conducted in Germany (MAR) in 2014-2016. In 2 trials conducted in Poland, AG-T3-175 EC was tested at dose rates: 0.3; 0.4 and 0.6 l/ha.
Application: BBCH 31-32
In total 3 trials were conducted in Maritime EPPO zone (Germany). AG-T3-175 EC was tested at dose rates: 0.25; 0.3; 0.4 and 0.6 l/ha.

Application: BBCH 31-32
No phytotoxic effect observed on any of the trial at assessment intervals.

Number of trials with		Selectivity/Efficacy trials: 3 trials ~~oat~~ in winter triticale			
		AG-T3-175 EC		Standard 1, Moddus 250 EC	
		N	2N ~~(or~~ other)	N	2N ~~(or~~ other)
Maximum of phytotoxicity recorded during the trials	0% to 5%	0	0	0	0
	>5% to 10%	0	0	0	0
	>10% to 15%	0	0	0	0
	>15 %	0	0	0	0
Level of symptoms at the last assessments	0% to 5%	0	0	0	0
	>5% to 10%	0	0	0	0
	>10% to 15%	0	0	0	0
	>15 %	0	0	0	0

Winter wheat

Application of AG-T3-175 EC at dose rates: 0.4-0.6 l/ha was performed at 2 application terms: BBCH 31-32 (A/B) and BBCH 31-39 (B/C)
Application of AG-T3-175 EC at dose rate: 0.21 l/ha was performed at BBCH 29, application code: A*
Application of AG-T3-175 EC at dose rate: 0.3 l/ha was performed at BBCH 31-32, application code: B*
Applications of AG-T3-175 EC at dose rate: 0.6 l/ha was performed at 2 application terms: BBCH 31-32: code A/B and BBCH 31-39 code BC
Applications of AG-T3-175 EC at split dose rates pattern: 0.3 + 0.3 l/ha, first application at BBCH 31-32 second application at BBCH 31-39, application code: A/B/C
Evaluation is focussing on the plant growth regulator effect sprayed at:
AG-T3-175 EC – 0.2 l/ha application term: 29 BBCH – 4 trials
AG-T3-175 EC – 0.3 l/ha application term: 31 BBCH – 6 trials
AG-T3-175 EC – 0.4 l/ha application term: 31-32 BBCH (A/B) – 11 trials
AG-T3-175 EC – 0.4 l/ha application term: 31-39 BBCH (B/C) – 9 trials
AG-T3-175 EC – 0.6 l/ha application term: 31-32 BBCH (A/B) – 12 trials
AG-T3-175 EC – 0.6 l/ha application term: 31-39 BBCH (B/C) – 9 trials
AG-T3-175 EC – 0.6 l/ha application term: 31-32 BBCH (A/B) – 12 trials
AG-T3-175 EC – 0.3 l/ha+ 0.3 l/ha (split dose pattern) application term: first application at BBCH 31-32 second application at BBCH 31-39- 9 trials.
The phytotoxicity was transient and did not cause any effect at yield. AG-T3-175 EC may cause phyto-toxicity on sensitive varieties of winter wheat.

Number of trials with		Selectivity/Efficacy trials: 4 trials in winter wheat, NE					
		AG-T3-175 EC		Standard 1, Moddus 250 EC		Standard 2, Moddus Start 250 DC	
		N	2N ~~(or~~ other)	N	2N ~~(or~~ other)	N	2N ~~(or~~ other)
Maximum of phytotoxicity recorded during the trials	0% to 5%	2	1	2	1	2	0
	>5% to 10%	0	1	0	0	0	0
	>10% to 15%	0	0	0	0	0	0
	>15 %	0	0	0	0	0	0
Level of symptoms at the last assessments	0% to 5%	2	0	2	0	2	0
	>5% to 10%	0	4-10	0	5-8	0	0
	>10% to 15%	0	0	0	0	0	0

	>15 %	0	0	0	0	0	0

Comments of zRMS:	**<u>Phytotoxicity to host crop</u>** The applicant presented the trials on selectivity of growth regulator AG-T3-175 EC (ADM.09050.H.1.A) to winter wheat, winter barley, spring barley, winter rye, winter triticale and oat. All the trials were conducted according to general EPPO guidelines: PP 1/135(4), PP 1/152(4), PP 1/181(4) and specific EPPO guidelines PP 1/144(3) "Reduction of lodging in cereals and maize". In the tables applicant presented the results of maximum phytotoxicity recorded during the trials and the level of phytotoxicity symptoms during the last assessment. The different doses 1N and 2N or "other" were assessed. **Oat** (3 trials) In all trials no phytotoxicity symptoms was noted on oat plants treated both with the tested and reference products, at the rates of 1N (0.6 L/ha) and 2N (1.2 L/ha). The intended dose for Poland is 0.4-0.6 L/ha. The lack of phytotoxicity symptoms after the use of 2N dose proves the high selectivity of tested growth regulator for oats. ZRMS confirms the high selectivity of tested growth regulator AG-T3-175 EC (ADM.09050.H.1.A) for oats. **Spring barley** (5 trials – 2 in Pl, 3 in CZ) The applicant presented data only for 1N dose, and did not submitted data for 2N dose, as it was indicated in the table (in the table "2N (other)" was change to "other"). The intended dose rates for registration in spring barley are 0.4-0.6 L/ha, and the tested doses were 0.4; 0.5; 0.6 L/ha in Poland (2 trials) and 0.25; 0.3; 0.4; 0.5 and 0.6 L/ha in Czech Republik (3 trials). In the trials carried out in Poland the growth regulator AG-T3-175 EC (ADM.09050.H.1.A) caused some phytotoxicity symptoms on spring barley crops – in 1 trial the maximum phytotoxicity ranged between 5 and 10%, and in the second trial was below 5%, while the level of symptoms at the last assessment ranged between 3.8-5% in 1 trial and 5-10% in the other trial. Standard product Moddus 250 EC caused the phytotoxicity symptoms in 2 trial, even higher than tested growth regulator. In the trials carried out in Czech Republik the phytotoxicity symptom were not observed. ZRMS agrees with applicant that AG-T3-175 EC (ADM.09050.H.1.A) may cause the phytotoxicity symptoms on sensitive varieties of spring barley, and suggests to include such information into the label. **Winter barley** (6 trials – 2 in PL, 2 in DE; 2 in CZ) The applicant presented the data for 1N dose and did not submitted data for 2N, as it was indicated in the table (in the table "2N (other)" was change to "other"). The intended dose rate for registration in EU is 0.8 L/ha and for Poland 0.6-0.9 L/ha. The tested doses were 0.4; 0.6; 0.9 L/ha in Poland (2 trials) and 0.4; 0.6 and 0.8 L/ha in Czech Republik (2 trials) and Germany (2 trials). Phytotoxicity symptoms were observed in 1 trial in Poland, after the use of 1N dose (below 5%) and in 1 trial with "other" dose. At the last assessment standard product caused the same or higher phytotoxicity than tested product. The maximum tested dose in DE and CZ was 0.8 L/ha, while in Poland it was 0.9 L/ha. Considering that the maximum dose tested in Poland caused little phytotoxicity, and the dose of 0.8 L/ha tested in DE and CZ did not cause any phytotoxicity symptoms it can be concluded that the tested product is selective for winter barley. ZRMS agrees with applicant that AG-T3-175 EC (ADM.09050.H.1.A) may cause the phytotoxicity symptoms on sensitive varieties of winter barley, and suggests to include such information into the label. **Winter rye** (6 trials – 3 in PL; 3 in DE) The applicant presented data only for 1N dose and did not submitted data for 2N, as it was indicated in the table (in the table "2N (other)" was change to "other"). The intended dose

	rate for registration is 0.6 L/ha. In all trials, no phytotoxicity symptoms was noted on winter rye plants treated both with the tested and reference products, at the rates of 1N (0.6 L/ha) and other rates. ZRMS confirms the high selectivity of growth regulator AG-T3-175 EC (ADM.09050.H.1.A) to winter rye. **Winter triticale** (5 trials – 2 in PL; 3 in DE)) The applicant presented data only for 1N dose and did not submitted data for 2N, as it was indicated in the table ((in the table "2N (other)" was change to "other"). The intended dose rate for registration is 0.6 L/ha. In all trials, no phytotoxicity symptoms was noted on the winter triticale plants treated both with the tested and reference products, at the rate of 1N (0.6 L/ha) and other rates. ZRMS confirms the high selectivity of tested growth regulator AG-T3-175 EC (ADM.09050.H.1.A) to winter triticale. **Winter wheat** (9-12 trials, depends on dose rate) The applicant presented data for 1N dose and did not submitted data for 2N, as it was indicated in the table (in the table "2N (other)" was change to "other"). The critical GAP for winter wheat in EU include the rate of 0.5 L/ha and for Poland intended doses are 0.4-0.6 L/ha in one treatment and 0.3+0.3 L/ha in split application method. Phytotoxicity symptoms were observed only in 2 trial after the use of 1N dose (below 5%) and in 2 trial with "other" dose. **ZRMS** agrees with applicant that AG-T3-175 EC (ADM.09050.H.1.A) may cause some phytotoxicity on sensitive varieties of winter wheat, and suggests to include such information into the label. **Conclusion**. The registration of AG-T3-175 EC (ADM.09050.H.1.A) plant growth regulator in Poland, in cereal crops, can be supported by data of the trials conducted in Poland and in neighboring countries (DE and CZ – Maritime zone). The data presented by applicant indicate that tested plant growth regulator is selective to tested cereal crops: winter wheat, spring barley, winter barley, winter rye, winter triticale and oat. Moreover, the yield data presented in another chapter did not show a negative impact of tested PGR on cereal crops and such impact is not expected.

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

According to EPPO guideline PP 1/144 (3) all efficacy trials presented in the dossier were harvested and quantity and quality of yield was determined.

Oats
In total 3 efficacy trials are available for efficacy evaluation of AG-T3-175 EC against lodging on oats.
In 2 of these trials, AG-T3-175 EC was tested at dose rates: from 0.4; 0.5; 0.6 and 1.2 l/ha. In trial: PL17GEAVESA040A, AG-T3-175 EC was tested only in dose rates 0.6 l/ha and 1.2 l/ha.
Application of AG-T3-175 EC at dose rates: 0.4-0.6 l/ha was performed at BBCH 31-33.
All efficacy trials were harvested. Details of the data presented in Table 3.4.2-1.
The yield was evaluated on the basis of harvested grains from the plots and its quantity was presented as kg/plot, t/ha and dt/ha. AG-T3-175 EC has no negative influence on yield quantity.

Spring barley
In total 5 efficacy trials are available for efficacy evaluation of AG-T3-175 EC against lodging on spring barley. 2 trials were conducted in Poland (NE), 2016, other 3 trials were conducted in Czech Republic (MAR) in 2104-2017.

In 2 trials conducted in Poland, AG-T3-175 EC was tested at dose rates: 0.4; 0.5 and 0.6 l/ha.
Application: BBCH 31-32. Data are presented in Table 3.4.-2.
There weren't difference between the treatment objects and standard.
In 3 trials conducted in Czech Republic(MAR) AG-T3-175 EC was tested at dose rates: 0.25; 0.3; 0.4; 0.5 and 0.6 l/ha. Application: BBCH 21-34.Data are presented in Table 3.4.2-3.
All trials were harvested.
The yield was evaluated on the basis of harvested grains from the plots and its quantity was presented as kg/plot, t/ha and dt/ha. AG-T3-175 EC has no negative influence on yield quantity.

Winter barley
In total 6 efficacy trials are available for efficacy evaluation of AG-T3-175 EC against lodging on winter barley. 2 trials were conducted in Poland (NE), 2016, 2 trials were conducted in Czech Republic (MAR) in 2017 and 2 trials were conducted in Germany (MAR) in 2017.
In 2 trials conducted in Poland, AG-T3-175 EC was tested at dose rates: 0.4; 0.6 and 0.9 l/ha.
One application was performed at 2 terms:
treatments with dose rates: 0.4 l/ha and 0.6 l/ha – BBCH 31-32 (A)
treatment: 0.9 l/ha - BBCH 37-39 (B). Data presented in Table 3.4.2-4.
In total 4 trials were conducted in Maritime EPPO zone, 2 in Czech Republic and 2 in Germany.
AG-T3-175 EC was tested at dose rates: 0.4; 0.6 and 0.8 l/ha
Application: BBCH 31-34 . Data presented in Table 3.4.2-5.
All trials were harvested.
The yield was evaluated on the basis of harvested grains from the plots and its quantity was presented as kg/plot, t/ha and dt/ha. AG-T3-175 EC has no negative influence on yield quantity.

Winter rye
In total 6 efficacy trials are available for efficacy evaluation of AG-T3-175 EC against lodging on winter rye. 3 trials were conducted in Poland (NE), 2016, 3 trials were conducted in Germany (MAR) in 2016-2017. In 3 trials conducted in Poland, AG-T3-175 EC was tested at dose rates: 0.3; 0.4 and 0.6 l/ha.
Application: 31-32. Data presented in Table 3.4.2-6.
In total 3 trials were conducted in Maritime EPPO zone (Germany). AG-T3-175 EC was tested at dose rates: 0.3; 0.4 and 0.6 l/ha.
Application: BBCH 32-39. Data presented in Table 3.4.2-7.
All trials were harvested. The yield was evaluated on the basis of harvested grains from the plots and its quantity was presented as kg/plot, t/ha and dt/ha. AG-T3-175 EC has no negative influence on yield quantity.

Winter triticale
In total 5 efficacy trials are available for efficacy evaluation of AG-T3-175 EC against lodging on winter triticale. 2 trials were conducted in Poland (NE) in 2016, 3 trials were conducted in Germany (MAR) in 2014-2016. In 2 trials conducted in Poland, AG-T3-175 EC was tested at dose rates: 0.3; 0.4 and 0.6 l/ha.
Application: BBCH 31-32. Data presented in Table 3.4.2-8
In total 3 trials were conducted in Maritime EPPO zone (Germany). AG-T3-175 EC was tested at dose rates: 0.25; 0.3; 0.4 and 0.6 l/ha.
Application: BBCH 31-32. Data presented in Table 3.4.2-9.
All trials were harvested. The yield was evaluated on the basis of harvested grains from the plots and its quantity presented as kg/plot, t/ha and dt/ha. AG-T3-175 EC has no negative influence on yield quantity.

Winter wheat
Total of 12 efficacy trials in winter wheat were conducted in Poland (NE) are available to support the evaluation of AG-T3-175 EC against lodging on winter wheat.
Application of AG-T3-175 EC at dose rates: 0.4-0.6 l/ha was performed at 2 application terms:
BBCH 31-32 (A/B) and BBCH 31-39 (B/C)
Application of AG-T3-175 EC at dose rate: 0.21 l/ha was performed at BBCH 29, application code: A*
Application of AG-T3-175 EC at dose rate: 0.3 l/ha was performed at BBCH 31-32,application code: B*
Applications of AG-T3-175 EC at dose rate: 0.6 l/ha was performed at 2 application terms: BBCH 31-32:

code A/B and BBCH 31-39 code BC
Applications of AG-T3-175 EC at split dose rates pattern: 0.3 + 0.3 l/ha, first application at BBCH 31-32 second application at BBCH 31-39, application code: A/B/C
Evaluation is focussing on the plant growth regulator effect sprayed at:
AG-T3-175 EC – 0.2 l/ha application term: 29 BBCH – 4 trials
AG-T3-175 EC – 0.3 l/ha application term: 31 BBCH – 6 trials
AG-T3-175 EC – 0.4 l/ha application term: 31-32 BBCH (A/B) – 11 trials
AG-T3-175 EC – 0.4 l/ha application term: 31-39 BBCH (B/C) – 9 trials
AG-T3-175 EC – 0.6 l/ha application term: 31-32 BBCH (A/B) – 12 trials
AG-T3-175 EC – 0.6 l/ha application term: 31-39 BBCH (B/C) – 9 trials
AG-T3-175 EC – 0.6 l/ha application term: 31-32 BBCH (A/B) – 12 trials
AG-T3-175 EC – 0.3 l/ha + 0.3 l/ha (split dose pattern) application term: first application at BBCH 31-32 second application at BBCH 31-39- 9 trials.
All trials were harvested. The yield was evaluated on the basis of harvested grains from the plots and its quantity was presented as kg/plot, t/ha and dt/ha. The results of yield are presented in table 3.4.2-10 .
AG-T3-175 EC has no negative influence on yield quantity.

Table 3.4.2-1: The influence of the AG-T3-175 EC on yield quantity in oats

Treatment	UNCK			AG-T3-175 EC 0.4 l/ha			AG-T3-175 EC 0.6 l/ha			AG-T3-175 EC 0.5 l/ha			AG-T3-175 EC 1.2 l/ha			Moddus 250 EC 0.4 l/ha			Moddus 250 EC 0.8 l/ha		
rating type	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**
YIELD kg/plot	7.82	6.55	9.10	9.59	9.59	9.59	8.49	7.38	9.60	9.43	9.43	9.43	8.16	7.17	9.16	9.02	9.02	9.02	9.22	9.22	9.22
n	2			1			2			1			2			1			1		
YIELD t/ha	**6.30**	**6.30**	**6.30**	6.60	6.60	6.60	**6.60**	**6.60**	**6.60**	6.50	6.50	6.50	**6.30**	**6.30**	**6.30**	9.02	9.02	9.02	6.40	6.40	6.40
n	**1**			1			**1**			1			**1**			1			1		
YIELD dt/ha	**62.75**	**61.80**	**63.70**	72.60	72.60	72.60	**72.30**	**71.50**	**73.10**	73.80	73.80	73.80	**70.20**	**69.60**	**70.80**	70.10	70.10	70.10	69.20	69.20	69.20
n	**2**			1			**2**			1			**2**			1			1		

Table 3.4.2.-2 The influence of the AG-T3-175 EC on yield quantity in spring barley North-East EPPO zone

Treatment	UNCK			AG-T3-175 EC 0.4 l/ha			AG-T3-175 EC 0.5 l/ha			AG-T3-175 EC 0.6 l/ha			AG-T3-175 EC 1.6 l/ha			Moddus 250 EC 0.4 l/ha			Moddus 250 EC 0.8 l/ha		
rating type	mean	min	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**
YIELD kg/plot	8.18	8.18	8.18	8.44	8.44	8.44	8.48	8.48	8.48	8.44	8.44	8.44	8.17	8.17	8.17	8.22	8.22	8.22	8.08	8.08	8.08
n	1			1			1			1			1			1			1		
YIELD t/ha	5.80	5.80	5.80	5.90	5.90	5.90	5.90	5.90	5.90	5.90	5.90	5.90	5.70	5.70	5.70	5.70	5.70	5.70	5.60	5.60	5.60
n	1			1			1			1			1			1			1		
YIELD dt/ha	49.70	49.70	49.70	58.10	58.10	58.10	58.30	58.30	58.30	59.70	59.70	59.70	57.40	57.40	57.40	58.40	58.40	58.40	59.10	59.10	59.10
n	1			1			1			1			1			1			1		

Table 3.4.2.-3 The influence of the AG-T3-175 EC on yield quantity in spring barley Maritime EPPO zone

Treatment	UNCK			AG-T3-175 EC 0.4 l/ha			AG-T3-175 EC 0.5 l/ha			AG-T3-175 EC 0.6 l/ha			AG-T3-175 EC 1.2 l/ha			Moddus 250 EC 0.4 l/ha			Moddus 250 EC 0.8 l/ha			Calma 0.6 l/ha			Calma 1.2l/ha		
rating type	mean	min	max	mean	min	max	mean	min	max	mean	min	max	mean	min	max	mean	min	max	mean	min	max	mean	min	max	mean	min	max
YIELD kg/plot	10.07	8.31	12.36	10.41	8.33	12.49	10.40	8.34	12.46	10.05	8.43	12.36	10.15	8.35	11.94	10.48	8.42	12.53	10.31	0.00	12.33	10.47	8.37	12.57	10.16	8.28	12.03
n	3			2			2			3			2			2			2			2			2		
YIELD t/ha	**8.06**	**6.98**	**9.14**	**8.12**	**7.00**	**9.23**	**8.11**	**7.02**	**9.20**	**8.11**	**7.08**	**9.14**	**7.93**	**7.02**	**8.83**	**8.18**	**7.07**	**9.28**	**8.05**	**6.97**	**9.12**	**8.18**	**7.05**	**9.31**	**7.94**	**6.97**	**8.91**
n	**2**			**2**			**2**			**2**			**2**			**2**			**2**			**2**			**2**		
YIELD dt/ha	**67.76**	**67.76**	**67.76**							**66.98**	**66.98**	**66.98**															
n	**1**									**1**																	

Table 3.4.2-4 The influence of the AG-T3-175 EC on yield quantity in winter barley North-East EPPO zone (Poland)

Treatment	UNCK			AG-T3-175 EC 0.4 l/ha			AG-T3-175 EC 0.6 l/ha			AG-T3-175 EC 0.9 l/ha			AG-T3-175 EC 1.8 l/ha			Moddus 250 EC 0.6 l/ha			Moddus 250 EC 1.2 l/ha		
rating type	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**
YIELD kg/plot	6.60	6.60	6.60	6.85	6.85	6.85	6.96	6.96	6.96	7.23	7.23	7.23	6.93	6.93	6.93	6.83	6.83	6.83	6.77	6.77	6.77
n	1			1			1			1			1			1			1		
YIELD t/ha	4.60	4.60	4.60	4.80	4.80	4.80	4.90	4.90	4.90	5.10	5.10	5.10	4.90	4.90	4.90	4.90	4.90	4.90	4.80	4.80	4.80
n	1			1			1			1			1			1			1		
YIELD dt/ha	89.50	89.50	89.50	89.00	89.00	89.00	92.50	92.50	92.50	96.90	96.90	96.90	98.40	98.40	98.40	95.80	95.80	95.80	95.90	95.90	95.90
n	1			1			1			1			1			1			1		

Table 3.4.2-5 The influence of the AG-T3-175 EC on yield quantity in winter barley Maritime EPPO zone (Germany and Czech Republic)

Treatment	UNCK			AG-T3-175 EC 0.4 l/ha			AG-T3-175 EC 0.6 l/ha			AG-T3-175 EC 0.8 l/ha			AG-T3-175 EC 1.6 l/ha			Moddus 250 EC 0.8 l/ha			Moddus 250 EC 1.6 l/ha			Calma 0.8 l/ha			Calma 1.6 l/ha		
rating type	mean	min	max	mean	min	max	mean	min	max	mean	min	max	mean	min	max	mean	min	max	mean	min	max	mean	min	max	mean	min	max
YIELD kg/plot	10.13	0.00	12.85	10.22	0.00	13.25	8.35	8.11	13.69	10.34	8.21	13.12	10.84	8.22	13.45	10.15	8.03	13.02	9.92	7.88	13.07	11.36	9.10	13.61	10.74	8.52	12.96
n	4			4			4			4			2			4			4			2			2		
YIELD t/ha	6.71	0.00	6.71	6.74	0.00	6.74	3.37	0.00	6.74	6.83	6.83	6.83	-	-	-	6.65	6.65	6.65	6.55	6.55	6.55	-	-	-	-	-	-
n	1			1			1			1			-			1			1			-			-		
YIELD dt/ha	83.91	82.08	85.00	84.15	79.22	87.13	86.67	83.31	89.91	85.72	82.35	88.20	81.32	73.29	89.34	84.15	78.89	87.60	81.93	71.74	87.50	85.62	81.18	90.06	81.06	76.06	86.05
n	3			3			3			3			2			3			3			2			2		

Table 3.4.2-6 The influence of the AG-T3-175 EC on yield quantity in winter rye North-East EPPO zone (Poland)

Treatment	UNCK			AG-T3-175 EC 0.3 l/ha			AG-T3-175 EC 0.4 l/ha			AG-T3-175 EC 0.6 l/ha			AG-T3-175 EC 1.2 l/ha			Moddus 250 EC 0.3 l/ha			Moddus 250 EC 0.6 l/ha		
rating type	mean	min	max	mean	min	max	mean	min	max	mean	min	max	mean	min	max	mean	min	max	mean	min	max
YIELD kg/plot	8.26	8.03	8.50	8.66	8.66	8.66	8.53	8.53	8.53	8.98	8.55	9.40	9.35	8.50	10.20	8.79	8.79	8.79	8.71	8.71	8.71
n	2			1			1			2			2			1			1		
YIELD t/ha	**4.75**	**4.10**	**5.40**	**5.90**	**5.90**	**5.90**	**5.80**	**5.80**	**5.80**	**5.2**	**4.60**	**5.8**	**5.35**	**5.00**	**5.70**	**6.00**	**6.00**	**6.00**	**5.9**	**5.90**	**5.9**
n	**2**			**1**			**1**			**2**			**2**			**1**			**1**		
YIELD dt/ha	64.60	64.60	64.60	67.40	67.40	67.40	70.60	70.60	70.60	70.20	70.20	70.20	70.30	70.30	70.30	69.60	69.60	69.60	70.30	70.30	70.30
n	1			1			1			1			1			1			1		

Table 3.4.2-7 The influence of the AG-T3-175 EC on yield quantity in winter rye Maritime EPPO zone (Germany)

Treatment	UNCK			AG-T3-175 EC 0.3 l/ha			AG-T3-175 EC 0.4 l/ha			AG-T3-175 EC 0.6 l/ha			AG-T3-175 EC 1.2 l/ha			Moddus 250 EC 0.3 l/ha			Moddus 250 EC 0.6 l/ha		
rating type	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**
YIELD kg/plot	9.89	7.88	12.23	9.89	8.01	12.80	10.43	8.10	13.23	10.75	8.16	14.42	9.70	8.08	12.17	10.73	8.21	13.95	10.79	8.31	14.93
n	3			3			3			3			3			3			3		
YIELD t/ha	6.30	6.30	6.30	5.83	0.00	5.83	6.57	6.57	6.57	6.36	6.36	6.36	5.83	5.83	5.83	6.60	6.60	6.60	6.02	6.02	6.02
n	4			1			1			1			1			1			1		
YIELD dt/ha	71.11	58.32	83.89	73.61	59.33	87.88	75.25	59.93	90.57	79.48	60.30	98.66	71.77	59.96	83.57	78.24	60.83	95.64	81.68	61.59	101.76

Table 3.4.2-8 The influence of the AG-T3-175 EC on yield quantity in winter triticale North-East EPPO zone (Poland)

Treatment	UNCK			AG-T3-175 EC 0.3 l/ha			AG-T3-175 EC 0.4 l/ha			AG-T3-175 EC 0.6 l/ha			AG-T3-175 EC 1.2 l/ha			Moddus 250 EC 0.6 l/ha			Moddus 250 EC 1.2 l/ha		
rating type	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**
YIELD kg/plot	7.88	7.88	7.88	8.08	8.08	8.08	8.19	8.19	8.19	8.24	8.24	8.24	7.74	7.74	7.74	7.94	7.94	7.94	7.71	7.71	7.71
n	1			1			1			1			1			1			1		
YIELD t/ha	5.70	5.70	5.70	5.90	5.90	5.90	5.90	5.90	5.90	6.00	6.00	6.00	5.60	5.60	5.60	5.70	5.70	5.70	5.60	5.60	5.60
n	1			1			1			1			1			1			1		
YIELD dt/ha	59.30	59.30	59.30	61.70	61.70	61.70	63.80	63.80	63.80	67.60	67.60	67.60	66.70	66.70	66.70	66.90	66.90	66.90	66.20	66.20	66.20
n	1			1			1			1			1			1			1		

Table 3.4.2-9 The influence of the AG-T3-175 EC on yield quantity in winter triticale Maritime EPPO zone (Germany)

Treatment	UNCK			AG-T3-175 EC 0.25 l/ha			AG-T3-175 EC 0.3 l/ha			AG-T3-175 EC 0.4 l/ha			AG-T3-175 EC 0.6 l/ha			AG-T3-175 EC 1.2 l/ha			Moddus 250 EC 0.6 l/ha			Moddus 250 EC 1.2 l/ha		
rating type	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**
YIELD t/ha	8.35	7.50	9.20	9.10	9.10	9.10	8.14	8.14	8.14	8.06	8.06	8.06	8.60	8.01	9.20	7.63	7.63	7.63	7.85	7.85	7.85	7.98	7.98	7.98
n	2			1			1			1			2			1			1			1		
YIELD dt/ha	84.06	76.31	91.80	91.10	91.10	91.10	79.25	79.25	79.25	75.34	75.34	75.34	85.57	78.84	92.3	76.03	76.03	76.03	79.98	79.98	79.98	75.06	75.06	75.06
n	2			1			1			1			2			1			1			1		

Table 3.4.2-10 The influence of the AG-T3-175 EC on yield quantity in winter wheat North-East EPPO zone (Poland)

Treatment	UNCK			AG-T3-175 EC 0.4 l/ha			AG-T3-175 EC 0.6 l/ha			AG-T3-175 EC 1.2 l/ha			AG-T3-175 EC + AG-T3-175 EC 0.3+0.3 l/ha			Moddus 250 EC 0.4 l/ha			Moddus 250 EC 0,8 l/ha			Antywylegacz Płynny 2.1 l/ha			Antywylegacz Płynny 4.2 l/ha		
rating type	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**
YIELD kg/plot	9.73	4.81	14.40	10.64	4.93	14.85	11.05	5.01	15.38	10.04	5.01	15.88	10.91	7.84	13.93	9.34	8.62	10.06	9.48	8.76	10.20	11.65	5.11	15.95	10.24	5.10	15.38
n	10			14			17			9			6			2			2			6			2		
YIELD t/ha	6.87	5.80	8.00	7.46	5.80	9.00	7.52	6.00	8.90	7.00	5.80	8.40	7.53	6.30	9.30	6.35	5.90	6.80	6.45	6.00	6.90	8.15	7.30	8.90	7.95	7.40	8.50
n	7			10			13			9			4			2			2			4			2		
YIELD dt/ha	68.15	61.20	80.90	81.22	68.40	92.40	84.94	67.80	100.0	81.28	69.80	92.70	81.53	68.50	90.00	78.25	69.00	87.50	80.30	69.80	90.80	91.39	80.30	107.20			
n	5			10			10			4			5			2			2			3					

Comments of zRMS:	**Effect on the yield of treated plants or plant product** All efficacy trials presented in this dossier were harvested and quantity of yield was determined. The rates of tested growth regulator AG-T3-175 EC and reference products are specified in the chapter on efficacy and phytotoxicity. **Oat** (3 trials) AG-T3-175 EC was tested at the rates of 0.4; 0.5, 0.6 and 1.2 L/ha in 2 trials and at 0.6 and 1.2 L/ha in 1 trial (Poland). The yields of oats treated by growth regulator at the rates of 0.4-0.6 L/ha were higher than from untreated control and at the same level or higher compared to reference product. The positive effect of AG-T3-175 EC on the yields of oats supports the registration of AG-T3-175 EC in this crop, at proposed label claim of 0.4-0.6 L/ha. **Spring barley** (5 trials) AG-T3-175 EC was tested at the rates of 0.4; 0.5 and 0.6 L/ha in 2 trials (Poland) and at 0.25; 0.3; 0.4; 0.5 and 0.6 L/ha in 3 trial (CZ). The yields of spring barley treated by growth regulator at the rates of 0.4-0.6 L/ha were higher or at the same level compared to the untreated control and reference product in Maritime zone and N-E zone (PL). The positive effect of AG-T3-175 EC on the yields of spring barley supports the registration of AG-T3-175 EC in this crop, at proposed label claim of 0.4-0.6 L/ha. **Winter barley** (6 trials) AG-T3-175 EC was tested at the rates of: 0.4; 0.6 and 0.9 L/ha in 2 trials (PL) and at 0.4; 0.6 and 0.8 L/ha in 4 trial (DE and CZ). In trial in Poland the yield of winter barley treated by growth regulator at the rates of 0.6 and 0.9 L/ha was higher than the untreated control and reference product. In Maritime zone only in one case the yield was lower than from untreated control and reference product, but in remain objects was higher or at the same level. It can be considered that AG-T3-175 EC has a positive effect on the yield of winter barley and obtained results support the registration of AG-T3-175 EC in this crop, at proposed label claim of 0.6-0.9 L/ha. **Winter rye** (6 trials) AG-T3-175 EC in all trials was tested at the rates of 0.3; 0.4 and 0.6 L/ha. In Poland and in the countries of Maritime zone the yields of winter rye treated by growth regulator at the rate of 0.6 L/ha were higher compared to the untreated control and higher or at the same level than from the reference product. It can be considered that AG-T3-175 EC has a positive effect on the yield of winter rye and obtained results support the registration of AG-T3-175 EC in this crop, at proposed label claim of 0.6 L/ha. **Winter triticale** (5 trials) AG-T3-175 EC was tested at the rates: 0.3; 0.4 and 0.6 L/ha in 2 trials (PL) and at 0.25; 0.3; 0.4 and 0.6 L/ha in 3 trials (DE). In all trials the yields of winter triticale treated by growth regulator at the rates of 0.6 L/ha were higher compared to the untreated control and reference product. The positive effect of AG-T3-175 EC on the yield of winter triticale support the registration of AG-T3-175 EC in this crop, at proposed label claim of 0.6 L/ha. **Winter wheat** (12 trials) AG-T3-175 EC was tested at the rates of 0.2; 0.3; 0.4; 0.6 L/ha in 1 treatment and with split application method – 0.3 + 0.3 L/ha. All trials were performed in Poland. The yields of winter wheat treated tested growth regulator at the rates of 0.4-0.6 L/ha and with split application method were higher compared to the untreated control and reference product Moddus 250 EC and was at the same level or slightly lower than from reference product Antywylegacz Płynny. It can be considered that AG-T3-175 EC has the positive effect on the yield of winter wheat and obtained results support the registration of AG-T3-175 EC in this crop, at proposed label claim of 0.4-0.6 L/ha and with split application method 0.3 +

	0.3 L/ha. The results of the trials do not indicate the negative effects of AG-T3-175 EC on the yield of cereals and justify the registration of the tested plant growth regulator at dose rates presented in the GAP. There were not found the clear differences between the yields of the tested growth regulator and the reference products, and in the most objects the yields was higher than from the reference product. **Conclusion**. The positive effect of AG-T3-175 EC plant growth regulator on the yields of cereal crops confirm the possibility of its registration for prevent or reduce the lodging in winter wheat, winter and spring barley, winter triticale, winter rye and oats.

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

Oats
Total of 3 presented efficacy trials were harvested. The influence of tested product on the quantity of grains was evaluated in 3 field trials conducted in Poland between 2016-2017 and results were presented in the chapter 3.4.2. The yield quality was evaluated on the basis of harvested grains and the quality parameters such as: MOICON, HLW, TKW, GERMINATION: seedlings count, were determined.
AG-T3-175 EC has no negative influence on yield quality parameters.
Details of the data shows Table 3.4.3 -1.

Spring barley
In total 5 efficacy trials are available for efficacy evaluation of AG-T3-175 EC against lodging on spring barley. 2 trials were conducted in Poland (NE), 2016, other 3 trials were conducted in Czech Republic (MAR) in 2104-2017.
In 2 trials conducted in Poland, AG-T3-175 EC was tested at dose rates: 0.4; 0.5 and 0.6 l/ha.
Application: BBCH 31-32. Quality parameters were determined: MOICON, HLW and TKW (n- stands for number of available results). There weren't difference between the treatment objects and standard.
Data are presented in Table 3.4.3.-2
In 3 trials conducted in Czech Republic (MAR) AG-T3-175 EC was tested at dose rates: 0.25; 0.3; 0.4; 0.5 and 0.6 l/ha. Application: BBCH 21-34. Quality parameters were determined: MOICON, HLW, TKW, GERM, GERMINATION: seedlings count, WEIFRE and EAR Count (ears/m2).
Statistical significant differences were measured in Germination: seedlings count.
Germination test was assessed 7 days after the establishment of test, treatments: AG-T3-175 EC applied at dose rate: 1.2 l/ha (2N), reference product Moddus 250 EC applied at dose rate: 0.8 l/ha (2N) and reference product Calma applied at dose rate: 1.2 l/ha (2N) showed reduced grain germination.
Data presented in Table 3.4.3.-2.

Winter barley
In total 6 efficacy trials are available for efficacy evaluation of AG-T3-175 EC against lodging on winter barley.
2 trials were conducted in Poland (NE), 2016, 2 trials were conducted in Czech Republic (MAR) in 2017 and 2 trials were conducted in Germany (MAR) in 2017.
In 2 trials conducted in Poland, AG-T3-175 EC was tested at dose rates: 0.4; 0.6 and 0.9 l/ha.
One application was performed at 2 terms:
- treatments with dose rates: 0.4 l/ha and 0.6 l/ha – BBCH 31-32 (A). Data presented in Table 3.4.3 -4
- treatment: 0.9 l/ha - BBCH 37-39 (B)
In total 4 trials were conducted in Maritime EPPO zone, 2 in Czech Republic and 2 in Germany.
AG-T3-175 EC was tested at dose rates: 0.4; 0.6 and 0.8 l/ha.
Application: BBCH 31-34 . Data presented in Table 3.4.3 -5.
All trials were harvested.
Quality parameters were determined: MOICON, HLW, TKW, GERM, GERMINATION: seedlings count, EAR Count (ears/m2), ear count/grain.

AG-T3-175 EC has no negative influence on yield quality parameters.

Winter rye
In total 6 efficacy trials are available for efficacy evaluation of AG-T3-175 EC against lodging on winter rye. 3 trials were conducted in Poland (NE), 2016, 3 trials were conducted in Germany (MAR) in 2016-2017. In 3 trials conducted in Poland, AG-T3-175 EC was tested at dose rates: 0.3; 0.4 and 0.6 l/ha.
Application: BBCH 31-32. Data presented in Table 3.4.3 -6.
In total 3 trials were conducted in Maritime EPPO zone (Germany). AG-T3-175 EC was tested at dose rates: 0.3; 0.4 and 0.6 l/ha.
Application: BBCH 32-39. Data presented in Table 3.4.3 -7.
All trials were harvested.
Quality parameters were determined: MOICON. HLW, TKW, GERM, GERMINATION: seedlings count, EAR Count (ears/m2), ear count/grain.
AG-T3-175 EC has no negative influence on yield quality parameters.

Winter triticale
In total 6 efficacy trials are available for efficacy evaluation of AG-T3-175 EC against lodging on winter triticale. 3 trials were conducted in Poland (NE), 2016, 3 trials were conducted in Germany (MAR) in 2016-2017. In 3 trials conducted in Poland, AG-T3-175 EC was tested at dose rates: 0.3; 0.4 and 0.6 l/ha.
Application: 31-32. Data presented in Table 3.4.2-8.
In total 3 trials were conducted in Maritime EPPO zone (Germany). AG-T3-175 EC was tested at dose rates: 0.3; 0.4 and 0.6 l/ha.
Application: BBCH 32-39. Data presented in Table 3.4.2-9.
All trials were harvested.
Quality parameters were determined: MOICON, HLW, TKW, WEIFRE, GERM, GERMINATION: seedlings count, EAR Count (ears/m2), ear count/grain.
AG-T3-175 EC has no negative influence on yield quality parameters.

Winter wheat
Total of 12 efficacy trials in winter wheat conducted in Poland (NE) are available to support the evaluation of AG-T3-175 EC against lodging on winter wheat.
Application of AG-T3-175 EC at dose rates: 0.4-0.6 l/ha was performed at 2 application terms:
BBCH 31-32 (A/B) and BBCH 31-39 (B/C)
Application of AG-T3-175 EC at dose rate: 0.2 l/ha was performed at BBCH 29, application code: A*
Application of AG-T3-175 EC at dose rate: 0.3 l/ha was performed at BBCH 31-32, application code: B*
Applications of AG-T3-175 EC at dose rate: 0.6 l/ha was performed at 2 application terms: BBCH 31-32: code A/B and BBCH 31-39 code BC.
Applications of AG-T3-175 EC at split dose rates pattern: 0.3 + 0.3 l/ha. First application at BBCH 31-32 second application at BBCH 31-39, application code: A/B/C.
Evaluation is focussing on the plant growth regulator effect sprayed at the rates:
AG-T3-175 EC – 0.2 l/ha application term: 29 BBCH – 4 trials
AG-T3-175 EC – 0.3 l/ha application term: 31 BBCH – 6 trials
AG-T3-175 EC – 0.4 l/ha application term: 31-32 BBCH (A/B) – 11 trials
AG-T3-175 EC – 0.4 l/ha application term: 31-39 BBCH (B/C) – 9 trials
AG-T3-175 EC – 0.6 l/ha application term: 31-32 BBCH (A/B) – 12 trials
AG-T3-175 EC – 0.6 l/ha application term: 31-39 BBCH (B/C) – 9 trials
AG-T3-175 EC – 0.6 l/ha application term: 31-32 BBCH (A/B) – 12 trials
AG-T3-175 EC – 0.3 + 0,3 l/ha (split dose rate pattern) application term: first application at BBCH 31-32 second application at BBCH 31-39- 9 trials.
All trials were harvested.
The yield was evaluated on the basis of harvested grains quantity from one hectare (t/ha), one quintal (dt/ha) and kg/plot. AG-T3-175 EC has no negative influence on yield quantity.

Table 3.4.3 -1 Effect on yield quality: oats

Treatment	UNCK			AG-T3-175 EC 0.4 l/ha			AG-T3-175 EC 0.6 l/ha			AG-T3-175 EC 0.5 l/ha			AG-T3-175 EC 1.2 l/ha			Moddus 250 EC 0.4 l/ha			Moddus 250 EC 0.8 l/ha		
rating type	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**
MOICON (%)	12.20	11.88	12.50	12.19	11.98	12.40	12.24	11.93	12.40	12.30	12.20	12.40	12.27	12.25	12.30	12.19	11.98	12.30	12.19	11.98	12.40
n	3			2			3			2			3			2			2		
HLW (kg/hL)	42.70	40.73	44.80	42.87	40.93	44.80	42.63	41.63	44.40	42.84	41.28	44.40	42.41	41.28	44.60	43.33	41.43	60.20	43.12	41.43	44.80
n	3			2			3			2			3			2			2		
TKW (numbers)	31.82	24.98	40.17	36.68	32.97	40.39	32.41	25.37	40.40	36.54	32.55	40.54	32.24	24.80	40.83	36.21	31.95	40.48	36.02	31.76	40.27
n	3			2			3			2			3			2			2		
germination: seedling count: normal	189.50	189.50	189.50	-	-	-	190.50	190.50	190.50	-	-	-	189.80	189.80	189.80	-	-	-	-	-	-
n	1			-	-	-	1			-	-	-	1			-	-	-	-	-	-
germination: seedling count: abnormal	4.00	4.00	4.00	-	-	-	4.00	4.00	4.00	-	-	-	4.00	4.00	4.00	-	-	-	-	-	-
n	1			-	-	-	1			-	-	-	1			-	-	-	-	-	-
germination: seedling count: dead	6.50	6.50	6.50	-	-	-	5.50	5.50	5.50	-	-	-	6.30	6.30	6.30	-	-	-	-	-	-
n	1						1						1								

Table 3.4.3 -2 Effect on yield quality: spring barley (NE)

Treatment	UNCK			AG-T3-175 EC 0.4 l/ha			AG-T3-175 EC 0.5 l/ha			AG-T3-175 EC 0.6 l/ha			AG-T3-175 EC 1.6 l/ha			Moddus 250 EC 0.4 l/ha			Moddus 250 EC 0.8 l/ha		
rating type	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**
MOICON (%)	11.27	10.23	12.30	12.18	11.55	12.80	11.94	11.38	12.50	12.07	11.53	12.60	11.78	11.15	12.40	11.68	11.05	12.30	12.10	11.60	12.60
n	2			2			1			2			2			2			2		
HLW (kg/hL)	60.17	60.13	60.20	61.70	60.80	62.60	61.79	61.20	62.38	62.14	61.20	63.08	61.79	61.60	61.98	59.97	59.43	60.50	61.45	61.40	61.50
n	2			2			1			2			2			2			2		
TKW (numbers)	41.35	34.70	48.01	43.54	37.00	50.07	44.08	37.40	50.77	43.69	37.00	50.38	43.43	37.00	49.87	43.52	37.10	49.95	42.71	37.00	48.41
n	2			2			1			2			2			2			2		

Table 3.4.3 -3 Effect on yield quality: spring barley (MAR)

Treatment	UNCK			AG-T3-175 EC 0.4 l/ha			AG-T3-175 EC 0.5 l/ha			AG-T3-175 EC 0.6 l/ha			AG-T3-175 EC 1.2 l/ha			Moddus 250 EC 0.4 l/ha			Moddus 250 EC 0.8 l/ha			Calma 0.6 l/ha			Calma 1.2l/ha		
rating type	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**
MOICON (%)	**15,63**	12,20	20,48	13,20	12,20	14,20	**13,15**	12,10	14,20	15,50	12,20	20,10	13,15	12,10	14,20	13,10	12,20	14,00	**13,15**	12,20	14,10	13,05	12,10	14,00	13,00	12,00	14,00
n	3			2			2			3			2			2			2			2			2		
HLW (kg/hL)	62,44	52,38	72,50	72,00	72,00	72,00	72,50	72,50	72,50	**62,87**	**53,53**	72,20	71,30	71,30	71,30	72,40	72,40	72,40	71,60	71,60	71,60	71,80	71,80	71,80	71,30	71,30	71,30
n	2			1			1			2			1			1			1			1			1		
TKW (numbers)	48,77	44,90	50,98	47,79	**45,00**	50,57	47,90	44,80	51,00	48,50	45,70	50,60	46,99	45,10	48,87	**47,88**	44,60	51,15	47,45	44,60	50,29	48,09	45,20	50,98	47,21	44,90	49,51
n	3			2			2			3			2			2			2			2			2		
GERM (%)	88,80	88,80	88,80	-	-	-	-	-	-	88,30	88,30	88,30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
n	1			-			-			1			-			-			-			-			-		
Germination: seedling count: normal	**91,40**	83,30	99,50	91,30	83,30	99,30	91,15	82,50	99,80	91,25	84,00	98,50	89,05	78,80	99,30	91,40	83,50	99,30	88,25	77,00	99,50	90,75	82,00	99,50	89,15	79,00	99,30
n	2			2			2			2			2			2			2			2			2		
Germination: seedling count: abnormal	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,15	0,00	0,30	0,40	0,00	0,80	0,00	0,00	0,00	0,50	0,00	1,00	0,15	0,00	0,30	0,40	0,00	0,80
n	2			2			2			2			2			2			2			2			2		
Germination: seedling count: dead	8,65	0,50	16,80	8,80	0,80	16,80	8,90	0,30	17,50	8,65	1,50	15,80	10,90	0,80	21,00	8,65	0,80	16,50	11,25	0,50	22,00	9,15	0,50	17,80	10,55	0,80	20,30
n	2			2			2			2			2			2			2			2			2		
WEIFRE (kg/plot)	31,80	31,80	31,80	-	-	-	-	-	-	29,80	29,80	29,80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
n	1			-			-			1			-			-			-			-			-		
EAR COUNT (m2)	538,0	538,0	538,0	-	-	-	-	-	-	546,0	546,0	546,0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
n	1			-			-			1			-			-			-			-			-		

Table 3.4.3 -4 Effect on yield quality: winter barley (NE)

Treatment	UNCK			AG-T3-175 EC 0,4 l/ha			AG-T3-175 EC 0,6 l/ha			AG-T3-175 EC 0,9 l/ha			AG-T3-175 EC 1,8 l/ha			Moddus 250 EC 0,6 l/ha			Moddus 250 EC 1,2 l/ha		
rating type	mean	min	max	mean	min	max	mean	min	max	mean	min	max	mean	min	max	mean	min	max	mean	min	max
MOICON (%)	11,40	10,20	12,60	11,53	10,45	12,60	11,48	10,35	12,60	11,60	10,70	12,50	11,44	10,48	12,40	10,92	9,43	12,40	11,30	10,10	12,50
n	2			2			2			2			2			2			2		
HLW (kg/hL)	61,62	55,03	68,20	62,39	55,58	69,20	62,34	55,38	69,30	62,24	55,28	69,20	62,28	55,65	68,90	62,10	55,10	69,10	61,93	55,05	68,80
n	2			2			2			2			2			2			2		
TKW (numbers)	51,46	48,62	54,30	51,46	48,17	54,75	52,26	**48,79**	55,72	51,94	48,14	55,74	52,02	48,14	55,90	51,66	47,98	55,35	52,02	48,30	55,74
n	2			2			2			2			2			2			2		
GERM (%)	88,00	88,00	88,00	87,30	87,30	87,30	88,30	88,30	88,30	87,30	87,30	87,30	87,30	87,30	87,30	87,80	87,80	87,80	88,80	88,80	88,80
n	1			1			1			1			1			1			1		

Table 3.4.3 -5 Effect on yield quality: winter barley (MAR)

Treatment	UNCK			AG-T3-175 EC 0,4 l/ha			AG-T3-175 EC 0,6 l/ha			AG-T3-175 EC 0,8 l/ha			AG-T3-175 EC 1,6 l/ha			Moddus 250 EC 0,8 l/ha			Moddus 250 EC 1,6 l/ha			Calma 0,8 l/ha			Calma 1,6 l/ha		
rating type	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**
MOICON (%)	13,85	13,20	15,00	14,15	13,10	15,30	**13,93**	**13,20**	15,30	13,83	13,10	14,90	14,00	13,70	14,30	13,85	13,40	14,80	13,70	13,10	14,60	14,20	13,70	14,70	14,00	13,60	14,40
n	4			4			4			4			2			4			4			2			2		
HLW (kg/hL)	59,83	**53,70**	67,69	59,33	**53,20**	66,75	**59,14**	51,70	67,54	59,11	52,20	67,91	59,48	51,40	67,55	58,61	51,40	67,20	53,88	46,40	60,04	58,45	50,20	66,69	56,78	46,60	66,95
n	3			3			3			3			2			3			3			2			2		
TKW (numbers)	46,42	**40,30**	51,06	**46,18**	41,50	49,63	45,68	38,30	50,76	46,45	41,00	50,40	45,27	39,80	50,74	45,78	38,80	50,55	45,51	38,00	51,01	44,59	38,50	50,68	44,18	37,30	51,06
n	4			4			4			4			2			4			4			2			2		
Germination: seedling count: normal	82,03	61,00	97,30	82,53	63,30	97,80	81,33	59,50	97,50	82,83	62,00	98,50	73,30	59,80	86,80	78,37	57,00	95,80	73,50	46,00	95,50	68,75	57,00	80,50	69,75	59,00	80,50
n	3			3			3			3			2			3			3			2			2		
Germination: seedling count: abnormal	0,20	0,00	0,30	0,10	0,00	0,30	0,00	0,00	0,00	0,10	0,00	0,30	0,00	0,00	0,00	0,10	0,00	0,30	0,17	0,00	0,50	0,00	0,00	0,00	0,30	0,30	0,30
n	3			3			3			3			2			3			3			2			2		
Germination: seedling count: dead	17,87	2,80	38,80	17,43	2,30	36,50	18,67	2,50	40,50	17,10	1,50	38,00	26,80	13,30	40,30	21,60	4,30	43,00	26,33	4,50	53,50	31,25	19,50	43,00	30,05	19,30	40,80
n	3			3			3			3			2			3			3			2			2		
EAR COUNT (m2)	311,75	99,60	523,9	320,30	101,60	539,0	313,70	100,5	526,9	317,85	101,3	534,40	316,15	100,3	532,0	315,20	101,50	528,9	317,4	101,70	533,10	318,35	99,60	537,10	315,15	100,1	530,2
n	2			2			2			2			2			2			2			2			2		
EAR COUNT /GRAIN	35,45	33,2	37,7	34,35	31,1	37,6	33,4	30,1	36,7	34,35	30,6	38,1	35,4	33,6	37,2	35	35	35	38,1	37,4	38,8	37,15	34,4	39,9	37,2	35,9	38,5
n	2			2			2			2			2			2			2			2			2		

Table 3.4.3 -6 Effect on yield quality: winter rye (NE)

Treatment	UNCK			AG-T3-175 EC 0,3 l/ha			AG-T3-175 EC 0,4 l/ha			AG-T3-175 EC 0,6 l/ha			AG-T3-175 EC 1,2 l/ha			Moddus 250 EC 0,3 l/ha			Moddus 250 EC 0,6 l/ha		
rating type	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**
MOICON (%)	12,97	12,10	13,70	13,49	13,30	13,68	13,47	13,30	13,63	12,91	11,90	13,63	13,09	11,90	13,98	13,28	13,10	13,45	13,37	13,30	13,43
n	3			2			2			3			3			2			2		
HLW (kg/hL)	69,98	66,80	76,00	72,10	67,70	76,50	71,95	67,30	76,60	70,66	67,79	76,10	70,94	68,20	76,20	71,86	67,52	76,20	72,07	68,03	76,10
n	3			2			2			3			3			2			2		
TKW (numbers)	30,39	28,70	31,76	**31,24**	30,35	32,13	30,82	29,10	32,54	30,90	29,40	32,09	31,18	30,35	32,08	31,49	30,43	32,55	31,14	30,03	32,24
n	3			2			2			3			3			2			2		
germination: seedling count:normal	186,50	186,50	186,50	-	-	-	-	-	-	186,00	186,00	186,00	189,30	189,30	189,30	96,25	93,00	99,50	95,75	93,00	98,50
n	1			-						1			1			2			2		
germination: seedling count: abnormal	1,00	1,00	1,00	-	-	-	-	-	-	0,50	0,50	0,50	0,50	0,50	0,50	-	-	-	-	-	-
n	1			-						1			1			-			-		
germination: seedling count: dead	12,50	12,50	12,50	-	-	-	-	-	-	13,50	13,50	13,50	10,30	10,30	10,30	-	-	-	-	-	-
n	1			-						1			1			-			-		

Table 3.4.3 -7 Effect on yield quality: winter rye (MAR)

Treatment	UNCK			AG-T3-175 EC 0,3 l/ha			AG-T3-175 EC 0,4 l/ha			AG-T3-175 EC 0,6 l/ha			AG-T3-175 EC 1,2 l/ha			Moddus 250 EC 0,3 l/ha			Moddus 250 EC 0,6 l/ha		
rating type	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**
MOICON (%)	13,53	11,50	15,00	13,54	11,40	15,23	13,63	11,70	15,08	13,68	11,70	15,13	13,43	11,40	14,98	13,54	11,60	15,13	13,68	12,10	14,93
n	3			3			3			3			3			3			3		
HLW (kg/hL)	70,94	69,20	73,10	71,45	69,20	74,10	71,43	70,00	73,70	71,42	68,60	74,30	71,11	68,80	73,70	71,91	70,20	74,55	71,61	70,00	74,10
n	3			3			3			3			3			3			3		
TKW (numbers)	31,53	28,30	33,50	32,63	31,60	33,80	32,63	31,80	33,60	33,13	32,60	34,00	32,13	31,20	33,00	33,43	32,10	34,80	33,40	31,50	34,50
n	3			3			3			3			3			3			3		
GERM (%)	95,30	92,60	98,00	95,15	91,30	99,00	96,65	93,30	100,00	95,55	91,60	99,50	96,80	94,60	99,00	96,25	93,00	99,50	95,75	93,00	98,50
n	2			2			2			2			2			2			2		
germination: seedling count: normal	95,30	95,30	95,30	93,00	93,00	93,00	93,50	93,50	93,50	95,00	95,00	95,00	94,80	94,80	94,80	96,50	96,50	96,50	91,50	91,50	91,50
n	1			1			1			1			1			1			1		
germination: seedling count: abnormal	0,30	0,30	0,30	0,30	0,30	0,30	0,00	0,00	0,00	0,30	0,30	0,30	0,00	0,00	0,00	0,00	0,00	0,00	0,30	0,30	0,30
n	1			1			1			1			1			1			1		
germination: seedling count: dead	4,50	4,50	4,50	6,80	6,80	6,80	6,50	6,50	6,50	4,80	4,80	4,80	5,30	5,30	5,30	3,50	3,50	3,50	8,30	8,30	8,30
n	1			1			1			1			1			1			1		
EAR COUNT (m2)	509,70	499,10	515,00	503,40	485,20	520,00	502,10	481,30	515,00	511,40	471,70	532,50	511,10	505,00	520,80	515,90	502,70	525,00	524,27	522,50	527,80
n	3			3			3			3			3			3			3		
EAR COUNT /GRAIN	73,20	69,60	79,70	74,20	69,60	78,50	74,57	68,30	84,00	74,10	68,90	79,40	73,73	69,00	80,40	76,00	71,10	82,80	74,93	69,60	80,90
n	3			3			3			3			3			3			3		

Table 3.4.3 -8 Effect on yield quality: winter triticale (NE)

Treatment	UNCK			AG-T3-175 EC 0,3 l/ha			AG-T3-175 EC 0,4 l/ha			AG-T3-175 EC 0,6 l/ha			AG-T3-175 EC 1,2 l/ha			Moddus 250 EC 0,6 l/ha			Moddus 250 EC 1,2 l/ha		
rating type	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**
MOICON (%)	10,37	7,33	13,40	10,40	7,40	13,40	10,55	7,60	13,50	10,45	7,70	13,20	10,49	7,58	13,40	10,64	7,98	13,30	10,45	7,60	13,30
n	2			2			2			2			2			2			2		
HLW (kg/hL)	58,59	55,59	61,60	58,65	55,40	61,90	58,70	55,90	61,50	58,95	55,90	62,00	58,74	55,38	62,10	58,65	55,40	61,90	58,77	55,33	62,20
n	2			2			2			2			2			2			2		
TKW (numbers)	42,05	35,05	49,05	42,30	35,50	49,10	42,86	35,52	50,20	43,26	36,02	50,50	43,09	35,67	50,50	42,89	35,72	50,05	42,13	36,01	48,25
n	2			2			2			2			2			2			2		

Table 3.4.3 -9 Effect on yield quality: winter triticale (MAR)

Treatment	UNCK			AG-T3-175 EC 0,25 l/ha			AG-T3-175 EC 0,3 l/ha			AG-T3-175 EC 0,4 l/ha			AG-T3-175 EC 0,6 l/ha			AG-T3-175 EC 1,2 l/ha			Moddus 250 EC 0,6 l/ha			Moddus 250 EC 1,2 l/ha		
rating type	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**
MOCON (%)	15,97	15,00	17,45	14,95	14,95	14,95	16,20	15,00	17,40	16,00	14,70	17,30	15,70	14,80	17,45	16,07	14,80	17,33	16,13	14,80	17,45	16,10	14,80	17,40
n	3			1			2			2			3			2	2		2			2		
HLW (kg/hL)	65,84	61,28	72,25	61,03	61,03	61,03	67,50	61,50	73,50	69,10	65,10	73,10	67,19	62,08	72,50	68,15	63,60	72,70	66,90	61,10	72,70	66,95	61,00	72,90
n	3			1			2			2			3			2			2			2		
TKW (numbers)	41,03	33,28	44,90	34,30	34,30	34,30	43,60	43,60	43,60	44,20	44,20	44,20	40,28	34,65	43,10	44,60	44,60	44,60	42,90	42,90	42,90	43,30	43,30	43,30
n	3			1			2			2			3			2			2			2		
GERM (%)	97,60	97,60	97,60	-	-	-	96,00	96,00	96,00	99,30	99,30	99,30	98,60	98,60	98,60	97,30	97,30	97,30	98,00	98,00	98,00	97,60	97,60	97,60
n	2			-	-	-	2			2			2			2			2			2		
WEIFRE (kg/plot)	11,66	11,39	11,93	-	-	-	12,37	12,36	12,38	11,97	11,75	12,19	12,22	12,12	12,32	11,71	11,55	11,86	12,19	11,89	12,49	11,90	11,72	12,08
n	2			-	-	-	2			2			2			2			2			2		
EAR COUNT (m2)	229,50	71,50	387,50	-	-	-	236,00	62,00	410,00	229,75	64,50	395,00	244,90	69,80	420,00	233,75	72,50	395,00	241,40	72,80	410,00	238,40	71,80	405,00
n	2			-	-	-	2			2			2			2			2			2		
EAR COUNT /GRAIN	371,35	71,20	671,50	-	-	-	363,95	75,90	652,00	347,50	63,00	632,00	343,00	69,50	616,50	390,65	68,30	713,00	404,25	75,20	733,30	327,90	70,30	585,50
n	2						2			2			2			2			2			2		

Table 3.4.3 -10 Effect on yield quality: winter wheat (NE)

Treatment	UNCK			AG-T3-175 EC 0,4 l/ha			AG-T3-175 EC 0,6 l/ha			AG-T3-175 EC 1,2 l/ha			AG-T3-175 EC + AG-T3-175 EC 0,3+0,3 l/ha			Moddus 250 EC 0,4 l/ha			Moddus 250 EC 0,8 l/ha			Antywylegacz Płynny 2,1 l/ha			Antywylegacz Płynny 4,2 l/ha		
rating type	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**	**mean**	**min**	**max**
MOICON (%)	13,43	11,60	14,80	13,34	11,33	15,08	13,29	11,23	14,88	12,83	10,98	13,58	13,33	11,50	14,90	12,86	11,43	13,70	12,75	11,58	13,40	13,61	12,93	15,10	12,94	12,93	12,95
n	12			20			23			13			9			4			4			7			2		
HLW (kg/hL)	74,02	69,70	78,50	75,49	70,50	80,63	75,37	70,60	79,35	75,93	71,70	78,75	75,58	71,40	80,13	76,02	72,20	80,53	76,73	71,90	80,15	74,80	69,90	79,00	78,00	78,00	78,00
n	7			19			21			11			9			4			4			6			1		
TKW (numbers)	40,90	36,08	48,05	42,43	35,83	51,33	42,13	36,18	51,89	42,34	36,20	51,04	42,40	37,00	51,15	43,25	36,40	51,25	42,83	36,00	51,29	41,73	36,80	48,05	42,15	36,40	47,90
n	8			20			23			13			9			4			4			7			2		
GERM (%)	90,75	90,00	91,50	91,03	89,80	92,00	91,18	90,30	92,30	90,33	89,00	91,50	90,40	90,00	90,80	90,90	90,00	91,80	90,15	89,30	91,00	-	-	-	-	-	-
n	2			4			4			4			2			2			2			-			-		
Germination: seedling count: normal	90,16	83,50	92,50	90,39	82,75	92,50	90,15	83,75	92,80	85,76	83,00	89,00	91,77	91,30	92,50	-	-	-	-	-	-	88,32	80,50	93,00	87,15	84,50	89,80
n	5			8			10			4			3			-						5			2		
germination: seedling count: abnormal	2,77	0,00	8,25	2,28	0,00	7,00	2,48	0,30	9,25	3,26	0,00	7,00	1,87	0,00	2,80	-	-	-	-	-	-	2,87	0,80	7,25	3,75	1,00	6,50
n	5			8			10			4			3			-						5			2		
germination: seedling count: dead	7,11	4,80	9,50	7,39	4,80	10,25	7,44	4,50	10,50	11,00	9,50	13,50	6,43	4,80	8,50	-	-	-	-	-	-	8,87	5,00	13,30	9,15	9,00	9,30
n	5			8			10			4			3			-						5			2		
WEIFRE (kg/plot)	7,43	7,43	7,43	8,73	8,59	8,86	8,83	8,81	8,85	-	-	-	9,00	9,00	9,00	-	-	-	-	-	-	8,99	8,99	8,99			
n	1			2			2			-			1			-						1					
EAR COUNT (m2)	431,00	243,50	577,50	385,10	234,80	584,50	438,38	243,00	593,75	535,83	482,80	595,00	235,00	235,00	235,00	-	-	-	-	-	-	425,83	244,00	560,00	536,65	483,30	590,00
n	3			4			6			4			1			-						3			2		
EAR COUNT /GRAIN	46,90	41,00	52,80	41,78	31,50	55,00	43,60	32,00	58,50	44,56	31,00	57,00	41,00	41,00	41,00	-	-	-	-	-	-	42,72	31,75	55,80	45,15	32,50	57,80
n	2			4			6															3			2		

Comments of zRMS:	**Effects on the quality of plants or plant products** The efficacy trials were harvested and the yield quality parameters such as: moisture content (%), thousand grain weight (g), weight of hectoliter (kg/hl), germination (%) and seedlings count (numbers), weight fresh (kg/plot), number of ears (/m²) and number of grains (no./ear) was determined The rates of AG-T3-175 EC growth regulator and the reference products were specified in the chapter on efficacy and phytotoxicity. **Oat** (3 trials) The results show that AG-T3-175 EC applied at the rates of 0.4; 0.5, 0.6 and 1.2 L/ha in 2 trials and 0.6 and 1.2 L/ha in 1 trial (PL) had a positive impact on oats yield quality. The values of MOICON, HLW, TKW and normal seedlings number were similar in all objects, while the TKW of oats grains was higher after the use of tested growth regulator. The increase of TKW value was caused by lodging reduction, which meant that the seeds ripened in good conditions. **ZRMS confirms** no negative impact of tested growth regulator on quality of oat grains. **Spring barley** (5 trials) AG-T3-175 EC was tested at the rates: 0.4; 0.5 and 0.6 L/ha in 2 trials (PL) and at 0.25; 0.3; 0.4; 0.5 and 0.6 L/ha in 3 trial (CZ). In the trials carried out in N-E zone with spring barley sprayed by AG-T3-175 EC, at claimed label rate of 0.4-0.6 L/ha, the MOICON, HLW, TKW mean values were higher than from untreated control and were similar or higher to the reference product, while in Maritime zone HLW values were higher and MOICON and TKW slightly lower than from untreated control and all parameters were similar to reference product. The seeds germination in all objects was at the same level. **ZRMS confirms** no negative impact of tested growth regulator on the yield quality of spring barley, so it support the registration of AG-T3-175 EC in spring barley, at claimed label rate of 0.4-0.6 L/ha. **Winter barley** (6 trials) AG-T3-175 EC was tested at the rates of 0.4; 0.6 and 0.9 L/ha in 2 trials (PL) and at 0.4; 0.6 and 0.8 L/ha in 4 trial (BE, CZ). In the trials carried out in N-E zone after AG-T3-175 EC application at the claimed label rate of 0.6-0.9 L/ha, the MOICON and HLW mean values were higher than from untreated control and similar to reference product, TKW was similar to untreated control and reference products, while in Maritime zone all parameters were similar to untreated control and reference products. The seeds germination in all objects was at the same level. **ZRMS confirms** no negative impact of tested growth regulator on the yield quality of winter barley, so it support the registration of AG-T3-175 EC in winter barley, at claimed label rate of 0.6-0.9 L/ha. **Winter rye** (6 trials) AG-T3-175 EC in all trials was tested at the rates of 0.3; 0.4 and 0.6 L/ha. In the trials with winter rye treated by AG-T3-175 EC at the claimed label rate of 0.6 L/ha, the mean values of all parameters were similar or slightly higher than from untreated control and reference product. There were also no significance differences in germination: seedlings count, ear count (ears/m^2) and ear count/grain. **ZRMS confirms** no negative impact of tested growth regulator on the yield quality of winter rye, so it support the registration of AG-T3-175 EC in winter rye, at claimed label rate of 0.6 L/ha. **Winter triticale** (6 trials) AG-T3-175 EC in all trials was tested at the rates: 0.3; 0.4 and 0.6 L/ha. In the trials with winter triticale treated by AG-T3-175 EC at the claimed label rate of 0.6 L/ha, the mean values of all parameters were as the same level as from the untreated control and reference products. There were also no significance differences in germination: seedlings

	count, ear count (ears/m2) and ear count/grain. **ZRMS confirms** no negative impact of tested growth regulator on the yield quality of winter triticale, so it support the registration of AG-T3-175 EC in winter triticale at claimed label rate of 0.6 L/ha. **Winter wheat** (12 trials) AG-T3-175 EC was tested at the rates: 0.2; 0.3; 0.6; 0.6 L/ha in 1 treatment and with split application method – 0.3 + 0.3 L/ha. In the trials with winter triticale treated by AG-T3-175 EC at the claimed label rate of 0.6 L/ha, the mean values of all parameters were at the same level or higher, compared to the untreated control and reference products. There were also no significance differences in germination: seedlings count, ear count (ears/m2) and ear count/grain. **ZRMS confirms** no negative impact of tested growth regulator on the yield quality of winter wheat, so it support the registration of AG-T3-175 EC in winter wheat at claimed label rate of 0.4-0.6 L/ha. **Overall conclusion**. Positive effect on the yield confirms the expediency of registration of plant growth regulator AG-T3-175 EC for prevent or reduce the lodging in winter wheat, winter and spring barley, winter triticale, winter rye and oats.

3.4.4 Effects on transformation processes (KCP 6.4.4)

Lack of additional tests in this range. Active substances comprising in this product has been applied for many years, not only in Poland and Czech Republic but also in the other countries of Europe.
In processing studies with wheat and barley grain from residue trials it appeared, that most of the residue (trinexapac) in wheat grain is found to be transferred to the bran fraction, to whole-meal flour and subsequently to whole-grain bread. Concentration of the residue is only observed in the bran fraction (about 4-fold). The processing of barley grain into beer results in a reduction of residue levels. However, these studies may need to be reassessed subject to the relevance of CGA 113745
EFSA Scientific Report (2005) 57, 1– 70, Conclusion on the peer review of trinexapac
The detailed information about this point was submitted in the annex III dossier of the BOLD 175 product in August 2010 during the first registration of this product in Poland.

Comments of zRMS:	**Effects on transformation processes** Taking into account the conclusion on the peer review of trinexapac ZRMS accept the applicant`s reliances on the detailed results presented in Annex III for growth regulator Bold 175 EC, during its first registration in Poland. Bold 175 EC containing trinexapac-ethyl (175 g/l), the same active substance as in growth regulator AG-T3-175 EC, was registered in Poland on 27.11.2013. Moreover, there is no information on adverse effects on transformation processes in cereals caused by another products with active substance trinexapac-ethyl.

3.4.5 Impact on treated plants or plant products to be used for propagation (KCP 6.4.5)

There is no information available pointing to presence of any limitations for using of AG-T3-175 EC in seed crops of winter wheat, winter triticale, winter rye, winter barley, spring barley and spring oat.
In the course of studies (14 trials in total) carried out in Poland in the season of 2016 on product AG-T3-175 EC the plant growth regulator has not been observed to have any significant influence on yield, grain density and 1000 grains weight.
The product may be used in seed crops of winter wheat, winter triticale, winter rye, winter barley, spring

barley and spring oat.

The detailed information about this point was submitted in the annex III dossier of the BOLD 175 product in August 2010 during the first registration of this product in Poland

Summary
This document summarises the information related to the efficacy and selectivity of the plant protection product AG-T3-175 EC. The formulation of this product is a emulsifiable concentrate (EC) and it comprises active trinexapac ethyl (175 g/l). AG-T3-175 EC is a growth regulation (reduction of lodging) in winter wheat, winter triticale, winter rye, winter barley, spring barley and spring oat.

The active substance trinexapac-ethyl is included in the Annex I of Directive 91/414 (now: Commission Implementing Regulation (EU) No 540/2011 of 25 May 2011) by Commission Directive 2006/64/CE of 18 July 2006 implementing Regulation (EC) No 1107/2009 of the European Parliament and of the Council as regards the list of approved active substances.

The applicant submitted 37 reports (in total) showing the results in research into product efficacy carried out in 2014-2016 in winter wheat, winter triticale, winter rye, winter barley, spring barley, spring oat.
24 trials were conducted in North-East EPPO zone (Poland):
Winter wheat :12
Oats: 3
Spring barley: 2
Winter barley: 2
Winter rye: 3
Winter triticale: 2
13 trials were conducted in Maritime EPPO zone, in Czech Republic and Germany:
Spring barley: 3 (CZ)
Winter barley: 2 (CZ) + 2 (DE)
Winter rye: 3 (DE)
Winter triticale: 3(DE)
The obtained data in performed trials show AG-T3-175 EC reduce effectively culm of cereals in the following proposed application rates:
winter wheat BBCH 31-39:
a) used in single application: 0,4 l/ha – 0,6 l/ha
b) split dose: 2 x 0,3 l/ha
winter triticale BBCH 31-32:
a) used in single application: 0,6 l/ha
winter rye BBCH 31-39 :
a) used in single application 0,6 l/ha
winter barley BBCH 31-39:
a) used in single application 0,6 l/ha-0,9 l/ha
spring barley BBCH 31-34:
a) used in single application 0,4 l/ha – 0,6 l/ha
oats BBCH 31-33:
a) used in single application 0,4 l/ha – 0,6 l/ha

AG-T3-175 EC has demonstrated good crop tolerance. Therefore, concluded that AG-T3-175 EC is safe usage at proposed rate and this support the label claim for the use in winter wheat, winter triticale, winter rye, winter barley, spring barley and spring oat.
Undesirable effects are not expected on succeeding crops, adjacent crop, part of plants used for propagating purposes and on beneficial organisms.
According to the above, the plant protection product AG-T3-175 EC can be approved to the market and use in Poland according to proposed range of use – GAP (Appendix 2).

Recommended volume of water 230-250 l/ha

Recommended medium droplet spraying

Use of Trinexapac ethyl according to the proposed GAP does not represent a hazard to rotational crops and does not justify a specific labeling. Trinexapac is not persistent in soil nor is it taken up by succeeding crops.

Comments of zRMS:	**Impact on treated plants or plant products to be used for propagation** Taking into account the conclusion on the peer review of trinexapac ZRMS accepts the applicant's reliance on the detailed results presented in Annex III for growth regulator Bold 175 in August 2010, during its first registration in Poland. Bold 175 EC contains trinexapac-ethyl (175 g/l), the same active substance as in growth regulator AG-T3-175 EC and it was registered in Poland on 27.11.2013. Moreover, the various products containing active substance trinexapac-ethyl has been applied for many years in many European countries, including Poland and Czech Republic and any adverse effects in typical cropping situation were not observed. The results of submitted trials confirm a good tolerance of cereal crops on tested growth regulator.

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

3.5.1 Impact on succeeding crops (KCP 6.5.1)

The active substance including into composition of this product have been applied for many years not only in Poland but also in other countries of Europe. Based on the absence of any adverse effects in typical cropping situations, it was concluded that the growth regulation AG-T3-175 EC poses no risk to succeeding crops.
In rotational crops, residue levels were at or below the LOQ and too low for identification. Hence, no significant residue levels are to be expected in rotational crops following application of trinexapac-ethyl according to GAP.
EFSA Scientific Report (2005) 57, 1– 70, Conclusion on the peer review of trinexapac
Due to mode of uptake (leaf uptake, no significant activity via the root sytem), the mode of action and the physico-chemical behaviour (fast degradation in soil, there are no restrictions in regard to succending crop after Moddus 250 EC application.
Trinexapac_DAR_03_Vol_3_b1-5_public

The detailed information about this point was submitted in the annex III dossier of the BOLD 175 product in August 2010 during the first registration of this product in Poland.

Comments of zRMS:	**Impact on succeeding crops** ZRMS accepts the applicant's reliance on the detailed results presented in Annex III for growth regulator Bold 175 in August 2010, during its registration in Poland. Bold 175 EC contains trinexapac-ethyl (175 g/l), the same active substance as in growth regulator AG-T3-175 EC and it was registered in Poland on 27.11.2013. ZRMS also agree with applicant that trinexapac-ethyl poses no risk to succeeding crops, due to the mode of uptake (leaf uptake, no significant activity via the root system), not persistent and fast degradation of the active substance in the soil. Moreover, the various products containing trinexapac-ethyl has been applied for many years in many European countries, including Poland and Czech Republic and any adverse effects in typical cropping situation were not observed.

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

The active substance including into composition of this product have been applied for many years not only in Poland but also in other countries of Europe. Drift onto adjacent crops should be generally avoided. However, due to the good safety of AG-T3-175 EC on plants, there is no risk for adjacent crop to become injured, even in case of improper applications. No negative effects of applications of trinexapac ethyl containing products on adjacent crops are known, neither from field trials nor from long term agricultural use when the products were applied according to the use instructions.
The detailed information about this point was submitted in the annex III dossier of the BOLD 175 product in August 2010 during the first registration of this product in Poland.

Comments of zRMS:	**Impact on other plants including adjacent crops** ZRMS accepts the applicant's reliance on the detailed results presented in Annex III for growth regulator Bold 175 in August 2010, during its registration in Poland. Moreover, the various products containing active substance trinexapac-ethyl has been applied for many years in many European countries, including Poland and Czech Republic and any adverse effects in typical cropping situation were not observed. AG-T3-175 EC does not pose a threat for adjacent crops when used correctly, according to recommendation, especially respecting the force of the wind.

Tank cleaning

n.a.

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

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

The detailed information about this point was submitted in the annex III dossier of the BOLD 175 product in August 2010 during the first registration of this product in Poland

Compatibility with current management practices including IPM

n.a

Summary and conclusion

n.a.

3.6 Other/special studies

Not performed

3.7 List of test facilities including the corresponding certificates

Table 3.7-1: List of test facilities

Test facility	Address	Certificate (Yes or No)
BIOTEK Agriculture Polska Sp. z o.o.	Gać 64, 55-200 Oława, Polska	Y
Poznań University of Life Sciences	ul. Mazowiecka 45/46, 60-623 Poznań,Polska	
Fertico Sp. z o. o.	Goliany 43, Błędów, Polska	
Staphyt Sp z o.o.	Ul Ziębicka 2 Poznań , Polska	
BioChem agrar GmbH	Kupferstraße 6 D-04827 Machern OT Gerichshain, Germany	
Agrovita spol. s r.o.	Za Rybníkem 779, 252 42 Jesenice, Czech Republic	
Zkušební stanice Nechanice, s.r.o.	Stolbova 319, 503-15 Nechanice, Czech Republic	
Martin Feldversuchswesen	Im Grund 20, Baden-Wuerttemberg D-78359, Germany	

Appendix 1 Lists of data considered in support of the evaluation

Tables considered not relevant can be deleted as appropriate.

MS to blacken authors of vertebrate studies in the version made available to third parties/public.

List of data submitted by the applicant and relied on

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Vertebrate study Y/N	Owner
KCP 6	Katarzyna Furman - Frątczak	2016	Ocena skuteczności i selektywności preparatu Optimus 175 EC stosowanego w uprawie owsa (The evaluation of efficacy and selectivity of Optimus 175 EC on oat) Company Report No: DPE16/943/RZB-01 Trial ID: PL16GEAVESA117A GEP Unpublished	Y	ADAMA
	Łukasz Sobiech	2016	Efficacy evaluation of AG-T3-175 EC on spring oats in Poland in 2016 Trial ID: PL16GEAVESA117B GEP Unpublished	Y	ADAMA
	Katarzyna Furman - Frątczak	2017	Ocena skuteczności I selektywności preparatu: AG-TC1-292,5 ME1 oraz AG-TC1-292,5 ME stosowanego w uprawie owsa. The evaluation of efficacy and selectivity of AG-TC1-292,5 ME1 and AG-TC1-292,5 ME in oats. Trial ID: PL17GEAVESA040A GEP Unpublished	Y	ADAMA
	Jiri Roslapil	2014	Efficacy evaluation of AG-TC1-292,5 ME on spring barley in the Czech republic in 2014. Trial ID: CZ14GEHORVS005B	Y	ADAMA

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
			GEP Unpublished		
	Jan Čáp	2017	Efficacy evaluation and comparison to the old formulation of AG-T3-175 EC on spring barley in the Czech republic in 2017. Trial ID: CZ17GEHORVS011A GEP Unpublished	Y	ADAMA
	Jan Čáp	2017	Efficacy evaluation and comparison to the old formulation of AG-T3-175 EC on spring barley in the Czech republic in 2017. Trial ID: CZ17GEHORVS011B GEP Unpublished	Y	ADAMA
	Katarzyna Furman - Frątczak	2016	Ocena skuteczności i selektywności preparatu Optimus 175 EC stosowanego w uprawie jęczmienia jarego (The evaluation of efficacy and selectivity of Optimus 175 EC on spring barley) Company Report No: DPE16/940/RZB-01 Trial ID: PL16GEHORVS114A GEP Unpublished	Y	ADAMA
	Łukasz Sobiech	2016	Efficacy evaluation of AG-T3-175 EC on spring barley in Poland in 2016 Trial ID: PL16GEHORVS114B GEP Unpublished	Y	ADAMA
	Katarzyna Furman - Frątczak	2016	Ocena skuteczności i selektywności preparatu Optimus 175 EC stosowanego w uprawie jęczmienia ozimego (The evaluation of efficacy and selectivity of Optimus 175 EC on winter barley) Trial ID: PL16GEHORVW116A GEP Unpublished	Y	ADAMA
	Łukasz Sobiech	2016	Efficacy evaluation of AG-T3-175 EC on winter barley on Poland in 2016	Y	ADAMA

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
			Trial ID: PL16GEHORVW116B GEP Unpublished		
	Jiří Hruška	2017	Efficacy evaluation of AG-T3-175 EC on winter barley in the Czech republic in 2017 Trial ID: CZ17GEHORVW015A GEP Unpublished	Y	ADAMA
	Jan Čáp	2017	Efficacy evaluation of AG-T3-175 EC on winter barley in the Czech republic in 2017. Trial ID: CZ17GEHORVW015B GEP Unpublished	Y	ADAMA
	Udo Zickart	2017	Efficacy evaluation of AG-T3-175 EC and comparison with the old formulation on winter barley in Germany, 2017 Trial ID: DE17WEHORVW500A GEP Unpublished	Y	ADAMA
	Udo Zickart	2017	Efficacy evaluation of AG-T3-175 EC and comparison with the old formulation on winter barley in Germany, 2017 Trial ID: DE17WEHORVW500B GEP Unpublished	Y	ADAMA
	Udo Zickart	2017	Efficacy evaluation of AG-T3-175 EC on winter rye in Germany, 2017 Trial ID: DE17WESECSS501B GEP Unpublished	Y	ADAMA
	Udo Zickart	2016	Efficacy evaluation of AG-T3-175 EC on winter rye in Germany, 2016 Trial ID: DE16WESECSS503B GEP Unpublished	Y	ADAMA

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
	Udo Zickart	2016	Efficacy evaluation of AG-T3-175 EC on winter rye in Germany in 2016 Efficacy evaluation of AG-T3-175 EC on winter rye in Germany, 2016 Trial ID: DE16WESECSS503A GEP Unpublished	Y	ADAMA
	Katarzyna Furman - Frątczak	2016	Ocena skuteczności I selektywności preparatu Optimus 175 EC w uprawie żyta ozimego The evaluation of efficacy and selectivity of Optimus 175 EC w winter rye Report nr: DPE16/939/RZB-01 Trial ID: PL16GESECSS113A GEP Unpublished	Y	ADAMA
	Karolina Felczak	2017	Skuteczność preparatu AG-TC1-292,5 ME w zapobieganiu wylegania w uprawie żyta ozimego , Polska 2017 Efficacy of AG-TC1-292,5 ME in prevention of lodging in winter rye, Poland 2017 Report nr: 39_01_F17_072 Trial ID: PL17GESECSS038A GEP Unpublished	Y	ADAMA
	Łukasz Sobiech	2016	Efficacy evaluation of AG-T3-175 EC on winter rye in Poland in 2016 Trial ID: PL16GESECSS113B GEP Unpublished	Y	ADAMA
	Udo Zickart	2016	Efficacy evaluation of AG-T3-175 EC on winter triticale in Germany in 2016 Trial ID: DE16WETTLSS504B GEP Unpublished	Y	ADAMA
	Udo Zickart	2016	Efficacy evaluation of AG-T3-175 EC on winter triticale	Y	ADAMA

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
			in Germany in 2016 Trial ID: DE16WETTLSS504A GEP Unpublished		
	Thomas Martin	2014	Efficacy evaluation of AG-TC1-292,5 ME on winter triticale on Triticale , in 2014 Trial ID: DE14GETTLSS515A GEP Unpublished	Y	ADAMA
	Katarzyna Furman - Frątczak	2016	Ocena skuteczności i selektywności preparatu Optimus 175 EC stosowanego w uprawie pszenżyta ozimego (The evaluation of efficacy and selectivity of Optimus 175 EC on winter triticale) Report nr: DPE16/941/RZB-01 Trial ID: PL16GETTLSS115A GEP Unpublished	Y	ADAMA
	Łukasz Sobiech	2016	Efficacy evaluation of AG-T3-175 EC on winter triticale in Poland in 2016 Trial ID: PL16GETTLSS115B GEP Unpublished	Y	ADAMA
	Łukasz Sobiech	2017	Badanie skuteczności regulatorów wzrostu AG-TC1-292,5 ME1 oraz AG-TC1-292,5 ME w uprawie zbóż Evaluation of PGR efficacy AG-TC1-292,5 ME1 and AG-TC1-292,5 ME in cereals Trial ID: PL17GETRZAW034B GEP Unpublished	Y	ADAMA
	Łukasz Sobiech	2017	Badanie skuteczności regulatora wzrostu AG-T3-175 EC w uprawie pszenicy ozimej Efficacy of PGR AG-T3-175 EC in winter wheat Trial ID: PL17GETRZAW049A GEP Unpublished	Y	ADAMA
	Łukasz Sobiech	2017	Badanie skuteczności regulatora wzrostu AG-T3-175 EC w uprawie pszenicy ozimej	Y	ADAMA

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
			Efficacy of PGR AG-T3-175 EC in winter wheat Trial ID: PL17GETRZAW049B GEP Unpublished		
	Katarzyna Furman - Frątczak	2017	Ocena skuteczności I selektywności preparatu Optimus 175 EC(AG-T3-175 EC) stosowanego w uprawie pszenicy ozimej. The evaluation of efficacy and selectivity of Optimus 175 EC(AG-T3-175 EC) in winter wheat. Trial ID: PL17GETRZAW049C GEP Unpublished	Y	ADAMA
	Katarzyna Furman - Frątczak	2017	Ocena skuteczności I selektywności preparatu Optimus 175 EC(AG-T3-175 EC) stosowanego w uprawie pszenicy ozimej. The evaluation of efficacy and selectivity of Optimus 175 EC(AG-T3-175 EC) in winter wheat. Trial ID: PL17GETRZAW049D GEP Unpublished	Y	ADAMA
	Adam Pawlak	2017	Ocena skutecznosci AG-T3-175 EC w pszenicy ozimej, Polska 2017 Efficacy evaluation of AG-T3-175 EC on winter wheat, Poland 2017 Trial ID: PL17GETRZAW049E GEP Unpublished	Y	ADAMA
	Karolina Felczak	2017	Skuteczność preparatu AG-T3-175 EC w zapobieganiu wylegania w uprawie pszenicy ozimej , Polska 2017 Efficacy of AG-T3-175 EC in prevention of lodging in winter wheat, Poland 2017 Report nr: 61-01- F17-110 Trial ID:P L17GETRZAW050A GEP Unpublished	Y	ADAMA
	Karolina Felczak	2017	Skuteczność preparatu AG-T3-175 EC w zapobieganiu wylegania w uprawie pszenicy ozimej , Polska 2017	Y	ADAMA

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
			Efficacy of AG-T3-175 EC in prevention of lodging in winter wheat, Poland 2017 Report nr: 61-01- F17-111 Trial ID:PL17GETRZAW050B GEP Unpublished		
	Katarzyna Furman - Frątczak	2016	Ocena skuteczności I selektywności preparatu Optimus 175 EC stosowanego w uprawie pszenicy ozimej. The evaluation of efficacy and selectivity of Optimus 175 EC in winter wheat. Report nr: DPE16/938/RZB-01 Trial ID: PL16GETRZAW112A GEP Unpublished	Y	ADAMA
	Katarzyna Furman - Frątczak	2016	Ocena skuteczności I selektywności preparatu Optimus 175 EC stosowanego w uprawie pszenicy ozimej. The evaluation of efficacy and selectivity of Optimus 175 EC in winter wheat. Report nr: DPE16/938/RZB-02 Trial ID: PL16GETRZAW112B GEP Unpublished	Y	ADAMA
	Łukasz Sobiech	2016	Efficacy evaluation of AG-T3-175 EC on wheat in Poland in 2016 Trial season: 2016 Trial ID: PL16GETRZAW112C GEP Unpublished	Y	ADAMA
	Łukasz Sobiech	2016	Efficacy evaluation of AG-T3-175 EC on wheat in Poland in 2016 Trial season: 2016 Trial ID: PL16GETRZAW112D GEP Unpublished	Y	ADAMA

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
KCP XX	Author	YYYY	Title Company Report N Source GLP/non GLP/GEP/non GEP Published/Unpublished	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 Source GLP/non GLP/GEP/non GEP Published/Unpublished	Y/N	Owner

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