REGISTRATION REPORT

Part B

Section 3

Efficacy Data and Information

Concise summary

Product code: CA3573

Product name(s): Carnadine/Kestrel

Chemical active substance:

Acetamiprid, 200 g/L

Central Zone

Zonal Rapporteur Member State: Poland

CORE ASSESSMENT

(Re-authorisation acc. to Art. 43)

Applicant: Nufarm Europe GmbH

Submission date: July 2020

MS Finalisation date: January 2021 (initial Core Assessment)

November 2021, January 2022 (final Core Assessment)

Version history

When	What
July 2020	Version 1.0 (application)
January 2021	Initial zRMS assessment (re-authorization) The report in the dRR format has been prepared by the Applicant, therefore all comments, additional evaluations and conclusions of the zRMS are presented in grey commenting boxes. Minor changes are introduced directly in the text and highlighted in grey. Not agreed or not relevant information are ~~struck through and shaded for transparency~~.
November 2021	Final report (Core Assessment updated following the commenting period) Additional information/assessments included by the zRMS in the report in response to comments recieved from the cMS and the Applicant are highlighted in yellow.
January 2022	Final report (Core Assessment after additional round of the commenting period) No additional information or assessments after the commenting period.

Table of Contents

List of abbreviations

Abbreviation	Description
%	percent
λ	Lambda
acc.	(in) accordance
AGES	Austrian authority (Agentur für Gesundheit und Ernährungssicherheit)
a.i.	Active ingredient, synonyms: a.s., as
Apr.	April
a.s.	Active substance, synonyms: as, a.i.
Aug.	August
BAD	Biological Assessment Dossier
bar	Bar, (unit for pressure)
BBCH	decimal code for plant growth stages
BRSNS/ BRSNN	Spring oilseed rape
BRSNW/ BRSNN	Winter oilseed rape
°C	degree celsius
CAS	Chemical Abstracts Service
C-EU	Central Europe (EU-Registration Zone)
CEUTSP	*Ceutorhynchus* sp.
CIPAC	Collaborative International Pesticides Analytical Council
cm	centimetre
cMS	concerned Member State
CS	capsule suspension (formulation type)
ctd.	continued
CZ	Czech Republic
DAA	Days after (first) treatment/ application
DAB	Days after (second) treatment/ application B
DALA	Days after last application
DE	Germany
dRR	Draft Registration Report
E	Efficacy trial with selectivity assessment (trial type)
e.g.	exempli gratia, engl. for example
EC	emulsifiable concentrate (formulation type)
EFSA	European Food Safety Authority
EPPO	European Plant Protection Organisation
etc.	et cetera
EU	Europe, European Union
EW	emulsion, oil in water (formulation type)
F	Professional field use
Fn	Non-professional field use
Fpn	Professional and non-professional field use
g	gram
G	Professional greenhouse use
GAP	good agricultural practice
g a.s./ha	gram active substance per hectare
g/kg	gram per kilogram
g/L	gram per litre
g/mol	gram per mole
GEP	Good Experimental Practice
GLP	Good Laboratory Practice
Gn	Non-professional greenhouse use
Gpn	Professional and non-professional greenhouse use
HU	Hungary
I	Indoor application
i.e.	id est, engl. that is to say
IRAC	Insecticide Resistance Action Committee
IUPAC	International Union of Pure and Applied Chemistry
Jun.	June
kg	kilogram
kg/ha	kilogram per hectare
L	litre
LC50	Lethal concentration 50 (concentration which is lethal for 50% of the test organisms)
L/ha	litre per hectare

Abbreviation	Description
Ltd.	Limited (company)
LWA	Leaf Wall Area in m²/ha
M	Efficacy trial with minimum effective dose determination (trial type)
m	metre
m^2	square metre
MAR	Maritime EPPO zone
Mar.	March
max.	maximum
med.	medium
mg	milligram
mg/L	milligram per litre
min.	minimum
MoA	Mode of Action
MS	Member State(s)
1N	Target / intended dose rate
2N	Twice of the target / intended dose rate
n	number of trials / trial results
N	No
n.a., N/A	not available / not applicable
nAChR	Neonicotinic acetylcholine receptor
NE	North-Eastern EPPO zone
No.	number
n.s.	not specified
Oct.	October
OD	oil dispersion (formulation type)
OECD	Organization for Economic Co-operation and Development
p.	page
PHI	pre-harvest interval
PL	Poland
RCBD	Randomized complete block design
Ref. no.	Reference number
RO	Romania
RP	Reference product
RR	Registration Report
SANTE	Directorate-General Health and Consumer Protection
SC	suspension concentrate (formulation type)
SE	South-Eastern EPPO zone
Sep.	September
SG	water soluble granule (formulation type)
SK	Slovakia
SL	soluble concentrate (formulation type)
SOA	Site of action
SP	water soluble powder (formulation type)
T	Trial on the basis of the study of impact on transformation process (TP: Physical transformation)
TP	Physical transformation
UK	United Kingdom
UTC	untreated control
%w/v	Percentage concentration (weight per volume)
Vers.	Version
W	Winter
W-OSR	Winter oilseed rape
WG	water dispersible granules (formulation type)
Y	Yes
Y	Trial (type) with yield and / or quality assessment
zRMS	zonal Rapporteur Member State

STATEMENT ON OWNERSHIP

The summaries and evaluations contained in this document may be based on unpublished proprietary data submitted for the purpose of the assessment undertaken by the regulatory authority that prepared it. Other registration authorities should not grant, amend, or renew a registration on the basis of the summaries and evaluation of unpublished proprietary data contained in this document unless they have received the data on which the summaries and evaluation are based, either –

- From the owner of the data, or
- From a second party that has obtained permission from the owner of the data for this purpose
- Following expiry of any period of exclusive use, by offering – in certain jurisdictions – mandatory compensation, unless the period of protection of the proprietary data concerned has expired.

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)

Comments of zRMS:

Conclusions from the assessment were prepared using grey commenting boxes placed at the end of each chapter. Textual changes were done using grey highlights in the text. The parts of the text amended or added by the zRMS evaluator are highlighted in grey, whereas the parts struck off are ~~visibly marked with the grey font~~.
No critical changes were done in the final RR after the commenting. Only three minor changes in the pages 8, 17 and 74, all in the zRMS commenting boxes, are highlighted in yellow.

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

Abstract

Comments of zRMS:

Introduction
CA3573 is soluble concentrate containing insecticide acetamiprid (200 g / L f.p.), the active of the MoA group 4A according to IRAC, intended to be used in apple, potato, maize and winter and spring oilseed rape cultures. The aim of the present application is to re-authorize CA3573 (Kestrel 200 SL in PL, Carnadine 200 SL in SK), **based on the art. 43** of the EC Regulation 1107/2009. The dose rates and the number of applications had to be **reduced** in some uses, following the requirements of ecotoxicology section, as explained by the applicant in: 3.2 Efficacy data (KCP 6), in the present document.

Changes in the GAP table compared to the current authorization
For Poland and for Slovakia, in the uses **2** and **12** respectively, the maximum dose rate is reduced for application against *Cydia pomonella* in apple cultures, from 0.40 l/ha to 0,25 l/ha. For Slovakia there is also reduction in the number of applications from 2 to 1 application in potato (use **13**), and in winter and spring oilseed rape against stem and pod weevils, pollen beetle and brassica pod midge (uses **14-18**). While modified with respect to their dose rate or the number of applications, these uses are otherwise in agreement with the application windows and within the range of dose rates specified in Polish and Slovakian authorizations being in force at the moment of submission (based on the respective labels, issued on 28.05.2018, reg. no. R-106/2018 (Poland) and on 14.10.2019, reg. no. ICZ/2019/08587/kr (Slovakia).
The uses no. **1** and **11** (against aphids in apple (PL, SK), no. **3** (against *L. decemlineata* in potato), no. **4-10** (against stem and pod weevils, pollen beetle and brassica pod midge in PL) and no. **19** and **20** (against *D. virgifera* and *O. nubilalis* in maize, SK only) remain unaltered.
In the original dRR document (applicant version) all relevant chapters being adapted and updated by the applicant according to the intended uses, were highlighted in yellow. This yellow highlihting was removed by zRMS in order to avoid ambiguity in the commenting period, when yellow should mark exclusively the changes made by zRMS after cMS commenting.

The extent of data analysis by zRMS and the "*2015 registration / submission*" expression used by the applicant across the present dRR
The original dRR of 2015 was submitted in autumn 2017, by ADAMA Makhteshim Ltd., to the zRMS PL and the evaluation was commented by cMSs in 2018. While compiling the final RR (Part B7 of 18th April 2018), the zRMS had expanded the initial dRR with the summary data and trial data[1] tables copied from the relevant efficacy sections of the contemporary (2015) BAD. It is in fact this RR of 18th April 2018, which the cMS should refer to presently, whenever the reference is made to the "2015 dossier", because in the initial dRR of 2015 the mode of data selection and of data aggregation is **not** shown.
On the other hand it must be emphasized that, even though the present submission, by Nufarm Europe GmbH, is supported by the 2015 data set, the data themselves have been slightly rearranged, and aggregated differently compared to the 2015 dRR, so that they can serve the amendments made to the present GAP. Some trials are excluded

too, which the applicant explains when necessary, and a number of orthogonal comparisons are introduced (which are absent from the 2015 dossier) because in some uses not all of the originally available trials had used standard reference products at the dose rates comparable to the test item.
The zRMS PL confirms that the data handling in the present dRR is fair, and the conclusions are valid. Nevertheless, as the original data set is extensive and complex, when more trials are involved in producing mean efficacy values, as in the oilseed rape, these trials are not always identified by their codes as components of the calculated means. Therefore an attentive reader should simply resort to the present BAD (2020) and its Appendix 3, in case the single trial data is needed.

The LWA and CH – based dose rate expression in orchard trials
This submission follows the art. 43 and the evaluation of the efficacy part is essentially expected to be limited to resistance issues. Nevertheless, the dose rate expression in orchard is a new part compared to the 2015 dossier, addressing the requirements in force since 2020. Therefore it has been evaluated and summarized briefly by zRMS in the commenting boxes in the pages ~~16 and 73~~ 17 and 74.

The Risk of Resistance Development
The Arthropod Pesticide Resistance Database (Jan. 2021) reports worldwide 1093 cases of resistance to the group 4A insecticides. However, to the opinion of zRMS the situation with the 4A group deserves more than the count of resistance cases. See the zRMS commenting box following the 3.3. chapter.

[1] *i.e.* treatment means as reported from individual trials.

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

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Use-No. *	**Member state(s)**	**Crop and/ or situation** (crop destination / purpose of crop)	**F, Fn, Fnp G, Gn, Gnp or I ****	**Pests or Group of pests controlled** (additionally: developmental stages of the pest or pest group)	**Application**				**Application rate**			**PHI** (days)	**Remarks:** e.g. g safener/ synergist per ha, 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	Apple (MABSD)	F	*Aphis* sp. (APHISP)	Foliar spraying overall	May-Oct/ BBCH 62-PHI	a) 1 b) 1	--	a) 0.125 b) 0.125	a) 25 b) 25	500-900	14	Do not apply during flowering; Max dose rate **0,077 L/ha LWA[1]**; Max dose rate **0,046 L/ha/m CH[2]**	A
2	PL	Apple (MABSD)	F	*Cydia pomonella* (CARPPO)	Foliar spraying overall	May-Oct/ BBCH 62-PHI	a) 1 b) 1	--	a) 0.25 b) 0.25	a) 50 b) 50	500-900	14	Do not apply during flowering; Max dose rate **0,154 L/ha LWA[1]**; Max dose rate **0,093 L/ha/m CH[2]**	A
3	PL	Potato (SOLTU)	F	*Leptinotarsa decemlineata* (LPTNDE)	foliar spraying, overall	Jun-Sep/ BBCH 12-79	a) 1 b) 1	--	a) 0.18 b) 0.18	a) 36 b) 36	200-400	7	In label 0.12 – 0.18 L/ha	A
4	PL	Winter oilseed rape (BRSNN)	F	~~*Meligethes aeneus*~~ *Brassicogethes aeneus* (MELIAE)	foliar spraying, overall	May-Jun/ BBCH 50-60	a) 1 b) 1	--	a) 0.3 b) 0.3	a) 60 b) 60	200-400	28	In label: 0.18 – 0.3 L/ha Do not apply during flowering	A
5	PL	Winter oilseed rape (BRSNN)	F	*Dasineura brassicae* (DASYBR) *Ceutorhynchus obstrictus* (syn *C. assimilis*) (CEUTAS)	foliar spraying, overall	May-Jun/ BBCH 61-71	a) 1 b) 1	--	a) 0.3 b) 0.3	a) 60 b) 60	200-400	28	In label: 0.15 – 0.3 L/ha Do not apply during flowering. Application against pod pests of oilseed rape is possible only out of honey bees flight during late evening hours!	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/ syn-ergist per ha, other dose rate expres-sion, 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 ap-plications (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			
6	PL	Winter oilseed rape (BRSNN)	F	*Ceutorhynchus napi* (CEUTNA)	foliar spray-ing, overall	Mar-Jun/ BBCH 31-39	a) 1 b) 1	--	a) 0.3 b) 0.3	a) 60 b) 60	200-400	28	In label: 0.15 – 0.3 L/ha Do not apply during flowering	A
7	PL	Winter oilseed rape (BRSNN)	F	*Ceutorhynchus pallidactylus* (*C. quadridens*) (CEUTQU)	foliar spray-ing, overall	Mar-Jun/ BBCH 31-59	a) 1 b) 1	--	a) 0.3 b) 0.3	a) 60 b) 60	200-400	28	In label: 0.15 – 0.3 L/ha Do not apply during flowering	A
8	PL	Spring oilseed rape (BRSNN)	F	*Ceutorhynchus pallidactylus* (*C. quadridens*) (CEUTQU)	foliar spray-ing, overall	Mar-Jun/ BBCH 31-59	a) 1 b) 1	--	a) 0.3 b) 0.3	a) 60 b) 60	200-400	28	in label: 0.15-0.3 L/ha ~~Application against pod pests of oilseed rape is possible only out of honey bees flight during late evening hours!~~ Ensure removal of weeds in blossom before application Do not apply during flowering	A
9	PL	Spring oilseed rape (BRSNN)	F	~~*Meligethes aeneus*~~ *Brassicogethes aeneus* (MELIAE)	foliar spray-ing, overall	Apr-Jun/ BBCH 50-60	a) 1 b) 1	--	a) 0.3 b) 0.3	a) 60 b) 60	200-400	28	in label: 0.18-0.3 L/ha ~~Appli-cation against pod pests of oilseed rape is possible only out of honey bees flight during late evening hours!~~ Ensure removal of weeds in blossom before application	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/ syn-ergist per ha, other dose rate expres-sion, 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 ap-plications (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			
													Do not apply during flowering	
10	PL	Spring oilseed rape (BRSNN)	F	*Ceutorhynchus assi-milis* (CEUTAS) *Dasineura brassicae* (DASYBR)	foliar spray-ing, overall	BBCH 61-71	a) 1 b) 1	--	a) 0.3 b) 0.3	a) 60 b) 60	200-400	28	in label: 0.2-0.3 L/ha Application against pod pests of oilseed rape is possible only out of honey bees flight during late evening hours! Ensure removal of weeds in blossom before application Do not apply during flowering	A
11	SK	Apple (MABSD)	F	*Aphis* sp. (APHISP)	foliar spray-ing, overall	May-Sep/ BBCH 69-PHI	a) 1 b) 1	--	a) 0.125 b) 0.125	a) 25 b) 25	500-1000	14	in label: 0.09-0.125 L/ha Do not apply during flowering; Max dose rate **0,145 L/ha LWA[1]**; Max dose rate **0,058 L/ha/m CH[2]**	A
12	SK	Apple (MABSD)	F	*Cydia pomonella* (CARPPO)	Foliar spray-ing overall	May-Oct/ BBCH 69-PHI	a) 1 b) 1	--	a) 0.25 b) 0.25	a) 50 b) 50	500-1000	14	Do not apply during flowering; Max dose rate **0,289 L/ha LWA[1]**; Max dose rate **0,116 L/ha/m CH[2]**	A
13	SK	Potato (SOLTU)	F	*Leptinotarsa*	foliar spray-ing, overall	Apr-Sep/ BBCH 12-79	a) 1 b) 1	--	a) 0.18 b) 0.18	a) 36 b) 36	200-400	7	in label:	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/ syn-ergist per ha, other dose rate expres-sion, 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 ap-plications (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			
				decemlineata (LPT-NDE)									0.12-0.18 L/ha	
14	SK	Winter oilseed rape (BRSNN)	F	*Ceutorhynchus napi* (CEUTNA) *Ceutorhynchus pallidactylus* (*C. quadridens*) (CEUTQU)	foliar spray-ing, overall	Mar-Jun/ BBCH 31- 69	a) 1 b) 1	--	a) 0.3 b) 0.3	a) 60 b) 60	200-400	28	in label: 0.15-0.3 L/ha Do not apply during flowering. Applica-tion is possible only out of honey bees flight during late evening hours!	A
15	SK	Winter oilseed rape (BRSNN)	F	~~*Meligethes aeneus*~~ *Brassicogethes aeneus* (MELIAE) *Dasineura brassicae* (DASYBR)	foliar spray-ing, overall	Mar-Jun/ BBCH 31-71	a) 1 b) 1	--	a) 0.3 b) 0.3	a) 60 b) 60	200-400	28	in label: 0.18-0.3 L/ha Application against pod pests of oilseed rape is possible only out of honey bees flight during late evening hours! Ensure removal of weeds in blossom before application Do not apply during flowering	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/ syn-ergist per ha, other dose rate expres-sion, 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 ap-plications (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			
16	SK	Winter oilseed rape (BRSNN)	F	*Ceutorhynchus obstrictus* (syn *C. assimilis*) (CEUTAS) *Ceutorhynchus napi* (CEUTNA) *Ceutorhynchus pallidactylus* (*C. quadridens*) (CEUTQU)	foliar spray-ing, overall	May-Jun/ BBCH 31- 71	a) 1 b) 1	--	a) 0.3 b) 0.3	a) 60 b) 60	200-400	28	in label: 0.15-0.3 L/ha Application against pod pests of oilseed rape is possible only out of honey bees flight during late evening hours! Ensure removal of weeds in blossom before application Do not apply during flowering	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: developmental 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			
17	SK	Spring oilseed rape (BRSNN)	F	*Ceutorhynchus napi* (CEUTNA) *Ceutorhynchus obstrictus* (~~syn~~ *C. assimilis*) (CEUTAS) *Ceutorhynchus pallidactylus* (*C. quadridens*) (CEUTQU)	foliar spraying, overall	Mar-Jun/ BBCH 31-71	a) 1 b) 1	--	a) 0.3 b) 0.3	a) 60 b) 60	200-400	28	in label: 0.15-0.3 L/ha Application against pod pests of oilseed rape is possible only out of honey bees flight during late evening hours! Ensure removal of weeds in blossom before application Do not apply during flowering	A
18	SK	Spring oilseed rape (BRSNN)	F	~~*Meligethes aeneus*~~ *Brassicogethes aeneus* (MELIAE) *Dasineura brassicae* (DASYBR)	foliar spraying, overall	Apr-Jun/ BBCH 31-71	a) 1 b) 1	--	a) 0.3 b) 0.3	a) 60 b) 60	200-400	28	in label: 0.18-0.3 L/ha Application against pod pests of oil seed rape is possible only out of honey bees flight during late evening hours! Ensure removal of weeds in blossom before application Do not apply during flowering	A
19	SK	Maize (ZEAMX)	F	*Diabrotica virgifera virgifera* (DIABVI)	foliar spraying, overall	Apr-Aug/ BBCH 51-75	a) 1 b) 1	--	a) 0.3 b) 0.3	a) 60 b) 60	300-500	56	in label: 0.2-0.3 L/ha	A
20	SK	Maize (ZEAMX)	F	*Ostrinia nubilalis* (PYRUNU)	foliar spraying, overall	Apr-Aug/ BBCH 51-75	a) 1 b) 1	--	a) 0.3 b) 0.3	a) 60 b) 60	300-500	56	in label: 0.3 L/ha	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

[1], [2] – column 14 (Remarks) in uses 1, 2, 11 and 12: [1]LWA – Leaf Wall Area, [2]CH – Crown Height

Column 15: zRMS conclusion.

A	Acceptable
R	Acceptable with further restriction
C	To be confirmed by cMS
N	Not acceptable / evaluation not possible

3.2 Efficacy data (KCP 6)

Introduction

This application is submitted for the re-authorization of the product CA3573, formulated as a soluble concentrate (SL) containing 200 g/L acetamiprid, for the use as an insecticide ~~for~~ in apple, potato, oilseed rape and maize.
This application is submitted to Poland, as the zRMS, and Slovakia as cMS. Due to changes in endpoints triggered by a Category 4 study (mesocosm study), number of applications and / or dose rates have to be reduced for some uses. In this context, the intended uses for both countries have changed and an updated version of the dossier was necessary. Hence, in ~~this~~ the original dRR document all relevant chapters being adapted and updated accordingly to the current intended uses, ~~are~~ were highlighted in yellow. If no changes in the original trial results occurred, only a reference to the original submitted dossier was made. No new studies were inserted.

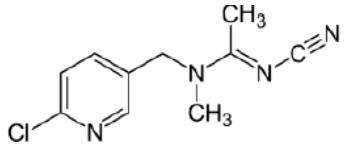
For Poland and for Slovakia there is a reduction in the maximum dose rate for application against *Cydia pomonella* in pome fruit. For Slovakia there is also a reduction in the number of applications from 2 to 1 applications in potato as well as in winter and spring oilseed rape. For the other uses outlined in the GAP table there are no amendments to the previously registered rates.

The product was first registered by ADAMA Makhteshim Ltd. under the product code MCW-2222. Poland was zRMS for this registration. The two products are identical. Therefore, all studies conducted with MCW-2222 can be used for CA3573, without any restrictions. Further details are given in Part C.
For further details, please refer to the dossier submitted for the first registration of the product in December 2015.

Description of active substance

Please refer to the dRR Part B0 and / or to the dossier submitted for the first registration of the product in December 2015.

Table 3.2-1: Details of the active substance

*	**Common name (ISO)**	Acetamiprid (200 g/L concentrated in CA3573)
	Chemical name (IUPAC)	(E)-N1-[(6-chloro-3-pyridyl)methyl]-N2-cyano-N1-methylacetamidine
	Molecular formula	$C_{10}H_{11}ClN_4$
	Structural formula	
	CIPAC number	649
	CAS number	160430-64-8
	Minimum purity	990 g/kg
	Molecular mass	222.68 g/mol
**	**Number of Main Group (IRAC MoA Classification)**	4
	Primary Site of Action	Nicotinic acetylcholine receptor (nAChR) competitive modulators – Nerve action

Sub-group or exemplifying active ingredient	Neonictotinoids
IRAC code of active ingredient	4A

Source: * SANTE/10502/2017 Rev 4, 13 December 2017, ** IRAC Mode of Action Classification Scheme Vers. 9.4 (03/2020)

Mode of action

The information on mode of action classified by the Insecticides Resistance Action Committee (IRAC) is given in Table 3.2-1. For further details, please refer to the dossier submitted for the first registration of the product in December 2015.

Description of the plant protection product

CA3573 is a soluble concentrate (SL) containing 200 g/L acetamiprid. The plant protection product is intended to be re-registered in apple, potato, winter and spring oilseed rape as well as in maize. Based on the uses in apple as high crop, the application rate (0.125 L CA3573/ha for Use 01 and 11 as well as 0.25 L CA3573/ha for use 02 and 12) has to be converted by using a conversion table* in order to address the application rate of CA3573 per L/ha LWA and or per L/ha metre crown height (CH). This conversion table is inserted in Appendix 2 of the Biological Assessment Dossier*.
In the submitted trials the LWA ranged from 6000 to 20000 m^2/ha.

***Comments of zRMS:**

~~A2-5~~ **Table A2-3 in the Appendix 2 of the BAD shows LWA values**, calculated based on the orchard parameters in particular trials. The formula used by the applicant is given as no. 12 in the footnote of that table: LWA = ((10000 m2 / row distance [m]) x tree height [m] x 2). As checked by the zRMS, the applicant has meant the Crown Height (CH) in that (12) formula, and not the tree height, as specified in the footnote. Moreover, although the description "Crown Height" or "Canopy Height" are sometimes used alternately across the text and table footnotes, their meaning is the same, *i.e.* the tree height minus trunk height, the latter assumed as equal to 0.5 m in a couple of trials where only the total tree height was reported.
The **dose rates of the product calculated for 1 ha LWA, and for 1 ha *per* 1m CH** are shown in the Table A2-5, in the same Appendix 2, BAD, as calculated according to the formulae no. 2 and no. 3, shown in the footnote of the Table A2-5:
dose per LWA: Applied dose = (applied dose [L/ha ground] / LWA [m2/ha ground]) x 10000 m^2,
dose per crown height: Applied dose = (applied dose [L/ha ground] / canopy height [m])).

In Poland, CA3573 is registered with the trade name Kestrel 200 SL until 30.09.2020 (registration number: R106/2018) and with a second brand name Carnadine 200 SL until 28.02.2034 (registration number: R-157/2018). In Slovakia, CA3573 is registered with the trade name Carnadine until 30.04.2024 (registration number: 19-00504-AU). The currently registered as well requested uses for both countries are listed in Table 3.2-2.

Table 3.2-2: Simplified table of currently registered uses and requested uses for CA3573

Uses		Member State	Currently registered use(s)	Requested use(s)	Use No.*	Remarks
Crop(s)	**Target(s)**					
Apple	Aphids	PL	1x 0.125 L/ha(1) (25 g a.s./ha)	1x 0.125 L/ha (25 g a.s./ha)	1	No change to registered GAP
	Cydia pomonella		1x 0.2-0.4 L/ha(1) (40-80 g a.s./ha)	1x 0.25 L/ha (50 g a.s./ha)	2	Reduction in the maximum dose rate
Potato	*Leptinotarsa decemlineata*		1x 0.12-0.18 L/ha (24-36 g a.s./ha)	1x 0.12-0.18 L/ha (24-36 g a.s./ha)	3	No change to registered GAP

Uses		Member State	Currently registered use(s)	Requested use(s)	Use No.*	Remarks
Crop(s)	**Target(s)**					
Winter oilseed rape	*Ceutorhynchus napi*	SK	1x 0.15-0.3 L/ha(1) (30-60 g a.s./ha)	1x 0.15-0.3 L/ha (30-60 g a.s./ha)	6	No change to registered GAP
	Ceutorhynchus pallidactylus				7	
	Ceutorhynchus obstrictus				5	
	Dasineura brassicae				5	
	Brassicogethes aeneus		1x 0.18-0.3 L/ha(1) (36-60 g a.s./ha)	1x 0.18-0.3 L/ha (36-60 g a.s./ha)	4	
Spring oilseed rape	*Ceutorhynchus pallidactylus*		1x 0.15-0.3 L/ha(1) (30-60 g a.s./ha)	1x 0.15-0.3 L/ha (30-60 g a.s./ha)	8	No change to registered GAP
	Brassicogethes aeneus		1x 0.18-0.3 L/ha(1) (36-60 g a.s./ha)	1x 0.18-0.3 L/ha (36-60 g a.s./ha)	9	
	Ceutorhynchus obstrictus		1x 0.2-0.3 L/ha (1) (40-60 g a.s./ha)	1x 0.2-0.3 L/ha (40-60 g a.s./ha)	10	
	Dasineura brassicae		1x 0.2-0.3 L/ha (1) (40-60 g a.s./ha)	1x 0.2-0.3 L/ha (40-60 g a.s./ha)	10	
Apple	Aphids		1x 0.09-0.125 L/ha (18-25 g a.s./ha)	1x 0.09-0.125 L/ha (18-25 g a.s./ha)	11	No change to the registered GAP
	Cydia pomonella		1x 0.2-0.4 L/ha (40-80 g a.s./ha)	1 x ~~0.2~~ 0.25 L/ha (~~40~~ 50 g a.s./ha)	12	Reduction in the maximum dose rate
	Quadraspidiotus perniciosus		1x 0.25-0.4 L/ha (50-80 g a.s./ha)	-	-	Use is no longer requested
	Eriosoma lanigerum		1x 0.25-0.4 L/ha (50-80 g a.s./ha)	-	-	
Potato	*Leptinotarsa decemlineata*		2x 0.12- 0.18 L/ha (48-72 g a.s./ha)	1 x 0.12-0.18 L/ha (24-36 g a.s./ha)	13	Reduction of the no. of applications
Winter oilseed rape	*Ceutorhynchus napi*		2x 0.15-0.3 L/ha (60-120 g a.s./ha)	1 x 0.3 L/ha (60 g a.s./ha)	14+16	Reduction of the no. of applications
	Ceutorhynchus pallidactylus					
	Ceutorhynchus obstrictus				16	
	Brassicogethes aeneus		2x 0.18-0.3 L/ha (72-120 g a.s./ha)	1 x 0.18-0.3 L/ha (36-60 g a.s./ha)	15	
	Dasineura brassicae					
Spring oilseed rape	*Ceutorhynchus napi*		2x 0.15-0.3 L/ha (60-120 g a.s./ha)	1 x 0.15-0.3 L/ha (30-60 g a.s./ha)	17	Reduction of the no. of applications
	Ceutorhynchus pallidactylus					
	Ceutorhynchus obstrictus					
	Brassicogethes aeneus		2x 0.18-0.3 L/ha (72-120 g a.s./ha)	1 x 0.18-0.30 L/ha (36-60 g a.s./ha)	18	
	Dasineura brassicae					
Maize	*Diabrotica virgifera virgifera*		1x 0.2-0.3 L/ha (40-60 g a.s./ha)	1x 0.2-0.3 L/ha (40-60 g a.s./ha)	19	No change to the registered GAP
	Ostrinia nubilalis		1x 0.3 L/ha (60 g a.s./ha)	1x 0.3 L/ha (60 g a.s./ha)	20	

* Use number(s) in accordance with the list of intended uses (Table 3.1-1).
(1) Maximum of 2 applications per crop and season.

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

Description of the target pests

The re-registration of CA3573 is intended for the following target pests mentioned in Table 3.2-3. The information on the biology and control of the different target organisms mentioned can be read in the first registration of the product in December 2015. The current importance of pests and crops in Poland as zRMS and Slovakia as cMS where the product is applied for is presented in Table 3.2-4. For more details, please refer to the information submitted for the first registration of the product in December 2015.

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

Pest group*	EPPO code	Scientific name	Common name
(1) Aphids (sucking)	APHISP	*Aphis* sp.	-
(2) Beetles and weevils (biting)	CEUTAS	*Ceutorhynchus obstrictus* (synonym: *C. assimilis*)	Cabbage ~~shoot~~ seed weevil
	CEUTNA	*Ceutorhynchus napi*	Rape stem weevil
	CEUTQU	*Ceutorhynchus pallidactylus* (synonym: *C. quadridens*)	Cabbage stem weevil
	DIABVI	*Diabrotica virgifera virgifera*	Western maize rootworm
	LPTNDE	*Leptinotarsa decemlineata*	Colorado potato beetle
	MELIAE	*Brassicogethes aeneus* (synonym: *Meligethes aeneus*)	~~Blossom~~ Pollen beetle
(3), (4) and (6) Other pests	CARPPO	*Cydia pomonella*	Codling moth
	PYRUNU	*Ostrinia nubilalis*	European corn borer
	DASYBR	*Dasineura brassicae*	Brassica pod midge

* Number in brackets [(1), (2), (3), (4) and (6)] refer to the defined pest group number submitted for the first registration of the product in December 2015.
Pest group (5) Virus vectors (aphids in cereals) is not intended in the current GAP table and will not be included in this document.

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

Crop and/or situation	Crop status		Pests or group of pests controlled	Pest status	
	Major	minor		Major	minor
Apple	PL	SK	APHISP	PL	SK
			CARPPO	PL	SK
Potato	PL	SK	LPTNDE	PL	SK
Winter oilseed rape	PL, SK	-	CEUTAS	PL, SK	-
			CEUTNA	PL, SK	-
			CEUTQU	PL, SK	-
			DASYBR	PL, SK	-
			MELIAE	PL, SK	-
Spring oilseed rape	-	PL, SK	CEUTAS	PL, SK	-
			CEUTNA	PL, SK	-
			CEUTQU	PL, SK	-
			DASYBR	PL, SK	-
			MELIAE	PL, SK	-
Maize/ Maize	SK	-	DIABVI	PL, SK	-
			PYRUNU	PL, SK	-

Compliance with the Uniform Principles

The overall assessment was performed according to the uniform principles. All trials were conducted to GEP and followed the appropriate EPPO standards by officially recognised testing organisations. Please refer to the information submitted for the first registration of the product in December 2015.

Information on trials submitted (3.1 Efficacy data)

No new efficacy trials were conducted for the re-registration. Only trials already evaluated with the dossier submitted in 2015 are included in the updated dossier. As some trials were excluded for the update for no longer being suitable to support the intended uses (testing a higher dose rate or tested with a higher number of applications), number of trials submitted may have changed compared to the previous submission. Therefore the following table (Table 3.2-5) was updated to provide an overview of trials used for this adapted document. Please note, that in some trials more than one pest was assessed*. The regional distribution of the submitted trials used for this update are presented in chapter 3.2.3. For each pest group, maps were inserted within the chapter 3.2.3.

***Comments of zRMS:**

…and therefore more than "some" trials are in fact counted more than once, separately for each target pest, which is confusing and must be explained as early as possible. Therefore please see the commenting box following Table 3.2-5 and the additional Table 3.2-5a, supplied by the applicant during the evaluation process.

Table 3.2-5: Presentation on trials submitted

Crop(s) *	Target(s)*	Country	Years	Type of trial**	Number of trials (no. of valid trials)			GEP, non-GEP, official***	Comments (any other relevant in-formation)
					MAR	NE	SE		
Pome fruits (Apple)	APHISP	CZ	2014	E	7			GEP	
			2015	M+E	2			GEP	
		PL	2010	E+Y		2		GEP	
			2012	E+Y		2		GEP	
			2013	M+E		4		GEP	
			2014	M+E		5		GEP	
			2015	M+E		2		GEP	
		HU	2013	M+E			1	GEP	
		RO	2014	E			1	GEP	
		SK	2013	M+E			2	GEP	
			2014	E			1	GEP	
			2015	M+E			2	GEP	
	TOTAL	-	**2010-2015**	-	**9**	**15**	**7**	-	-
	CARPPO	CZ	2014	E	1			GEP	
				M+E	6			GEP	
		PL	2011	Y		4		GEP	
			2013	M+E		4		GEP	
		RO	2014	M+E+Y			1	GEP	
	TOTAL	-	**2011-2014**	-	**7**	**8**	**1**	-	-
TOTAL	-	-	**2010-2015**	-	**16**	**23**	**8**	-	-
Potato	LPTNDE	CZ	2013	E	2			GEP	
				E+Y	1			GEP	
			2014	E	2			GEP	
				E+Y	1			GEP	
		DE	2014	E	1			GEP	
			2015	E+Y	3			GEP	
		PL	2010	M+Y		2		GEP	
			2013	E		2		GEP	
				E+Y		2		GEP	
			2014	E		7		GEP	
		RO	2014	E			5	GEP	
			2015	E			2	GEP	
		SK	2013	M+E			2	GEP	
			2014	E			3	GEP	
TOTAL	-	-	**2010-2015**	-	**10**	**13**	**12**	-	-
Maize	DIABVI	HU	2013	M+E			3	GEP	
			2014	M+E			2	GEP	
		RO	2014	M+E			3	GEP	
		SK	2014	M+E			3	GEP	
	TOTAL	-	**2013-2014**	-	-	-	**11**	-	-
	PYRUNU	HU	2015	M+E			2	GEP	
		RO	2015	M+E			3	GEP	
	TOTAL	-	**2015**	-	-	-	**5**	-	-
TOTAL	-	-	**2013-2015**	-	-	-	**16**	-	-

Crop(s) *	Target(s)*	Country	Years	Type of trial**	Number of trials (no. of valid trials)			GEP, non-GEP, official***	Comments (any other relevant in-formation)
					MAR	NE	SE		
Winter oilseed rape	CEUTAS	CZ	2012	E	1			GEP	
				E+Y	2			GEP	
			2014	E	1			GEP	
			2014	E+Y	1			GEP	
			2015	E	3			GEP	
				M+E	1			GEP	
		PL	2013	M+E		4		GEP	
			2014	E		4		GEP	
			2015	E		4		GEP	
		HU	2011	M+E			3	GEP	
			2012	M+E			2	GEP	
			2013	M+E			2	GEP	
			2014	E			2	GEP	
			2015	E			3	GEP	
				M+E			1	GEP	
		SK	2013	M+E			1	GEP	
			2015	E			1	GEP	
	TOTAL	-	**2011-2015**	-	**9**	**12**	**15**	-	-
	CEUTNA	CZ	2014	E	1			GEP	
				E+Y	1			GEP	
			2015	E	3			GEP	
		DE	2014	E	1			GEP	
			2015	E	1			GEP	
		PL	2013	E		2		GEP	
				M+E		2		GEP	
				M+E+Y		2		GEP	
			2014	E		4		GEP	
			2015	E		4		GEP	
		HU	2013	M+E			3	GEP	
			2014	M+E			2	GEP	
			2015	E			1	GEP	
				M+E			1	GEP	
		SK	2013	M+E			2	GEP	
			2014	E			4	GEP	
			2015	E			3	GEP	
	TOTAL	-	**2013-2015**	-	**7**	**14**	**16**	-	-
	CEUTQU	CZ	2013	M+E+Y	2			GEP	
			2014	E	1			GEP	
			2015	E	3			GEP	
		PL	2012	M+E+Y		4		GEP	
			2013	E		2		GEP	
				M+E		2		GEP	
				M+E+Y		2		GEP	
			2014	E		3		GEP	
			2015	E		4		GEP	
		HU	2013	M+E			2	GEP	
			2015	E			1	GEP	
		SK	2013	M+E			1	GEP	
			2014	E			2	GEP	
	TOTAL	-	**2012-2015**	-	**6**	**17**	**6**	-	-

Crop(s) *	Target(s)*	Country	Years	Type of trial**	Number of trials (no. of valid trials)			GEP, non-GEP, official***	Comments (any other relevant in-formation)
					MAR	NE	SE		
	MELIAE	CZ	2011	M+E+Y	3			GEP	
			2012	E+Y	1			GEP	
			2013	M+E+Y	2			GEP	
			2014	M+E	1			GEP	
				M+E+Y	1			GEP	
		DE	2011	E	1			GEP	
			2014	M+E	1			GEP	
			2015	M+E	4			GEP	
		PL	2012	M+E+Y		4		GEP	
			2013	M+E		2		GEP	
				M+E+Y		2		GEP	
			2014	M+E		6		GEP	
		HU	2011	M+E			4	GEP	
			2012	M+E			3	GEP	
				M+E+Y			2	GEP	
			2013	E			2	GEP	
				M+E			4	GEP	
				E+Y			4	GEP	
			2014	M+E			4	GEP	
			2015	M+E			4	GEP	
		SK	2013	M+E			1	GEP	
				M+E+Y			1	GEP	
			2014	M+E			1	GEP	
				M+E+Y			1	GEP	
	TOTAL	-	**2011-2015**	-	**14**	**14**	**31**	-	-
	DASYBR	CZ	2012	M+E	1			GEP	
				M+E+Y	2			GEP	
			2014	M+E	1			GEP	
				M+E+Y	1			GEP	
			2015	M+E	3			GEP	
		DE	2014	M+E	2			GEP	
		PL	2013	M+E		4		GEP	
			2014	M+E		4		GEP	
			2015	M+E		3		GEP	
		HU	2013	M+E			2	GEP	
			2015	M+E			5	GEP	
		SK	2013	M+E			1	GEP	
			2015	M+E			1	GEP	
	TOTAL	-	**2012-2015**	-	**10**	**11**	**9**	-	-
TOTAL	-	-	**2011-2015**	-	**46**	**68**	**77**	-	-
GRAND TOTAL	-	-	**2010-2015**	-	**72**	**104**	**113**	-	-

Comments of zRMS:

When inquired by the zRMS during the evaluation, the applicant submitted an additional table, demonstrating the differences in trial count between the initial art. 33 submission in 2017 and the present art. 43 submission (2020). This table is inserted below, as Table 3.2-5 a. The description “Table 6.5” in it refers to the table enumeration in the 2015 document submitted in 2017.
The most apparent differences between the true trial number and multiple trial count for different targets can be seen in the oilseed rape trials.
Overall, the total number of trials supporting efficacy and MED in the present submission is **228**.

3.2-5 a Trial count compared between the 2015 and the present (2020) submission

CROP/ EPPO zone	Art 33 Table 6.5	Art 43 Table 3.2.5	Art 43 actual no of trials
POME			
Maritime	25	16	14
North-East	23	23	23
South-East	34	8	8
MAIZE			
Maritime	1	0	0
North-East	0	0	0
South-East	16	16	16
POTATO			
Maritime	10	10	10
North-East	14	13	13
South-East	12	12	12
OILSEED RAPE			
Maritime	51	46	34
North-East	42	68	42
South-East	56	77	56
TOTALS	**284**	**289**	**228**

Table 3.2-6: Presentation of reference standards used in updated trials

Crop(s)	Reference standard	Country(ies) where the product is used	Country(ies) where the product is registered	Authorisation number	Active sub-stance(s)	Formulation		Application rates in trials	
						Type	Concentration of a.s.	Crop	L, kg/ha
MABSD SOLTU BRSNW	**Mospilan SP, Mospilan 200 SP**	PL, SK, CZ, HU	PL, SK, CZ, HU	R-37/2008 (PL), 96-05-0296 (SK), 4053-2/2017-04 (CZ), 04.2/28009/2/2011 (HU)	acetamiprid	SP	200 g/kg	MABSD: SOLTU: BRSNW	0.01, 0.013 %*, 0.025, 0.10, 0.125, 0.13, 0.20, 0.25, 0.06, 0.08 0.10, 0.12, 0.15, 0.18, 0.20
ZEAMX MABSD SOLTU BRSNW	**Mospilan SG, Mospilan 200 SG**	DE, HU, CZ, PL, RO, SK	DE, HU	005655-00 (DE), 04.2/1218/1/2013 (HU), n.a. (CZ), n.a. (PL), n.a. (RO), n.a. (SK)	acetamiprid	SG	200 g/kg	ZEAMX: MABSD: SOLTU BRSNW	0.15, 0.20 0.125, 0.25 0.10, 0.12, 0.15 0.10, 0.12, 0.15, 0.18, 0.20
ZEAMX SOLTU BRSNW	**Karate Zeon 050 CS, Karate, Karate 5 CS, Karate Zeon**	PL, CZ, DE, RO, HU, SK	PL, CZ, DE	R-31/2013 (PL), 4419-1/2015-12 (CZ), 024675-00 (DE) 1812/04.12.1997 (RO), 11769/2002 (HU), 04-05-0671 (SK)	lambda-cyhalothrin	CS	50 g/L	ZEAMX: SOLTU: BRSNW	0.25 0.075, 0.15, 0.3 0.075, 0.10, 0.12, 0.125, 0.15
BRSNW	**Proteus 110 OD**	PL	PL	R-10/2009 (PL)	tiachlopryd + deltametryna	OD	100 g/L +10 g/L	BRSNW:	0.60
BRSNW	**Mavrik 240 EW, Mavrik**	PL	PL	R-229/2014 (PL)	tau-fluvalinate	EW	240 g/L	BRSNW:	0.12, 0.20
BRSNW	**Trebon 30 EC**	PL	PL	R-56/2009 (PL)	etofenprox	EC	300 g/L	BRSNW:	0.30
MABSD	**Calypso, Calypso 480 SC**	PL		R-85/2010/ R-1/2011 PE (PL)	thiacloprid	SC	480g/L	MABSD:	0.20
MABSD	**Actara 25 WG**	HU		15992/2003 (HU)	thiametoxam	WG	250 g/kg	MABSD:	0.30
ZEAMX	**Avaunt 150 SC**	RO	RO	2002/22.06.1999 (RO)	indoxacarb	SC	150 g/L	ZEAMX:	0.25
ZEAMX	**Gladiator**	DE	DE	025044-61 (DE)	methoxyfenozid	SC	240 g/L	ZEAMX:	0.60

* 0.013 % W/V; Formulation types: SP –Water soluble powder, SG – Water soluble granule, CS – Capsule suspension, OD – Oil dispersion, EW – Emulsion, oil in water, EC - Emulsifiable concentrate, SC - Suspension concentrate (= flowable concentrate), WG - Water dispersible granule

General information about trial grouping and updating the dossier

For the updated dossier, only trials of the old data package being appropriate for supporting the uses intended to be re-registered were included in the efficacy evaluation. In general, trials were excluded when conducted in crops or against pests no longer part of the intended uses, when no longer testing the target rate or when only providing results after the second application. For Poland and for Slovakia there is a reduction in the maximum dose rate for application against *Cydia pomonella* in pome fruit. For Slovakia there is also a reduction in the number of applications from 2 to 1 application in potato as well as in winter and spring oilseed rape. For the other uses outlined in the GAP table there are no amendments to the previously registered rates. Therefore according to SANCO/2010/13170 rev. 14, 7 October 2016, Guidance Document on the Renewal of Authorisations according to Article 43 of Regulation (EC) No 1107/2009, no new information regarding these uses is presented in the updated dossier. Hence, reference is made to the previous dossier submitted for the first registration of the product in December 2015. Nevertheless, general information on these unchanged uses such as number of trials is retained in this updated dossier for the purpose of completeness.
An exception are four trials conducted in the North-Eastern EPPO zone in apple testing not the exact intended dose rate against CARPPO, which were not fully excluded, but only used for the yield and quality assessments. The same applies for trials testing the effects of CA3573 on transformation processes (3.4.4), where dose rates higher than the intended rates were tested but results were included since no negative effects of CA3573 were observed.

3.2.1 Preliminary tests (KCP 6.1)

Preliminary data is not provided and not considered necessary, as products based on the active ingredient acetamiprid are well known insecticides. Furthermore, a detailed data package of a total of 224 efficacy trials (often with more than one pest) including dose justification results, yield and phytotoxicity data is provided with this application. The data is considered to be sufficient to support the registration of CA3573 according the GAP uses provided in Table 3.1-1 in countries of the North-East and South-East EPPO climatic zone.

3.2.2 Minimum effective dose tests (KCP 6.2)

Introductory information on dose justification tests

According to EPPO PP 1/225(2) 'Minimum effective dose' it should be established in trials that the recommended dose provides a higher level of effectiveness and/or a longer persistence of action compared to the lower dose. The recommended dose may further be a compromise based on the potential for resistance, the safety of the product to the crop and other aspects.
Minimum effective dose was already established in the dossier submitted for the first registration in 2015. Due to the reduction of the maximum number of applications from 2 to 1 in oilseed rape and potato for Slovakia, an update of the results for minimum effective dose determination is presented in the following. In cases where the data basis remained the same, reference is made to the previous dossier submitted for the first registration of the product in December 2015. Nevertheless, general information on these unchanged uses such as number of trials is retained in this updated dossier for the purpose of completeness.

To evaluate the minimum effective dose of CA3573 in the different GAP uses, 148 out of the 250 efficacy trial results carried out in apple, maize, pome fruit, potato and winter and spring oilseed rape include at least one reduced application rate. The rates reflect the proposed label rates and approximately 33 %-89 % of the minimum recommended rate of CA3573, in accordance with EPPO standard PP 1/225. In further 2 trials conducted in potato only rates below the GAP rate were tested. The results in maize, potato and winter oilseed rape against pest group *(2) Beetles and weevils (biting)* as well as the ones in winter oilseed rape against pest group (6) *Brassica pod midge* are presented in the dossier submitted for the first registration of the product in December 2015.
Thus, a total of **148 trial results** are available to evaluate the minimum effective dose of CA3573 in the different GAP uses (refer to Table 3.2-7)

Table 3.2-7: Overview of updated dose justification trials

Pest group No.*	*Pest group name* and crop(s)	No. of dose justification trial results** (EPPO zone)			
		MAR	**NE**	**SE**	**Total**
(1)	*Aphids (sucking)*				
(1a)	Pome fruit (apple)	2	11	5	**18**
(2)	*Beetles and weevils (biting)*				
(2a)	Maize	-	-	11	**11**
(2b)	Potato	-	2	2	**4**
		14	22	33	**69**
(2c)	Winter oilseed rape				
(2d)	Spring oilseed rape				
(3)	*Codling moth (biting)*				
	Pome fruit (apple)	6	4	1	**11**
(4)	*European maize borer*				
	Maize	-	-	5	**5**
(6)	*Brassica pod midge*				
	Winter oilseed rape	10	11	9	**30**
TOTAL		**32**	**50**	**66**	**148**

* Number in brackets [(1), (2), (3), (4) and (6)] refer to the defined pest group number submitted for the first registration of the product in December 2015. The letters combined with the pest group number [e.g. (1a)] refer to the avialable crop results within the pest group which were orginally submitted for the first registration of the product in December 2015. ** Please note, that the inserted number does not take into account the no. of trials but the no. of assessments of two or more pests in one trial within one use.

(1) Aphids (sucking) - APHISP

Label claim:

Use no.*	MS	Registered use	Requested use	Comment
1	PL	1x 0.125 L/ha	1x 0.125 L/ha	No change to the registered GAP
11	SK	1x 0.09-0.125 L/ha	1x 0.09-0.125 L/ha	

* Use number(s) in accordance with the list of intended uses (Table 3.1-1)

For more detailed information on the intended label claim, please refer to Table 3.1-1 (Use No. 01 and 11). For Use No. 1 and 11 there is no amendment to the previously registered GAP. However, as the trial data submitted with the dossier in 2015 supported 2 applications against aphids in pome fruit, data was updated for the re-registration dossier and results only after one application of CA3573 are presented in the following.

Material and methods

CA3573 (former MCW-2222) was tested in apples with rates between 0.0625 and 0.070 L/ha including the target doses and reduced rates of 69-77 % of the target rate. Since all dose justification assessments were conducted as part of the efficacy trials, reference is made to chapter 3.2.3 for further information.
Details about the type of trial are stated in column 2 of Table 3.2-16 (M stands for minimum effective dose). For apple as high growing crop, a conversion table was prepared in Appendix 2 of the Biological Assessment Dossier presenting the calculations of the treated leaf wall area (LWA) for each of the trials used for the efficacy evaluation in the updated dossier. For an estimation of the treated leaf wall area in the respective trials, the calculated LWA is given in Table 3.2-8.

(1a) Results in pome fruit

In all 18 dose justification trials conducted in apple it was clearly demonstrated, that the target dose rates of CA3573 (i.e. 0.09-0.125 L/ha against APHISP) provide superior control compared to approx. 70 % of the minimum target rate (i.e. 0.0625-0.07 L/ha against APHISP). A summary of the updated dose response results is provided in Table 3.2-8.

Table 3.2-8: Minimum effective dose. Efficacy of CA3573 at proposed label rates and approx. 70 % dose rate on apple at 7-10 DAA against *Aphis* sp.

EPPO zone	Max no. of trials	calculated LWA range (m²/ha)*	Infestation of UTC (aphids/shoot)		% control with CA3573					
					0.0625-0.07 L/ha (70 % of min. rate)		0.09 L/ha (min. rate)		0.125 L/ha (max. rate)	
			mean	min-max	mean	min-max	mean	min-max	mean	min-max
MAR	2	9600-11053 (2)	1586	716-2457	**85**	75-94	**93**	90-95	**99**	97-100
NE (1)	11	11429-20000 (3)	53	18-153	**70**	0-93	**83**	12-95	**96**	87-100
SE	5	8000-9200 (4)	139	17-335	**67**	56-76	**92**	83-97	**97**	96-98
Mean	18	-	593	-	**74**	-	**89**	-	**97**	-

(1)the median instead of the mean was calculated, due to heterogeneous results; * For detailed information which trials were used for minimum effective dose calculations and on LWA calculation please refer to Table 3.2-16 in chapter 3.2.3 and the conversion table for the applied dose rates per LWA (Appendix 2 of the BAD). (2) In 1 out of 2 trials, tree height was used for calculation, treated canopy height was not inserted in study report. (3) In 8 out of 11 trials, tree height was used for calculation, treated canopy height was not inserted in study report. (4) LWA calculated for 4 out of 5 trials.

(2) Beetles and weevils (biting) - DIABVI, LPTNDE, CEUTSP, MELIAE

Label claim:

Use no.*	MS	Registered use	Requested use	Comment
3	PL	1x 0.12-0.18 L/ha	1x 0.12-0.18 L/ha	No change to the registered GAP
4+9		1x 0.18 – 0.3 L/ha	1x 0.18 – 0.3 L/ha	
5-8		1x 0.15 – 0.3 L/ha	1x 0.15 – 0.3 L/ha	
10		1x 0.2 – 0.3 L/ha	1x 0.2 – 0.3 L/ha	
13	SK	2x 0.12 - 0.18 L/ha	1x 0.12 - 0.18 L/ha	Reduction of the no. of applications
14+16+17		2x 0.15 – 0.3 L/ha	1x 0.15 – 0.3 L/ha	
15+18		2x 0.18 – 0.3 L/ha	1x 0.18 – 0.3 L/ha	
19		1x 0.2 – 0.3 L/ha	1x 0.2 – 0.3 L/ha	No change to the registered GAP

* Use number(s) in accordance with the list of intended uses (Table 3.1-1)

For more detailed information on the intended label claim, please refer to Table 3.1-1 (Use No. 3-10 and 13-19). For Use No. 19 there are no amendments to the previously registered GAP, therefore according to SANCO/2010/13170 rev. 14, 7 October 2016, Guidance Document on the Renewal of Authorisations according to Article 43 of Regulation (EC) No 1107/2009, no new information is presented in this section. Information relevant to these uses are presented in the previously submitted documents. The intended dose rate and number of applications for the use in maize (Use No. 19) remains unchanged. The use in potato for Poland (Use No. 3) remains unchanged.
For Slovakia (Use No.13), the number of applications is reduced, however data used for minimum effective dose remains unchanged. Therefore, for these uses, the respective results are not presented in the following but can be looked up in the dossier submitted for the first registration of the product in December 2015.

Material and methods

CA3573 (former MCW-2222) was tested with rates between 0.06 L/ha and 0.40 L/ha including the target doses and reduced rates of 33, 45, 50, 56-58, 67, 75 and 80-83 % of the target rate. Since all dose justification assessments were conducted as part of the efficacy trials, reference is made to chapter 3.2.3 for further information.

(2a and 2b) Results in maize and potato

For the results in maize and potato, either no changes to the registered GAP occurred or data submitted previously still support the intended uses. Therefore, please refer to the dossier submitted for the first registration of the product in December 2015.

(2c) Results in winter oilseed rape

The use against PSYICH in winter oilseed rape is not included in the current intended uses. In addition, two trials (6.1.3/177 and 6.1.3/179) conducted in the Maritime EPPO zone were excluded, as 2 or 3 applications were made in them.
Hence, 69 dose justification trials conducted in winter oilseed rape clearly demonstrated, that the lower target rates of CA3573 (i.e. 0.15-0.18 L/ha against CEUTSP and 0.18 L/ha against MELIAE) provide superior control compared to 56 %, 67 % and 80-83 % of the minimum target rate (i.e. 0.10-0.12 L/ha against CEUTSP and 0.10-0.15 L/ha against MELIAE).
The data clearly demonstrated that the maximum target rate of 0.3 L/ha is already the minimum effective dose. The summary of the dose-response results is provided in the dossier submitted for the first registration of the product in December 2015.

Table 3.2-9: Minimum effective dose. Efficacy of CA3573 at proposed label rate and 67 % and 80 % dose rates on winter oilseed rape at 1-3 DAA against *Ceutorhynchus assimilis*

EPPO zone	No. of trials	Infestation of UTC (adults/plant)		% control with CA3573							
				0.10 L/ha (67 % of min. rate)		0.12 L/ha (80 % of min. rate)		0.15 L/ha (min. rate)		0.18 L/ha (med. rate)	
		mean	min-max	mean	min-max	mean	min-max	mean	min-max	mean	min-max
NE	4	0.5	0.6-1.0	-	-	**84**	76-91	**93**	81-100	**95**	88-100
SE(1)	5	21.7	1.8-39	**68(2)**	-	**71**	66-78	**82**	79-88	**87(3)**	79-92
Mean	9	12.3	-	**68(2)**	-	**77**	-	**87**	-	**91**	-

(1) most trials: insects / shoot; (2) mean efficacy based on 1 trial; (3) mean efficacy based on 3 trials

Table 3.2-10: Minimum effective dose. Efficacy of CA3573 at proposed label rate and 67 % and 80 % dose rates on winter oilseed rape at 12-35 DAA against *Ceutorhynchus napi*

EPPO zone	No. of trials	Infestation of UTC (larvae/plot)		% control with CA3573							
				0.10 L/ha (67 % of min. rate)		0.12 L/ha (80 % of min. rate)		0.15 L/ha (min. rate)		0.18 L/ha (med. rate)	
		mean	min-max	mean	min-max	mean	min-max	mean	min-max	mean	min-max
SE(1)	5	26.6	1.0-55.8	**60(2)**	51-69	**65**	52-81	**79**	58-91	**82**	61-95
Mean	5	26.6	-	**60(2)**	-	**65**	-	**79**	-	**82**	-

(1) in 2 out of the 5 trials the untreated control was assessed in larvae/plant
(2) mean efficacy based on 2 trials

For the North-Eastern zone results in winter oilseed rape against *Ceutorhynchus napi + C. quadridens*, either no changes to the registered GAP occurred or data submitted previously still support the intended uses. Therefore, please refer to the dossier submitted for the first registration of the product in December 2015.

Table 3.2-11: Minimum effective dose. Efficacy of CA3573 at proposed label rate and 67 % and 80 % dose rates on winter oilseed rape at 1-35 DAA against *Ceutorhynchus quadridens*

EPPO zone	No. of trials	Infestation of UTC (adults/plant) (1)		% control with CA3573							
				0.10 L/ha (67 % of min. rate)		0.12 L/ha (80 % of min. rate)		0.15 L/ha (min. rate)		0.18 L/ha (med. rate)	
		mean	min-max	mean	min-max	mean	min-max	mean	min-max	mean	min-max
MAR	2	41	21-61	-	-	**51**	20-82	**65**	30-100	**74**	47-100
NE	4	13	11-17	-	-	**49**	43-57	**59**	54-64	**77**	70-84
SE	3	38	13-56	**51(2)**	-	**69**	56-81	**82**	76-88	**87**	80-95
Mean	9	24	-	**51(2)**	-	**56**	-	**68**	-	**80**	-

(1) some trials: %infestation or larvae/plot or plant

(2) mean efficacy based on 1 trial (trial with Ref. no. 6.1.3/296)

Table 3.2-12: Minimum effective dose. Efficacy of CA3573 at proposed label rate and 56 %, 67 % and 83 % dose rates on winter oilseed rape at 1-3 DAA against *Meligethes aeneus*

EPPO zone	No. of trials	Infestation of UTC (adults/plant)		% control with CA3573							
				0.10 L/ha (56 % of min. rate)		0.12 L/ha (67 % of min. rate)		0.15 L/ha (83 % of min. rate)		0.18 L/ha (min. rate)	
		mean	min-max	mean	min-max	mean	min-max	mean	min-max	mean	min-max
MAR	12	228	1.7-461	**59**	43-79	**88**	79-97	**85**	68-100	**92**	85-98
NE	14	50.6	2.6-180	-	-	**68**	50-77	**82**	56-100	**86**	72-92
SE	25	53.1	2-185	**80**	79-81	**75**	48-91	**77**	51-96	**86**	59-97
Mean	51	93.6	-	**67**(1)	-	**76**	-	**80**	-	**87**	-

(1) mean efficacy based on 5 trials (trials with Ref. no. 6.1.3/169- /171, 6.1.3/297 and /298)

(3) Codling moth (biting) - CARPPO

Label claim:

Use no.*	MS	Registered use	Requested use	Comment
2	PL	1x 0.2 – 0.4 L/ha	1x 0.25 L/ha	Reduction of the maximum dose rate for application
12	SK	1x 0.2 – 0.4 L/ha	1x 0.2-0.25 L/ha	

* Use number(s) in accordance with the list of intended uses (Table 3.1-1)

For more detailed information on the intended label claim, please refer to Table 3.1-1 (Use No. 02 and 12).

Material and methods

CA3573 (former MCW-2222) was tested with rates between 0.125 L/ha and 0.25 L/ha including the target dose of 0.25 L/ha and reduced rates of 50-80 % of the target rate. Since all dose justification assessments were conducted as part of the efficacy trials, reference is made to chapter 3.2.3 for further information. Details about the type of trial are stated in column 2 of Table 3.2-46 (M stands for minimum effective dose). For apple as high growing crop, a conversion table was prepared in Appendix 2 of the Biological Assessment Dossier presenting the calculations of the treated leaf wall area (LWA) for each of the trials used for the efficacy evaluation in the updated dossier. For an estimation of the treated leaf wall area in the respective trials, the calculated LWA is given in Table 3.2-13.

Results in pome fruit

In all 11 dose justification trials conducted in apple it was clearly demonstrated, that the target dose of CA3573 against CARPPO (i.e. 0.25 L/ha) provides superior control compared to 50-80 % of the minimum target rate (i.e. 0.125 L/ha and 0.20 L/ha). An updated summary of the dose-response results is provided in Table 3.2-13.
The number and % of fruit damaged of *Cydia pomonella* was assessed. In the North-Eastern EPPO zone by larvae whereas in the Maritime EPPO zone by insects of *Cydia pomonella*.

Table 3.2-13: Minimum effective dose. Efficacy of CA3573 at proposed label rates and approx. 50-80 % dose rate on apple at 17-54 DAA against 1st generation of *Cydia pomonella*

EPPO zone	Max no. of trials	calculated LWA range (m²/ha)*	Infestation of UTC (% of fruits)		% control with CA3573					
					0.125 L/ha (50 % of max. rate)		0.20 L/ha (80 % of max. rate)		0.25 L/ha (max. rate)	
			mean	min-max	mean	min-max	mean	min-max	mean	min-max
MAR	6	7500-14286 (1)	62	37-85	**65**	26-92	**78**	42-100	**88**	50-100
NE	4	11500-18286	7	2-21	**65**	44-73	**81**	76-88	**90**	82-94
SE	1	n.a.	11	-	**63**	-	**80**	-	**82**	-
Mean	11	-	37	-	**64**	-	**80**	-	**87**	-

* For detailed information which trials were used for minimum effective dose calculations and on LWA calculation please refer to Table 3.2-46 in chapter 3.2.3 and the conversion table for the applied dose rates per LWA (Appendix 2 of the BAD).
(1) In 2 out of 6 trials, tree height was used for calculation, treated canopy height was not inserted in study report.

(4) European maize borer - PYRUNU

Label claim:

Use no.*	MS	Registered use	Requested use	Comment
20	SK	1x 0.3 L/ha	1x 0.3 L/ha	No change to the registered GAP

* Use number(s) in accordance with the list of intended uses (Table 3.1-1)

For more detailed information on the intended label claim, please refer to Table 3.1-1 (Use No. 20). For Use No. 20 there is no amendment to the previously registered GAP. However, one Maritime EPPO zone trial was excluded as not testing the intended maximum rate of CA3573.

Material and methods

CA3573 (former MCW-2222) was tested with rates between 0.15 L/ha and 0.30 L/ha including the target dose (i.e. 0.3 L/ha) and reduced rates of 50-67 % of the intended target rate. Since all dose justification assessments were conducted as part of the efficacy trials, reference is made to chapter 3.2.3 for further information. Details about the type of trial are stated in column 2 of Table 3.2-54 (M stands for minimum effective dose).

Results in maize

The mean efficacy of 5 field trials conducted in the South-Eastern zone results in significant differences between the rates. CA3575 applied at 0.30 L/ha provides superior control compared to the reduced rates of 0.15 L/ha (50 % rate) and 0.2 L/ha (67 % rate). An updated summary of the dose-response results is provided in the following table.

Table 3.2-14: Minimum effective dose. Efficacy of CA3573 at proposed label rates and approx. 50-67 % dose rate on maize at 28-78 DAA against *Ostrinia nubilalis*

EPPO zone	Max no. of trials	Infestation of UTC (no. of broken stems)		% control with CA3573					
				0.15 L/ha (50 % of max. rate)		0.20 L/ha (67 % of max. rate)		0.30 L/ha (max. rate)	
		mean	min-max	mean	min-max	mean	min-max	mean	min-max
SE	5	9	4-11	**44**	28-91	**66**	49-100	**83**	67-100
Mean	5	9	-	**44**	-	**66**	-	**83**	-

(6) Brassica pod midge - DASYBR

Label claim:

Use no.*	MS	Registered use	Requested use	Comment
5	PL	1x 0.15 – 0.3 L/ha	1x 0.15 – 0.3 L/ha	No change to registered GAP
10		1x 0.2 – 0.3 L/ha	1x 0.2 – 0.3 L/ha	
15+18	SK	1-2x 0.18 – 0.3 L/ha	1x 0.18 – 0.3 L/ha	Reduction of the number of applications

* Use number(s) in accordance with the list of intended uses (Table 3.1-1)

For more detailed information on the intended label claim, please refer to Table 3.1-1 (Use No. 5, 10, 15 and 18).

Material and methods

CA3573 (former MCW-2222) was tested with rates between 0.10 L/ha and 0.30 L/ha including the target doses and reduced rates of 56 %, 67 % and 83 % of the minimum target rate. Since all dose justification assessments were conducted as part of the efficacy trials, reference is made to chapter 3.2.3 for further information. Details about the type of trial are stated in column 2 of Table 3.2-57 (M stands for minimum effective dose).

Results in winter oilseed rape

The summary of the dose-response results is provided in the dossier submitted for the first registration of the product in December 2015 as either no changes to the registered GAP occurred or data submitted previously still support the intended uses.

Summary and overall conclusions on the minimum effective dose (KCP 6.2)

Data demonstrated that the efficacy of CA3573 at the proposed label rates is superior to the reduced application rates. Even in cases with nearly similar average control, the single trial data emphasizes statistically significant differences between the rates and therefore justifies the label claim. Overall, the dose ranges applied for the different GAP uses of CA3573 provided the optimum overall control and should be considered as effective against aphids, beetles and weevils and all other pests, for which activity of CA3573 is claimed.

As diseases often occur as complexes of several pathogens throughout a season and with different infestation levels, the GAP uses cover a range of target doses and 1 application per use of CA3573 to efficiently control all the pathogens claimed on the label. As a result, the proposed rates of CA3573 as stated in Table 3.1-1 should be considered the minimum effective dose to deliver broad spectrum control of all target pests under a wide range of environmental conditions. The dose justification for the GAP uses of CA3573 complies with the uniform principles.

3.2.3 Efficacy tests (KCP 6.2)

Introductory information on efficacy tests

For Poland and for Slovakia there is a reduction in the maximum dose rate for application against *Cydia pomonella* in pome fruit. For Slovakia there is also a reduction in the number of applications from 2 to 1 applications in potato as well as in winter and spring oilseed rape. For the other uses outlined in the GAP table there are no amendments to the previously registered rates.

The efficacy of CA3573 for control of different insect pests in the crops apple, maize, potato, winter and spring oilseed rape was re-evaluated in a total of ~~250~~ 228 efficacy trial results (numerous trials including more than one pest, yield and quality data is presented in 3.2.3; yield information starts on page 92 whereas the one for quality begins on page 115).
For 2 trials in potato as well as 4 trials in apple, the efficacy results are presented in Table 3.2-15 but are not part of the efficacy evaluation either due to doses below the GAP rate (Minimum effective dose trials) or due to only being valid for the effect on yield. The evaluation of those particular trials is shown in the respective chapters ~~0 (overview list on page 38) and 3.2.3~~ (yield information starts on page 9291 whereas the one for quality begins on page 115).
All trials were conducted to GEP and followed the appropriate EPPO standards by officially recognised testing organisations. The trials were of a randomised complete block design with 4 replicates. Trials have been conducted between 2010 and 2015 in Czech Republic, Germany, Poland, Hungary, Romania and Slovakia representing the Maritime, North-Eastern and South-Eastern EPPO climatic zone.

In Table 3.2-15, an overview is provided on the efficacy trials per pest group submitted with this updated dossier and covering the current intended GAP uses of CA3573.

Table 3.2-15: Overview of efficacy trials used for this update

Pest group No.*	*Pest group name* and crop(s)	No. of efficacy trial results** (EPPO zone)				Specific EPPO guidelines
		MAR	NE	SE	Total	
(1)	*Aphids (sucking)*	*9*	*15*	*7*	***31***	-
(1a)	Pome fruit (apple)	9	15	7	**31**	PP 1/258(1)
(2)	*Beetles and weevils (biting)*	*42*	*53* *(+2 M trials)*	*77*	***172***	-
(2a)	Maize	-	-	11	**11**	PP 1/274(1)
(2b)	Potato	10	11 *(+2 M trials)*	12	**33**	PP 1/12(3/4), PP 1/228(n.a.) – PP 1/230(n.a.)
(2c)	Winter oilseed rape	32	42	54	**25** **128**	PP 1/178(2/3), PP 1/219(1), PP 1/220(1)
(2d)	Spring oilseed rape	-	-	-	-	-
(3)	*Codling moth (biting)*	*7*	*4* *(+ 4 Y trials)*	*1*	***12***	-
	Pome fruit (apple)	7	4 *(+ 4 Y trials)*	1	**12**	PP 1/007(3)
(4)	*European corn borer*	-	-	*5*	***5***	-
	Maize	-	-	5	**5**	PP 1/013(3)
(6)	*Brassica pod midge*	*10*	*11*	*9*	***30***	-
	Winter oilseed rape	10	11	9	**30**	PP 1/220(1)
TOTAL		68	83 *(+6 M/ Y trials)*	99	**250** *(+6 M/ Y trials)*	-

* Number in brackets [(1), (2), (3), (4) and (6)] refer to the defined pest group number submitted for the first registration of the product in December 2015.

M = efficacy trial with minimum effective dose determination, Y = trial with yield and/or quality assessment.
The letters combined with the pest group number [e.g. (1a)] refer to the avialable crop results within the pest group which were orginally submitted for the first registration of the product in December 2015.

** Please note, that the inserted number does not take into account the no. of trials but the no. of assessments of two or more pests in one trial within one use.

For detailed information about the envisaged GAP use please refer to Table 3.1-1 of this document.

(1) Aphids (sucking) - APHISP

Label claim:

Use no.*	MS	Registered use	Requested use	Comment
1	PL	1x 0.125 L/ha	1x 0.125 L/ha	No change to the registered GAP
11	SK	1x 0.09-0.125 L/ha	1x 0.09-0.125 L/ha	

* Use number(s) in accordance with the list of intended uses (Table 3.1-1)

For more detailed information on the intended label claim, please refer to Table 3.1-1 (Use No. 01 and 11). For Use No. 11 there is no amendment to the previously registered GAP. However, as the trial data submitted with the dossier in 2015 supported 2 applications against aphids in pome fruit, data was updated for the re-registration dossier and results only after one application of CA3573 are presented in the following.

Material and methods

An overview of trials against aphids is presented in Table 3.2-16, for detailed information please refer to Appendix 2 of the Biological Assessment Dossier. Additionally, the trial locations are provided in the Biological Assessment Dossier (KCP 6.0/03).

Table 3.2-16: Overview of updated efficacy trials with CA3573 against aphids (31 trials)

Ref. no.	Trial type (1)	Crop	Pest(s) (2)	Country	Year	Trial status
Maritime EPPO zone (9 trials)						
6.1.3/003	E	Apple	APHIPO	CZ	2014	GEP
6.1.3/004	E	Apple	APHIPO	CZ	2014	GEP
6.1.3/005	E	Apple	APHIPO	CZ	2014	GEP
6.1.3/006	E	Apple	APHIPO	CZ	2014	GEP
6.1.3/007	E	Apple	APHISP	CZ	2014	GEP
6.1.3/011	E	Apple	APHIPO, CARPPO	CZ	2014	GEP
6.1.3/012	E	Apple	APHIPO, CARPPO	CZ	2014	GEP
6.1.3/018	M+E	Apple	APHIPO	CZ	2015	GEP
6.1.3/019	M+E	Apple	APHIPO	CZ	2015	GEP
North-Eastern EPPO zone (15 trials)						
6.1.3/026	E+Y	Apple	APHISP (i.e. APHIPO, DYSAPL),	PL	2010	GEP
6.1.3/027	E+Y	Apple	APHISP (i.e. APHIPO, DYSAPL)	PL	2010	GEP
6.1.3/032	E+Y	Apple	APHIPO	PL	2012	GEP
6.1.3/033	E+Y	Apple	APHIPO	PL	2012	GEP
6.1.3/038	M+E	Apple	APHIPO	PL	2013	GEP
6.1.3/039	M+E	Apple	APHIPO	PL	2013	GEP
6.1.3/040	M+E	Apple	APHIPO	PL	2013	GEP
6.1.3/041	M+E	Apple	APHIPO	PL	2013	GEP
6.1.3/042	M+E	Apple	APHIPO	PL	2014	GEP
6.1.3/043	M+E	Apple	APHIPO	PL	2014	GEP
6.1.3/044	M+E	Apple	APHIPO	PL	2014	GEP
6.1.3/045	M+E	Apple	APHIPO	PL	2014	GEP
6.1.3/046	M+E	Apple	APHIPO	PL	2014	GEP
6.1.3/047	M+E	Apple	APHIPO	PL	2015	GEP
6.1.3/048	M+E	Apple	APHIPO	PL	2015	GEP
South-Eastern EPPO zone (7 trials)						
6.1.3/052	M+E	Apple	APHIPO	HU	2013	GEP
6.1.3/060	E	Apple	APHIPO	RO	2014	GEP
6.1.3/069	M+E	Apple	APHIPO	SK	2013	GEP
6.1.3/070	M+E	Apple	APHIPO	SK	2013	GEP
6.1.3/073	E	Apple	APHIPO	SK	2014	GEP
6.1.3/080	M+E	Apple	APHISP	SK	2015	GEP
6.1.3/081	M+E	Apple	APHISP	SK	2015	GEP

(1) M = efficacy trial with minimum effective dose determination, E = efficacy trial with selectivity assessment, Y = trial with yield and/or quality assessment.
(2) Please refer to Table 3.2-3 for an overview of the target pests.

All trials were conducted in accordance with GEP principles and appropriate EPPO guidelines by officially recognised testing organisations. For a short description of the updated trial methodology please refer to Table 3.2-17.
For apple as high growing crop, a conversion table was prepared in Appendix 2 of the Biological Assessment Dossier, presenting the calculations of the treated leaf wall area (LWA) for each of the trials used for the efficacy evaluation in the updated dossier. The calculated LWA of the respective trials ranged from 6000 to 20000 m^2/ha, based on the orchard parameters from 26 trials, in the Maritime (9), the North-Eastern (13) and the South-Eastern (4) zones.
For APHISP, in the trials where the relevant information was available, the rate in L/ha LWA ranged from 0.0625 to 0.2083 L/ha LWA and the dose rate in L/ha/m CH ranged from 0.0357 to 0.0833, where applications were made at 0.125 L/ha ground area*.
Please refer to Appendix 2 of the Biological Assessment Dossier for detailed information considering the experimental details, trial design and test methodology, the application details as well as the conversion table for the applied dose rates per LWA.

*** Comments of zRMS:**

Please see the commenting box concerning LWA and CH dose rate measures for all the orchard trials: in the "**Codling Moth (biting) CARPPO**" chapter, page 73.

Table 3.2-17: Details on trial methodology (aphids – pome fruit, here: APHISP in apple)

Guidelines	General guidelines	EPPO PP 1/135(3), PP 1/152(3), PP 1/181(3), PP 1/225(1/2)
	Specific guidelines	EPPO PP 1/258(1), PP 1/239(2)
Experimental design	Plot design	RCBD
	Plot size	17.5 – 90 m²
	Number of replications	4
Crop	Trials per crop	31
	Varieties per crop[1]	Golden Delicious (10), Melrose (3), Idared (5), Early Gold, James Grieve, Ligol (2), Jonagold (2), Gala, Sampion, Lobo, Paulared, Cortland, Romus3, Jonared
	Sowing period	not applicable
Application	Crop stage (BBCH) at application[2]	from BBCH 57 to BBCH 78
	Timing Pest stage at application	Mixed growth stages of aphids (larva, nymph, adult)
	Number of applications[3] Intervals between applications	1 (31 trials)
	Spray volumes	400 - 1000 L/ha
	Leaf Wall Area calculation[4]	Leaf Wall Area calculation (in m²/ha) according to AGES: $= \frac{10\,000\ m^2}{\text{row distance (m)}}$ * treated canopy height (m) * 2
Assessment	Assessment types	- number of aphids per shoot based on 10 or 25 shoots - number of aphids per plot
	Efficacy calculation	Efficacy calculation according to Henderson-Tilton: $= (1- \frac{\text{control}_{\text{before treatment}} * \text{treatment}_{\text{after treatment}}}{\text{control}_{\text{after treatment}} * \text{treatment}_{\text{before treatment}}}) * 100$ Efficacy calculation according to Abbott: $= (1- \frac{\text{incidence}_{\text{treatment}}}{\text{incidence}_{\text{control}}}) * 100$
	Assessment dates	usually 1-4 DAA, 6-10 DAA, 13-15 DAA, 21 DAA

[1] The spelling of the respective varieties in the single trial reports can vary due to country specific differences.
[2] In two trials (Ref. no. 6.1.3/032 and 6.1.3/033) application was done at a slightly earlier crop stage than intended (BBCH 57). Application timing was shortly before flowering and since the product should not be applied during flowering, these trials are still considered valid.
[3] Even though the number of applications was > 1 in some trials, only trial results after one/ first application were taken into account.
[4] In case treated canopy height was not given in study report, the tree height was used for calculation of the leaf wall area instead.

The test product CA3573 (former MCW-2222) was applied according to the proposed GAP uses and compared to registered reference products. Detailed information about all reference products is presented in Table 3.2-6.

Results

(1a) Results in pome fruit

A total of **31 efficacy trials** were conducted in apple and are summarised according to the pest, i.e. *Aphis* sp. and the country or application scenario. The updated table for the Maritime zone trials is presented in Table 3.2-18. No changes were necessary in the efficacy trial results derived in the North-Eastern and South-Eastern EPPO zone. Hence, those results are provided in the dossier submitted for the first registration of the product in December 2015.

Mean efficacy per country or trial group (aphids in pome fruit)

Table 3.2-18: Mean effectiveness (%) of CA3573 against *Aphis* sp. in apple. Czech Republic 2014 (total 7 trials). Single trial data is presented in Appendix 3 of the BAD

Treatment		Mean effectiveness (Henderson-Tilton, %)													
Product a)	Dose rate L, kg/ha	Assessment 1 3 DAA (BBCH 71) b)				Assessment 2 7-9 DAA (BBCH 72-75)				Assessment 3 14 DAA (BBCH 71-75)		Assessment 4 21-22 DAA (BBCH 72-75)			
		nymphs		adults		nymphs		adults		adults		adults		mixed stages	
Control: insects/ shoot	-	*1158 c)*		*188 d)*		*1441*		*839*		*1987*		*2253*		*185*	
(min-max)	-	*(946-1369)*		*(16-550)*		*(1392-1491)*		*(15-2665)*		*(950-2843)*		*(1403-3008)*		*(21-275)*	
MCW-2222	**0.125**	**84**	**(81-87)**	**58**	**(37-76)**	**87**	**(83-91)**	**69**	**(8-100)**	**100**	**(99-100)**	**100**	**(99-100)**	**88**	**(85-94)**
MCW-2222	0.20	95	(95-96)	60	(39-81)	97	(96-98)	71	(7-100)	100	(100)	100	(99-100)	93	(89-99)
MCW-2222	0.25	93	(91-95)	65	(43-88)	95	(91-100)	72	(13-100)	100	(100)	100	(100)	97	(95-99)
Mospilan 20 SG	0.25	96	(93-99)	59	(22-81)	98	(96-99)	71	(2-100)	100	(100)	100	(100)	97	(95-100)
Mospilan 20 SP	0.013*	96	(95-97)	50	(15-80)	96	(93-99)	61	(2-100)	100	(99-100)	100	(99-100)	87	(87)
Mospilan 20 SP	0.025	-	-	59	(54-64)	-	-	89	(82-96)	-	-	-	-	98	(96-100)
No. of trials		2		5		2		7		3		3		3	

a Test product: MCW-2222 = CA3573 (SL, 200 g/L acetamiprid)
Reference products: Mospilan 20 SG (SG, 200 g/kg acetamiprid), Mospilan 20 SP (SP, 200 g/kg acetamiprid), * %W/V
b Developmental stage of crop (BBCH scale)
c Mean value of untreated control expressed in "no. of nymphs/ shoot"
d Mean value of untreated control expressed in "no. of adults/ shoot", in trial with Ref no. 6.1.3/011 and 6.1.3/012 expressed in "no. mixed stages/ shoot"
Numbers in brackets () = min - max values

For further trial results against aphids, please refer to the dossier submitted for the first registration of the product in December 2015 as either no changes to the registered GAP occurred or data submitted previously still support the intended uses.

Orthogonal comparison (aphids)

An orthogonal comparison of the trial results separated by the EPPO zone as well as the used reference products is presented below (Table 3.2-19 for Maritime, Table 3.2-20 for North-Eastern and Table 3.2-21 for South-Eastern EPPO zone trial results). For each EPPO zone as well as the intended dose rate, the total mean of the efficacy achieved by CA3573 is given in a first incidence.
In Table 3.1-1, the maximum rate per application of CA3573 is inserted in column 10 (Application rate) whereas in column 14 (Remarks), the registered dose rate range of CA3573 is presented. Therefore, two types of orthogonal comparison are presented. The first one is related to the efficacy results achieved with the minimum dose rate of CA3573 registered (0.09 L/ha) whereas the second orthogonal comparison is related to those trial results where the test product was applied at the intended maximum rate (0.125 L/ha). The comparison was done at a mean value level.

Calculated LWA ranged from 6000 to 12500 m^2 in trials conducted in the Maritime EPPO zone, from 11429 to 20000 m^2 in trials from the North-Eastern EPPO zone and from 8000 to 9200 m^2 in trials from the South-Eastern EPPO zone. Detailed information on the calculated LWA for the single trials is given in Table A2-5 in Appendix 2 of the Biological Assessment Dossier.

Data demonstrated that the efficacy of CA3573 at the minimum registered dose of 0.09 L/ha for apple against aphids was slightly inferior to the efficacy of the reference products tested in the Maritime EPPO zone (Mospilan (20) SG at 0.25 kg/ha) and North-Eastern EPPO zone (Mospilan 20 SP at 0.125 kg/ha).
Compared to the second reference product tested in the North-Eastern EPPO zone (Mospilan 20 SG at 0.125 kg/ha) as well as to the one used in the South-Eastern EPPO zone (Mospilan (20) SG at 0.25 kg/ha), the efficacy of CA3573 was equivalent.
Data demonstrated that efficacy of CA3573 at the intended maximum dose rate of 0.125 L/ha for apple against aphids was equivalent to the efficacy of most of the reference products tested on *Malus domestica* (MABSD) independent of the EPPO zones.
Only under North-Eastern EPPO zone conditions, CA3573 achieved a slightly inferior control of aphids when compared to Mospilan (20) SG at 0.25 kg/ha whereas the efficacy of CA3573 was equivalent when compared to the same reference product at 0.125 L/ha
The results demonstrated that no remarkable differences occurred in the performance of CA3573 when trial results were grouped as presented.

Table 3.2-19: Orthogonal comparison of efficacy of CA3573 and its reference products in MABSD against aphids - Maritime EPPO zone

	Number of trials	Effectiveness (Henderson-Tilton, %)		
		CA3573	RP	RP Code
Average of all trials with CA3573 at **0.09 L/ha**	2	93	-	
Orthogonal comparison, with main reference products	2	93	99	A
Average of all trials with CA3573 at **0.125 L/ha**	9	93	-	
Orthogonal comparison, with main reference products	9	93	97	A

RP = Reference product, RP Code A= Mospilan (20) SG at 0.25 kg/ha

Table 3.2-20: Orthogonal comparison of efficacy of CA3573 and its reference products in MABSD against aphids – North-Eastern EPPO zone

	Number of trials	Effectiveness (Henderson-Tilton, %)		
		CA3573	RP	RP Code
Average of all trials with CA3573 at **0.09-0.1 L/ha**	15	81	-	-
Orthogonal comparison, with main reference products	13	83	99	A
	6	84	89	B
Average of all trials with CA3573 at **0.125 L/ha**	15	93	-	-
Orthogonal comparison, with main reference products	13	95	99	A
	6	87	89	B

RP = Reference product,
RP Code A= Mospilan 20 SP at 0.125 kg/ha, RP Code B = Mospilan 20 SG at 0.125 kg/ha
The median instead of the mean was calculated, due to heterogeneous results

Table 3.2-21: Orthogonal comparison of efficacy of CA3573 and its reference products in MABSD against aphids – South-Eastern EPPO zone

	Number of trials	Effectiveness (Henderson-Tilton, %)		
		CA3573	RP	RP Code
Average of all trials with CA3573 at **0.09 L/ha**	5	92	-	-
Orthogonal comparison, with main reference product	5	92	97	A
Average of all trials with CA3573 at **0.125 L/ha**	7	96	-	-
Orthogonal comparison, with main reference product	5	97	97	A
	2	93	99	B

RP = Reference product,
RP Code A= Mospilan (20) SG at 0.125 kg/ha, RP Code B = Mospilan (20) SG at 0.25 kg/ha

Conclusion (aphids)

Data demonstrated that the efficacy of CA3573 at the proposed maximum label rate was equivalent to the efficacy of Mospilan 20 SG and Mospilan 20 SP against aphids in apples. An updated overview of the mean effectiveness per EPPO zone is presented in in Table 3.2-15. For the use in pome fruit extrapolation is envisaged from aphids in apple (indicator crop) to aphids in pear as proposed by the extrapolation tables of EPPO regarding effectiveness of insecticides (PP 1/257 IEET 3 (2)).-Thus, the GAP uses as stated in Table 3.1-1 were proven by the data. CA3573 is considered to be appropriate for the control of aphids in pome fruit.

(2) Beetles and weevils (biting) - DIABVI, LPTNDE, CEUTSP, MELIAE

Label claim:

Use no.*	MS	Registered use	Requested use	Comment
3	PL	1x 0.12-0.18 L/ha	1x 0.12-0.18 L/ha	No change to the registered GAP
4+9		1x 0.18 – 0.3 L/ha	1x 0.18 – 0.3 L/ha	
5-8		1x 0.15 – 0.3 L/ha	1x 0.15 – 0.3 L/ha	

10		1x 0.2 – 0.3 L/ha	1x 0.2 – 0.3 L/ha	
13	SK	2x 0.12 - 0.18 L/ha	1x 0.12 - 0.18 L/ha	Reduction of the no. of applications
14+16+17		2x 0.15 – 0.3 L/ha	1x 0.15 – 0.3 L/ha	
15+18		2x 0.18 – 0.3 L/ha	1x 0.18 – 0.3 L/ha	
19		1x 0.2 – 0.3 L/ha	1x 0.2 – 0.3 L/ha	No change to the registered GAP

* Use number(s) in accordance with the list of intended uses (Table 3.1-1)

For more detailed information on the intended label claim, please refer to Table 3.1-1 (Use No. 3-10 and 13-19). For Use No. 19 there are no amendments to the previously registered GAP. Information relevant to these uses are presented in the previously submitted documents. However, data is now additionally presented in orthogonal tables.

Table 3.2-22: Mean effectiveness of the target rate of CA3573 against beetles and weevils in all target crops (summary of Mean efficacy per EPPO zone)

Crop	Pest	EPPO zone	MCW-2222* [L/ha]						Mospilan 20 SG [kg/ha]		Mospilan 20 SP [kg/ha]			Karate Zeon [L/ha]		Max no. of trials
			0.12	0.15	0.18	0.20	0.25	0.30	0.15	0.20	0.08	0.15	0.20	0.12	0.15	
Maize	DIABVI [1]	SE	-	-	-	**90** (70-100)	-	**93** (84-100)	**90** (73-100)	-	-	-	-	-	-	11
Potato	LPTNDE [2]	MAR	**93** (70-100)	**95** (75-100)	**96** (87-100)	-	-	-	**98** (88-100)	-	-	-	-	-	-	10
		NE	**90** (83-97)	**95** (74-100)	**96** (75-100)	-	-	-	-	-	**93** (73-100)	-	-	-	-	11
		SE	**90** (77-100)	**95** (85-100)	**96** (88-100)	-	-	-	**94** (84-100)	-	-	-	-	-	-	12
Winter oilseed rape	CEUTAS [3]	MAR	-	**86** (58-100)	**81** (70-91)	**92** (75-100)	**93** (75-100)	**98** (94-100)	**93** (63-100)	-	-	-	-	-	**85** (65-100)	9
		NE	-	**86** (68-100)	**95** (88-100)	**89** (77-95)	**92** (77-100)	**95** (83-100)	-	-	-	-	-	-	**88** (67-100)	12
		SE	-	**73** (38-95)	**88** (79-92)	**78** (53-97)	**74** (58-89)	**80** (68-95)	**75** (48-91)	-	-	**87** (84-89)	**84** (72-95)	-	-	15
	CEUTNA [4]	MAR	-	**80** (37-100)	-	**87** (39-100)	**96** (83-100)	**97** (85-100)	**87** (57-100)	-	-	-	-	-	**92** (86-100)	7
		NE	-	**80** (57-87)	-	**86** (80-91)	**92** (83-99)	**96** (87-100)	-	-	-	-	-	**82** (75-88)	**82** (69-89)	10
		SE	-	**75** (58-91)	**82** (61-95)	**81** (67-100)	**84** (76-100)	**87** (72-100)	**81** (57-100)	-	-	-	-	-	**71** (34-100)	16
	CEUTQU [5]	MAR	-	**56** (0-100)	**74** (47-100)	**89** (66-100)	**88** (66-100)	**96** (87-100)	-	-	-	-	-	-	**80** (56-100)	6
		NE	-	**76** (54-88)	**77** (70-84)	**88** (80-96)	**93** (90-97)	**97** (90-100)	-	-	-	-	-	**76** (51-87)	-	13
		SE	-	**75** (66-88)	**87** (80-85)	**87** (70-96)	**86** (67-97)	**90** (79-96)	**82** (70-95)	-	-	-	-	-	**81** (72-87)	6
Winter oilseed rape	CEUTNA & CEUTQU [6]	SE	-	**90** (86-97)	**96** (92-100)	-	-	-	-	-	-	-	-	-	**86** (82-97)	4
	MELIAE [7]	MAR	-	-	**92** (85-98)	**83** (58-100)	**89** (75-100)	**92** (81-100)	**83** (75-97)	-	-	-	-	-	**71** (23-100)	14
		NE	-	-	**86** (72-92)	**90** (77-100)	**92** (82-100)	**93** (81-100)	-	-	-	-	-	**77** (39-99)	-	14
		SE	-	-	**86** (59-97)	**83** (62-96)	**80** (68-94)	**86** (77-95)	**78** (53-97)	**81** (63-98)	-	**90** (78-96)	-	-	-	31

* MCW-2222 = CA3573

Crop	Pest	EPPO zone	MCW-2222* [L/ha]						Mospilan 20 SG [kg/ha]		Mospilan 20 SP [kg/ha]			Karate Zeon [L/ha]		Max no. of trials
			0.12	0.15	0.18	0.20	0.25	0.30	0.15	0.20	0.08	0.15	0.20	0.12	0.15	

[1] No. of adults/ plant
[2] No. of larvae/ plant
[3] No. of adults or insects/ plant or No. of larvae /100 pods or plant
[4] No. of adults/ plant or No. of larvae/ plant, stem or plot
[5] Percentage of infestation; No. of adults/ plant; No. of larvae/ plant, stem or plot, No. of holes/ plot
[6] No. of larvae/ stem
[7] No. of adults/ plant

For further details per crop (e.g. assessment dates) please refer to Table 3.2-24 (Details on trial methodology).

Material and methods

An overview of trials against beetles and weevils is presented in Table 3.2-23, for detailed information please refer to Appendix 2 of the Biological Assessment Dossier. Additionally, the trial locations are marked on the corresponding maps in the Biological Assessment Dossier (KCP 6.0/03).

Table 3.2-23: Overview of updated efficacy trials with CA3573 against beetles and weevils (172 efficacy and 2 minimum effective dose trials)

Ref. no.	Trial type (1)	Crop	Pest(s) (2)	Country	Year	Trial status
Maritime EPPO zone (42 trials)						
6.1.3/101	E+Y	Potato	LPTNDE	CZ	2013	GEP
6.1.3/102	E	Potato	LPTNDE	CZ	2013	GEP
6.1.3/103	E	Potato	LPTNDE	CZ	2013	GEP
6.1.3/104	E+Y	Potato	LPTNDE	CZ	2014	GEP
6.1.3/105	E	Potato	LPTNDE	CZ	2014	GEP
6.1.3/106	E	Potato	LPTNDE	CZ	2014	GEP
6.1.3/107	E	Potato	LPTNDE	DE	2014	GEP
6.1.3/108	E+Y	Potato	LPTNDE	DE	2015	GEP
6.1.3/109	E+Y	Potato	LPTNDE	DE	2015	GEP
6.1.3/110	E+Y	Potato	LPTNDE	DE	2015	GEP
6.1.3/169	M+E+Y	W-OSR	MELIAE	CZ	2011	GEP
6.1.3/170	M+E+Y	W-OSR	MELIAE	CZ	2011	GEP
6.1.3/171	M+E+Y	W-OSR	MELIAE	CZ	2011	GEP
6.1.3/172	E+Y	W-OSR	CEUTAS, DASYBR	CZ	2012	GEP
6.1.3/173	E	W-OSR	CEUTAS, DASYBR	CZ	2012	GEP
6.1.3/174	E+Y	W-OSR	MELIAE	CZ	2012	GEP
6.1.3/175	E+Y	W-OSR	CEUTAS, DASYBR	CZ	2012	GEP
6.1.3/176	M+E+Y	W-OSR	CEUTQU	CZ	2013	GEP
6.1.3/178	M+E+Y	W-OSR	CEUTQU	CZ	2013	GEP
6.1.3/180	M+E+Y	W-OSR	MELIAE	CZ	2013	GEP
6.1.3/181	M+E+Y	W-OSR	MELIAE	CZ	2013	GEP
6.1.3/182	E+Y	W-OSR	CEUTNA	CZ	2014	GEP
6.1.3/183	E	W-OSR	CEUTNA, CEUTQU	CZ	2014	GEP
6.1.3/184	M+E+Y	W-OSR	MELIAE	CZ	2014	GEP
6.1.3/185	M+E	W-OSR	MELIAE	CZ	2014	GEP
6.1.3/186	E+Y	W-OSR	CEUTAS, DASYBR	CZ	2014	GEP
6.1.3/187	E	W-OSR	CEUTAS, DASYBR	CZ	2014	GEP
6.1.3/188	E	W-OSR	CEUTNA, CEUTQU	CZ	2015	GEP
6.1.3/189	E	W-OSR	CEUTNA	CZ	2015	GEP
6.1.3/190	E	W-OSR	CEUTNA, CEUTQU	CZ	2015	GEP
6.1.3/191	E	W-OSR	CEUTQU	CZ	2015	GEP
6.1.3/192	E	W-OSR	CEUTAS, DASYBR	CZ	2015	GEP
6.1.3/193	E	W-OSR	CEUTAS, DASYBR	CZ	2015	GEP
6.1.3/194	E	W-OSR	CEUTAS, DASYBR	CZ	2015	GEP
6.1.3/195	E	W-OSR	MELIAE	DE	2011	GEP
6.1.3/197	E	W-OSR	CEUTNA	DE	2014	GEP
6.1.3/198	M+E	W-OSR	MELIAE	DE	2014	GEP
6.1.3/200	E	W-OSR	CEUTNA	DE	2015	GEP
6.1.3/201	M+E	W-OSR	MELIAE	DE	2015	GEP
6.1.3/202	M+E	W-OSR	MELIAE	DE	2015	GEP
6.1.3/203	M+E	W-OSR	MELIAE	DE	2015	GEP
6.1.3/204	M+E	W-OSR	CEUTAS, MELIAE	DE	2015	GEP

Ref. no.	Trial type (1)	Crop	Pest(s) (2)	Country	Year	Trial status
North-Eastern EPPO zone [53 trials (and 2 MED trials only)]						
6.1.3/111	M+Y	Potato	LPTNDE	PL	2010	GEP
6.1.3/112	M+Y	Potato	LPTNDE	PL	2010	GEP
6.1.3/113	E+Y	Potato	LPTNDE	PL	2013	GEP
6.1.3/114	E+Y	Potato	LPTNDE	PL	2013	GEP
6.1.3/115	E	Potato	LPTNDE	PL	2013	GEP
6.1.3/116	E	Potato	LPTNDE	PL	2013	GEP
6.1.3/118	E	Potato	LPTNDE	PL	2014	GEP
6.1.3/119	E	Potato	LPTNDE	PL	2014	GEP
6.1.3/120	E	Potato	LPTNDE	PL	2014	GEP
6.1.3/121	E	Potato	LPTNDE	PL	2014	GEP
6.1.3/122	E	Potato	LPTNDE	PL	2014	GEP
6.1.3/123	E	Potato	LPTNDE	PL	2014	GEP
6.1.3/124	E	Potato	LPTNDE	PL	2014	GEP
6.1.3/212	M+E+Y	W-OSR	CEUTQU, MELIAE	PL	2012	GEP
6.1.3/213	M+E+Y	W-OSR	CEUTQU, MELIAE	PL	2012	GEP
6.1.3/214	M+E+Y	W-OSR	CEUTQU, MELIAE	PL	2012	GEP
6.1.3/215	M+E+Y	W-OSR	CEUTQU, MELIAE	PL	2012	GEP
6.1.3/216	M+E	W-OSR	CEUTNA, CEUTQU	PL	2013	GEP
6.1.3/217	M+E	W-OSR	CEUTNA, CEUTQU	PL	2013	GEP
6.1.3/218	M+E+Y	W-OSR	CEUTNA, CEUTQU	PL	2013	GEP
6.1.3/219	M+E+Y	W-OSR	CEUTNA, CEUTQU	PL	2013	GEP
6.1.3/220	M+E+Y	W-OSR	MELIAE	PL	2013	GEP
6.1.3/221	M+E+Y	W-OSR	MELIAE	PL	2013	GEP
6.1.3/222	M+E	W-OSR	MELIAE	PL	2013	GEP
6.1.3/223	M+E	W-OSR	MELIAE	PL	2013	GEP
6.1.3/224	M+E	W-OSR	CEUTAS, DASYBR	PL	2013	GEP
6.1.3/225	M+E	W-OSR	CEUTAS, DASYBR	PL	2013	GEP
6.1.3/226	M+E	W-OSR	CEUTAS, DASYBR	PL	2013	GEP
6.1.3/227	M+E	W-OSR	CEUTAS, DASYBR	PL	2013	GEP
6.1.3/228	E	W-OSR	CEUTNA, CEUTQU	PL	2013	GEP
6.1.3/229	E	W-OSR	CEUTNA, CEUTQU	PL	2013	GEP
6.1.3/230	E	W-OSR	CEUTNA	PL	2014	GEP
6.1.3/231	E	W-OSR	CEUTNA, CEUTQU	PL	2014	GEP
6.1.3/232	M+E	W-OSR	MELIAE	PL	2014	GEP
6.1.3/233	M+E	W-OSR	MELIAE	PL	2014	GEP
6.1.3/234	M+E	W-OSR	MELIAE	PL	2014	GEP
6.1.3/235	M+E	W-OSR	MELIAE	PL	2014	GEP
6.1.3/236	M+E	W-OSR	MELIAE	PL	2014	GEP
6.1.3/237	M+E	W-OSR	MELIAE	PL	2014	GEP
6.1.3/238	E	W-OSR	CEUTAS, DASYBR	PL	2014	GEP
6.1.3/239	E	W-OSR	CEUTAS, DASYBR	PL	2014	GEP
6.1.3/240	E	W-OSR	CEUTAS, DASYBR	PL	2014	GEP
6.1.3/241	E	W-OSR	CEUTAS, DASYBR	PL	2014	GEP
6.1.3/242	E	W-OSR	CEUTNA, CEUTQU	PL	2014	GEP
6.1.3/243	E	W-OSR	CEUTNA, CEUTQU	PL	2014	GEP
6.1.3/244	E	W-OSR	CEUTNA, CEUTQU	PL	2015	GEP
6.1.3/245	E	W-OSR	CEUTNA	PL	2015	GEP
6.1.3/246	E	W-OSR	CEUTNA	PL	2015	GEP
6.1.3/247	E	W-OSR	CEUTNA, CEUTQU	PL	2015	GEP
6.1.3/248	E	W-OSR	CEUTQU	PL	2015	GEP
6.1.3/249	E	W-OSR	CEUTQU	PL	2015	GEP
6.1.3/250	E	W-OSR	CEUTAS	PL	2015	GEP
6.1.3/251	E	W-OSR	CEUTAS, DASYBR	PL	2015	GEP
6.1.3/252	E	W-OSR	CEUTAS, DASYBR	PL	2015	GEP
6.1.3/253	E	W-OSR	CEUTAS, DASYBR	PL	2015	GEP

Ref. no.	Trial type (1)	Crop	Pest(s) (2)	Country	Year	Trial status
South-Eastern EPPO zone (77 trials)						
6.1.3/085	M+E	Maize	DIABVI	HU	2013	GEP
6.1.3/086	M+E	Maize	DIABVI	HU	2013	GEP
6.1.3/087	M+E	Maize	DIABVI	HU	2013	GEP
6.1.3/088	M+E	Maize	DIABVI	HU	2014	GEP
6.1.3/089	M+E	Maize	DIABVI	HU	2014	GEP
6.1.3/092	M+E	Maize	DIABVI	RO	2014	GEP
6.1.3/093	M+E	Maize	DIABVI	RO	2014	GEP
6.1.3/094	M+E	Maize	DIABVI	RO	2014	GEP
6.1.3/098	M+E	Maize	DIABVI	SK	2014	GEP
6.1.3/099	M+E	Maize	DIABVI	SK	2014	GEP
6.1.3/100	M+E	Maize	DIABVI	SK	2014	GEP
6.1.3/125	E	Potato	LPTNDE	RO	2014	GEP
6.1.3/126	E	Potato	LPTNDE	RO	2014	GEP
6.1.3/127	E	Potato	LPTNDE	RO	2014	GEP
6.1.3/128	E	Potato	LPTNDE	RO	2014	GEP
6.1.3/129	E	Potato	LPTNDE	RO	2014	GEP
6.1.3/130	E	Potato	LPTNDE	RO	2015	GEP
6.1.3/131	E	Potato	LPTNDE	RO	2015	GEP
6.1.3/132	M+E	Potato	LPTNDE	SK	2013	GEP
6.1.3/133	M+E	Potato	LPTNDE	SK	2013	GEP
6.1.3/134	E	Potato	LPTNDE	SK	2014	GEP
6.1.3/135	E	Potato	LPTNDE	SK	2014	GEP
6.1.3/136	E	Potato	LPTNDE	SK	2014	GEP
6.1.3/254	M+E	W-OSR	CEUTAS, MELIAE	HU	2011	GEP
6.1.3/255	M+E	W-OSR	CEUTAS, MELIAE	HU	2011	GEP
6.1.3/256	M+E	W-OSR	MELIAE	HU	2011	GEP
6.1.3/257	M+E	W-OSR	CEUTAS, MELIAE	HU	2011	GEP
6.1.3/258	M+E	W-OSR	MELIAE	HU	2012	GEP
6.1.3/259	M+E	W-OSR	MELIAE	HU	2012	GEP
6.1.3/260	M+E+Y	W-OSR	MELIAE	HU	2012	GEP
6.1.3/261	M+E+Y	W-OSR	MELIAE	HU	2012	GEP
6.1.3/262	M+E	W-OSR	CEUTAS	HU	2012	GEP
6.1.3/263	M+E	W-OSR	CEUTAS, MELIAE	HU	2012	GEP
6.1.3/264	M+E	W-OSR	CEUTNA, CEUTQU	HU	2013	GEP
6.1.3/265	M+E	W-OSR	CEUTNA	HU	2013	GEP
6.1.3/266	M+E	W-OSR	CEUTNA, MELIAE, CEUTQU	HU	2013	GEP
6.1.3/267	M+E	W-OSR	MELIAE	HU	2013	GEP
6.1.3/268	M+E	W-OSR	MELIAE	HU	2013	GEP
6.1.3/269	M+E	W-OSR	MELIAE	HU	2013	GEP
6.1.3/270	M+E	W-OSR	CEUTAS, DASYBR	HU	2013	GEP
6.1.3/271	M+E	W-OSR	CEUTAS, DASYBR	HU	2013	GEP
6.1.3/272	E+Y	W-OSR	MELIAE	HU	2013	GEP
6.1.3/273	E+Y	W-OSR	MELIAE	HU	2013	GEP
6.1.3/274	E+Y	W-OSR	MELIAE	HU	2013	GEP
6.1.3/275	E	W-OSR	MELIAE	HU	2013	GEP
6.1.3/276	E+Y	W-OSR	MELIAE	HU	2013	GEP
6.1.3/277	E	W-OSR	MELIAE	HU	2013	GEP
6.1.3/278	M+E	W-OSR	CEUTNA, MELIAE	HU	2014	GEP
6.1.3/279	M+E	W-OSR	CEUTNA, MELIAE	HU	2014	GEP
6.1.3/280	M+E	W-OSR	MELIAE	HU	2014	GEP
6.1.3/281	M+E	W-OSR	MELIAE	HU	2014	GEP
6.1.3/282	E	W-OSR	CEUTAS	HU	2014	GEP
6.1.3/283	E	W-OSR	CEUTAS	HU	2014	GEP
6.1.3/284	E	W-OSR	CEUTNA	HU	2015	GEP
6.1.3/285	M+E	W-OSR	CEUTNA, MELIAE	HU	2015	GEP
6.1.3/286	E	W-OSR	CEUTQU	HU	2015	GEP
6.1.3/288	M+E	W-OSR	MELIAE, DASYBR	HU	2015	GEP
6.1.3/289	M+E	W-OSR	MELIAE, DASYBR	HU	2015	GEP
6.1.3/291	E	W-OSR	CEUTAS	HU	2015	GEP
6.1.3/292	E	W-OSR	CEUTAS	HU	2015	GEP
6.1.3/293	E	W-OSR	CEUTAS	HU	2015	GEP
6.1.3/294	M+E	W-OSR	CEUTAS, MELIAE, DASYBR	HU	2015	GEP
6.1.3/295	M+E	W-OSR	CEUTNA	SK	2013	GEP
6.1.3/296	M+E	W-OSR	CEUTNA, CEUTQU	SK	2013	GEP
6.1.3/297	M+E+Y	W-OSR	MELIAE	SK	2013	GEP

Ref. no.	Trial type (1)	Crop	Pest(s) (2)	Country	Year	Trial status
6.1.3/298	M+E	W-OSR	MELIAE	SK	2013	GEP
6.1.3/299	M+E	W-OSR	CEUTAS, DASYBR	SK	2013	GEP
6.1.3/300	E	W-OSR	CEUTNA	SK	2014	GEP
6.1.3/301	E	W-OSR	CEUTNA, CEUTQU	SK	2014	GEP
6.1.3/302	E	W-OSR	CEUTNA, CEUTQU	SK	2014	GEP
6.1.3/303	E	W-OSR	CEUTNA	SK	2014	GEP
6.1.3/304	M+E	W-OSR	MELIAE	SK	2014	GEP
6.1.3/305	M+E+Y	W-OSR	MELIAE	SK	2014	GEP
6.1.3/306	E	W-OSR	CEUTNA	SK	2015	GEP
6.1.3/307	E	W-OSR	CEUTNA	SK	2015	GEP
6.1.3/308	E	W-OSR	CEUTAS, DASYBR	SK	2015	GEP
6.1.3/309	E	W-OSR	CEUTNA	SK	2015	GEP

(1) M = efficacy trial with minimum effective dose determination, E = efficacy trial with selectivity assessment, Y = trial with yield and/or quality assessment.
(2) Please refer to Table 3.2-3 for an overview of the target pests.

All trials were conducted in accordance with GEP principles and appropriate EPPO guidelines by officially recognised testing organisations. For a short description of the trial methodology please refer to Table 3.2-24. Please refer to Appendix 2 of the Biological Assessment Dossier for detailed information considering the experimental details, trial design and test methodology as well as the application details per crop.

Table 3.2-24: Details on trial methodology (beetles and weevils)

Guidelines	General guidelines	EPPO PP 1/135(3), PP 1/152(3/4), PP 1/181(3/4), PP 1/225(1/2)	
	Specific guidelines	Maize:	EPPO PP 1/274(1)
		Potato:	EPPO PP 1/12(3/4), PP 1/228(n.a.) – PP 1/230(n.a.)
		W-OSR	EPPO PP 1/83(2), PP 1/107(3), PP 1/044(2)*, EPPO PP 1/178(2/3), PP 1/219(1), PP 1/220(1), National methods No. 2.2.1.8.1.; No: 2.1.3.4., No. 2.1.3.5
Experimental design	Plot design	RCBD	
	Plot size	Maize:	144-2520 m²
		Potato:	19.6-37.5 m²
		W-OSR:	24-500 m²
	Number of replications	4	
Crop	Trials per crop	Maize (11) Potato (33) Winter oilseed rape (128)	
	Varieties per crop[1]	<u>Maize:</u> PR37N01, NK Lucius, Pioneer 38A79, DKC 3811, Dorane , PO412, DKC5276, Florenta, Monalisa, Sunagra, NK- Siltop	
		<u>Potato :</u> Marabel (2), Dali (2), Adela, Taifun, Wineta (2), Lord (2), Pokusa, Syrena (2), Bryza, Albatros, Owacja, Bella Rossa, Syreba, Denar, Carrera (3), Aladin, Christian, Roclas, Magda, Anuschka, Volumia, Viola, Adora	
		<u>W-OSR</u>: Exagone (2), Ontario (4), PR45DO3, Da Vinci (6), DK Exquisite (8), Cortez (2), Sherpa (2), Californium (3), Rohan (4), Rescator (2), Visby (2), PR46W20 (2), Avatar(2), Basalti, Adriana, DK Exstorm (3), Nelson (2), Extend (3), (DK) Explicit (2), Tasillo (2), Vision, Monolit (10), ES Bourbon, Casper (2), Poznaniak, As Astrid (2), Sy Alister (2), Alessio F1, Sy Kolumb, Abakus, Goya, Marcopolo, Exclusive, Quartz, Rally (6), Olano (5), Exocet (2), Remy (2), Pioneer B06/ D06, DK Excellium, PR 44D06, D-03 (2), MG Sirto (2), NK Tores (2), GK Gabriella, PR46W14 (6), Labrador (2), Manitoba, Kodiak (2), Canate (3), NK Morse, and further varieties (refer to Appendix 2 of the BAD)	
	Sowing period	Maize:	from April to May
		Potato:	from March to May
		W-OSR:	from August to October
Application **Application ctd.**	Crop stage (BBCH) at application	Maize:	from BBCH 34 to BBCH 75
		Potato:	from BBCH 19 to BBCH 73
		W-OSR:	from BBCH 30 to BBCH 71
	Timing Pest stage at application Number of applications[2] Intervals between applications	Mixed growth stages of beetles and weevils	
		Maize:	1 (11 trials)
		Potato :	1 (33 trials)
		W-OSR:	1 (128 trials)
	Spray volumes	Maize:	200 - 600 L/ha
		Potato:	200 - 600 L/ha
		W-OSR:	200 - 400 L/ha
	Pre-treatment	W-OSR: No. of beetles trapped in Moericke trap	

Assessment	Assessment types	Maize:	- No. of adults per plant
		Potato:	- No. of larvae per plant
		W-OSR:	- No. of living larvae per stem based on 20 plants - Infestation in % damaged plants - No. of holes per stem based on 20 plants
	Efficacy calculation	Efficacy calculation according to Henderson-Tilton: $= (1- \frac{control_{before\ treatment} * treatment_{after\ treatment}}{control_{after\ treatment} * treatment_{before\ treatment}}) * 100$ Efficacy calculation according to Abbott: $= (1- \frac{incidence_{treatment}}{incidence_{control}}) * 100$	
	Assessment dates	Maize:	usually 2-3 DAA; 7-8 DAA; 14-16 DAA
		Potato:	usually 1-3 DAA, 7-11 DAA, 12-18 DAA
		W-OSR:	usually 1-3 DAA, 4-7 DAA, 12 DAA, 23-38 DAA, 51-53 DAA, 73-95 DAA

[1] The spelling of the respective varieties in the single trial reports can vary due to country specific differences.
[2] Even though the number of applications was > 1 in some trials, only trial results after one/ first application were taken into account.
* In one trial (Ref. no. 6.1.3/179), a typo within an EPPO Guideline was corrected from PP 1/144(2) to PP 1/044(2).

The test product CA3573 was applied according to the proposed GAP uses and compared to registered reference products. Detailed information about all reference products is presented in Table 3.2-6.

Results

The effectiveness of CA3573 against beetles and weevils was tested in **172 efficacy trials** in maize, potato and winter oilseed rape conducted in the seasons 2011 to 2015 in Czech Republic, Germany, Poland, Romania, Slovakia and Hungary. The results determined in the different target crops are presented under subheading **(2a)** for maize, **(2b)** for potato, **(2c)** for winter oilseed rape.

(2a) Results in maize

For the 11 trial results against DIABVI in maize, please refer to the dossier submitted for the first registration of the product in December 2015 as either no changes to the registered GAP occurred or data submitted previously still support the intended uses.

Orthogonal comparison (beetles and weevils - maize)

An orthogonal comparison of the trial results separated by the used reference products is presented. As this use is only intended in Slovakia (Use No. 19), trials were conducted in the South-Eastern EPPO zone only and therefore one orthogonal comparison table for this EPPO zone was prepared (see Table 3.2-25).
For each intended dose rate, the total mean of the efficacy achieved by CA3573 is given in a first incidence.
In Table 3.1-1, the maximum rate per application of CA3573 is inserted in column 10 (Application rate) whereas in column 14 (Remarks), the registered dose rate range of CA3573 is presented. Therefore, two types of orthogonal comparison are presented. The first one is related to the efficacy results achieved with the lower dose rate of CA3573 registered (0.20 L/ha) whereas the second orthogonal comparison is related to those trial results where the test product was applied at the intended maximum rate (0.30 L/ha). The comparison was done at a mean value level.
Data demonstrated that the efficacy of CA3573 at the lower registered dose of 0.20 L/ha as well as for the maximum intended dose rate of 0.30 L/ha for maize against *Diabrotica virgifera virgifera* was equivalent to the efficacy of the reference products tested in the South-Eastern EPPO zone (Mospilan (20) SG at 0.15 kg/ha). The results demonstrated that no remarkable differences occurred in the performance of CA3573 when trial results were grouped as presented.

Table 3.2-25: Orthogonal comparison of efficacy of CA3573 and its reference products in ZEAMX against DIABVI – South-Eastern EPPO zone

	Number of trials	Effectiveness (Henderson-Tilton, %)		
		CA3573	RP	RP Code
Average of all trials with CA3573 at **0.20 L/ha**	8	90	-	
Orthogonal comparison, with main reference products	8	90	89	A
Average of all trials with CA3573 at **0.30 L/ha**	11	93	-	
Orthogonal comparison, with main reference products	11	93	90	A

RP = Reference product,
RP Code A= Mospilan 20 SG at 0.15 kg/ha

(2b) Results in potato

For the 33 trial results against LPTNDE in potato, please refer to the dossier submitted for the first registration of the product in December 2015 as either no changes to the registered GAP occurred or data submitted previously still support the intended uses.

Orthogonal comparison (beetles and weevils - potato)

An orthogonal comparison of the trial results separated by the EPPO zone as well as the used reference products is presented (Table 3.2-26 for Maritime, Table 3.2-27 for North-Eastern and Table 3.2-28 for South-Eastern EPPO zone trial results). For each EPPO zone as well as the intended dose rate, the total mean of the efficacy achieved by CA3573 is given in a first incidence.
In Table 3.1-1, the maximum rate per application of CA3573 is inserted in column 10 (Application rate) whereas in column 14 (Remarks), the registered dose rate range of CA3573 is presented. Therefore, three types of orthogonal comparison are presented. The first one is related to the efficacy results achieved with the minimum dose rate of CA3573 registered (0.12 L/ha), the second comparison refers to the medium dose of the registered dose range of CA3573 (0.15 L/ha) whereas the third orthogonal comparison is related to those trial results where the test product was applied at the intended maximum rate (0.18 L/ha). The comparison was done at a mean value level.
Data demonstrated that the efficacy of CA3573 independent of the tested dose rates for potato against *Leptinotarsa decemlineata* (LPTNDE) were comparable to the efficacy of the reference products tested in the Maritime EPPO zone (Mospilan 20 SG at 0.15 kg/ha), in the North-Eastern EPPO zone (Mospilan 20 SG at 0.15 kg/ha and Mospilan 20 SP at 0.08 kg/ha) as well as in the South-Eastern EPPO zone (Mospilan (20) SG at 0.15 kg/ha).
The results demonstrated that no remarkable differences occurred in the performance of CA3573 when trial results were grouped as presented.

Table 3.2-26: Orthogonal comparison of efficacy of CA3573 and its reference products in SOLTU against LPTNDE – Maritime EPPO zone

	Number of trials	Effectiveness (Henderson-Tilton, %)		
		CA3573	RP	RP Code
Average of all trials with CA3573 at **0.12 L/ha**	10	93	-	
Orthogonal comparison, with main reference products	10	93	98	A
Average of all trials with CA3573 at **0.15 L/ha**	10	95	-	
Orthogonal comparison, with main reference products	10	95	98	A
Average of all trials with CA3573 at **0.18 L/ha**	10	96	-	
Orthogonal comparison, with main reference products	10	96	98	A

RP = Reference product,
RP Code A= Mospilan 20 SG at 0.15 kg/ha

Table 3.2-27: Orthogonal comparison of efficacy of CA3573 and its reference products in SOLTU against LPT-NDE – North-Eastern EPPO zone

	Number of trials	Effectiveness (Henderson-Tilton, %)		
		CA3573	RP	RP Code
Average of all trials with CA3573 at **0.12 L/ha**	11	90	-	
Orthogonal comparison, with main reference products	9	91	96	A
	11	90	94	B
Average of all trials with CA3573 at **0.15 L/ha**	11	95	-	
Orthogonal comparison, with main reference products	9	95	96	A
	11	95	94	B
Average of all trials with CA3573 at **0.18 L/ha**	11	96	-	
Orthogonal comparison, with main reference products	9	96	96	A
	11	96	94	B

RP = Reference product,
RP Code A= Mospilan 20 SG at 0.15 kg/ha, RP Code B = Mospilan 20 SP at 0.08 kg/ha

Table 3.2-28: Orthogonal comparison of efficacy of CA3573 and its reference products in SOLTU against LPT-NDE – South-Eastern EPPO zone

	Number of trials	Effectiveness (Henderson-Tilton, %)		
		CA3573	RP	RP Code
Average of all trials with CA3573 at **0.12 L/ha**	12	90	-	
Orthogonal comparison, with main reference products	12	90	94	A
Average of all trials with CA3573 at **0.15 L/ha**	12	95	-	
Orthogonal comparison, with main reference products	12	95	94	A
Average of all trials with CA3573 at **0.18 L/ha**	12	96	-	
Orthogonal comparison, with main reference products	12	96	94	A

RP = Reference product,
RP Code A= Mospilan 20 SG at 0.15 kg/ha

(2c) Results in winter oilseed rape

A total of **128 efficacy trials** were conducted in winter oilseed rape and are summarised according to the pest, i.e. *Ceutorhynchus assimilis* (CEUTAS), *Ceutorhynchus napi* (CEUTNA), *Ceutorhynchus quadridens* (CEUTQU) and *Meligethes aeneus* (MELIAE) and the country or application scenario. The use against PSYICH in winter oilseed rape is not included in the current intended uses. Two trials with results against CEUTAS, CEUTNA and CEUTQU / MELIAE (Ref. no. 6.1.3/177 and 6.1.3/179) conducted in the Maritime EPPO zone were completely excluded, as all trial results were evaluated after 2 or 3 applications. In two further Maritime EPPO zone trials (Ref. no. 6.1.3/176 and 6.1.3/178), trial results against CEUTAS had to be excluded for the same reason as described above whereas results after the first application were usable against CEUTQU.

Mean efficacy per country or trial group (beetles and weevils in winter oilseed rape)

CEUTAS

Table 3.2-29: Mean effectiveness (%) of CA3573 against *Ceutorhynchus assimilis* in winter oilseed rape. Poland 2012-2013 (total 4 trials). Single trial data is presented in Appendix 3 of the BAD.

Treatment		Mean effectiveness (%)			
Product a)	**Dose rate L,kg/ha**	**Assessment 1 2 DAA (BBCH 65-66) b)**		**Assessment 3 23-29 DAA (BBCH 71-82)**	
		Hend.-Tilton c)		**Abbott d)**	
Control: adults/ plant	-	0.5 e)		-	
Control: larvae/100 pods	-	-		11.5 f)	
MCW-2222	0.12	84	(76-91)	82	(74-91)
MCW-2222	**0.15**	**93**	(81-100)	**88**	(82-93)
MCW-2222	**0.18**	**95**	(88-100)	**95**	(89-100)
Mospilan 20 SG	0.12	89	(76-100)	92	(82-100)
Mospilan 20 SG	0.15	90	(80-98)	94	(91-97)
Karate Zeon 050 CS	0.075-0.15	94	(86-100)	92	(84-100)
No. of trials		4		4	

a Test product: MCW-2222 = CA3573 (SL, 200 g/L acetamiprid)
Reference products: Mospilan 20 SP (SP, 200 g/kg acetamiprid), Mospilan 20 SG (SG, 200 g/kg acetamiprid), Karate Zeon 050 CS (CS, 50 g/L lambda-cyhalothrin)
b Developmental stage of crop (BBCH scale)
c Efficacy calculation according to Abbott as stated in the final report
d Efficacy calculation according to Henderson-Tilton as stated in the final report
e Mean value of untreated control expressed in "no. of adults/ plant"
f Mean value of untreated control expressed in "no. of larvae/ 100 pods"
Numbers in brackets () = min - max values

For further trial results against CEUTAS, please refer to the dossier submitted for the first registration of the product in December 2015 as either no changes to the registered GAP occurred or data submitted previously still support the intended uses.

CEUTNA

For the results against CEUTNA, please refer to the dossier submitted for the first registration of the product in December 2015 as either no changes to the registered GAP occurred or data submitted previously still support the intended uses.

CEUTNA & CEUTQU

For the results against CEUTNA & CEUTQU, please refer to the dossier submitted for the first registration of the product in December 2015 as either no changes to the registered GAP occurred or data submitted previously still support the intended uses.

CEUTQU

Table 3.2-30: Mean effectiveness (%) of CA3573 against *C. quadridens* in winter oilseed rape. Czech Republic, 2013 (total 2 trials). Single trial data is presented in Appendix 3 of the BAD.

Treatment		Mean effectiveness (Abbott, %)	
Product a)	**Dose rate L,kg/ha**	**Assessment 1 26-28 DAA (BBCH 65-69) b)**	
Control: infestation	-	*41.3 c)*	
(min-max)	-	*(21.3-61.3)*	
MCW-2222	0.12	51	(20-82)
MCW-2222	**0.15**	**65**	(30-100)
MCW-2222	**0.18**	**74**	(47-100)
Mospilan 20 SP	0.12	69	(38-100)
Mospilan 20 SP	0.15	74	(48-100)
Karate Zeon 050 CS	0.125	76	(70-82)
Karate Zeon 050 CS	0.15	86	(71-100)
No. of trials		2	

a Test product: MCW-2222 = CA3573 (SL, 200 g/L acetamiprid)
Reference products: Mospilan 20 SP (SP, 200 g/kg acetamiprid), Karate Zeon 050 CS (CS, 50 g/L lambda-cyhalothrin)
b Developmental stage of crop (BBCH scale)
c Mean value of untreated control expressed in "percentage infestation"
Numbers in brackets () = min - max values

For further trial results against CEUTQU, please refer to the dossier submitted for the first registration of the product in December 2015 as either no changes to the registered GAP occurred or data submitted previously still support the intended uses.

MELIAE

Table 3.2-31: Mean effectiveness (%) of CA3573 against *Meligethes aeneus* in winter oilseed rape. Czech Republic, 2013 (total 2 trials). Single trial data is presented in Appendix 3 of the BAD.

Treatment		Mean effectiveness (Henderson-Tilton, %)	
Product a)	**Dose rate L,kg/ha**	**Assessment 1 1 DAA (BBCH 57-61) b)**	
Control: adults/plant	-	*290 c)*	
(min-max)	-	*(279.3-301.3)*	
MCW-2222	0.12	88	(79-97)
MCW-2222	0.15	90	(82-98)
MCW-2222	**0.18**	**92**	(85-98)
Mospilan 20 SP	0.12	88	(78-98)
Mospilan 20 SP	0.15	90	(81-98)
Karate Zeon 050 CS	0.10	87	(77-96)
Karate Zeon 050 CS	0.15	92	(86-97)
No. of trials		2	

a Test product: MCW-2222 = CA3573 (SL, 200 g/L acetamiprid)
Reference products: Mospilan 20 SP (SP, 200 g/kg acetamiprid), Karate Zeon 050 CS (CS, 50 g/L lambda-cyhalothrin)
b Developmental stage of crop (BBCH scale)
c Mean value of untreated control expressed in “adults/ plant”
Numbers in brackets () = min - max values

For further trial results against MELIAE, please refer to the dossier submitted for the first registration of the product in December 2015 as either no changes to the registered GAP occurred or data submitted previously still support the intended uses.

Orthogonal comparison (beetles and weevils – oilseed rape)

An orthogonal comparison of the trial results against specific pests separated by the EPPO zone as well as the used reference products is presented. In the pest group of beetles and weevils, four pests (CEUTAS, CEUTNA, CEUTQU and MELIAE) and one combination of two pests (CEUTNA & CEUTQU) were taken into account. The overview of all orthogonal comparison tables per pest / pest combination, EPPO zone, the registered doses as well as the intended maximum dose rate is summarized in Table 3.2-32.
For each EPPO zone as well as the intended dose rate, the total mean of the efficacy achieved by CA3573 is given in a first incidence.
In Table 3.1-1, the maximum rate per application of CA3573 is inserted in column 10 (Application rate) whereas in column 14 (Remarks), the registered dose rate range of CA3573 is presented. Therefore, several types of orthogonal comparison are presented. The first one is related to the efficacy results achieved with the minimum dose rate of CA3573 registered (depending on the pest either 0.15 L/ha or 0.18 L/ha), up to three medium dose rates of the registered dose range of CA3573 were compared orthogonally whereas the last orthogonal comparison is related to those trial results where the test product was applied at the intended maximum rate (0.3 L/ha). The comparison was done at a mean value level.

Table 3.2-32: Overview of all orthogonal comparison tables prepared for beetles and weevils

Table No.	Pest EPPO code	EPPO zone	Doses of CA3573 in W-OSR	
			registered	intended maximum
Table 3.2-33	CEUTAS	MAR	0.15 - 0.3 L/ha	0.3 L/ha
Table 3.2-34		NE		
Table 3.2-35		SE		
Table 3.2-36	CEUTNA	MAR	0.15 - 0.3 L/ha	0.3 L/ha
Table 3.2-37		NE		
Table 3.2-38		SE		
Table 3.2-39	CEUTNA & CEUTQU	NE*	0.15 - 0.3 L/ha	0.3 L/ha
Table 3.2-40	CEUTQU	MAR	0.15 - 0.3 L/ha	0.3 L/ha
Table 3.2-41		NE		
Table 3.2-42		SE		
Table 3.2-43	MELIAE	MAR	0.18 - 0.3 L/ha	0.3 L/ha
Table 3.2-44		NE		
Table 3.2-45		SE		

* The combination of CEUTNA & CEUTQU were tested at two registered doses in North-Eastern zone trials (NE), no trial results were available at the intended maximum rate and or for the Maritime (MAR) and South-Eastern zone (SE).

CEUTAS

Data demonstrated that the efficacy of CA3573 at the minimum registered dose of 0.15 L/ha for winter oilseed rape against CEUTAS was inferior to the efficacy of the reference products tested in the Maritime (Mospilan (20) SG at 0.15 kg/ha), North-Eastern (Mospilan 20 SP at 0.15 kg/ha) and South-Eastern EPPO zone (Mospilan 20 SP at 0.20 kg/ha and Mospilan 20 SG at 0.15 kg/ha).
Compared to the majority of remaining main reference products tested in the Maritime (Karate Zeon at 0.15 L/ha), North-Eastern (Mospilan 20 SG at 0.15 kg/ha and Karate Zeon at 0.15 L/ha) as well as to the one used in the South-Eastern EPPO zone (Mospilan SP at 0.15 kg/ha), the efficacy of CA3573 was equivalent.
In the majority of trials, the efficacy of CA3573 tested at all three medium registered doses (0.18 L/ha, 0.20 L/ha and 0.25 L/ha) was comparable to the one achieved by the reference products in all EPPO zones.
Data demonstrated that the efficacy of CA3573 at the intended maximum dose rate of 0.30 L/ha for winter oilseed rape against CEUTAS was at least similar (Mospilan SG at 0.15 kg/ha in Maritime EPPO zone and Mospilan SP at 0.15 kg/ha in North-Eastern EPPO zone); but mostly superior when compared to the main reference products (Karate Zeon at 0.15 L/ha in Maritime and North-Eastern EPPO zone / Mospilan SG at 0.15 kg/ha in South-Eastern EPPO zone).

CEUTNA

Data demonstrated that the efficacy of CA3573 at the minimum registered dose of 0.15 L/ha for winter oilseed rape against CEUTNA was inferior to the efficacy of one South-Eastern reference product (Mospilan 20 SG at 0.15 kg/ha) and two Maritime reference products (Mospilan (20) SG at 0.15 kg/ha and Karate Zeon).
CEUTNA was superior/ best controlled by CA3573 compared to Mospilan SP at 0.15 kg/ha in the Maritime EPPO zone.
Compared to the remaining reference products used in the South-Eastern EPPO zone (Mospilan (20) SP at 0.15 kg/ha and Karate Zeon at 0.15 L/ha) as well as to all main reference products tested in the North-Eastern EPPO zone, the efficacy of CA3573 was equivalent.
The efficacy of CA3573 tested at up to three medium registered doses (0.18 L/ha, 0.20 L/ha and 0.25 L/ha) was at least comparable to the one achieved by the reference products in all EPPO zones. In the North-Eastern EPPO zone, the efficacy of CA3573 at 0.25 L/ha was superior to the one of all tested main reference products.
Data demonstrated that the efficacy of CA3573 at the intended maximum dose rate of 0.30 L/ha for winter oilseed rape against CEUTNA was at least similar in the Maritime EPPO zone (Mospilan SP at 0.15 kg/ha and Karate Zeon at 0.15 – 0.75 L/ha); but mostly superior when compared to the main reference products (Mospilan SG at 0.15 kg/ha in the Maritime and all three reference products each in the North- and South-Eastern EPPO zone).

CEUTNA & CEUTQU

In four Polish trials, a combination of two pests were evaluated. CA3573 was tested within the registered dose range at 0.15 L/ha and 0.18 L/ha. Therefore, the trial results are discussed and evaluated as well. Even though, the intended maximum dose rate was not tested directly.
Data demonstrated that the efficacy of CA3573 at the minimum registered dose of 0.15 L/ha for winter oilseed rape against CEUTNA & CEUTQU was comparable to the efficacy of Mospilan SG at 0.15 kg/ha as well as Karate Zeon at 0.15 L/ha and superior when compared to Mospilan SG at 0.12 kg/ha
The efficacy of CA3573 tested at the medium registered dose (0.18 L/ha) was comparable to the one achieved by Mospilan SG at 0.15 kg/ha and superior to both remaining reference products in the North-Eastern EPPO zone.
CA3573 at the intended maximum dose rate of 0.30 L/ha for winter oilseed rape against CEUTNA & CEUQU as pest combination was not tested. The majority of trial results of CA3573 at 0.30 L/ha against CEUTNA and CEUTQU, respectively, showed that the intended maximum dose rate of 0.30 L/ha achieved superior efficacy to the one of the reference products. The results obtained from these trials testing the effectiveness against CEUTNA and CEUTQU separately are considered to be applicable for the pest combination as well. Hence, it was conclusive to assume that maximum intended rate of 0.30 L/ha is suitable to control a combination of CEUTNA & CEUTQU as well.

CEUTQU

Data demonstrated that the efficacy of CA3573 at the minimum registered dose of 0.15 L/ha for winter oilseed rape against CEUTQU was inferior to the efficacy of all reference products tested in the Maritime (Mospilan SP at 015 kg/ha, Mospilan SG at 0.15 kg/ha and Karate Zeon at 0.15 L/ha) and to two out of three reference products tested in the South-Eastern EPPO zone (Mospilan SG at 0.15 kg/ha and Karate Zeon at 0.15 L/ha).
In the North-Eastern EPPO zone, the efficacy of CA3375 was comparable to Mospilan SG at 0.15 kg/ha and Karate Zeon at 0.125 L/ha. In addition, the efficacy of Mospilan SP in the North-Eastern (at 0.12 kg/ha) as well as in the South-Eastern EPPO zone (at 0.15 kg/ha) was inferior when compared to the one of CA3573.
In the majority of trials, the efficacy of CA3573 tested at all three medium registered doses (0.18 L/ha, 0.20 L/ha and 0.25 L/ha) against CEUTQU was comparable to the one achieved by the reference products in the South-Eastern EPPO zone.
In the Maritime EPPO zone, efficacy results of CA3573 at 0.18 L/ha and 0.20 L/ha showed no clear tendency whereas CA3573 at 0.25 L/ha was superior towards all main reference products.
Data obtained from the North-Eastern EPPO zone demonstrated that the efficacy of CA3573 at all medium dose rates was superior to the one of all main reference products.
Data demonstrated that compared to the reference products, the efficacy of CA3573 at the intended maximum dose rate of 0.30 L/ha for winter oilseed rape against CEUTQU was at least similar (Mospilan SG at 0.15 kg/ha) in the Maritime EPPO zone. In the majority of trials, CA3573 was superior when compared to the remaining reference products in the Maritime EPPO zone (Mospilan SP at 0.15 kg/ha and Karate Zeon at 0.15 L/ha) as well as to all main reference products in the North- and South-Eastern EPPO zone.

MELIAE

Data demonstrated that the efficacy of CA3573 at the minimum registered dose of 0.18 L/ha for winter oilseed rape against MELIAE was mostly comparable to the efficacy of the reference products tested in all EPPO zones.
In the North-Eastern EPPO zone, the efficacy of CA3573 was superior to the one of Mospilan SP at 0.12 kg/ha and Mospilan SG at 0.12 kg/ha. In addition, superior efficacy of CA3573 was obtained when compared to the efficacy of Mospilan SG at 0.15 kg/ha in the South-Eastern EPPO zone.
In the majority of trials, the efficacy of CA3573 tested at both medium registered doses (0.20 L/ha and 0.25 L/ha) against MELIAE was comparable to the one achieved by the reference products in all EPPO zones. Superior efficacy of CA3573 was obtained when compared to the efficacy of Karate Zeon in the Maritime EPPO zone.
Data demonstrated that the efficacy of CA3573 at the intended maximum dose rate of 0.30 L/ha for winter oilseed rape against MELIAE was equivalent to the reference products used in the North-Eastern EPPO zone; but superior when compared to all main reference products in the Maritime and South-Eastern EPPO zone.
The results of all pests / pest combinations demonstrated that no remarkable differences occurred in the performance of CA3573 when trial results were grouped as presented.

Orthogonal comparison in winter oilseed rape against CEUTAS

Table 3.2-33: Orthogonal comparison of efficacy of CA3573 and its reference products in BRSNW against CEUTAS – Maritime EPPO zone

	Number of trials	Effectiveness (Henderson-Tilton, %)		
		CA3573	RP	RP Code
Average of all trials with CA3573 at **0.15 L/ha**	9	86	-	
Orthogonal comparison, with main reference products	9	86	93	A
	9	86	85	B
Average of all trials with CA3573 at **0.18 L/ha**	3	81	-	
Orthogonal comparison, with main reference products	3	81	85	A
	3	81	80	B
Average of all trials with CA3573 at **0.20 L/ha**	9	92	-	
Orthogonal comparison, with main reference products	9	92	93	A
	9	92	85	B
Average of all trials with CA3573 at **0.25 L/ha**	6	93	-	
Orthogonal comparison, with main reference products	6	93	97	A
	6	93	88	B
Average of all trials with CA3573 at **0.30 L/ha**	6	98	-	
Orthogonal comparison, with main reference products	6	98	97	A
	6	98	88	B

RP = Reference product,
RP Code A= Mospilan 20 SG at 0.15 kg/ha, RP Code B = Karate Zeon at 0.15 L/ha (in 1 trial at 0.75 L/ha)

Table 3.2-34: Orthogonal comparison of efficacy of CA3573 and its reference products in BRSNW against CEUTAS – North-Eastern EPPO zone

	Number of trials	Effectiveness (Henderson-Tilton, %)		
		CA3573	RP	RP Code
Average of all trials with CA3573 at **0.15 L/ha**	12	86	-	
Orthogonal comparison, with main reference products	8	82	90	A
	4	93	91	B
	12	86	88	C
Average of all trials with CA3573 at **0.18 L/ha**	4	95	-	
Orthogonal comparison, with main reference products	4	95	91	B
	4	95	94	C
Average of all trials with CA3573 at **0.20 L/ha**	8	89	-	
Orthogonal comparison, with main reference products	8	89	90	A
	8	89	85	C
Average of all trials with CA3573 at **0.25 L/ha**	8	92	-	
Orthogonal comparison, with main reference products	8	92	90	A
	8	92	85	C
Average of all trials with CA3573 at **0.30 L/ha**	8	95	-	
Orthogonal comparison, with main reference products	8	95	90	A

	Number of trials	Effectiveness (Henderson-Tilton, %)		
		CA3573	RP	RP Code
	8	95	85	C

RP = Reference product,
RP Code A = Mospilan SP at 0.15 kg/ha (in 4 trials at 0.12 L/ha), RP Code B = Mospilan 20 SG at 0.15 kg/ha,
RP Code C = Karate Zeon at 0.15 L/ha (in 2 trials at 0.75 L/ha)

Table 3.2-35: Orthogonal comparison of efficacy of CA3573 and its reference products in BRSNW against CEU-TAS – South-Eastern EPPO zone

	Number of trials	Effectiveness (Henderson-Tilton, %)		
		CA3573	RP	RP Code
Average of all trials with CA3573 at **0.15 L/ha**	15	73	-	
Orthogonal comparison, with main reference products	2	88	87	A
	2	78	84	B
	10	71	75	C
Average of all trials with CA3573 at **0.18 L/ha**	4	88	-	
Orthogonal comparison, with main reference products	1	89	84	A
	3	87	83	C
Average of all trials with CA3573 at **0.20 L/ha**	12	78	-	
Orthogonal comparison, with main reference products	1	92	89	A
	2	82	84	B
	8	78	76	C
Average of all trials with CA3573 at **0.25 L/ha**	7	74	-	
Orthogonal comparison, with main reference products	6	76	71	C
Average of all trials with CA3573 at **0.30 L/ha**	7	80	-	
Orthogonal comparison, with main reference products	6	82	71	C

RP = Reference product, RP Code A = Mospilan SP at 0.15 kg/ha, RP Code B = Mospilan SP at 0.20 kg/ha, RP Code C = Mospilan SG at 0.15 kg/ha

Orthogonal comparison in winter oilseed rape against CEUTNA

Table 3.2-36: Orthogonal comparison of efficacy of CA3573 and its reference products in BRSNW against CEUTNA – Maritime EPPO zone

	Number of trials	Effectiveness (Henderson-Tilton, %)		
		CA3573	RP	RP Code
Average of all trials with CA3573 at **0.15 L/ha**	7	80	-	
Orthogonal comparison, with main reference products	2	100	83	A
	5	78	87	B
	7	80	92	C
Average of all trials with CA3573 at **0.20 L/ha**	7	87	-	
Orthogonal comparison, with main reference products	2	100	100	A
	5	82	87	B
	7	87	92	C
Average of all trials with CA3573 at **0.25 L/ha**	7	96	-	
Orthogonal comparison, with main reference products	2	100	100	A
	5	94	87	B
	7	96	92	C
Average of all trials with CA3573 at **0.30 L/ha**	7	97	-	
Orthogonal comparison, with main reference products	2	100	100	A
	5	96	87	B
	7	97	92	C

RP = Reference product, RP Code A= Mospilan SP at 0.15 kg/ha, RP Code B = Mospilan SG at 0.15 kg/ha,
RP Code C = Karate Zeon at 0.15 L/ha (in 2 trials at 0.75 L/ha)

Table 3.2-37: Orthogonal comparison of efficacy of CA3573 and its reference products in BRSNW against CEUTNA – North-Eastern EPPO zone

	Number of trials	Effectiveness (Henderson-Tilton, %)		
		CA3573	RP	RP Code
Average of all trials with CA3573 at **0.15 L/ha**	10	80	-	
Orthogonal comparison, with main reference products	6	78	83	A
	4	82	82	B
	6	78	82	C
Average of all trials with CA3573 at **0.20 L/ha**	10	86	-	
Orthogonal comparison, with main reference products	6	86	83	A
	4	87	82	B
	6	86	82	C
Average of all trials with CA3573 at **0.25 L/ha**	10	92	-	
Orthogonal comparison, with main reference products	6	91	83	A
	4	93	82	B
	6	91	82	C
Average of all trials with CA3573 at **0.30 L/ha**	10	96	-	
Orthogonal comparison, with main reference products	6	95	83	A

	Number of trials	Effectiveness (Henderson-Tilton, %)		
		CA3573	RP	RP Code
	4	96	82	B
	6	95	82	C

RP = Reference product,
RP Code A= Mospilan 20 SG at 0.15 kg/ha, RP Code B = Karate Zeon 050 CS at 0.125 L/ha,
RP Code C = Karate Zeon 050 CS at 0.15 L/ha

Table 3.2-38: Orthogonal comparison of efficacy of CA3573 and its reference products in BRSNW against CEUTNA – South-Eastern EPPO zone

	Number of trials	Effectiveness (Henderson-Tilton, %)		
		CA3573	RP	RP Code
Average of all trials with CA3573 at **0.15 L/ha**	16	75	-	
Orthogonal comparison, with main reference products	2	85	86	A
	14	74	81	B
	16	75	71	C
Average of all trials with CA3573 at **0.18 L/ha**	5	82	-	
Orthogonal comparison, with main reference products	2	88	86	A
	3	79	81	B
	5	82	71	C
Average of all trials with CA3573 at **0.20 L/ha**	11	81	-	
Orthogonal comparison, with main reference products	11	81	80	B
	11	81	71	C
Average of all trials with CA3573 at **0.25 L/ha**	11	84	-	
Orthogonal comparison, with main reference products	11	84	80	B
	11	84	71	C
Average of all trials with CA3573 at **0.30 L/ha**	11	87	-	
Orthogonal comparison, with main reference products	11	87	80	B
	11	87	71	C

RP = Reference product,
RP Code A= Mospilan SP at 0.15 kg/ha, RP Code B = Mospilan SG at 0.15 kg/ha, RP Code C = Karate Zeon at 0.15 L/ha

Orthogonal comparison in winter oilseed rape against CEUTNA & CEUTQU

Table 3.2-39: Orthogonal comparison of efficacy of CA3573 and its reference products in BRSNW against CEUTNA & CEUTQU – North-Eastern EPPO zone

	Number of trials	Effectiveness (Henderson-Tilton, %)		
		CA3573	RP	RP Code
Average of all trials with CA3573 at **0.15 L/ha**	4	90	-	
Orthogonal comparison, with main reference products	2	89	71	A
	2	89	93	B
	4	90	86	C
Average of all trials with CA3573 at **0.18 L/ha**	4	96	-	

	Number of trials	Effectiveness (Henderson-Tilton, %)		
		CA3573	RP	RP Code
Orthogonal comparison, with main reference products	2	93	71	A
	2	93	93	B
	4	96	86	C

RP = Reference product,
RP Code A= Mospilan SG at 0.12 kg/ha, RP Code B = Mospilan SG at 0.15 kg/ha, RP Code C = Karate Zeon at 0.15 L/ha

Orthogonal comparison in winter oilseed rape against CEUTQU

Table 3.2-40: Orthogonal comparison of efficacy of CA3573 and its reference products in BRSNW against CEUTQU – Maritime EPPO zone

	Number of trials	Effectiveness (Henderson-Tilton, %)		
		CA3573	RP	RP Code
Average of all trials with CA3573 at **0.15 L/ha**	6	56	-	
Orthogonal comparison, with main reference products	3	59	71	A
	3	53	96	B
	6	56	80	C
Average of all trials with CA3573 at **0.18 L/ha**	2	74	-	
Orthogonal comparison, with main reference products	2	74	74	A
	2	74	86	C
Average of all trials with CA3573 at **0.20 L/ha**	4	89	-	
Orthogonal comparison, with main reference products	1	100	65	A
	3	85	96	B
	4	89	77	C
Average of all trials with CA3573 at **0.25 L/ha**	4	88	-	
Orthogonal comparison, with main reference products	1	100	65	A
	3	84	96	B
	4	88	77	C
Average of all trials with CA3573 at **0.30 L/ha**	4	96	-	
Orthogonal comparison, with main reference products	1	100	65	A
	3	94	96	B
	4	96	77	C

RP = Reference product,
RP Code A= Mospilan SP at 0.15 kg/ha, RP Code B = Mospilan SG at 0.15 kg/ha, RP Code C = Karate Zeon at 0.15 L/ha

Table 3.2-41: Orthogonal comparison of efficacy of CA3573 and its reference products in BRSNW against CEUTQU – North-Eastern EPPO zone

	Number of trials	Effectiveness (Henderson-Tilton, %)		
		CA3573	RP	RP Code
Average of all trials with CA3573 at **0.15 L/ha**	13	76	-	
Orthogonal comparison, with main reference products	4	59	53	A
	6	82	86	B
	13	76	76	C
Average of all trials with CA3573 at **0.18 L/ha**	4	77	-	
Orthogonal comparison, with main reference products	4	77	53	A
	4	77	55	C
Average of all trials with CA3573 at **0.20 L/ha**	10	89	-	
Orthogonal comparison, with main reference products	1	80	56	A
	6	88	86	B
	10	89	82	C
Average of all trials with CA3573 at **0.25 L/ha**	9	93	-	
Orthogonal comparison, with main reference products	6	93	86	B
	9	93	85	C
Average of all trials with CA3573 at **0.30 L/ha**	9	97	-	
Orthogonal comparison, with main reference products	6	96	86	B
	9	97	85	C

RP = Reference product,
RP Code A= Mospilan SP at 0.12 kg/ha, RP Code B = Mospilan SG at 0.15 kg/ha, RP Code C = Karate Zeon at 0.125 L/ha

Table 3.2-42: Orthogonal comparison of efficacy of CA3573 and its reference products in BRSNW against CEUTQU – South-Eastern EPPO zone

	Number of trials	Effectiveness (Henderson-Tilton, %)		
		CA3573	RP	RP Code
Average of all trials with CA3573 at **0.15 L/ha**	6	75	-	
Orthogonal comparison, with main reference products	1	88	91	A
	5	73	82	B
	6	75	81	C
Average of all trials with CA3573 at **0.18 L/ha**	3	87	-	
Orthogonal comparison, with main reference products	1	95	91	A
	2	84	76	B
	3	87	79	C
Average of all trials with CA3573 at **0.20 L/ha**	3	87	-	
Orthogonal comparison, with main reference products	3	87	85	B
	3	87	82	C
Average of all trials with CA3573 at **0.25 L/ha**	3	86	-	
Orthogonal comparison, with main reference products	3	86	85	B
	3	86	82	C
Average of all trials with CA3573 at **0.30 L/ha**	3	90	-	
Orthogonal comparison, with main reference products	3	90	85	B
	3	90	82	C

RP = Reference product,
RP Code A= Mospilan SP at 0.15 kg/ha, RP Code B = Mospilan SG at 0.15 kg/ha, RP Code C = Karate Zeon at 0.15 L/ha

Orthogonal comparison in winter oilseed rape against MELIAE

Table 3.2-43: Orthogonal comparison of efficacy of CA3573 and its reference products in BRSNW against MELIAE – Maritime EPPO zone

	Number of trials	Effectiveness (Henderson-Tilton, %)		
		CA3573	RP	RP Code
Average of all trials with CA3573 at **0.18 L/ha**	2	92	-	
Orthogonal comparison, with main reference products	2	92	90	A
	2	92	92	C
Average of all trials with CA3573 at **0.20 L/ha**	12	83	-	
Orthogonal comparison, with main reference products	4	77	74	A
	8	86	83	B
	9	87	67	C
Average of all trials with CA3573 at **0.25 L/ha**	7	89	-	
Orthogonal comparison, with main reference products	7	89	84	B
	7	89	69	C
Average of all trials with CA3573 at **0.30 L/ha**	7	92	-	
Orthogonal comparison, with main reference products	7	92	84	B
	7	92	69	C

RP = Reference product,
RP Code A= Mospilan SP at 0.15 kg/ha (in 3 trials at 0.10 kg ha, in 1 trial at 0.20 kg/ha), RP Code B = Mospilan SG at 0.15 kg/ha, RP Code C = Karate Zeon at 0.15 L/ha (in 6 trials at 0.075 L/ha)

Table 3.2-44: Orthogonal comparison of efficacy of CA3573 and its reference products in BRSNW against MELIAE – North-Eastern EPPO zone

	Number of trials	Effectiveness (Henderson-Tilton, %)		
		CA3573	RP	RP Code
Average of all trials with CA3573 at **0.18 L/ha**	8	86	-	
Orthogonal comparison, with main reference products	4	91	75	A
	4	81	66	C
	4	81	75	D
	8	86	69	E
Average of all trials with CA3573 at **0.20 L/ha**	7	90	-	
Orthogonal comparison, with main reference products	5	90	87	A
	2	89	89	B
	7	90	86	E
Average of all trials with CA3573 at **0.25 L/ha**	6	92	-	
Orthogonal comparison, with main reference products	4	92	90	A
	2	91	89	B
	6	92	88	E
Average of all trials with CA3573 at **0.30 L/ha**	6	93	-	
Orthogonal comparison, with main reference products	4	94	90	A
	2	91	89	B

	Number of trials	Effectiveness (Henderson-Tilton, %)		
		CA3573	RP	RP Code
	6	93	88	

RP = Reference product,
RP Code A = Mospilan SP at 0.12 kg/ha, B = Mospilan SP at 0.15 kg/ha, RP Code C = Mospilan SG at 0.12 kg/ha,
RP Code D = Mospilan SG at 0.15 kg/ha, RP Code E = Karate Zeon at 0.12 L/ha

Table 3.2-45: Orthogonal comparison of efficacy of CA3573 and its reference products in BRSNW against ME-LIAE – South-Eastern EPPO zone

	Number of trials	Effectiveness (Henderson-Tilton, %)		
		CA3573	RP	RP Code
Average of all trials with CA3573 at **0.18 L/ha**	11	86	-	
Orthogonal comparison, with main reference products	2	95	93	A
	9	84	78	B
	3	85	89	C
Average of all trials with CA3573 at **0.20 L/ha**	25	83	-	
Orthogonal comparison, with main reference products	4	92	88	A
	5	85	81	B
	19	81	81	C
Average of all trials with CA3573 at **0.25 L/ha**	10	80	-	
Orthogonal comparison, with main reference products	10	80	76	C
Average of all trials with CA3573 at **0.30 L/ha**	10	86	-	
Orthogonal comparison, with main reference products	10	86	76	C

RP = Reference product,
RP Code A = Mospilan SP at 0.15 kg/ha (in 2 trials Mospilan 20 SP at 0.2 kg/ha), RP Code B = Mospilan SG at 0.15 kg/ha,
RP Code C = Mospilan SG at 0.20 kg/ha

Conclusion (beetles and weevils)

Data demonstrated that the efficacy of CA3573 at the proposed maximum label rate was at least equivalent to the efficacy of the used reference products against beetles and weevils in the different target crops in the majority of trials. By the single trial data it was demonstrated that the proposed dose range of CA3573 is reasonable and takes into account the different infestation levels. It allows the farmer to adapt the rate according to the current conditions. An updated overview of the mean effectiveness per EPPO zone is presented in Table 3.2-22.
No specific efficacy data is submitted for the uses in spring oilseed rape (CEUTAS, CEUTNA, CEUTQU and MELIAE) to be applied for in the Maritime, North-Eastern and South-Eastern EPPO zone. However, for the use in spring oilseed rape extrapolation is considered to be possible from the comprehensive data package submitted for the same pests in winter oilseed rape, as the crops are comparable and target rates as well as application number and timing are identical. The extrapolation is confirmed in information provided by Polish authority in Appendix 2, Part 3 guidance document "Tabela_ekstrapolacji_dla_sekcji_skuteczność". Furthermore, spring oilseed rape is considered a minor crop in Poland and in Slovakia, and uses against CEUTAS, CEUTNA, CEUTQU and MELIAE are already registered in both countries.
Thus, the GAP uses as stated in Table 3.1-1 were proven by the data. CA3573 is considered to be appropriate for the control of beetles and weevils in maize, potato and winter and spring oilseed rape.

(3) Codling moth (biting) - CARPPO

Label claim:

Use no.*	MS	Registered use	Requested use	Comment
2	PL	1x 0.2 – 0.4 L/ha	1x 0.25 L/ha	Reduction of the maximum dose rate for application
12	SK	1x 0.2 – 0.4 L/ha	1x 0.2-0.25 L/ha	

* Use number(s) in accordance with the list of intended uses (Table 3.1-1)

For more detailed information on the intended label claim, please refer to Table 3.1-1 (Use No. 02 and 12).

Material and methods

An overview of trials against codling moth is presented in Table 3.2-46 for detailed information please refer to Appendix 2 of the Biological Assessment Dossier. Additionally, the trial locations are marked on the corresponding maps in the Biological Assessment Dossier (KCP 6.0/03).

Table 3.2-46: Overview of updated efficacy trials with CA3573 against Codling moth (12 trials)

Ref. no.	Trial type (1)	Crop	Pest(s) (2)	Country	Year	Trial status
Maritime EPPO zone (7 trials)						
6.1.3/008	M+E	Apple	CARPPO	CZ	2014	GEP
6.1.3/009	M+E	Apple	CARPPO	CZ	2014	GEP
6.1.3/010	E	Apple	CARPPO	CZ	2014	GEP
6.1.3/011	M+E	Apple	APHIPO, CARPPO	CZ	2014	GEP
6.1.3/012	M+E	Apple	APHIPO, CARPPO	CZ	2014	GEP
6.1.3/013	M+E	Apple	CARPPO	CZ	2014	GEP
6.1.3/014	M+E	Apple	CARPPO	CZ	2014	GEP
North-Eastern EPPO zone [4 trials (and 4 yield trials only)]						
6.1.3/028	Y	Apple	CARPPO	PL	2011	GEP
6.1.3/029	Y	Apple	CARPPO	PL	2011	GEP
6.1.3/030	Y	Apple	CARPPO	PL	2011	GEP
6.1.3/031	Y	Apple	CARPPO	PL	2011	GEP
6.1.3/034	M+E	Apple	CARPPO	PL	2013	GEP
6.1.3/035	M+E	Apple	CARPPO	PL	2013	GEP
6.1.3/036	M+E	Apple	CARPPO	PL	2013	GEP
6.1.3/037	M+E	Apple	CARPPO	PL	2013	GEP
South-Eastern EPPO zone (1 trial)						
6.1.3/059	M+E+Y	Apple	CARPPO	RO	2014	GEP

(1) M = efficacy trial with minimum effective dose determination, E = efficacy trial with selectivity assessment, Y = trial with yield and/or quality assessment.
(2) Please refer to Table 3.2-3 for an overview of the target pests.

All trials were conducted in accordance with GEP principles and appropriate EPPO guidelines by officially recognised testing organisations. For a short description of the trial methodology please refer to the Table 3.2-47.
For apple as high growing crop, a conversion table was prepared in Appendix 2 of the Biological Assessment Dossier, presenting the calculations of the treated leaf wall area (LWA) for each of the trials used for the efficacy evaluation in the updated dossier. The calculated LWA of the respective **11** trials in the Maritime zone (7) and in the North-Eastern zone (4) ranged from 7500 to 18286 m^2/ha. Trials 6.3.1/028 - 6.3.1/031 are not included in the calculation and 6.3.1/59 – the only CARPPO trial in the SE zone – has no orchard parameters available.
For CARPPO, in the trials where the relevant information was available, the rate in L/ha LWA ranged from 0.1367 to 0.3333 L/ha LWA and the dose rate in L/ha/m CH ranged from 0.0781 to 0.1667 , where applications were made at 0.25 L/ha ground area.

Please refer to Appendix 2 of the Biological Assessment Dossier for detailed information considering the experimental details, trial design and test methodology, the application details as well as the conversion table for the applied dose rates per LWA.

Comments of zRMS:

The original efficacy data for APHISP and CARPPO (of the 2015 dossier), which supports the present submission origins in 31 and 12 trials, carried out in Maritime, N-E and S-E (APHISP) or Maritime and N-E (CARPPO) EPPO zones, respectively. As some of these trials lack orchard parameters or were ony included in the yield data set, the final number contributing to the estimation of LWA and CH dose rates comprises ~~26 trials~~ 27 trials in control of aphids and 11 – for the control of the coddling moth. In these trials the LWA *per* 1ha ranged from 6 000 – 20 000 m^2 (average 12 723 m^2, APHISP, n=26) and from 7 500 – 18 286 m^2 (average 12 166 m^2, CARPPO, n=11), while the CH ranged from 1.50 – 3.50 m (average 2.50 m, APHISP) and from 1.50 – 3.20 m (average 2.35 m, CARPPO).
On the contrary, the dose rates in L/ha LWA and in L/ha/m CH proposed in the GAP table are the average values derived, for the PL and SK labels, from the LWA and CH reported by a limited set of 17 PL trials for Poland and 5 SK trials for Slovakia. The 17 PL trials tested efficacy in control of aphids and coddling moth, therefore they included all ground dose rates from 0.900 to 0.250 L/ha, whereas the 5 SK trials only tested for efficacy against aphids, hence these trials only report 0.900 to 0.125 L/ha dose rates. The LWA and CH dose rates were assumed by the applicant separately for PL and for SK, following the notion that orchard parameters vary considerably between these two member states and as such should not be averaged – see the table below:

target	MS, use no.	L/ha ground	**average LWA** assumed, m^2 (min-max)	**average CH** assumed, m (min-max)	no. of trials	L/ha LWA*	L/ha/m CH**
APHISP	PL, 1	0.125	**16 240** (11 429 – 20 000)	**2.7** (1.50 – 3.40)	17	**0.077**	**0.046**
CARPPO	PL, 2	0.250	**16 240** (11 429 – 20 000)	**2.7** (1.50 – 3.40)	17	**0.154**	**0.093**
APHISP	SK, 11	0.125	**8 640** (8 000 – 9 200)	**2.16** (2.00 – 2.30)	5	**0.145**	**0.058**
CARPPO	SK, 12	0.250	**8 640** (8 000 – 9 200)	**2.16** (2.00 – 2.30)	5	**0.289**	**0.116**

* (ground dose rate tested / average LWA)*10000 = L/ha LWA
** (ground dose rate tested / average CH = L/ha/mC

The above LWA and CH dose rates are assumed by the applicant as **maximum** dose rates. They correspond precisely to the maximum of 0.125 or 0.250 L/ha ground rate only at the LWA and CH assumed as average by the applicant (16 240 m^2 or 8 640 m^2, and CH 2.7 m or 2.16 m; see the table above).
At the actual LWA or CH lower or higher than this average, using the maximum LWA or CH – based dose rate is either equivalent to the ground rate lower than the maximum of 0.125 or 0.250 L/ha or to the maximum ground rate being exceeded, respectively. As the latter must be avoided for ecotoxicology reasons, in orchards with higher than average LWA or CH only the ground dose rate measure should be used, with the resulting actual dose rates *per* 1 ha LWA or *per* 1m CH inevitably reduced, compared to the "average" orchard.

Table 3.2-47: Details on trial methodology (Codling moth)

Guidelines	General guidelines	EPPO PP 1/135(3), PP 1/152(3/4), PP 1/181(3/4), PP 1/225(1)
	Specific guidelines	EPPO PP 1/7(3) , PP 1/239(2)
Experimental design	Plot design	RCBD
	Plot size	16.8 - 60 m²
	Number of replications	4
Crop	Trials per crop	12
	Varieties per crop[1]	Golden Delicious (3), Melrose, Idared, Ligol, Jonagold, Jonagored, Gala, Resista, Starkrimson delicious, Spartan
	Sowing period	-
Application	Crop stage (BBCH) at application	from BBCH 72 to BBCH 73
	Timing Pest stage at application	Mixed growth stages of CARPPO
	Number of applications[2] Intervals between applications	1 (12 trials)
	Spray volumes	1000 L/ha
	Leaf Wall area calculation[3]	Leaf Wall Area calculation (in m²/ha) according to AGES: $= \frac{10\,000\ m^2}{\text{row distance (m)}} * \text{treated canopy height (m)} * 2$
Assessment	Assessment types	- incidence on dropped fruits / on trees - number / percentage of attacked fruits - incidence on harvested fruits
	Efficacy calculation	Efficacy calculation according to Henderson-Tilton: $= (1- \frac{\text{control}_{\text{before treatment}} * \text{treatment}_{\text{after treatment}}}{\text{control}_{\text{after treatment}} * \text{treatment}_{\text{before treatment}}}) * 100$ Efficacy calculation according to Abbott: $= (1- \frac{\text{incidence}_{\text{treatment}}}{\text{incidence}_{\text{control}}}) * 100$
	Assessment dates	usually 6-7 DAA, 13-17 DAA, 20-22 DAA, 27-31 DAA, 30-36 DAA, 42-44 DAA, 49-53 DAA, 56 DAA, 77 DAA

[1] The spelling of the respective varieties in the single trial reports can vary due to country specific differences.
[2] Even though the number of applications was > 1 in some trials, only trial results after one/ first application were taken into account
[3] In case treated canopy height was not given in study report, the tree height was used for calculation of the leaf wall area instead.

The test product CA3573 was applied according to the proposed GAP uses and compared to registered reference products. Detailed information about all reference products is presented in Table 3.2-6.

Results

The effectiveness of CA3573 against codling moth was tested in **12 efficacy trials** in apple conducted in 2013 and 2014 in Czech Republic, Poland and Romania.

Mean efficacy per country or trial group (Codling moth in pome fruit)

Table 3.2-48: Mean effectiveness (%) of CA3573 against *Cydia pomonella* in apple. Czech Republic 2014 (total 7 trials). Single trial data is presented in Appendix 3 of the BAD.

Treatment		Mean effectiveness (Abbott, %)					
Product a)	**Dose rate L, kg/ha**	**Assessment 2 13-15 DAA (BBCH 73-75) b)**		**Assessment 3 20-21 DAA (BBCH 73-75)**		**Assessment 5 35-36 DAA (BBCH 74-75)**	
Control: incidence on dropped fruits / on trees	-	*52.4 c)*		*61.9*		*46.7*	
(min-max)	-	*(23-73.5)*		*(36.5-85.3)*		*(27.1-77.3)*	
MCW-2222	0.125	65	(26-100)	56	(0-92)	67	(49-100)
MCW-2222	0.20	74	(38-100)	81	(42-100)	83	(75-100)
MCW-2222	**0.25**	**87**	(49-100)	**89**	(50-100)	**95**	(86-100)
Mospilan SG	0.25	92	(54-100)	92	(57-100)	93	(81-100)
Mospilan SP	0.25	91	(52-100)	92	(55-100)	94	(83-100)
No. of trials		7		7		5	

a Test product: MCW-2222 = CA3573 (SL, 200 g/L acetamiprid)
Reference products: Mospilan 20 SG (SG, 200 g/kg acetamiprid), Mospilan 20 SP (SP, 200 g/kg acetamiprid)
b Developmental stage of crop (BBCH scale)
c Mean value of untreated control expressed in "incidence on dropped fruits".
In 6.1.3/010, "incidence on trees"was used as assessment parameter.
Numbers in brackets () = min - max values

Table 3.2-49: Mean effectiveness (%) of CA3573 against *Cydia pomonella* in apple. Poland 2013 (total 4 trials). Single trial data is presented in Appendix 3 of the BAD.

Treatment		Mean effectiveness (Abbott, %)	
Product a)	**Dose rate L, kg/ha**	**Assessment 1 I. generation: 30-34 DAA (BBCH 74-75) b)**	
Control: no. of attacked fruits	-	*4.1 c)*	
(min-max)	-	*(2.7-7.5)*	
MCW-2222	0.125	65	(44-73)
MCW-2222	0.2	81	(76-88)
MCW-2222	**0.25**	**90**	(82-94)
Mospilan SG	0.25	87	(79-100)
Mospilan SP	0.2	84	(77-91)
No. of trials		4	

a Test product: MCW-2222 = CA3573 (SL, 200 g/L acetamiprid)
Reference products: Mospilan 20 SG (SG, 200 g/kg acetamiprid), Mospilan 20 SP (SP, 200 g/kg acetamiprid)
b Developmental stage of crop (BBCH scale)
c Mean value of untreated control expressed in "number of attacked fruits"
Numbers in brackets () = min - max values

Table 3.2-50: Mean effectiveness (%) of CA3573 against *Cydia pomonella* in apple. Romania 2014 (total 1 trial). Single trial data is presented in Appendix 3 of the BAD.

Treatment		Mean effectiveness (Abbott, %)			
Product a)	**Dose rate L,kg/ha**	**Assessment 1 I. generation: 17 DAA (BBCH n.s.) b)**		**Assessment 2 II. generation: 77 DAA (BBCH n.s.)**	
Control: incidence on harvested fruits	-	*10.8 c)*		*14.3*	
(min-max)	-	*(-)*		*(-)*	
MCW-2222	0.125	63	(-)	65	(-)
MCW-2222	0.2	80	(-)	82	(-)
MCW-2222	**0.25**	**82**	(-)	**85**	(-)
Mospilan SG	0.25	87	(-)	87	(-)
No. of trials		1		1	

a Test product: MCW-2222 = CA3573 (SL, 200 g/L acetamiprid)
Reference products: Mospilan 20 SG (SG, 200 g/kg acetamiprid)
b Developmental stage of crop (BBCH scale)
c Mean value of untreated control expressed in "pest incidence on harvested fruits"
Numbers in brackets () = min - max values

Orthogonal comparison (Codling moth)

An orthogonal comparison of the trial results separated by the EPPO zone as well as the used reference products is presented (Table 3.2-51 for Maritime, Table 3.2-52 for North-Eastern and Table 3.2-53 for South-Eastern EPPO zone trial results). For each EPPO zone as well as the intended dose rate, the total mean of the efficacy achieved by CA3573 is given in a first incidence.
In Table 3.1-1, the maximum rate per application of CA3573 is inserted in column 10 (Application rate) whereas in column 14 (Remarks), the registered dose rate range of CA3573 is presented. Therefore, two types of orthogonal comparison are presented. The first one is related to the efficacy results achieved with the former minimum dose rate of CA3573 registered (0.2 L/ha) whereas the second orthogonal comparison is related to those trial results where the test product was applied at the intended maximum rate (0.25 L/ha). In the South-Eastern EPPO zone, efficacy results were further divided by the generation of codling moths.
The comparison was done at a mean value level.

Calculated LWA ranged from 7500 to 14286 m^2 in trials conducted in the Maritime EPPO zone and from 11500 to 18286 m^2 in trials from the North-Eastern EPPO zone. For the South-Eastern trial, relevant information for calculating the LWA was not available. Detailed information on the calculated LWA for the single trials is given in Table A2-5 in Appendix 2 of the Biological Assessment Dossier.

Data demonstrated that the efficacy of CA3573 at the former minimum registered dose of 0.2 L/ha for apple against CARPPO was inferior to the efficacy of the reference products tested in the Maritime EPPO zone (Mospilan SG at 0.25 kg/ha as well as Mospilan SP at 0.25 kg/ha) and North-Eastern EPPO zone (Mospilan 20 SG at 0.25 kg/ha). Under South-Eastern EPPO zone conditions, the efficacy of CA3573 was inferior against the first generation but equivalent against the second generation of codling moth compared to the tested reference product (Mospilan SG at 0.25 kg/ha).
Compared to the second reference product tested in the North-Eastern EPPO zone (Mospilan SP at 0.2 kg/ha), the efficacy of CA3573 was equivalent.

Data demonstrated that efficacy of CA3573 at the intended maximum dose rate of 0.25 L/ha for apple against CARPPO was equivalent to the efficacy of most of the reference products tested on *Malus domestica* (MABSD) independent of the EPPO zones.
Under North-Eastern EPPO zone conditions, CA3573 achieved a superior control of codling moth when compared to Mospilan SP at 0.2 kg/ha.

The results demonstrated that no remarkable differences occurred in the performance of CA3573 when trial results were grouped as presented.

Table 3.2-51: Orthogonal comparison of efficacy of CA3573 and its reference products in MABSD against CARPPO – Maritime EPPO zone

	Number of trials	Effectiveness (Henderson-Tilton, %)		
		CA3573	RP	RP Code
Average of all trials with CA3573 at **0.20 L/ha**	6	78	-	
Orthogonal comparison, with main reference products	6	78	91	A
	6	78	91	B
Average of all trials with CA3573 at **0.25 L/ha**	6	88	-	
Orthogonal comparison, with main reference products	6	88	91	A
	6	88	91	B

RP = Reference product,
RP Code A = Mospilan SG at 0.25 kg/ha, RP Code B = Mospilan SP at 0.25 kg/ha

Table 3.2-52: Orthogonal comparison of efficacy of CA3573 and its reference products in MABSD against CARPPO – North-Eastern EPPO zone

	Number of trials	Effectiveness (Henderson-Tilton, %)		
		CA3573	RP	RP Code
I. Generation				
Average of all trials with CA3573 at **0.20 L/ha**	4	81	-	
Orthogonal comparison, with main reference products	4	81	84	A
	4	81	87	B
Average of all trials with CA3573 at **0.25 L/ha**	4	90	-	
Orthogonal comparison, with main reference products	4	90	84	A
	4	90	87	B

RP = Reference product,
RP Code A = Mospilan SP at 0.2 kg/ha, RP Code B = Mospilan SG at 0.25 kg/ha

Table 3.2-53: Orthogonal comparison of efficacy of CA3573 and its reference products in MABSD against CARPPO – South-Eastern EPPO zone

	Number of trials	Effectiveness (Henderson-Tilton, %)		
		CA3573	RP	RP Code
I. Generation				
Average of all trials with CA3573 at **0.20 L/ha**	1	80		
Orthogonal comparison, with main reference products	1	80	87	A
Average of all trials with CA3573 at **0.25 L/ha**	1	82	-	
Orthogonal comparison, with main reference products	1	82	87	A
II. Generation				
Average of all trials with CA3573 at **0.20 L/ha**	1	82	-	
Orthogonal comparison, with main reference products	1	82	87	A
Average of all trials with CA3573 at **0.25 L/ha**	1	85	-	
Orthogonal comparison, with main reference products	1	85	87	A

RP = Reference product,
RP Code A = Mospilan SG at 0.25 kg/ha

Conclusion (Codling moth)

Data demonstrated that the efficacy of the CA3573 at the proposed maximum rate of 0.25 L/ha against *Cydia pomonella* was equivalent to the efficacy of Mospilan 20 SG and Mospilan 20 SP in apple. For the use against *Cydia pomonella* in pome fruit extrapolation is envisaged from apple (indicator crop) to pear as proposed by the extrapolation tables of EPPO regarding effectiveness of insecticides (PP 1/257 IEET 3 (2)). Thus, the GAP uses as stated in Table 3.1-1 were proven by the data. CA3573 is considered to be appropriate for the control of codling moth in pome fruit.

(4) European maize borer - PYRUNU

Label claim:

Use no.*	MS	Registered use	Requested use	Comment
20	SK	1x 0.3 L/ha	1x 0.3 L/ha	No change to the registered GAP

* Use number(s) in accordance with the list of intended uses (Table 3.1-1)

For more detailed information on the intended label claim, please refer to Table 3.1-1 (Use No. 20). For Use No. 20 there is no amendment to the previously registered GAP. However, one Maritime EPPO zone trial was excluded as not testing the intended target rate of CA3573.

Material and methods

An overview of trials against European maize borer is presented in Table 3.2-54, for detailed information please refer to Appendix 2 of the Biological Assessment Dossier. Additionally, the trial locations are marked on the corresponding maps in the Biological Assessment Dossier (KCP 6.0/03).

Table 3.2-54: Overview of updated efficacy trials with CA3573 conducted in maize against *Ostrinia nubilalis* (5 trials)

Ref. no.	Trial type (1)	Crop	Pest(s) (2)	Country	Year	Trial status
South-Eastern EPPO zone (5 trials)						
6.1.3/090	M+E	Maize	PYRUNU	HU	2015	GEP
6.1.3/091	M+E	Maize	PYRUNU	HU	2015	GEP
6.1.3/095	M+E	Maize	PYRUNU	RO	2015	GEP
6.1.3/096	M+E	Maize	PYRUNU	RO	2015	GEP
6.1.3/097	M+E	Maize	PYRUNU	RO	2015	GEP

(1) M = efficacy trial with minimum effective dose determination, E = efficacy trial with selectivity assessment, Y = trial with yield and/or quality assessment.
(2) Please refer to Table 3.2-3 for an overview of the target pests.

All trials were conducted in accordance with GEP principles and appropriate EPPO guidelines by officially recognised testing organisations. For a short description of the trial methodology please refer to Table 3.2-55. Please refer to Appendix 2 of the Biological Assessment Dossier for detailed information considering the experimental details, trial design and test methodology as well as the application details.

Table 3.2-55: Details on trial methodology (European maize borer)

Guidelines	General guidelines	EPPO PP 1/135(3/4), PP 1/152(3/4), PP 1/181(4), PP 1/225(1)
	Specific guidelines	EPPO PP 1/13(3)
Experimental design	Plot design	RCBD
	Plot size	30 m²
	Number of replications	4
Crop	Trials per crop	5
	Varieties per crop	Cobalt (2), P9911, Kamparis, DKC4590
	Sowing period	April
Application	Crop stage (BBCH) at application	from BBCH 51 to BBCH 75
	Timing Pest stage at application	Mixed growth stages of European maize borer
	Number of applications	1 (5 trials)
	Spray volumes	250 - 600 L/ha
Assessment	Assessment types	- number of broken stem based on 20 plants - additionally assessed: living larvae below husk, above husk, in husk (cob), broken stems above husk, broken below husk
	Efficacy calculation	Efficacy calculation according to Abbott: $= (1- \frac{\text{incidence}_{\text{treatment}}}{\text{incidence}_{\text{control}}}) * 100$
	Assessment dates	usually 14 DAA, 28-38 DAA, 70-78 DAA

The test product CA3573 was applied according to the proposed GAP uses and compared to registered reference products. Detailed information about all reference products is presented in Table 3.2-6.

Results

The effectiveness of CA3573 against European maize borer was tested in **5 efficacy trials** in maize conducted in the season 2012 in Romania and Hungary.

Mean efficacy per country or trial group (European maize borer in maize)

For the 5 trial results against PYRUNU in maize conducted in the South-Eastern EPPO zone, please refer to the dossier submitted for the first registration of the product in December 2015 as either no changes to the registered GAP occurred or data submitted previously still support the intended uses.

Orthogonal comparison (European maize borer)

An orthogonal comparison of the trial results separated by the used reference products is presented. As this use is only intended in Slovakia (Use No. 20), trials we conducted in the South-Eastern EPPO zone only and therefore one orthogonal comparison table for this EPPO zone was prepared (see Table 3.2-56). For each intended dose rate, the total mean of the efficacy achieved by CA3573 is given in a first incidence.
In Table 3.1-1, the maximum intended rate per application of CA3573 is inserted in column 10 (Application rate) being in line with column 14 (Remarks), the registered dose rate of CA3573. Therefore, one orthogonal comparison are presented showing trial results where the test product was applied at the intended maximum rate (0.30 L/ha). The comparison was done at a mean value level.
Data demonstrated that the efficacy of CA3573 at the maximum intended dose rate of 0.30 L/ha for maize against *Ostrinia nubilalis* was superior to the efficacy of all reference products tested in the South-Eastern EPPO zone (Mospilan SG at 0.2 kg/ha, Karate Zeon at 0.25 L/ha and Avant 150 SC at 0.25 L/ha).

Table 3.2-56: Orthogonal comparison of efficacy of CA3573 and its reference products in ZEAMX against PYRUNU – South-Eastern EPPO zone

	Number of trials	**Effectiveness (Henderson-Tilton, %)**		
		CA3573	**RP**	**RP Code**
Average of all trials with CA3573 at **0.30 L/ha**	5	83	-	

	Number of trials	Effectiveness (Henderson-Tilton, %)		
		CA3573	RP	RP Code
Orthogonal comparison, with main RP	5	83	65	A
	2	84	77	B
	3	83	76	C

RP = Reference product,
RP Code A = Mospilan SG at 0.2 kg/ha, RP Code B = Karate Zeon at 0.25 L/ha, RP Code C = Avaunt 150 SC at 0.25 L/ha

Conclusion (European maize borer in maize)

Data demonstrated that the efficacy of the CA3573 at the proposed rate of 0.3 L/ha against *Ostrinia nubilalis* was superior to the efficacy of Mospilan 20 SG, Karate Zeon and Avaunt 150 SC in maize. Thus, the GAP uses as stated in Table 3.1-1 were proven by the data: CA33573 is considered to be appropriate for the control of European maize borer in maize.

(6) Brassica pod midge - DASYBR

Label claim:

Use no.*	MS	Registered use	Requested use	Comment
5	PL	1x 0.15 – 0.3 L/ha	1x 0.15 – 0.3 L/ha	No change to registered GAP
10		1x 0.2 – 0.3 L/ha	1x 0.2 – 0.3 L/ha	
15+18	SK	1-2x 0.18 – 0.3 L/ha	1x 0.18 – 0.3 L/ha	Reduction of the number of applications

* Use number(s) in accordance with the list of intended uses (Table 3.1-1)

For more detailed information on the intended label claim, please refer to Table 3.1-1 (Use No. 5, 10, 15 and 18).

Material and methods

An overview of trials against Brassica pod midge is presented in Table 3.2-57, for detailed information please refer to Appendix 2 of the Biological Assessment Dossier. Additionally, the trial locations are provided in the Biological Assessment Dossier (KCP 6.0/03).

Table 3.2-57: Overview of updated efficacy trials with CA3573 against Brassica pod midge (30 trials)

Ref. no.	Trial type (1)		Crop	Pest(s) (2)	Country	Year	Trial status
	Maritime EPPO zone (10 trials)						
6.1.3/172	M+E+Y		W-OSR	CEUTAS, DASYBR	CZ	2012	GEP
6.1.3/173	M+E		W-OSR	CEUTAS, DASYBR	CZ	2012	GEP
6.1.3/175	M+E+Y		W-OSR	CEUTAS, DASYBR	CZ	2012	GEP
6.1.3/186	M+E+Y		W-OSR	CEUTAS, DASYBR	CZ	2014	GEP
6.1.3/187	M+E		W-OSR	CEUTAS, DASYBR	CZ	2014	GEP
6.1.3/192	M+E		W-OSR	CEUTAS, DASYBR	CZ	2015	GEP
6.1.3/193	M+E		W-OSR	CEUTAS, DASYBR	CZ	2015	GEP
6.1.3/194	M+E		W-OSR	CEUTAS, DASYBR	CZ	2015	GEP
6.1.3/196	M+E		W-OSR	DASYBR	DE	2014	GEP
6.1.3/199	M+E		W-OSR	DASYBR	DE	2014	GEP
	North-Eastern EPPO zone (11 trials)						
6.1.3/224	M+E		W-OSR	CEUTAS, DASYBR	PL	2013	GEP
6.1.3/225	M+E		W-OSR	CEUTAS, DASYBR	PL	2013	GEP
6.1.3/226	M+E		W-OSR	CEUTAS, DASYBR	PL	2013	GEP
6.1.3/227	M+E		W-OSR	CEUTAS, DASYBR	PL	2013	GEP

Ref. no.	Trial type (1)		Crop	Pest(s) (2)	Country	Year	Trial status
6.1.3/238	M+E		W-OSR	CEUTAS, DASYBR	PL	2014	GEP
6.1.3/239	M+E		W-OSR	CEUTAS, DASYBR	PL	2014	GEP
6.1.3/240	M+E		W-OSR	CEUTAS, DASYBR	PL	2014	GEP
6.1.3/241	M+E		W-OSR	CEUTAS, DASYBR	PL	2014	GEP
6.1.3/251	M+E		W-OSR	CEUTAS, DASYBR	PL	2015	GEP
6.1.3/252	M+E		W-OSR	CEUTAS, DASYBR	PL	2015	GEP
6.1.3/253	M+E		W-OSR	CEUTAS, DASYBR	PL	2015	GEP
	South-Eastern EPPO zone (9 trials)						
6.1.3/270	M+E		W-OSR	CEUTAS, DASYBR	HU	2013	GEP
6.1.3/271	M+E		W-OSR	CEUTAS, DASYBR	HU	2013	GEP
6.1.3/287	M+E		W-OSR	DASYBR	HU	2015	GEP
6.1.3/288	M+E		W-OSR	MELIAE, DASYBR	HU	2015	GEP
6.1.3/289	M+E		W-OSR	MELIAE, DASYBR	HU	2015	GEP
6.1.3/290	M+E		W-OSR	DASYBR	HU	2015	GEP
6.1.3/294	M+E		W-OSR	CEUTAS, MELIAE, DASYBR	HU	2015	GEP
6.1.3/299	M+E		W-OSR	CEUTAS, DASYBR	SK	2013	GEP
6.1.3/308	M+E		W-OSR	CEUTAS, DASYBR	SK	2015	GEP

(1) M = efficacy trial with minimum effective dose determination, E = efficacy trial with selectivity assessment, Y = trial with yield and/or quality assessment.
(2) Please refer to Table 3.2-3 for an overview of the target pests.

All trials were conducted in accordance with GEP principles and appropriate EPPO guidelines by officially recognised testing organisations. For a short description of the trial methodology please refer to Table 3.2-58. Please refer to Appendix 2 of the Biological Assessment Dossier for detailed information considering the experimental details, trial design and test methodology as well as the application details.

Table 3.2-58: Details on trial methodology (Brassica pod midge)

Guidelines	General guidelines	EPPO PP 1/135(3), PP 1/152(3/4), PP 1/181(3/4), PP 1/225(2)
	Specific guidelines	EPPO PP 1/83(2), PP 1/107(3), PP 1/144(2), PP 1/178(3), PP 1/219(1), PP 1/220(1)
Experimental design	Plot design	RCBD
	Plot size	21-500m²
	Number of replications	4
Crop	Trials per crop	30
	Varieties per crop[1]	Exagone, Ontario, PR45DO3 (2), Da Vinci (3), DK Exquisite, Sherpa, Californium, Rohan, Rescator, PR46W20, Avatar, DK Exstrom, D-03, Extend, Tasillo, Monolit (2), Casper, Sy Alister, Alessio F1, Exclusive, Quartz, Remy, Pioneer BO6, GK Gabriella, PR46W14, Cantate
	Sowing period	from August to September
Application	Crop stage (BBCH) at application	from BBCH 55 to BBCH 71
	Timing Pest stage at application	Mixed growth stages of brassica pod midge
	Number of applications Intervals between applications	1 (30 trials) -
	Spray volumes	200 - 400 L/ha
Assessment	Assessment types	- No. of insects per plant - No. of larvae per plant - No. of mixed insect stages per plant - No. of adults per plant or shoot - No. of insects per shoot or pod
Assessment	Efficacy calculation	Efficacy calculation according to Henderson-Tilton: $= (1- \frac{\text{control}_{\text{before treatment}} * \text{treatment}_{\text{after treatment}}}{\text{control}_{\text{after treatment}} * \text{treatment}_{\text{before treatment}}}) * 100$ Efficacy calculation according to Abbott: $= (1- \frac{\text{incidence}_{\text{treatment}}}{\text{incidence}_{\text{control}}}) * 100$
	Assessment dates	usually 4-6 DAA, 14-21 DAA, 21-25 DAA, 25-30 DAA

[1] The spelling of the respective varieties in the single trial reports can vary due to country specific differences.
[2] Even though the number of applications was > 1 in some trials, only trial results after one/ first application were taken into account.

The test product CA3573 was applied according to the proposed GAP uses and compared to registered reference products. Detailed information about all reference products is presented in Table 3.2-6.

Results

The effectiveness of CA3573 against Brassica pod midge was tested in **30 efficacy trials** in winter oilseed rape conducted in the seasons 2012 to 2015 in Czech Republic, Germany, Poland, Slovakia and Hungary.

Mean efficacy per country or trial group (Brassica pod midge in oilseed rape)

Table 3.2-59: Mean effectiveness (%) of CA3573 against *Dasineura brassicae* in oilseed rape. Czech Republic, Germany 2012, 2014 and 2015 (total 10 trials). Single trial data is presented in Appendix 3 of the BAD.

Treatment		Mean effectiveness (Abbott, %)					
Product a)	**Dose rate L,kg/ha**	**Assessment 1 5-6 DAA (BBCH 65-69) b)**		**Assessment 2 15-21 DAA (BBCH 69-75)**		**Assessment 3 23-25 DAA (BBCH 73-75)**	
Control:							
adult/ plant or shoot	-	14.8 c)		21.5 c)		-	
mixed insects/ plant	-	-		4.0 d)		-	
larvae/ plant	-	-		622 e)		204.2 e)	
MCW-2222	0.12	-	(-)	-	(-)	89	(-)
MCW-2222	0.15	75	(0-100)	78	(37-96)	85	(75-91)
MCW-2222	**0.18**	**82**	(77-87)	**75**	(49-90)	**89**	(80-94)
MCW-2222	**0.20**	**86**	(50-100)	**88**	(68-97)	**92**	(89-94)
MCW-2222	**0.25**	**98**	(97-100)	**96**	(86-100)	**-**	
MCW-2222	**0.30**	**99**	(97-100)	**98**	93-100)	**-**	
Mospilan 20 SP	**0.15**	**68**	(-)	**64**	(44-83)	**87**	(86-88)
Mospilan 20 SP	0.18	73	(73)	65	(45-85)	92	(92)
Mospilan 20 SG	0.15	96	(92-100)	91	(65-100)	85	(85)
Mospilan 20 SG	0.18	100	(100)	100	(100)	87	(87)
No. of trials		6		8		3	

a Test product: MCW-2222 =CA3573 (SL, 200 g/L acetamiprid)
Reference products: Mospilan 20 SG (SG, 200 g/kg acetamiprid), Mospilan 20 SP (SP, 200 g/kg acetamiprid)
Karate Zeon 050 CS (CS, 50 g/L lambda-cyhalothrin)
b Developmental stage of crop (BBCH scale)
c Mean value of untreated control expressed in “no. of adults/ plant or shoot”
d Mean value of untreated control expressed in “no. of mixed/ plant”
e Mean value of untreated control expressed in “no. of larvae/ plant”
Numbers in brackets () = min - max values

Table 3.2-60: Mean effectiveness (%) of C3573 against *Dasineura brassicae* in oilseed rape. Poland 2012 -2013 (total 4 trials). Single trial data is presented in Appendix 3 of the BAD.

Treatment		Mean effectiveness (Henderson-Tilton, %)			
Product a)	**Dose rate L,kg/ha**	**Assessment 1 4-6 DAA (BBCH 68-69) b)**		**Assessment 2 14-15 DAA (BBCH 69-75)**	
Control: adults/ plant	-	*0.9 c)*		*1.2*	
(min-max)	-	*(0.4-1.4)*		*(0.5-1.8)*	
MCW-2222	0.12	75	(69-78)	83	(81-85)
MCW-2222	**0.15**	**84**	(79-87)	**86**	(83-89)
MCW-2222	**0.18**	**84**	(82-86)	**91**	(89-92)
Mospilan 20 SG	0.12	78	(72-82)	85	(80-89)
Mospilan 20 SG	0.15	80	(75-85)	89	(88-91)
Karate Zeon 050 CS	0.15	20	(14-26)	81	(81-81)
No. of trials		4		4	

a Test product: MCW-2222 =CA3573 (SL, 200 g/L acetamiprid)
Reference products: Mospilan 20 SG (SG, 200 g/kg acetamiprid), Karate Zeon 050 CS (CS, 50 g/L lambda-cyhalothrin)
b Developmental stage of crop (BBCH scale)
c Mean value of untreated control expressed in “no. of adults/ plant”
Numbers in brackets () = min - max values

For further trial results against DASYBR in the North-Eastern EPPO zone, please refer to the dossier submitted for the first registration of the product in December 2015 as either no changes to the registered GAP occurred or data submitted previously still support the intended uses.

Table 3.2-61: Mean effectiveness (%) of CA3573 against *Dasineura brassicae* in oilseed rape. Hungary, Slovakia 2014- 2015 (total 6 trials). Single trial data is presented in Appendix 3 of the BAD.

Treatment		Mean effectiveness (Abbott, %)					
Product a)	**Dose rate L,kg/ha**	**Assessment 1 4-5 DAA (BBCH 63-73) b)**		**Assessment 2 15-26 DAA (BBCH 67-75)**		**Assessment 3 25-30 DAA (BBCH 69-73)**	
Control: insects/ shoot	-	*6.5 c)*		*30.1*		*6.5*	
Control: insects/ pod		-		*5.5 d)*		*6.3*	
MCW-2222	0.15	55	(20-73)	48	(23-67)	52	(33-63)
MCW-2222	**0.20**	**72**	(76-81)	**65**	(54-81)	**60**	(39-72)
MCW-2222	**0.25**	**84**	(75-90)	**78**	(67-86)	**84**	(79-89)
MCW-2222	**0.30**	**88**	(82-92)	**83**	(78-90)	**82**	(73-90)
Mospilan SG	0.15	74	(67-82)	69	(46-84)	70	(50-86)
Karate Zeon 050 CS	0.15	78	(70-92)	60	(21-84)	65	(35-86)
No. of trials		3		6		3	

a Test product: MCW-2222 = CA3573 (SL, 200 g/L acetamiprid)
Reference products: Mospilan 20 SG (SG, 200 g/kg acetamiprid), Karate Zeon 050 CS (CS, 50 g/L lambda-cyhalothrin)
b Developmental stage of crop (BBCH scale)
c Mean value of untreated control expressed in “no. of insects/ shoot”
d Mean value of untreated control expressed in “no. of insects/ pod”
Numbers in brackets () = min - max values

For further trial results against DASYBR in the South-Eastern EPPO zone, please refer to the dossier submitted for the first registration of the product in December 2015 as either no changes to the registered GAP occurred or data submitted previously still support the intended uses.

Orthogonal comparison (Brassica pod midge)

An orthogonal comparison of the trial results against specific pests separated by the EPPO zone as well as the used reference products is presented (Table 3.2-62 for Maritime, Table 3.2-63 for North-Eastern and Table 3.2-64 for South-Eastern EPPO zone trial results).
For each EPPO zone as well as the intended dose rate, the total mean of the efficacy achieved by CA3573 is given in a first incidence.
In Table 3.1-1, the maximum rate per application of CA3573 is inserted in column 10 (Application rate) whereas in column 14 (Remarks), the registered dose rate range of CA3573 is presented. Therefore, several types of orthogonal comparison are presented. The first one is related to the efficacy results achieved with the minimum dose rate of CA3573 registered (depending on the country either 0.15 L/ha or 0.18 L/ha), two medium dose rates of the registered dose range of CA3573 were compared orthogonally (0.20 L/ha and 0.25 L/ha) whereas the last orthogonal comparison is related to those trial results where the test product was applied at the intended maximum rate (0.3 L/ha). The comparison was done at a mean value level.
The efficacy of CA3573 at 0.15 L/ha was inferior to the one achieved by single reference products in the Maritime (Mospilan 20 SG at 0.15 kg/ha) and South-Eastern EPPO zone (Mospilan 20 SG at 0.15 kg/ha and Karate Zeon at 0.15 L/ha) whereas the efficacy of CA3573 at 0.18 L/ha was superior to Karate Zeon at 0.15 L/ha in the South-Eastern and the North-Eastern EPPO zone. In the majority of trials, the efficacy of CA3573 at the minimum registered dose of 0.15-0.18 L/ha for winter oilseed rape against DASYBR was equivalent to the efficacy of the reference products in all EPPO zones.
Data demonstrated that the efficacy of CA3573 tested at both medium registered doses (0.20 L/ha and 0.25 L/ha) was at least comparable to the one achieved by the reference products in all EPPO zones.
Data demonstrated that the efficacy of CA3573 at the intended maximum dose rate of 0.30 L/ha for winter oilseed rape against DASYBR was at least similar (Mospilan SG at 0.15 kg/ha in the Maritime EPPO zone) but mostly superior when compared to the main reference products (Mospilan 20 SP at 0.12 kg/ha and 0.15 kg/ha, Karate Zeon at 0.15 L/ha in the North-Eastern EPPO zone / Mospilan SG at 0.15 kg/ha and Karate Zeon at 0.15 L/ha in the South-Eastern EPPO zone).

Table 3.2-62: Orthogonal comparison of efficacy of CA3573 and its reference products in BRSNW against DASYBR – Maritime EPPO zone

	Number of trials	Effectiveness (Henderson-Tilton, %)		
		CA3573	RP	RP Code
Average of all trials with CA3573 at **0.15 L/ha**	10	74	-	
Orthogonal comparison, with main reference products	3	71	71	A
	2	61	65	B
	7	75	91	C
Average of all trials with CA3573 at **0.18 L/ha**	4	80	-	
Orthogonal comparison, with main reference products	3	76	71	A
	2	67	65	B
	1	90	90	C
Average of all trials with CA3573 at **0.20 L/ha**	10	88	-	
Orthogonal comparison, with main reference products	3	82	71	A
	2	77	65	B
	7	90	91	C
Average of all trials with CA3573 at **0.25 L/ha**	6	91	-	
Orthogonal comparison, with main reference products	6	91	91	C
Average of all trials with CA3573 at **0.30 L/ha**	6	94	-	
Orthogonal comparison, with main reference products	6	94	91	C

RP = Reference product,
RP Code A = Mospilan 20 SP at 0.15 kg/ha, RP Code B = Mospilan 20 SP at 0.18 kg/ha,
RP Code C = Mospilan 20 SG at 0.15 kg/ha

Table 3.2-63: Orthogonal comparison of efficacy of CA3573 and its reference products in BRSNW against DASYBR – North-Eastern EPPO zone

	Number of trials	Effectiveness (Henderson-Tilton, %)		
		CA3573	RP	RP Code
Average of all trials with CA3573 at **0.15 L/ha**	11	84	-	
Orthogonal comparison, with main reference products	5	86	88	A
	2	75	72	B
	11	84	82	C
Average of all trials with CA3573 at **0.18 L/ha**	4	91	-	
Orthogonal comparison, with main reference products	4	91	81	C
Average of all trials with CA3573 at **0.20 L/ha**	7	87	-	
Orthogonal comparison, with main reference products	5	90	88	A
	2	81	72	B
	7	87	82	C
Average of all trials with CA3573 at **0.25 L/ha**	7	92	-	
Orthogonal comparison, with main reference products	5	94	88	A
	2	85	72	B
	7	92	82	C
Average of all trials with CA3573 at **0.30 L/ha**	7	94	-	

	Number of trials	Effectiveness (Henderson-Tilton, %)		
		CA3573	RP	RP Code
Orthogonal comparison, with main reference products	5	96	88	A
	2	90	72	B
	7	94	82	C

RP = Reference product,
RP Code A = Mospilan 20 SP at 0.12 kg/ha, RP Code B = Mospilan 20 SP at 0.15 kg/ha,
RP Code C = Karate Zeon at 0.15 L/ha

Table 3.2-64: Orthogonal comparison of efficacy of CA3573 and its reference products in BRSNW against DASYBR – South-Eastern EPPO zone

	Number of trials	Effectiveness (Henderson-Tilton, %)		
		CA3573	RP	RP Code
Average of all trials with CA3573 at **0.15 L/ha**	9	58	-	
Orthogonal comparison, with main reference products	9	58	72	A
	9	58	65	B
Average of all trials with CA3573 at **0.18 L/ha**	2	74	-	
Orthogonal comparison, with main reference products	2	74	72	A
	2	74	53	B
Average of all trials with CA3573 at **0.20 L/ha**	6	71	-	
Orthogonal comparison, with main reference products	6	71	75	A
	6	71	75	B
Average of all trials with CA3573 at **0.25 L/ha**	6	83	-	
Orthogonal comparison, with main reference products	6	83	75	A
	6	83	75	B
Average of all trials with CA3573 at **0.30 L/ha**	6	87	-	
Orthogonal comparison, with main reference products	6	87	75	A
	6	87	75	B

RP = Reference product,
RP Code A = Mospilan 20 SG at 0.15 kg/ha, RP Code B = Karate Zeon at 0.15 L/ha

Conclusion (Brassica pod midge in oilseed rape)

Data demonstrated that the efficacy of the CA3573 at the proposed maximum rate of 0.3 L/ha against *Dasineura brassicae* was equivalent or increased compared to the efficacy of Mospilan 20 SG, Mospilan 20 SP and Karate Zeon.
No specific efficacy data is submitted for the use against DASYBR in spring oilseed rape to be applied for in the Maritime, North-Eastern and South-Eastern EPPO climatic zone. However, for the use in spring oilseed rape extrapolation is considered to be possible from the comprehensive data package submitted for the same pest in winter oilseed rape, as the crops are comparable and target rates as well as application number and timing are identical. The extrapolation is confirmed in information provided by Polish authority in Appendix 2, Part 3 guidance document "Tabela_ekstrapolacji_dla_sekcji_skuteczność". Furthermore, spring oilseed rape is considered a minor crop in Poland and in Slovakia and uses against DASYBR are already registered in both countries.
Thus, the GAP use as summarised above and stated in Table 3.1-1 was proven by the data. CA3573 is considered to be appropriate for the control of Brassica pod midge in winter and spring oilseed rape.

Minor use

Minor uses are specifically defined for each country. The overview of minor uses is presented in Table 3.2-4. The efficacy of CA3573 in apple against aphids and CARPPO (being minor uses in Slovakia) were evaluated as part of the efficacy chapter 3.2.3.

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

YIELD

Introductory information on trials with yield determination

Submission of data for the uses in maize, potato and winter as well as spring oilseed rape is not required according to the EPPO guidelines stated in Table 3.2-65 below.

Table 3.2-65: Overview of updated trials with yield determination

Use no.	Crop	No. of trials (EPPO zone)			Argumentation for non-submission (EPPO)
		MAR	NE	SE	
(1)	Maize	-	-	-	Not required by PP 1/274(1)
(2)	Pome fruit	-	8	-	-
(3)	Potato	5*	4*	-	Not required by PP 1/12(4), PP 1/230(1)
(5)	Winter and spring OSR	13*	8*	8*	Not required by PP 1/107(3)

* Since data is not required according to EPPO and no phytotoxicity occurred, an overview of the results was omitted.

A total of **8 trials** were carried out to evaluate the yield level of apple trees treated with CA3573. All trials were conducted to GEP and followed the appropriate EPPO standards by officially recognised testing organisations. The test design was a randomised complete block design with 4 replicates. The apple trials were conducted in the years 2010 and 2012 in Poland, representing the North-Eastern EPPO climatic zone.

Overall conclusion

Any negative effect of CA3573 on the yield level of pome fruit trees can be excluded based on yield data from trials in apple. In contrast, the effective control of the pest diseases mostly improved the yield of the treated plants compared to the untreated control.
Since submission of data for the uses against sucking and biting insects in maize, potato, winter and spring oilseed rape is not requested by EPPO, and no negative impact is to be expected by the insecticide treatment due to complete absence of any phytotoxicity, CA3573 can be regarded as safe for all requested uses (refer to Table 3.1-1). The evaluation of effects on the yield of treated plants and plant products for the GAP uses of CA3573 complies with the uniform principles.

(1) Maize

Please refer to the information submitted for the first registration of the product in December 2015 as either no changes to the registered GAP occurred or data submitted previously still support the intended uses.

(2) Pome fruit

The yield of apple trees treated with CA3573 against sucking and biting insects was assessed in 8 yield trials conducted in the years 2010 and 2012 in Poland.

Material and methods

For a short description of these trials in tabular format including year, country, variety and trial status, please refer to Table 3.2-66, detailed information is stated in Appendix 2 of the Biological Assessment Dossier.
Additionally, the trial locations are marked on the corresponding maps in the Biological Assessment Dossier

(KCP 6.0/03). For detailed information about all test and reference product used in the trials, please refer to Table 3.2-6.

Table 3.2-66: Overview of updated efficacy trials with yield determination conducted in apple with CA3573 against pest group (1) and (3) (total 8 trials)

Ref. no.	Pest group	Country	Year	Trial status	Variety	Assessed characteristics
North-Eastern EPPO zone (8 trials)						
6.1.3/026	(1)	PL	2010	GEP	Ligol	Total weight
6.1.3/027	(1)		2010	GEP	Jonagold	Total weight
6.1.3/028	(3)		2012	GEP	Gala	Total weight
6.1.3/029	(3)		2012	GEP	Szampion	Total weight
6.1.3/030	(3)		2012	GEP	Gala	Total weight
6.1.3/031	(3)		2012	GEP	Szampion	Total weight
6.1.3/032	(1)		2012	GEP	Idared	Total weight
6.1.3/033	(1)		2012	GEP	Golden Delicious	Total weight

Pest group (1) Aphids,
Pest group (3) Codling moth

Please refer to Appendix 2 of the Biological Assessment Dossier for detailed information considering the experimental details, trial design and test methodology and the application details.

Table 3.2-67: Description of assessments on yield

Guidelines	General guidelines	EPPO PP 1/135(3), PP 1/152(3), PP 1/181(3)
	Specific guidelines	EPPO PP 1/7(3), PP 1/21(2), PP 1/174(2), PP 1/258(1)
Experimental design	Plot design	RCBD
	Plot size	14.4-28.8m²
	Number of replications	4
Crop	Varieties	Golden Delicious, Ligol, Jonagold, Gala (2), Szampion (2), Idared
Application	Crop stage (BBCH) at application	from BBCH 57 to BBCH 73
	Timing Pest stage at application	Mixed growth stages of aphids and codling moths
	Number of applications Intervals between applications	1 (8 trials)
	Spray volumes	400 - 1000 L/ha
Assessment	Assessment types	Apple yield in t/ha: Yield was harvested and weighed per plot and re-calculated to t/ha. In addition, the results were compared to the untreated control, with the control defined as 100 %. (8 trials)
	Assessment dates	usually 100-129 DAA, 152-180 DAA

For further assessment details including timing, number and BBCH stage of the crop, please refer to Appendix 4 of the Biological Assessment Dossier.

Results

North-Eastern EPPO zone:
The mean yield determined in a total of 8 trials conducted in Poland resulted in 101-104 % compared to ~~control~~ untreated check for the test product and 99-103 % for the reference products. Therefore, the yield results of the test and reference treatments were comparable and in most cases higher compared to the untreated control. For pest group 3 (codling moth), yield data was obtained only from trials testing CA3573 at 0.2 L/ha instead of the intended dose rate of 0.25 L/ha. Since application of 0.2 L/ha resulted in higher mean yield compared to the untreated control, application of 0.25 L/ha is assumed to have no negative effects on yield neither.
For an overview of the yield results please refer to Table 3.2-68 in the following. The single trial data is presented in Appendix 4 of the Biological Assessment Dossier.

Table 3.2-68: Summary of updated data concerning impact on yield, data partly from efficacy trials in apple carried out in the North-Eastern EPPO zone, 2010-2012 (total 8 trials).

Treatment		Yield (% compared to control)			No. of trials per treatment
Product a)	**Application**	**t/ha**			
	L,kg/ha	**Mean**	**Min**	**Max**	
Poland					
Untreated control		*37.3b)*	*20.3*	*64.4*	
MCW-2222	0.095	104 c)	100	108	2
MCW-2222	0.100	101	93	104	4
MCW-2222	**0.125**	**103**	93	114	4
MCW-2222	**0.200**	**104**	102	107	4
Mospilan 20 SP	0.125	103	100	105	2
Mospilan 20 SP	0.200	103	102	105	4
Mospilan 20 SG	0.125	99	95	102	2

a Test product: MCW-2222 = CA3573 (SL, 200 g/L acetamiprid)
Reference products: Mospilan 20 SG (SG, 200 g/kg acetamiprid), Mospilan 20 SP (SP, 200 g/kg acetamiprid)
b Mean total yield (t/ha) in the untreated control
c Mean result in % compared to control

Conclusion

In a total of 8 trials, the apple yield of treated and untreated apple trees was determined. All studies conducted in apple revealed no negative impact of CA3573 on the fruit yield. In contrast, the application of CA3573 for the effective control of aphids as well as codling moth mostly improved the yield level when compared to the untreated control. Thus, CA3573 can be regarded as safe in pome fruit when applied according to the GAP use as described in Table 3.1-1.

(3) Potato

Please refer to the information submitted for the first registration of the product in December 2015 as either no changes to the registered GAP occurred or data submitted previously still support the intended uses.

(5) Winter and spring oilseed rape

Please refer to the information submitted for the first registration of the product in December 2015 as either no changes to the registered GAP occurred or data submitted previously still support the intended uses.

QUALITY

Introductory information on trials with quality determination

The impact of CA3573 on yield quality was determined in **9 trials** for the use against aphids in pome fruit. All trials were conducted to GEP and followed the appropriate EPPO standards by officially recognised testing organisations. The test design was a randomised complete block design with 4 replicates. The trials were conducted in 2010, 2012 and 2014 in Poland and Romania, representing the North-Eastern and South-Eastern EPPO climatic zone. Submission of data for the uses in maize, potato, winter and spring oilseed rape is not required according to the EPPO guidelines stated in Table 3.2-69 below.

Table 3.2-69: Overview of updated trials with quality determination

Use no.	Crop	No. of trials (EPPO zone)			Argumentation for non-submission (EPPO)
		MAR	NE	SE	
(1)	Maize	-	-	-	Not required by PP 1/274(1)
(2)	Pome fruit	-	8	1	-
(3)	Potato	-	-	-	Not required by PP 1/12(4), PP 1/230(1)
(5)	Winter and spring OSR	5*	8*	1*	Not required by PP 1/107(3)

* Since data is not required according to EPPO and no phytotoxicity occurred, an overview of the results was omitted.

Overall conclusion

Any negative effect of CA3573 on the harvested products of pome fruit trees can be excluded based on quality data from trials in apple. Since submission of data for the uses against sucking and biting insects in maize, potato and winter and spring oilseed rape is not requested by EPPO, and no negative impact is to be expected by the insecticide treatment due to complete absence of any phytotoxicity, CA3573 can be regarded as safe for all requested uses (refer to Table 3.1-1).

The evaluation of effects on the quality of plants and plant products for the GAP uses of CA3573 complies with the uniform principles.

(1) Maize

Please refer to the information submitted for the first registration of the product in December 2015 as either no changes to the registered GAP occurred or data submitted previously still support the intended uses.

(2) Pome fruit

The product quality in terms of russeting on fruits, fruit firmness and commercial product was evaluated in 9 trials carried out in the years 2010, 2012 and 2014 in Poland and Romania with 6 different apple varieties.

Material and methods

The apple fruit quality was assessed in a total of **9 trials**. In these trials, the test product CA3573 was applied once at a rate of 0.095 L/ha, 0.10 L/ha, 0.125 L/ha and 0.2 L/ha (equivalent to 18, 20, 25 and 40 g ai/ha) in accordance with the envisaged GAP use.

For a short description of these trials in tabular format including year, country, variety and trial status, please refer to Table 3.2-70, detailed information is stated in Appendix 2 of the Biological Assessment Dossier. Additionally, the trial locations are marked on the corresponding maps in the Biological Assessment Dossier (KCP 6.0/03). For detailed information about all test and reference product used in the trials, please refer to Table 3.2-6.

Table 3.2-70: Overview of efficacy trials with fruit quality determination conducted in apples with CA3573 against aphids (total 9 trials)

Ref. no.	Pest group	Country	Year	Trial status	Variety	Assessed characteristics
North-Eastern EPPO zone (8 trials)						
6.1.3/026	(1)	PL	2010	GEP	Ligol	Russeting
6.1.3/027	(1)		2010	GEP	Jonagold	Russeting
6.1.3/028	(3)		2012	GEP	Gala	Russeting
6.1.3/029	(3)		2012	GEP	Szampion	Russeting
6.1.3/030	(3)		2012	GEP	Gala	Russeting
6.1.3/031	(3)		2012	GEP	Szampion	Russeting
6.1.3/032	(1)		2012	GEP	Idared	Firmness
6.1.3/033	(1)		2012	GEP	Golden Delicious	Firmness
South-Eastern EPPO zone (1 trial)						
6.1.3/059	(3)	RO	2014	GEP	Golden Delicious	Commercial product

Pest group (1) Aphids,
Pest group (3) Codling moth

Table 3.2-71: Description of assessments on fruit quality

Guidelines	General guidelines	EPPO PP 1/135(3), PP 1/152(3), PP 1/181(3)
	Specific guidelines	EPPO PP 1/7(3), PP 1/21(2), PP 1/174(2), PP 1/258(1)
Experimental design	Plot design	RCBD
	Plot size	14.4-28.8m²
	Number of replications	4
Crop	Varieties	Golden Delicious (2), Ligol, Jonagold, Gala (2), Szampion (2), Idared
Application	Crop stage (BBCH) at application	from BBCH 57 to BBCH 73
	Timing Pest stage at application	Mixed growth stages of aphids and codling moths
Application	Number of applications Intervals between applications	1 (9 trials)
	Spray volumes	400 - 1000 L/ha
Assessment	Assessment types	Commercial product: reported in kg/plot and re-calculated to t/ha (1 trial) Russeting: fruits were divided in three classes (no russeting, low and high russeting) (6 trials) Firmness: fruit firmness was reported in kg/plot (2 trials)
	Evaluation	For evaluation of the different assessment types, the results were compared to the untreated control, with the control defined as 100 %.
	Assessment dates	Usually 168-180 DAA, 143-152 DAB

Data on total yield derived from efficacy trials is presented above (starting on page 91). For further assessment details including timing, number and BBCH stage of the crop, please refer to Appendix 4 of the Biological Assessment Dossier.

Results

The apple fruit quality was assessed in a total of 9 trials conducted in the years 2010, 2012 and 2014 in Poland and Romania. For an overview of the quality results in terms of russeting on fruits, fruit firmness and commercial product averaged over all trials per country please refer to Table 3.2-72 - Table 3.2-74 in the following.

North-Eastern EPPO Zone

The quality of apples treated with CA3573 was assessed with regard to russeting in six trials. The rate of russeting was classified in three categories: no russeting, low and high russeting. The result of fruits treated with the test product was totally comparable with the results of the registered reference product Mospilan SP; a significant difference to the results of the untreated control did not occur (Table 3.2-72). Additionally the fruit quality with regard to fruit firmness was analysed. For this parameter no significant differences were observed, neither to the reference product nor to the untreated control (Table 3.2-73).

Table 3.2-72: Summary of data concerning impact on fruit quality, data from efficacy trials in apple carried out in the season 2010 and 2012 (total 6 trials).

Treatment		**Fruit quality (% compared to control)**								
Product a)	**Application**	**no russeting**			**low russeting**			**high russeting**		
	L, kg/ha	**Mean**	**Min**	**Max**	**Mean**	**Min**	**Max**	**Mean**	**Min**	**Max**
Poland										
Untr. control	-	*96 b)*	*94*	*97*	*4 b)*	*1.8*	*6.3*	*0.3 b)*	*0*	*1.3*
MCW-2222	**0.095**	**100 c)**	99	101	**106 c)**	100	111	**69 c)**	0	138
MCW-2222	**0.100**	**100**	99	100	**119**	100	139	**118**	77	160
MCW-2222	**0.125**	**100**	100	100	**106**	100	111	**80**	60	100
MCW-2222	**0.200**	**101**	100	101	**82**	71	95	**0**	0	0
MCW-2222	**0.200**	**101**	98	102	**99**	63	154	**0**	0	0
Mospilan 20 SP	0.125	99	100	100	136	88	183	100	100	100
Mospilan 20 SP	0.200	100	98	101	117	80	154	0	0	0
No. of trials		6			6			6		

a Test product: MCW-2222 =CA3573 (SL, 200 g/L acetamiprid)
Reference products: Mospilan 20 SP (SP, 200 g/kg acetamiprid)
b Mean amount in the untreated control
c Mean result in % compared to control

Table 3.2-73: Summary of data concerning impact on fruit quality, data from efficacy trials in apple carried out in the season 2012 (total 2 trials).

Treatment		**Fruit quality (% compared to control)**		
Product a)	**Application**	**firmness**		
	L, kg/ha	**Mean**	**Min**	**Max**
Poland				
Untreated control	-	*7 b)*	*7.0*	*7.1*
MCW-2222	**0.100**	**101c)**	100	101
MCW-2222	**0.125**	**99**	99	101
Mospilan 20 SG	0.125	100	99	101
No. of trials		2		

a Test product: MCW-2222 =CA3573 (SL, 200 g/L acetamiprid)
Reference products: Mospilan 20 SG (SG, 200 g/kg acetamiprid)
b Mean amount in the untreated control
c Mean result in % compared to control

South-Eastern EPPO zone

The commercial product of apple trees treated with CA3573 was identical to the yield results of the registered reference product Mospilan 20 SP. The application of CA3573 resulted in a significantly higher amount of commercial product when compared to the untreated control.

Table 3.2-74:Summary of data concerning impact on fruit quality, data from efficacy trials in apple carried out in the season 2014 (total 1 trial).

Treatment		**Apple fruit quality**		
Product a)	**Application**	**Commercial yield (% compared to control)**		
	L,kg/ha	**Mean**	**Min**	**Max**
Romania				
Untreated control		*11.8 b)*	-	-
MCW-2222	**0.125**	**106 c)**	-	-
MCW-2222	**0.2**	**106**	-	-
MCW-2222	**0.25**	**106**	-	-
MCW-2222	**0.4**	**106**	-	-
Mospilan 20 SP	0.25	106	-	-
No. of trials		1		

a Test product: MCW-2222 =CA3573 (SL, 200 g/L acetamiprid as active ingredient)
Reference products: Mospilan 20 SP (SP, 200 g/kg acetamiprid),
b Mean weight (t/ha) in the untreated control
c Mean result in % compared to control

Conclusion

The fruit quality of apple trees in terms of fruit russeting, firmness and commercial yield after treatment with CA3573 against aphids as well as codling moth was assessed in 9 trials conducted in the years 2010, 2012 and 2014 in Poland and Romania. All 9 studies conducted in apple revealed no negative impact of CA3573 on quality of plants and plant products. In contrast, the application of CA3573 for the effective control of aphids and codling moth improved the quality when compared to the untreated control. Thus, the use of CA3573 to aphids and codling moth in apple can be regarded as safe when applied according to the specified GAP use as described in Table 3.1-1.

(3) Potato

Please refer to the information submitted for the first registration of the product in December 2015 as either no changes to the registered GAP occurred or data submitted previously still support the intended uses.

(5) Winter and spring oilseed rape

Please refer to the information submitted for the first registration of the product in December 2015 as either no changes to the registered GAP occurred or data submitted previously still support the intended uses.

Summary and conclusion

The efficacy of CA3573 for control of different insect pests in the crops apple, maize, potato, winter and spring oilseed rape was re-evaluated in a total of ~~250~~ 228 efficacy trial results (numerous trials including more than one pest). Further, yield and quality data for the use in pome fruit is presented in 3.2.3.
For 2 trials in potato as well as 4 trials in apple, the efficacy results are presented in chapter 3.2.3 but are not part of the efficacy evaluation either due to doses below the GAP rate (Minimum effective dose trials) or due to only being valid for the effect on yield. The evaluation of those particular trials is shown in the respective chapters ~~0 (overview list on page 38) and 3.2.3~~ .
All trials were conducted to GEP and followed the appropriate EPPO standards by officially recognised testing organisations. The trials were of a randomised complete block design with 4 replicates. Trials have been conducted between 2010 and 2015 in Czech Republic, Germany, Poland, Hungary, Romania and Slovakia representing the Maritime, North-Eastern and South-Eastern EPPO climatic zone.

An overview of all trials conducted in apple, maize, potato and winter oilseed rape for control of the different insect pests is presented in Table 3.2-75. To provide an overview as conclusive as possible, only mean values for reference products with the most trial results available are presented in Table 3.2-75.
Subsuming the efficacy results in all crops and against all pests, the efficacy of CA3573 was always at least on a similar level compared to the reference products. By the single trial data it was demonstrated that the proposed dose range of CA3573 for some of the target pests is reasonable and takes into account the different infestation levels. It allows the farmer to adapt the rate according to the current conditions.

Table 3.2-75: Mean effectiveness of the target rate of CA3573 against the target pests in all crops

Crop	Pest	EPPO zone	MCW-2222* [L/ha]							Mospilan 20 SG [kg/ha]			Mospilan 20 SP [kg/ha]		Karate Zeon [L/ha]	Max no. of trials**
			0.09-0.1	0.12-0.125	0.15	0.18	0.20	0.25	0.3	0.125	0.15	0.2-0.25	0.125	0.15	0.15	
Apple	APHISP	MAR	**93** (90-95)	**93** (80-100)	-	-	-	-	-	-		**97** (83-100)	-	-	-	9
		NE[(1)]	**81** (12-95)	**93** (82-100)	-	-	-	-	-	**86** (82-98)		-	**99** (88-100)	-	-	15
		SE	**92** (83-97)	**96** (90-98)	-	-	-	-	-	**97** (96-98)		**99** (97-100)	-	-	-	7
	CARPPO **(I. gen.)**	MAR	-	-	-	-	-	**88** (50-100)	-	-	-	**91** (57-100)	-	-	-	6
		NE	-	-	-	-	-	**90** (82-94)	-	-	-	**87** (79-100)	-	-	-	4
		SE	-	-	-	-	-	**82** (-)	-	-	-	**87** (-)	-	-	-	1
	CARPPO **(II. gen.)**	SE	-	-	-	-	-	**85** (-)	-	-	-	**87** (-)	-	-	-	1
Maize	DIABVI	SE	-	-	-	-	**90** (70-100)	-	**93** (84-100)		**90** (73-100)		-	-	-	11
	PYRUNU	SE	-	-	-	-	-		**83** (67-100)	-	-	**65** (42-100)	-	-	-	5
Potato	LPTNDE	MAR		**93** (70-100)	**95** (75-100)	**96** (87-100)	-	-	-	-	**98** (88-100)	-	-	-	-	10
		NE		**90** (83-97)	**95** (74-100)	**96** (75-100)	-	-	-	-	-	-	**93** [(2)] (73-100)	-		11
		SE		**90** (77-100)	**95** (85-100)	**96** (88-100)	-	-	-	-	**94** (84-100)	-	-	-	-	12

Crop	Pest	EPPO zone	MCW-2222* [L/ha]							Mospilan 20 SG [kg/ha]			Mospilan 20 SP [kg/ha]		Karate Zeon [L/ha]	Max no. of tri-als**
			0.09-0.1	0.12-0.125	0.15	0.18	0.20	0.25	0.3	0.125	0.15	0.2-0.25	0.125	0.15	0.15	
Winter oilseed rape	CEUTAS	MAR	-	-	**86** (58-100)	**81** (70-91)	**92** (75-100)	**93** (75-100)	**98** (94-100)		**93** (63-100)	-	-	-	**85** (65-100)	9
		NE	-	-	**86** (68-100)	**95** (88-100)	**89** (77-95)	**92** (77-100)	**95** (83-100)		-	-	-	-	**88** (67-100)	12
		SE	-	-	**73** (38-95)	**88** (79-92)	**78** (53-97)	**74** (58-89)	**80** (68-95)		**75** (48-91)	-	-	**87** (84-89)	-	15
	CEUTNA	MAR	-		**80** (37-100)	-	**87** (39-100)	**96** (83-100)	**97** (85-100)		**87** (57-100)		-		**92** (86-100)	7
		NE	-	-	**80** (57-87)	-	**86** (80-91)	**92** (83-99)	**96** (87-100)	-	-	-	-	-	**82** (69-89)	10
		SE	-	-	**75** (58-91)	**82** (61-95)	**81** (67-100)	**84** (76-100)	**87** (72-100)	-	**81** (57-100)	-	-	-	**71** (34-100)	16
	CEUTQU	MAR	-	-	**56** (0-100)	**74** (47-100)	**89** (66-100)	**88** (66-100)	**96** (87-100)	-	-	-	-	-	**80** (56-100)	6
		NE	-	-	**76** (54-88)	**77** (70-84)	**88** (80-96)	**93** (90-97)	**97** (90-100)	-	-	-	-	-	**76** (3) (51-87)	13
		SE	-	-	**75** (66-88)	**87** (80-85)	**87** (70-96)	**86** (67-97)	**90** (79-96)	-	**82** (70-95)	-	-	-	**81** (72-87)	6
	CEUTNA & CEUTQU	SE	-	-	**90** (86-97)	**96** (92-100)	-	-	-	-	-	-	-	-	**86** (82-97)	4
	MELIAE	MAR	-	-	-	**92** (85-98)	**83** (58-100)	**89** (75-100)	**92** (81-100)	-	**83** (75-97)	-	-	-	**71** (23-100)	14
		NE	-	-	-	**86** (72-92)	**90** (77-100)	**92** (82-100)	**93** (81-100)	-	-	-	-	-	-	14
		SE	-	-	-	**86** (59-97)	**83** (62-96)	**80** (68-94)	**86** (77-95)	-	**78** (53-97)	**81** (63-98)	-	**90** (78-96)	-	31

Crop	Pest	EPPO zone	MCW-2222* [L/ha]							Mospilan 20 SG [kg/ha]			Mospilan 20 SP [kg/ha]		Karate Zeon [L/ha]	Max no. of trials**
			0.09-0.1	0.12-0.125	0.15	0.18	0.20	0.25	0.3	0.125	0.15	0.2-0.25	0.125	0.15	0.15	
Winter oilseed rape	DASYBR	MAR	-	-	**74** (22-96)	**80** (49-94)	**88** (68-97)	**91** (67-100)	**94** (71-100)	-	**91** (65-100)	-	-	**71** (44-86)	-	10
		NE	-	-	**84** (74-91)	**91** (89-92)	**87** (78-94)	**92** (83-99)	**94** (88-99)	-	-	-	-	**72** (66-77)	**82** (69-88)	11
		SE	-	-	**58** (20-81)	**74** (62-86)	**71** (54-81)	**83** (75-90)	**87** (82-92)	-	**72** (51-84)	-	-	-	**65** (26-92)	9

* MCW-2222 = CA3573
(1) The median instead of the mean was calculated, due to heterogeneous results
(2) Mospilan 20 SP (SP, 200 g/kg acetamiprid) at 0.08 L/ha instead of 0.125 L/ha
(3) Karate Zeon (CS, 50 g/L lambda-cyhalothrin) at 0.12 L/ha instead of 0.15 L/ha
** No. of trials per pest, i.e. trials with more than one pest are counted several times and max. no. of trials with at least one target dose, i.e. not all rates are tested in all trials

In case of the availability of efficacy data from the Maritime EPPO zone for a use not to be registered in the Maritime, but in the North-Eastern EPPO zone (i.e. data in apple, potato or oilseed rape from the Maritime EPPO zone), reference is made to page 26 where it is discussed in detail, that data from both zones can be evaluated together.
For the use in pome fruit extrapolation is envisaged from APHISP and CARPPO in apple (indicator crop) to APHISP and CARPPO in pear as proposed by the extrapolation tables of EPPO regarding effectiveness of insecticides (PP 1/257 IEET 3 (2)).
No specific efficacy data is submitted for the uses in spring oilseed rape (CEUTAS, CEUTNA, CEUTQU, MELIAE) to be applied for in the Maritime, North-Eastern and South- Eastern EPPO climatic zone. However, for the use in spring oilseed rape extrapolation is considered to be possible from the comprehensive data package submitted for the same pests in winter oilseed rape, as the crops are comparable and target rates as well as application number and timing are identical. The extrapolation is confirmed in information provided by Polish authority in Appendix 2, Part 3 guidance document "Tabela_ekstrapolacji_dla_sekcji_skuteczność". Furthermore, spring oilseed rape is considered a minor crop in Poland and in Slovakia and uses against CEUTAS, CEUTNA, CEUTQU, MELIAE and DASYBR are already registered in both countries.
Thus, all ~~250~~ **228** **evaluated efficacy trial results** support the GAP uses applied for in maize, pome fruit, potato and winter and spring oilseed rape as summarised in the ~~following~~ preceding table. For detailed information about the envisaged GAP uses please refer to Table 3.1-1 of this document. The efficacy evaluation for the GAP uses of CA3573 complies with the uniform principles.

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

This part summarizes the current status of neonicotinoid resistance, the biochemical and molecular mechanisms involved, and the implications for resistance management. The analysis of resistance risk development to the active ingredient acetamiprid is conducted according to the EPPO guideline PP1/213(2-4) in addition to the overall analysis of the recommended IRAC groups. The following information has been extracted from www.pesticideresistance.org and from: IRAC "Guidelines for Management of Resistance to Group 4 insecticides", Issued, March, 2015 Version 2.0, IRAC Sucking Pest Working Group.

Possible development of resistance or cross-resistance

Resistance to insecticides reduces the effectiveness of insect control, resulting in lowered agricultural productivity and higher human health risks. The speed of resistance development depends on several factors, including how fast the insects reproduce, measured in generations per crop season, the migration and host range of the pest, the availability of nearby susceptible populations, the persistence and specificity (site of action) of the crop protection product, and the rate, timing and number of applications made to a specific population.

Acetamiprid is a broad-spectrum insecticide, which belongs to the chemical family of Neonicotinoid, summarized in the IRAC group 4A (Nicotinic acetylcholine receptor (nAChR) competitive modulators). (See Table 3.3-1 below).

Table 3.3-1 Chemical family and mode of action of acetamiprid (IRAC MoA Classification, March, 2020)

Chemical group	Neonicotinoid - Insecticide Resistance Classification (IRAC) 4A
Mode of action according to IRAC	Neonicotinic acetylcholine receptor (nAChR) competitive modulators

Mode of action of the insecticide Acetamiprid

Acetamiprid is a systemic insecticide with translaminar activity and with contact and stomach action. Its primary site of action is the nicotinic acetylcholine receptor agonists/ antagonists. Neonicotinoids mimic the agonist action of acetylcholine at nAChRs (Nicotinic acetylcholine receptor), causing hyperexcitation. Acetylcholine is the major excitatory neurotransmitter in the insect central nervous system.
Neonicotinoids such as acetamiprid bind to the same site as acetylcholine at the nAChRs and can cause nerve overstimulation by hyper-excitation or inhibitory paralysis by desensitizing the receptors. Desensitized nAChR-neonicotinoid complexes no longer conduct ions, and are essentially inhibited.

Mechanism of resistance

Neonicotinoids were firstly introduced on the market in 1991. Besides acetamiprid, six other neonicotinoids were available, such as clothianidin, dinotefuran, imidacloprid, nitenpyram, thiacloprid and thiamethoxam. Currently, only acetamiprid and imidacloprid are approved in the European Union.

In general, there are four main mechanisms of resistance to insecticides:

- Metabolic resistance is the most common resistance mechanism enabling resistant insects to detoxify or destroy toxins by adapted internal enzyme systems.
  Insects possess a variety of enzymes, including oxidases, glutathione S-transferases, esterases and amidases, whose function is to degrade foreign compounds. Resistance to a toxicant can occur when the insects evolve an enhanced ability to detoxify or destroy the toxin, by alterations of these enzymes or of the amounts of enzymes produced in the body. As metabolic enzymes are directed at certain structural features of the toxicants, vulnerable sites in the molecule are affected. This type of resistance may not affect all members of a chemical class, and cross-resistance between compounds from different chemical classes can occur if they contain common chemical groups that are targeted by the same enzyme.
- Target-site resistance describes the genetic modification of the insecticide's site of action and hence the reduction or elimination of the insecticidal effect.

It is the second most common type of resistance, and involves a modification of the target protein structure or abundance, which usually confers some degree of cross-resistance to all compounds acting at that site. If the mutation involves a change in the structure of the pocket where the insecticide actually binds, the level of resistance can depend strongly on chemical structure and the modification could theoretically even favour the binding of certain analogs, leading to negative cross-resistance. Negative cross-resistance occurs when the insect's ability to develop resistance to one toxicant results in hypersensitivity to another.

- Penetration resistance describes the ability of an insect to absorb chemicals more slowly due to the development of barriers within the insect's cuticle. Penetration resistance can come along with other resistances and is less specific than other forms of resistance.
- Behavioural resistance is the insect's avoidance of the exposition to the toxin so that they no longer are exposed to the toxin.
  Behavioural resistance occurs when insects evolve the ability to detect and avoid the toxin or components of the formulation, or their behaviour becomes modified so that they no longer come in contact with it, even if they cannot detect it.

For neonicotinoids target-site resistance, as well as metabolic resistance has been observed, whereas metabolic resistance seems to be more common, often linked to an enhanced expression of cytochrome P450.
The resistance mechanisms against acetamiprid are still under investigation. For the resistance cases listed in the Arthropod Pesticide Resistance Database (APRD) for which the resistance mechanism was investigated and reported, metabolic resistance was more frequent than target site mutations as well.

Evidence of resistance

In Europe, the first case of insect resistance to IRAC 4A insecticides was reported in 1996 in Spain on *Bemisia tabaci*. Today, the Arthropod Pesticides Resistance Database lists around 1050 resistance cases against neonicotinoids for 33 species. Several resistance cases were reported particularly for the species *Bemisia tabaci*, *Nilaparvata lugens*, *Myzus persicae* and *Aphis gossypii*.
124 resistance cases were reported for the active ingredient acetamiprid, among which 5 cases occurred in Spain. No case of resistance against acetamiprid was reported in other European countries.

Resistances have been found in some of the major pests targeted by group 4 insecticides. Target site resistances due to point mutations at the nAChR were found ~~i.e.~~ e.g. in populations of *Myzus persicae* and *Leptinotarsa decemlineata*.
Elevated expression of cytochrome P450 has been reported i.e. for *M. persicae* and *Bemisia tabaci*. However, overexpression does not necessarily compromise the field efficacy of neonicotinoids.
Stronger resistance has been confirmed in some populations of *Bemisia tabaci*, and the Colorado potato beetle, *Leptinotarsa decemlineata*. Resistance in B- and Q-type *B. tabaci* appears to be linked to enhanced oxidative detoxification of neonicotinoids due to overexpression of monooxygenases. No evidence for target-site resistance against neonicotinoids has been found in whiteflies, whereas target-site resistance in *L. decemlineata* has been reported yet. Resistance of *L. decemlineata* to neonicotinoid insecticides occurred mostly in the USA though and is much less prominent in Europe (five cases reported from Serbia by: Sladan *et al.* 2012).
Although many insect species are still successfully controlled by neonicotinoids, their popularity has imposed a mounting selection pressure for resistance, and in several species, resistance has now reached levels that compromise the efficacy of these insecticides. Research to understand the molecular basis of neonicotinoid resistance has revealed both target-site and metabolic mechanisms conferring resistance. For target site resistance against acetamiprid, field evolved mutations have not been reported yet. So far, only one case of target site resistance, which was lab selected after field-evolved resistance was reported for *Cydia pomonella* in the USA.

The list of confirmed cases of agriculturally relevant resistant arthropod species is given in Table 3.3-2.
The species with reported resistance cases against acetamiprid for which the use of CA3573 is intended are *Leptinotarsa decemlineata* and *Cydia pomonella*. For both species no resistance cases against acetamiprid are reported from European countries yet.

Table 3.3-2 Reported resistance to the acetamiprid

Species	Countries	RESISTANCE CASE – Year of report	RESISTANCE CASE – Case ID
Bemisia tabaci (35)	Iran (7)	2016 (7)	G19375, G19368 - G19373
	China (6)	2010 (2)	G11613, G14551
		2012 (4)	G13744 - G13747
	Pakistan (6)	2011 (3)	G14377, G14354, G14359
		2013 (3)	G14816, G15009, G15010
	Burkina Faso (6)	2013 (6)	G15417 - G15422
	Israel (4)	2003 (1)	G7079
		2004 (3)	G6899 - G6901
	Spain (4)	2000 (1)	G5778
		2010 (2)	G14584, G14585
		2013 (1)	G15820
	Mexico (1)	2010 (1)	G14589
	Guatemala (1)	2010 (1)	G14587
Cydia pomonella (16)	Argentina (14)	2013 (14)	G17961 - G17974
	USA (2)	2010 (2)	G10655, G10656
Phenacoccus solenopsis (16)	Pakistan (16)	2014 (2)	G16057, G16058
		2015 (7)	G17212, G17898 - G17900, G17894, G17896, G17897
		2016 (7)	G19207, G19170 - G19175
Aphis gossypii (13)	South Korea (6)	2014 (6)	G15724 - G15729
	China (4)	2007 (4)	G9871, G9881, G9891, G9894
	Japan (3)	2014 (2)	G16303, G16673
		2015 (1)	G19288
Diaphorina citri (12)	Pakistan (12)	2016 (12)	G18683 - G18694
Dysdercus koenigii (8)	Pakistan (8)	2018 (8)	G20181, G20182, G20184, G20186, G20188, G20190, G20192, G20194
Brevicoryne brassicae (3)	Pakistan (3)	2013 (3)	G15037 - G15039
Nilaparvata lugens (3)	China (3)	2015 (3)	G18071 - G18073
Deraeocoris brevis (2)	USA (2)	2006 (2)	G7514, G7517
Acarus siro (1)	n.a.	n.a.	n.a.
Frankliniella occidentalis (1)	China (1)	2013 (1)	G15592
Leptinotarsa decemlineata (1)	USA (1)	2006 (1)	G7164
Plutella xylostella (1)	Japan (1)	2004 (1)	G6506
Sitobion avenae (1)	China (1)	2019 (1)	G20310
Spodoptera litura (1)	Pakistan (1)	2009 (1)	G10539
Trialeurodes vaporariorum (1)	Spain (1)	2010 (1)	G10544

Source: The Arthropod Pesticide Resistance Database (http://www.pesticideresistance.org, 18.12.19)

Cross-resistance

Cross-resistance can emerge between insecticides in the same IRAC group. Cross-resistance to several insecticides with different modes of action exists in the case of resistance based on metabolism adaptation.
Data on cross-resistance to neonicotinoids are still inconsistent.
Reported cross-resistances of acetamiprid with other active substances are rare. One case of behavioral cross-resistance of *Bemisia tabaci* against acetamiprid and pymetrozine (IRAC MoA classification group 9: Chordotonal organ TRPV channel modulators) was reported in China. A second case of cross-resistance was found in the field and further lab selected in a population of *Phenacoccus solenopsis* in Pakistan showing cross-resistance with imidacloprid and deltamethrin (Pyrethroids/Pyrethrins: IRAC group 3 - Sodium channel modulators) and with imidacloprid, deltamethrin and chlorpyrifos (Organophosphate: IRAC group 1B – Acetylcholinesterase (AChE) inhibitors), respectively.

According to the Insecticide Resistance Action Committee, the risk of metabolic cross-resistance of neonicotinoids (group 4A) with the subgroups 4C (Sulfoxaflor) and 4D (Flupyradifurone) are low due to chemical and structural differences. Rotations only within one MoA-group should be avoided nonetheless. Therefore, the approach advocated by the IRAC of regarding neonicotinoids as a single cross-resisted group is unquestionably the correct one to adopt from a resistance-management standpoint.

Test methods

Three studies provided by the applicant are summarized below. The complete report of these studies are submitted with the original Biological assessment dossier (KCP 6.0/01).

According to the current EPPO PP1/213(4) 'Resistance risk analysis', providing sensitivity data is advised for species which have no low risk of resistance. Since the inherent risk for *Meligethes aeneus* (synonym: *Brassicogethes aeneus*) is considered to be high (see Table 3.3-4), sensitivity data from different sites in the Central Zone are provided below. As supporting information, a resistance monitoring study in *Myzus persicae* populations from the Mediterranean basin is presented additionally.

Study "Resistance monitoring of samples treated with the Insecticide "MCW-2222" in *Myzus persicae"*
The aim was to test to resistance *Myzus persicae* populations from the Mediterranean basin toward MCW-2222. The IRAC susceptibility test method n° 19 was used
Results: The lowest LC50 values were shown by the populations from rape crops in France, ranging from 3.5 to 4.6 mg/L. The populations from stone fruit crops (nectarine, peach and peach) exhibited higher LC50 values, from 9.3 to 138.5 mg/L, with a 15-fold variation. One population from Italy (ITA02) showed a low susceptibility, with only 47% mortality at 300 mg/L.
Conclusions: The Entomology Laboratory of the Polytechnic University of Cartagena (Murcia, Spain) conducted a study to assess the susceptibility level of different *Myzus persicae* populations collected along 2014 and 2015, on peach-nectarine (10 populations) in France, Greece, Italy and Spain, and on rape (3 populations) in France. For this study, the IRAC susceptibility test method no. 19 has been used. The LC50 (mg/L) was calculated for each population as well as the Resistance Ratio (RR) referred to a susceptible population (control) collected in the field in 2014 and reared at the laboratory.
According to the results of this study, all the populations from rape showed high level of susceptibility to MCW-2222, even higher ~~that~~ than the control population. For the populations collected on peach, 10 out of the total of 15 showed also high susceptibility, with RR <2,1; 2 populations showed moderate susceptibility with RR between 4,3 and 6.; and only 1 population showed reduced susceptibility to MCW-2222, with RR > 14.
Based on these results it can be concluded that, among the 15 *M. persicae* populations assessed, collected in different countries of the South EU zone, only one seems to have developed some resistance to MCW-2222 while all the others, and according to the L50 (mg/L) values obtained that ranged from 9.3 to 138.5 mg/L, could be effectively controlled in the field at the proposed application rates.

Study "Relative susceptibility of field populations of the oilseed rape pollen beetle (*Meligethes aeneus*) collected 2013 in Austria, the Czech Republic, France, Germany, Hungary, Poland and GB to the insecticides Biscaya, chlorpyrifosethyl, tau-fluvalinate and acetamiprid, in comparison to Iambda-cyhalothrin"

The aim of study is to evaluate the susceptibility of adults pollen beetles from various locations towards lambda-cyhalothrin, Biscaya, chlorpyrifos-ethyl, tau-fluvalinate and acetamiprid using laboratory based bioassays developed by THIEME & SCHLOTTER in 2002 (IRAC-method 11), IRAC (IRAC-method 25) and THIEME *et al*. 2010.

Study "Relative susceptibility of field populations of the oilseed rape pollen beetle (*Meligethes aeneus*) collected 2014 in Austria, Czech Republic, France, Germany, Hungary, Poland and UK to the insecticides Biscaya, chlorpyrifosethyl, tau-fluvalinate and acetamiprid, in comparison to Iambda-cyhalothrin"

The aim of this study was to determine the effect of test- and reference substances on pollen beetles by measuring their mortality when exposed to different concentrations of these substances. To evaluate the susceptibility of adults pollen beetles from different locations were exposed to lambda-cyhalothrin, Biscaya, chlorpyrifos-ethyl, tau-fluvalinate and acetamiprid using laboratory based bioassays developed by THIEME & SCHLOTTER in 2002 (IRAC-method 11), IRAC (IRAC-method 25) and THIEME et al. 2010.

Conclusions for both studies:
The majority of blossom beetles found in Czech Republic, France, Hungary and Poland in 2013 and 2014 treated with the reference product lambda-cyhalothrin were classified as moderately resistant or resistant. In 2013 on two sites out of 8 and in 2014 on three sites out of 11 high mortality rates in the control were found and therefore no dose-response relationship could be calculated. All pollen beetles treated with the test product acetamiprid were found susceptible. Therefore, no selection for resistance to acetamiprid is found in the field. Results show that for all tested beetle populations there is no resistance to acetamiprid in the fields.
For the following countries pollen beetle were tested against acetamiprid:

Table 3.3-3 Classification of sensitivity of pollen beetle in European countries (2013 and 2014)

Country Location	**Time**	**Mortality rate (ng a.i./cm^2)**	
		RP lambda-cyhalothrin**	**TP acetamiprid**
Czech Republic 2013 (2 sites)	05h 24h	resistant population moderately resistant	no selection for resistance in the field
Hungary 2013 (3 sites)*	05h 24h	 moderately resistant	no selection for resistance in the field
Poland 2013 (3 sites)	05h 24h	resistant moderately resistant/resistant	no selection for resistance in the field
Czech Republic 2014 (3 sites)*	05h 24h	 resistant	no selection for resistance in the field
France 2014 (4 sites)*	05h 24h	resistant moderately resistant/susceptible	no selection for resistance in the field
Hungary 2014 (1 site)	05h 24h	 susceptible/resistant	no selection for resistance in the field
Poland 2014 (3 sites)*	05h 24h	 moderately resistant/resistant	no selection for resistance in the field

* In HU 2013 on two sites, in CZ 2014 on one site, in FR 2014 on one site and in PL 2014 on one site high mortality rates in the control were found. Thus, no dose response could be established and no linear regression was calculated.

** The classification of sensitivity in pollen beetle 5h after exposure was carried out according to Heimbach et al. (2006), 24h after exposure according to Slater et al. (2011).

Use pattern

In this resistance risk assessment, the impact of the use of CA3573 (200 g/L acetamiprid) against insects in

agricultural crops (potato, oilseed rape, maize) and orchards (apple) is evaluated. CA3573 is applied once at a maximum rate of 0.125-0.3 L/ha (25-60 g a.i./ha) and is intended for professional uses only.

Resistance risk assessment of unrestricted use pattern

Acetamiprid is a broad-spectrum insecticide with both contact and systemic action. Several cases of resistance against acetamiprid are recorded worldwide. However, none of these resistance cases have been reported from the Central Zone so far.
Table 3.3-4 shows target species of CA3573 according to their inherent risk to develop resistance to insecticides across IRAC groups and countries. The inherent risk is classified according to the number of resistant biotypes already recorded in the data base: HIGH: number > 5; MEDIUM: number between 1 and 5; LOW: number 0. This classification is based on the frequency of the recorded resistance occurrence to all insecticides.

Table 3.3-4 Inherent risk of target species of CA3573 to develop resistance to insecticides

Pest code	Pest scientific name	Number of insecticide resistant biotypes (across all IRAC groups)		Inherent risk
		Europe	Worldwide	
MELIAE	*Brassicogethes aeneus* (synonym: *Meligethes aeneus*)	518	519	High
LPTNDE	*Leptinotarsa decemlineata*	68	300	
CARPPO	*Cydia pomonella*	76	193	
DIABVI	*Diabrotica virgifera virgifera*	0	42	
CEUTAS	*Ceutorhynchus obstrictus* (synonym: *C. assimilis)*	22	22	
PYRUNU	*Ostrinia nubilalis*	0	16	
APHIPO	*Aphis pomi* *	4	8	
CEUTQU	*Ceutorhynchus pallidactylus* (synonym: *C. quadridens*)	1	1	Medium
CEUTNA	*Ceutorhynchus napi*	0	0	Low
DASYBR	*Dasineura brassicae*	0	0	

* *Aphis pomi* as representative *Aphis* species in apple

Source: The Arthropod Pesticide Resistance Database (http://www.pesticideresistance.org, access: 18.12.19)

The probability of appearance of resistant pollen beetle (*M. aeneus*), Colorado potato beetle (*L. decemlineata*) or codling moth (*C. pomonella*) is high, because these pests are controlled quite regularly in some regions and have shown to develop resistance quite fast to different active substances in the past. However, as shown in Table 3.3-2, 16 resistance cases of *C. pomonella* against acetamiprid were reported from America and one resistance case of *L. decemlineata* against acetamprid was reported from the US. No resistances of *M. aeneus* against acetamiprid are known so far. Additionally, the number of applications is reduced to only one application per season for the use against pollen beetle and Colorado potato beetle.

Acceptability of the resistance risk

Acetamiprid is a broad spectrum insecticide with both contact and systemic action. Therefore, the inherent risk for development of resistance or cross-resistance appears to be low.
According to IRAC, application should be made on the basis of label recommendations and GAP (Good Agricultural Practices). The full dose rate has to be used and applied with appropriate equipment. The use of lower or higher dosage might induce resistance. Mode of action alternation is recommended. In the case of modification of susceptibility, neonicotinoids should be avoided.
Moreover, the association of two active substances with different modes of action in a ready for use mixture also limits the risk. As resistance strategy an alternation of products with different modes of action should be strongly recommended. Despite the current scale of resistance, neonicotinoids remain a major component of many pest control programs, and resistance management strategies, based on mode of action rotation, are of

crucial importance in preventing resistance becoming more widespread. Since acetamiprid alongside with imidacloprid (indoor use only) is the only remaining neonicotinoid approved in the EU, acetamiprid containing products such as CA3573 are of significant importance in providing sufficient alternatives to allow mode of action rotations.
Resistant populations against insecticides classified as neonicotinoids (IRAC group 4A) are common. However, within the Central Zone, merely 10 resistance cases for neonicotinoids are documented, including the countries United Kingdom, Germany and the Netherlands, of which none is associated with the active ingredient acetamiprid.
For the species pollen beetle (*Meligethes aeneus*, synonym: *Brassicogethes aeneus*), Colorado potato beetle (*Leptinotarsa decemlineata*), codling moth (*Cydia pomonella*), Colorado maize rootworm (*Diabrotica virgifera virgifera*), European maize borer (*Ostrinia nubilalis*), apple aphid (*Aphis pomi*) and cabbage seed weevil (*Ceutorhynchus obstrictus*) a high inherent resistance risk was assessed. However, the number of intended applications of CA3573 for these uses is reduced to one application per season, reducing the selection pressure.

For the uses in agricultural crops and orchards for which approval is sought, cultural and mechanical control measures as well as alternative mode of actions are available. Furthermore, in the majority of crops full or limited rotational cropping systems are implemented. Thus, when the product is applied according to the proposed use and principles of good agricultural practice and resistance management are considered, the development of resistances in insects is assessed to be unlikely to occur.

Management strategy

Broad principles to tackle with insecticide resistance apply to all chemical groups, irrespective of their structures or modes of action. Limiting exposure to key compounds in space and/or time, or using different non-cross-resistant molecules should be strongly recommended, especially for neonicotinoids. The challenge of implementing such tactics for specific pests depends on several ecological, genetic, operational, and socioeconomic factors. Monitoring and detection of insecticide resistance in order to implement effective resistance-management strategies is currently one of the most important part of insect pest management.

Total reliance on one pesticide will hasten the development of resistance. Pesticides of different chemical types or alternative control measures should be included in the insect control program. Some naturally occurring insect biotypes resistant to acetamiprid and other group 4A insecticides may exist through normal genetic variability in any insect population. The resistant individuals can eventually dominate the insect population if acetamiprid and other Group 4A insecticides are used repeatedly. Thus, acetamiprid should always be used in conjunction with other insecticides with a different mode of action. Recommendations of the Insecticide Resistance Action Committee, such as IRAC Guidelines for Management of Resistance to Group 4 insecticides should be considered.

Implementation of the management strategy

Use no more than two applications of any neonicotinoid insecticide (e.g. acetamiprid or imidacloprid) on any crop. Where a neonicotinoid insecticide has previously been used on the crop (e.g. as a seed treatment or soil treatment), use no more than a single foliar application of a neonicotinoid.

General principles of good agricultural practice should be considered to delay insecticide resistance:

- Avoid exclusive repeated use of insecticides from the same insecticide group code. Alternate or tank-mix with products from different insecticide groups.
- Integrate the control methods (chemical, cultural, biological) into insect control programs.
- Rotate the use of Acetamiprid Insecticide with different groups that control the same pests in a field.
- Use products at the recommended label rates and spray intervals with the appropriate application equipment
- Use tank mixtures with insecticides from a different group when such use is permitted.
- Insecticide use should be based on an integrated pest management (IPM) program that includes scouting, record keeping and considers cultural, biological and other chemical control practices.
- Monitor treated pest populations for resistance development.

- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area.

Monitoring, reporting and reaction to changes in performance

A special monitoring program is not envisaged due to the results of this resistance risk analysis concluding a low risk for this product when applied according to the proposed use. However, observations of potential changes in the performance of any product should generally be reported to relevant company representatives and/or advisory organizations. Especially insect species with an elevated resistance risk should be carefully observed.
Nufarm GmbH is committed to reporting any developments related to the efficacy of CA3573 based on resistance arising to acetamiprid to the regulatory authorities of concerned Member States according to Article 56 4 of Regulation EU 1107/2009.

Comments of zRMS:

The Arthropod Pesticide Resistance Database (www.pesticideresistance.org) accessed twice in December 2020 and in January 2021, reports worldwide 1093 cases of resistance to the group 4A insecticides, including 79 cases in sanitary pests, and 926 cases in agricultural piercing-sucking pests. Of the remaining 88 cases reported, 78 are relevant to the crops discussed in the present submission, among them 70 cases pertaining to LPTNDE (39) and CARPPO (31). Five cases reported from different locations in **Serbia** represent the field-evolved resistance of LPTNDE to imidacloprid (Sladan *et al.* 2012). Resistance of CARPPO to thiacloprid is reported as two cases from **Spain**, in a single paper (Rodriguez *et al.* 2011), representing "lab-selected after field-evolved" category. Altogether, **16 records specifically report resistance** of **CARPPO** (2 cases in the USA and 14 cases in Argentina, described separately by Knight *et al.* 2010 and by Cichon *et al.* 2013, respectively) and one record reports resistance in **LPTNDE** (1 case in the USA, Mota-Sanchez 2006) **to acetamiprid**, still none of them in Europe.
Since the first authorization as MCW-2222, finalized in 2018, some actives of the group 4A were withdrawn for reasons other than resistance. This, however, did not reduce the already limited rotation options, as all members of the 4A group must be treated as cross-resistant, and rotation within 4A group is ineffective anyway.
On the other hand, two novel neonicotinoids mentioned in 2015 by Simon-Delso *et al.* as effective against Lepidopteran and Homopteran targets (cycloxaprid, CAS no 1203791-41-6, and paichongding, CAS no 948994-16-9) are still not authorized in Europe. Cycloxaprid already appeared in the Allan Wood database (quoted in IRAC published materials: http://www.alanwood.net/pesticides/index.html) in 2011, and it can be also recognized by the IRAC website, whereas paichongding cannot be found in IRAC website although it was developed as early as in 2008. Likewise, neither of these actives can be found in the ECHA nor in the EU Pesticide Database, both accessed in January 2021. Both have been extensively discussed with respect to their mode of action and target spectrum, *e.g.* https://doi.org/10.1021/jf4030695 (2013), https://doi.org/10.1016/j.pestbp.2016.02.005 (2016), https://doi.org/10.1002/ps.5693 (2019) (cycloxaprid), and https://doi.org/10.18474/0749-8004-47.4.297 (2012), https://doi.org/10.1603/ec11430 (2013) and https://doi.org/10.1002/arch.21181 (2014) (paichongding), yet none of them was proposed for authorization in Europe.

Back to the present submission: The commercial advances of the neonicotinoid 4A group seem to get stuck, for reasons mostly related to ecotox, as reported by Jactel et al. (2019), and these problems likely pertain to the new 4A actives too, *e.g.* https://doi.org/10.1080/15320383.2017.1276153 (2016) (paichongding). Consequently, acetamiprid may become, for a long time to come, one of the last 4A inheritors of the many target pests that were before controlled by other members of this group. As such, it should be used wise so that it serves longer. A more specific search for the acetamiprid resistance records yields mostly cases in homopteran pests and in *Plutella xylostella*. The main message repeatedly sent by this research is that the **resistance is easily inducible in these pests or pest groups** by a stubborn, repeated application of acetamiprid. Fortunately though, in many cases the **susceptibility may be restored**, in a couple of generations, should the selection pressure be removed.
Only a single application is intended in each use claimed in the GAP table. To the opinion of zRMS PL, considered the present shape of the dossier and of the applicant`s claim, no special restrictions are neeeded in the product label, **except for the stipulation to alter MoA** each time the application is repeated within the same crop and growth season. Such warning is already proposed by the applicant in the label project and has been even more accentuated in its wording by the zRMS, as acetamiprid uses in major crops and orchards swarm the Polish pesticide register (> 300, dbase ver. 14th Dec. 2020) and it must be made clear to the farmer that alternation is not a kind request, but a necessity.

According to Polish pesticide register, following alternatives to the group 4A are available in Poland:

in apple cultures for the control of APHISP: group 1A, 3A, 23 and 29,
in apple cultures for the control of CARPPO: group 1B, 5, 6, 18, 22A, 28 and CpGV (biological product),
in potato crops for the control of LEPTNDE: group 1B, 3A, 28 and Bt (biological product),
in oilseed rape crops for the control of stem and pod weevils, brassica pod midge and pollen beetle: group 1B, 3A and 22A.

The articles quoted (for conciseness, those linked directly from the text above were not included in the list)

- Cichon, L. B., Soleno, J., Anguiano, O. L., Garrido, S. A. S., and Montagna, C. M. (**2013**). Evaluation of cytochrome P450 activity in field populations of Cydia pomonella (Lepidoptera: Tortricidae) resistant to azinphosmethyl, acetamiprid, and thiacloprid. Journal of Economic Entomology, 106 939-944.
- N. Simon-Delso & V. Amaral-Rogers & L. P. Belzunces & J. M. Bonmatin & M. Chagnon & C. Downs & L. Furlan & D. W. Gibbons & C. Giorio & V. Girolami & D. Goulson & D. P. Kreutzweiser & C. H. Krupke & M. Liess & E. Long & M. McField & P. Mineau & E. A. D. Mitchell & C. A. Morrissey & D. A. Noome & L. Pisa & J. Settele & J. D. Stark & A. Tapparo & H. Van Dyck & J. Van Praagh & J. P. Van der Sluijs & P. R. Whitehorn & M. Wiemers (**2015**). Systemic insecticides (neonicotinoids and fipronil): trends, uses, mode of action and metabolites. Environ Sci Pollut Res (2015) 22:5–34. DOI 10.1007/s11356-014-3470-y
- Jactel H., Verheggen F., Thiéry D., Escobar Gutiérrez A., Gachet E., Desneux N. and the Neonicotinoids Working Group (**2019**). Alternatives to neonicotinoids. Environment International 129 (2019) 423-429.
- Knight, A. (**2010**). Cross Resistance between azinphos-methyl and acetamiprid in populations of codling moth, Cydia pomonella (L.) (Lepidoptera: Tortricidae), from Washington State . Pest Management Science, 66 865-874.
- Mota-Sanchez, D., Hollingworth, R.M., Grafius, E.J., Moyer, D.D. (**2006**). Resistance and cross-resistance to neonicotinoid insecticides and spinosad in the Colorado potato beetle, Leptinotarsa decemlineata (Say) (Coleoptera: Chrysomelidae). Pest Management Science, 62 30-37.
- Rodriguez, M., Marques, T., Bosch, D., and Avilla, J. (**2011**). Assessment of insecticide resistance in eggs and neonate larvae of Cydia pomonella (Lepidoptera: Tortricidae). Pesticide Biochemistry and Physiology, 100 151-159.
- Sladan, S., Miroslav, K., Ivan, S., Snezana, J., Petar, K., Goran, T., and Jevdovic, R. (**2012**). Resistance of colorado potato beetle (Coleoptera: Chrysomelidae) to neonicotinoids, pyrethroids and nereistoxins in Serbia. Romanian Biotechnological Letters, 17 7599-7609.

3.4 Adverse effects on treated crops (KCP 6.4)

The information on transformation trials is presented in Table 3.4-1 below. In Table 3.4-1 only information of transformation trials is shown. The presentation of efficacy trials (including phytotoxicity assessment) is shown in Table 3.2-5 in chapter 3.2.
The reference standards used in all efficacy trials, which all include phytotoxicity assessments, is presented in Table 3.2-6 in chapter 3.2. The reference standard in all transformation trials was Mospilan 20 SG at dose rate 0.25 kg/ha in apple and 0.15 kg/ha in potato. For further details please refer to Table 3.2-6 in chapter 3.2.

Table 3.4-1: Presentation of transformation trials

Crop*	**Country**	**Years**	**Type of trial****	**Number of trials**			**GEP, non-GEP, official*****	**Comments (any other relevant information)**
				MAR	**NE**	**SE**		
Pome fruits (Apple)	CZ	2014	T (TP)	2			GEP	
		2015	T (TP)	1			GEP	
	PL	2014	T (TP)		3			
		2015	T (TP)		2			
TOTAL	-	**2014-2015**	-	**3**	**5**	-	-	-
Potato	DE	2014	T (TP)	1			GEP	
		2015	T (TP)	4			GEP	
	PL	2014	T (TP)		3		GEP	

Crop*	Country	Years	Type of trial**	Number of trials			GEP, non-GEP, official***	Comments (any other relevant information)
				MAR	NE	SE		
	RO	2015	T (TP)			1	GEP	
TOTAL	-	**2014-2015**	-	**5**	**3**	**1**	-	-
GRAND TOTAL	-	**2014-2015**	-	**8**	**8**	**1**	-	-

* According to the GAP table
** T = trial on the basis of the study of impact on transformation process (TP: Physical transformation)
*** Official: carried out by a national official organisation

3.4.1 Phytotoxicity to host crop (KCP 6.4.1)

Introductory information on trials with phytotoxicity assessments

Phytotoxicity was evaluated in all 224 efficacy trials in maize, apple, potato and oilseed rape covering a wide range of commercially grown varieties. All trials were conducted to GEP and followed the appropriate EPPO standards by officially recognised testing organisations. The test design was always a randomised complete block design with 4 replicates. The trials were conducted between 2010 and 2015 in Czech Republic, Germany, Poland, Hungary, Romania and Slovakia representing the Maritime, North-Eastern and South-Eastern EPPO climatic zone.

Table 3.4-2: Overview of updated efficacy trials with phytotoxicity assessment

No.	Crop	Efficacy trials					No. of varieties
		No.	Countries			Status[1)]	
			MAR	NE	SE		
(1)	Maize	16	-	-	HU, RO, SK	GEP	15
(2)	Pome fruit	41	CZ	PL	HU, RO, SK	GEP	18
(3)	Potato	35	DE, CZ	PL	RO, SK	GEP	23
(4)	Winter and spring oilseed rape	132	DE, CZ	PL	HU, SK	GEP	53
Total:		**224**					

[1)] For an overview of the testing facilities and the corresponding certificates please refer to 3.7.

Methods

General phytotoxicity
A scale of 0-100 was used, where 0 = no damage (as untreated) and 100 = totally dead.

Vigour
Crop vigour on a 0-10 linear scale, where 0 = no crop and 10 = most vigorous plot within the trial area.
Crop vigour in percent, where 0 % = no crop and 100 % = most vigorous plot within the trial area.

Stunting
Stunting in percent, where 0 % = no stunting and 100 % = total stunting.

Thinning
Thinning in percent, where 0 % = no thinning and 100 % = total thinning.

Table 3.4-3: Phytotoxicity of the product CA3573

Number of trials with…		Efficacy trials (224 trials)	
		CA3573	Standard*
		1N	1N
Maximum of phytotoxicity recorded during the trials	0% to 5%	0	0
	>5% to 10%	0	0
	>10% to 15%	0	0
	>15 %	0	0
Level of symptoms at the last assessments	0% to 5%	0	0
	>5% to 10%	0	0
	>10% to 15%	0	0
	>15 %	0	0

*The respective standard is shown in efficacy chapter 3.2

No phytotoxicity symptom caused by CA3573 at the proposed dose rates was recorded in all efficacy trials.

Overall conclusion

General phytotoxicity did not occur in any of the 224 efficacy trials conducted in maize, pome fruit, potato and winter oilseed rape. In contrast, plants treated with the test product CA3573 were significantly more vigorous compared to the untreated control in maize (3 trials), potato (2 trials) and winter oilseed rape (1 trial). Thus, CA3573 can be regarded as completely safe for all target crops when applied according to the envisaged GAP use. The evaluation of phytotoxicity on host crops of CA3573 (i.e. maize, apple, potato and winter oilseed rape) complies with the uniform principles.

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

According to EPPO standard PP 1/135(4), selectivity trials with yield assessments are not generally required for insecticides. Potential occurrence of phytotoxic effects of CA3573 was assessed in the efficacy trials (see chapter 3.4.1, p. 112). No phytotoxic effects after application of CA3573 at the intended dose rates were reported from any of the efficacy trials. Therefore, it can be concluded that application of CA3573 has no unintended effect on the crop which may impact the yield negatively. Possible effects of CA3573 on yield of treated apple plants were assessed in the course of the efficacy testing and are described in chapter 3.2.3, (see page 91), suggesting no negative impact of CA3573 application on yield of apples. Therefore, CA3573 is assumed to have no negative effects on the yield of treated plants or plant products and no further data on the potential effect on the yield in pest-free conditions is presented.

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

Quality parameters of apple fruits (russeting on fruits, fruit firmness and commercial product) were assessed in the efficacy trials and are presented in chapter 3.2.3, (see page 91). Data from efficacy trials suggest no negative impact of CA3573 application on qualitative parameters of apple fruits. Submission of data for the uses in maize, potato and oilseed rape is not required according to the EPPO guidelines (as stated in Table 3.2-69).
Taint testing studies were conducted to determine the impact of CA3573 on sensoric and culinary quality of potato tubers and apples. Results are presented in chapter 3.4.4, p. 114. Therefore, no further data on the potential effect on the quality of plants is presented here.

3.4.4 Effects on transformation processes (KCP 6.4.4)

A comprehensive summary of studies conducted according to EPPO PP 1/242 "Taint tests" and EPPO PP 1/243 "Effects on the processing procedure" on taint and processing data from potatoes and apples treated with CA3573 is presented in the following.

Material and methods

An overview of taint and processing studies with potatoes and apples treated with CA3573 is presented in Table 3.4-4, for detailed information please refer to Appendix 2 of the Biological Assessment Dossier. Additionally, the trial locations are marked on the corresponding maps in the Biological Assessment Dossier (KCP 6.0/03).

Table 3.4-4: Overview of updated processing trials with CA3573 conducted in potato and apple (16 trials)

Ref. no.	Trial type	Crop	Sampling		Trial status
			Country	Year	
Maritime EPPO zone (7 trials)					
6.1.4/001	Processing	Potato	DE	2014	GEP
6.1.4/002	Processing	Potato	DE	2015	GEP
6.1.4/003	Processing	Potato	DE	2015	GEP
6.1.4/004	Processing	Potato	DE	2015	GEP
6.1.4/005	Processing	Apple	CZ	2015	GEP
6.1.4/009	Processing	Apple	CZ	2014	GEP
6.1.4/010	Processing	Apple	CZ	2014	GEP
North-Eastern EPPO zone (8 trials)					
6.1.4/006	Processing	Apple	PL	2015	GEP
6.1.4/007	Processing	Apple	PL	2015	GEP
6.1.4/011	Processing	Apple	PL	2014	GEP
6.1.4/012	Processing	Apple	PL	2014	GEP
6.1.4/013	Processing	Apple	PL	2014	GEP
6.1.4/014	Processing	Potato	PL	2014	GEP
6.1.4/015	Processing	Potato	PL	2014	GEP
6.1.4/016	Processing	Potato	PL	2014	GEP
South-Eastern EPPO zone (1 trial)					
6.1.4/008	Processing	Potato	RO	2015	GEP

All trials were conducted in accordance with GEP principles and appropriate EPPO guidelines by officially recognised testing organisations. For a short description of the trial methodology please refer to Table 3.4-5.

Table 3.4-5: Details on trial methodology

Guidelines	General guidelines	EPPO PP 1/242(1/2), PP 1/243(1/2)	
	Specific guidelines	MB/AGR/011, MB/AGR/012, PN-EN ISO 8589:2010, PN-EN ISO 4120: 2007, PN-EN ISO 5492:2009	
Experimental design	Plot design/ field site	RCBD	
	Number of assessors	Potato:	18
		Apple:	18
	Kind of transformation	Potato:	- chips and diced potatoes (rinsed, peeled, washed, cut to blanched, dried and frozen) - mashed potatoes (peeled, rinsed, boiled and blended)
		Apple:	- juice (fruits washed, shredded, pressed and pasteurized) - dried fruits (washed, cut into thin slices and dried at 50- 80ºC)
Crop	Trials per crop	Potato:	8
		Apple:	8
	Varieties per crop	Potato:	Gala, Adretta, Fontane, Toscana, Carrera, Vineta (2), Tajfun
		Apple:	James Grieve, Ligol (3), Cortland, Jonagold, Resista, Golden Delicious
Application	Dose rates	Potato:	1 x 0.18 L (8 trials)
		Apple:	1 x 0.40 L (1 trial), 3 x 0.40 L (2 trials), 3 x 0.20, 0.25 or 0.40 L (3 trials), 2 x 0.20, 0.25 or 0.40 L (2 trials)
	Number of applications Intervals between applications	Potato:	1 (8 trials)
		Apple:	1 (1 trial), 2 (2 trials) with and interval of 51-56 days, 3 (5 trials) with an interval of 6-42 days
	PHI (pre-harvest interval)	Potato:	n.s.
		Apple:	32-65 DALA
	Spray volumes	Potato:	200-300 L/ha
		Apple:	750-1000 L/ha
Assessment	Assessment types	Potato:	- taint evaluation test (diced potatoes, chips and mashed potatoes)
		Apple:	- taint evaluation test (apples, apple juice and dried apples)
	Method	Triangle Test Method – a minimum of 10 out of 18 positive responses (indication of different product) are required to establish a significant difference between samples, probability a = 0.05 is 10	

Results

In a total of 16 sensory studies conducted in Poland in the years 2014 and 2015, the sensoric and culinary quality of potato tubers and apples (harvested from trials in Czech Republic, Germany, Poland and Romania) from CA3573 treated, untreated and reference treated plots was determined.

Potato:
For the results in potato, either no changes to the registered GAP occurred or data submitted previously still support the intended uses. Therefore, please refer to the dossier submitted for the first registration of the product in December 2015.

Apple:
Eight taint tests were performed in Poland in the year 2015 on six different apple varieties with samples collected in Czech Republic and Poland (2014, 2015). The samples of one test were collected in efficacy trial 6.1.3/019 presented in chapter 3.2.2 above with a single application of 0.40 L/ha CA3573. Three application of CA3573 at 0.40 L/ha were tested in two trials and two or three applications CA3573 at 0.20 L/ha, 0.25 L/ha or 0.40 L/ha in a total of five trials. The Triangle Test Method was conducted on treated and untreated apples which had been formerly juiced or dried, reflecting commercial process operations. 18 trained assessors were asked to pick out the odd sample, distinguishing flavour (including odour) only. No statistically significant differences were observed in any of the eight trials.
For the results in apple, either no changes to the registered GAP occurred or data submitted previously still support the intended uses. Therefore, please refer to the dossier submitted for the first registration of the product in December 2015.
Results of taint testing is presented for samples treated with 0.4 L/ha and in the case of one trial with 0.25 L/ha (6.1.4/012). Since no impact on taint was observed at these rates, lower rates have not been tested. It can be concluded that application of CA3573 in apples at the intended dose rates of 0.125 L/ha and 0.25 L/ha, respectively, has no unintentional side effect on the taste of apple products.

Conclusion

Considering the results of all 16 sensory studies, the treatment with CA3573 according to the GAP uses as presented in Table 3.1-1 did not have any unintentional effect on the taste of potato and apple products after processing (e.g. chips, apple juice, dried apples) and the taste of mashed potatoes or fresh apples. Thus, CA3573 can be regarded to have no adverse effect on taint and processing of potatoes and apples when applied according to the envisaged GAP uses (refer to Table 3.1-1).

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

Submission of data on propagation material is not required for insecticides according to EPPO PP 1/135(4) *'Phytotoxicity assessment'*. Nevertheless, 3 studies conducted in the years 2011 and 2012 in Czech Republic on winter oilseed rape revealed no negative impact of CA3573 on propagation material in terms of oilseed rape seeds. For details please refer to the following documents: Ref. no.: 6.1.3/169, 6.1.3/170 and 6.1.3/172. Thus, any negative effect of CA3573 on plant parts use for propagation is not expected when applied according to the envisaged GAP use (refer to Table 3.1-1). For further information please refer to the dossier submitted for the first registration of the product in December 2015.

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

3.5.1 Impact on succeeding crops (KCP 6.5.1)

Submission of data or information for the impact on succeeding crops is not required for the use in pome fruit, since apple and pear are perennial crops and not followed in rotation by succeeding crops.

For all other uses a simple study considering biological data may be all that is required for non-herbicides according to EPPO PP 1/207(2) *'Effects on succeeding crops'*. Therefore, reference is made to dRR Section 9.

The application of CA3573 according to the proposed use pattern will pose an acceptable risk to non-target terrestrial plants. Furthermore, CA3573 is an insecticide without any herbicidal action and therefore not expected to be harmful for any succeeding crop. Additionally, any negative impact on succeeding crops from the long-term practical experience with the active ingredient acetamiprid in Europe is not known. In conclusion, the GAP uses applied for CA3573 are considered to be safe for succeeding crops. For further information, please refer to the dossier submitted for the first registration of the product in December 2015.

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

Since CA3573 is an insecticide and was tested on a range of sensitive crops, selectivity data can be taken from the efficacy trials presented in this document and former applications according to EPPO guideline PP 1/256(1) *'Effects on adjacent crops'*. Any negative side effects on target or adjacent crops have not been reported in the efficacy trials. For more details please refer to the risk assessment for non-target plants in dRR Section 9. In conclusion, the GAP uses applied for CA3573 are considered to be safe for non-target plants. For further information, please refer to the dossier submitted for the first registration of the product in December 2015.

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

During the course of the effectiveness trials (chapter 3.2.3) observations indicating any effects whatsoever on beneficial or other non-target organisms were not reported. Regarding non-target arthropods in off-field habitats, the data from the available field study show that no unacceptable risks are to be expected when CA3573 is applied according to good agricultural practice and the proposed risk mitigation measures stated in Part A, chapter 3.8.4 are applied (please refer to dRR Section 9, chapter 9.7). For further information, please refer to the dossier submitted for the first registration of the product in December 2015.

3.6 Other/special studies (KCP 6.6)

Not relevant.

3.7 List of test facilities including the corresponding certificates (KCP 6.7)

The GEP certificates are included in the Biological Assessment Dossier (KCP 6.0/03).

Table 3.7-1: List of test facilities

Testing facility	**Country**	**Address**	**Telephone Fax / e-mail**	**Certificate (Yes or No)**
BioChem agrar GmbH, Germany	DE	Kupferstraße 6 04827 Machern OT Gerichshain	Phone: +49(0)34292/863-0 Email: biochemagrar@biochemagrar.de	Yes
Field Research Support, Wunstorf, Germany	DE	Potts Kamp 8 31515 Wunstorf	Phone: +49(0)5031 5166999 Fax: +49(0)5031 5166998	Yes
Agrartest GmbH, Germany	DE	Palmbachstr.37 65326 Aarbergen-Panrod	Phone: +49(0)6120 921970 E-mail: h.rohr@agrartest.de	Yes
U.A.S. Umwelt- und Agrarstudien GmbH, Jena, Germany	DE	Ilmstraße 6 07743 Jena	Phone: +49 (0) 3641 6281700 E-mail: info @ uas-jena.de	Yes
ZS* Nechanice, s.r.o., Czech Republic	CZ	Štolbova 319 50315 Nechanice	Phone: +420 495 441 102	Yes
ZS Trutnov s.r.o., Czech Republic	CZ	Volanovská 409 54101 Trutnov	Phone: +420 499 813 090 E-mail: zstrutnov@centrum.cz	Yes
ZS Kluky, spol. s r.o., Czech Republic	CZ	Kluky 200 (PSČ 398 19) 39819 Kluky	Phone: +420 602 666 712 E-mail: zskluky@zskluky.cz	Yes
Zemědělská ZS Kujavy, s.r.o., Czech Republic	CZ	Kujavy 48 74245 Kujavy	Phone: +420 556 741 824	Yes

Testing facility	**Coun-try**	**Address**	**Telephone** **Fax / e-mail**	**Certifi-cate** **(Yes or No)**
Zemedelsky vyzkumny ustav Kromeriz,s.r.o., Czech Republic	CZ	Havlickova 2781/121, 767 01 Kromeriz, Czech Republic	Phone: +420 573 317 111 E-mail: vukrom@vukrom.cz	Yes
Zemservis ZS Domaninek s.r.o., Czech Republic	CZ	K Zámečku 1231 59301 Bystřice nad Pernštejnem	Phone: +420 566 550 618	Yes
VŠÚO Holovousy s.r.o., Hořice, Czech Republic	CZ	Holovousy 1 508 01, Hořice	Phone: +420 493 692 821 - 3 E-mail: info@vsuo.cz	Yes
PP Trial s.r.o., Brno, Czech Republic	CZ	Trávníky 7 61300 Brno	-	Yes
BIOTEK Agriculture Polska Sp. z o o., Oława, Poland	PL	Gac 64 55-200 Olawa	Phone: +48(0)713014462 E-mail: contact@biotek-agriculture.pl	Yes
AGRECO Sp. z o.o., Oława, Poland	PL	ul. Cicha 1 lok. 106 57-320 Polanica-Zdrój	E-mail: agreco@agreco.pl	Yes
Eurofins Agroscience Services Sp. z o.o., Szamotuły, Poland	PL	Galowo ul, Wierzbowa 12 64500 Szamotuly	Phone: +48 (0)61 29 27 08 1 E-mail: KrzystofRozalski@eurofins.com	Yes
Eurofins Agroscience Services SRL, Timisoara, Romania	RO	Str. Acad. Petre P. Negulescu, No. 1, 300326 Timisoara, Romania	Phone: +40 (0) 7355 28377 E-mail: ioanpet@eurofins.com	Yes
Fertico Sp. z o o., Bledów, Poland	PL	Goliany 43 05-620 Błędów	Phone: + 48 48 66 80 789 E-mail: research@fertico.com.pl	Yes
STAPHYT Sp. z o.o., Poland	PL	ul. Ziebicka 2 60-164 Poznan	-	Yes
Gemerprodukt Valice OVD, Rimavská Sobota, Slovakia	SK	Okružná 3771 97901 Rimavská Sobota	Phone: +421 475522178 E-mail: info@gemerprodukt.sk	Yes
Ing. Ľubica Forgáčová, Boliarov, Slovakia	SK	Boliarov 54 044 47 Boliarov	Phone: +421 905 207 851 E-mail: lubicaef@centrum.sk	Yes
Fyse, s.r.o. AgroLab Koláre, Slovakia	SK	Školská 88 991 09 Koláre	Phone: +421 47 48 994 12 E-mail: fyse@fyse.sk	Yes
ÚKSÚP, Bratislava, Slovakia	SK	Matúškova 21 83316 Bratislava	Phone: +421 259 880 200 E-mail: pesticidy@uksup.sk	Yes
Institutul de Cercetare - Dezvoltare pentru Pomicultură (ICDP), Piteşti, Romania	RO	Str. Mărului nr. 402 117450 Mărăcineni, Argeş	Phone: +40 248 27 83 98 E-mail: office@icdp-pitesti.ro	Yes
National Institute of Research and Development for Potato and Sugar Beet, Romania	RO	Fundăturii no 2 500470 Brasov	Phone: +40/0268/476795 E-mail: icpc@potato.ro	No (Official)
Anadiag Hungary Kft, Hungary	HU	H2921, Komárom, Széchenyi István út 12	Phone: +36-30-868-03-16 E-mail: david.blasko@anadiag.eu	Yes
Növénypathyka KFT, Hungary	HU	H-7400 Kaposvár Damjanich u 47	-	Yes
Fructika Kft, Hungary	HU	4493 Tiszakanyár Ady Endre utca 7	-	Yes
SynTech Research Hungary Kft, Szombathely, Hungary	HU	Rákóczi u. 4 9761 Táplánszentkereszt	Tel: +36-20-240-4402 E-mail: tbarasits@syntechresearch.com	Yes
Plant Protection & Soil Conservation Directorate of Vas County, Hungary	HU	Ambrózy sétány 2 9762 Tanakajd	Tel: +36 (94) 577-410 E-mail: vas-nti@nebih.gov.hu	Yes
Plant Protection & Soil Conservation Directorate of Tolna County, Hungary	HU	Keselyűsi út 7. 7100 Szekszárd	Tel: +36 (74) 528-030 E-mail: tolna-nti@nebih.gov.hu	Yes
Plant Protection & Soil Conservation Directorate of County Zala, Hungary	HU	Kinizsi u. 81. 8900 Zalaegerszeg	Tel: +36 (0)6-92-550-160 E-mail: zala-nti@nebih.gov.hu	Yes
Plant Protection & Soil Conservation Directorate of Somogy County, Hungary	HU	Guba Sándor 20. 7400 Kaposvár	Tel: +36(0)682 528 720 E-mail: ntsz@somogy.ontsz.hu	Yes
Plant Protection & Soil Conservation Directorate of Nógrád County, Hungary	HU	Mártírok útja 78. 2660 Balassagyarmat	Tel: +36 6 (35) 501-370 E-mail: nograd-nti@nebih.gov.hu	Yes

Appendix 1 Lists of data considered in support of the evaluation

List of data submitted by the applicant and relied on

Data point	**Author(s)**	**Year**	**Title** **Company Report No.** **Source (where different from company)** **GLP or GEP status** **Published or not**	**Vertebrate study** **Y/N**	**Data protection claimed** **Y/N**	**Owner**
KCP 6.0/01	Anonymous	2015	Biological Assessment Dossier - MCW-2222 - Central EU Zone KIIIA 6.0/01 Not GLP / GEP Unpublished	N	Y	ADAMA*
KCP 6.0/02	Anonymous	2015	Biological Assessment Dossier - MCW-2222 - Central EU Zone – Appendices 3-8 KIIIA 6.0/02 Not GLP / GEP Unpublished	N	Y	ADAMA*
KCP 6.0/03	Anonymous	2020	Biological Assessment Dossier – CA3573 - Central EU Zone Not GLP / GEP Unpublished	N	Y	Nufarm
KCP 6.0/04	Anonymous	2020	Biological Assessment Dossier – CA3573 - Central EU Zone – Appendices 2-6 Not GLP / GEP Unpublished	N	Y	Nufarm
KCP 6.2, KCP 6.4.1	Hornik, P.	2014	Efficacy of MCW-2222 SL on *Aphis pomi* in apple in the Czech republic in 2014 ZS Nechanice, Nechanice, Czech Republic Report No.: not stated Sponsor No.: CZ14IEMABSD010A KIIIA 6.1.3/003 GLP / GEP Unpublished	N	Y	Agrovita (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	Data protection claimed Y/N	Owner
KCP 6.2, KCP 6.4.1	Hornik, P.	2014	Efficacy of MCW-2222 SL on *Aphis pomi* in apple in the Czech republic in 2014 ZS Nechanice, Nechanice, Czech Republic Report No.: not stated Sponsor No.: CZ14IEMABSD010B KIIIA 6.1.3/004 GLP / GEP Unpublished	N	Y	Agrovita (Adama)
KCP 6.2, KCP 6.4.1	Heryán, J.	2014	Efficacy of MCW-2222 SL on *Aphis pomi* in apple in the Czech Republic in 2014 VŠÚO Holovousy s.r.o., Hořice, Czech Republic Report No.: not stated Sponsor No.: CZ14IEMABSD010C KIIIA 6.1.3/005 GLP / GEP Unpublished	N	Y	Agrovita (Adama)
KCP 6.2, KCP 6.4.1	Kloutvoro vá, J.	2014	Efficacy of MCW-2222 SL on *Aphis pomi* in apple in the Czech Republic in 2014 VŠÚO Holovousy s.r.o., Hořice, Czech Republic Report No.: not stated Sponsor No.: CZ14IEMABSD010D KIIIA 6.1.3/006 GLP / GEP Unpublished	N	Y	Agrovita (Adama)
KCP 6.2, KCP 6.4.1	Richter, T.	2014	Efficacy of MCW-2222 SL on *Aphis pomi* in apple in the Czech Republic in 2014 PP Trial s.r.o., Brno, Czech Republic Report No.: not stated Sponsor No.: CZ14IEMABSD010E KIIIA 6.1.3/007 GLP / GEP Unpublished	N	Y	MCW (Adama)
KCP 6.2, KCP 6.4.1	Hornik, P.	2014	Efficacy of MCW-2222 SL on *Cydia pomonella* in apple in the Czech republic in 2014 ZS Nechanice, Nechanice, Czech Republic Report No.: not stated Sponsor No.: CZ14IEMABSD011A	N	Y	Agrovita (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	Data protection claimed Y/N	Owner
			KIIIA 6.1.3/008 GLP / GEP Unpublished			
KCP 6.2, KCP 6.4.1	Hornik, P.	2014	Efficacy of MCW-2222 SL on *Cydia pomonella* in apple in the Czech republic in 2014. ZS Nechanice, Nechanice, Czech Republic Report No.: not stated Sponsor No.: CZ14IEMABSD011B KIIIA 6.1.3/009 GLP / GEP Unpublished	N	Y	Agrovita (Adama)
KCP 6.2, KCP 6.4.1	Kloutvoro vá, J.	2014	Efficacy of MCW-2222 SL on *Cydia pomonella* in apple in the Czech Republic in 2014 VŠÚO Holovousy s.r.o., Hořice, Czech Republic Report No.: not stated Sponsor No.: CZ14IEMABSD011C KIIIA 6.1.3/010 GLP / GEP Unpublished	N	Y	Agrovita (Adama)
KCP 6.2, KCP 6.4.1	Tvaruzek, L.	2014	Efficacy of MCW 2222 SL on *Cydia pomonella* in apple in the Czech Republic in 2014. Zemedelsky vyzkumny ustav Kromeriz, s.r.o., Havlickova, Czech Republic Report No.: not stated Sponsor No.: CZ14IEMABSD011D KIIIA 6.1.3/011 GLP / GEP Unpublished	N	Y	Agrovita (Adama)
KCP 6.2, KCP 6.4.1	Tvaruzek, L.	2014	Efficacy of MCW 2222 SL on *Cydia pomonella* in apple in the Czech Republic in 2014. Zemedelsky vyzkumny ustav Kromeriz, s.r.o., Havlickova, Czech Republic Report No.: not stated Sponsor No.: CZ14IEMABSD011E KIIIA 6.1.3/012 GLP / GEP Unpublished	N	Y	Agrovita (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	Data protection claimed Y/N	Owner
KCP 6.2, KCP 6.4.1	Richter, T.	2014	Efficacy of MCW-2222 SL on *Cydia pomonella* in apple in the Czech Republic in 2014 PP Trial s.r.o., Brno, Czech Republic Report No.: not stated Sponsor No.: CZ14IEMABSD011F KIIIA 6.1.3/013 GLP / GEP Unpublished	N	Y	MCW (Adama)
KCP 6.2, KCP 6.4.1	Richter, T.	2014	Efficacy of MCW-2222 SL on *Cydia pomonella* in apple in the Czech Republic in 2014 PP Trial s.r.o., Brno, Czech Republic Report No.: not stated Sponsor No.: CZ14IEMABSD011G KIIIA 6.1.3/014 GLP / GEP Unpublished	N	Y	MCW (Adama)
KCP 6.2, KCP 6.4.1	Hornik, P.	2014	Efficacy of MCW-2222 SL on green apple aphid in apple in the Czech republic 2015 ZS Nechanice, Nechanice, Czech Republic Report No.: not stated Sponsor No.: CZ15IEMABSD001A KIIIA 6.1.3/018 GLP / GEP Unpublished	N	Y	ADAMA* CZ
KCP 6.2, KCP 6.4.1	Richter, T.	2015	Efficacy of MCW-2222 SL on green apple aphid in apple in the Czech republic 2015 PP Trial s.r.o., Brno, Czech Republic Report No.: not stated Sponsor No.: CZ15IEMABSD001B KIIIA 6.1.3/019 GLP / GEP Unpublished	N	Y	ADAMA*
KCP 6.2, KCP 6.4.1	Kukula- Mlynarczyk, A.	2010	The evaluation of efficacy and selectivity of Acetamiprid 200 SL on apple trees against pests BIOTEK Agriculture Polska Sp. z o o., Oława, Poland Report No.: DPE10/322/IOW-01 Sponsor No.: 322/1/1/1	N	Y	MCW (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	Data protection claimed Y/N	Owner
			KIIIA 6.1.3/026 GLP / GEP Unpublished			
KCP 6.2, KCP 6.4.1	Kukula- Mlynarczyk, A.	2010	The evaluation of efficacy and selectivity of Acetamiprid 200 SL on apple trees againstpests BIOTEK Agriculture Polska Sp. z o o., Oława, Poland Report No.: DPE10/322/IOW-02 Sponsor No.: not stated KIIIA 6.1.3/027 GLP / GEP Unpublished	N	Y	MCW (Adama)
KCP 6.2	Gramza, H.	2012	The evaluation of efficacy and selectivity of MCW- 2222 SL (Acetamiprid 200 SL) for the control of Cydia pomonella on apple AGRECO Sp. z o.o., Oława, Poland Report No.: 11MAP0004-1 Sponsor No.: not stated KIIIA 6.1.3/028 GLP / GEP Unpublished	N	Y	MCW (Adama)
KCP 6.2	Gramza, H.	2012	The evaluation of efficacy and selectivity of MCW- 2222 SL (Acetamiprid 200 SL) for the control of *Cydia pomonella* on apple AGRECO Sp. z o.o., Oława, Poland Report No.: 11MAP0004-2 Sponsor No.: not stated KIIIA 6.1.3/029 GLP / GEP Unpublished	N	Y	MCW (Adama)
KCP 6.2	Gramza, H.	2012	The evaluation of efficacy and selectivity of MCW- 2222 SL (Acetamiprid 200 SL) for the control of *Cydia pomonella* on apple AGRECO Sp. z o.o., Oława, Poland Report No.: 11MAP0005-1 Sponsor No.: not stated KIIIA 6.1.3/030 GLP / GEP Unpublished	N	Y	MCW (Adama)
KCP 6.2	Gramza, H.	2012	The evaluation of efficacy and selectivity of MCW- 2222 SL (Acetamiprid 200 SL) for the control of *Cydia pomonella* on apple	N	Y	MCW (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	Data protection claimed Y/N	Owner
			AGRECO Sp. z o.o., Oława, Poland Report No.: 11MAP0005-2 Sponsor No.: not stated KIIIA 6.1.3/031 GLP / GEP Unpublished			
KCP 6.2, KCP 6.4.1	Gajek, D.	2012	Efficacy of MCW 2222 SL in the control of green apple aphid *Aphis pomi* on apple, Poland 2012 Fertico Sp. z o.o., Błędów Poland Report No.: 072_01_F12_134 Sponsor No.: not stated KIIIA 6.1.3/032 GLP / GEP Unpublished	N	Y	AGAN PL (Adama)
KCP 6.2, KCP 6.4.1	Gajek, D.	2012	Efficacy of MCW 2222 SL in the control of green apple aphid *Aphis pomi* on apple, Poland 2012 Fertico Sp. z o.o., Błędów Poland Report No.: 072_01_F12_135 Sponsor No.: not stated KIIIA 6.1.3/033 GLP / GEP Unpublished	N	Y	AGAN PL (Adama)
KCP 6.2, KCP 6.4.1	Meronka, K.	2013	Efficacy of MCW-2222 SL on codling moth (*Cydia pomonella*) in apple in Poland Fertico Sp. z o o., Błędów, Poland Report No.: 13_01_F13_025 Sponsor No.: PL13IEMABSD206A KIIIA 6.1.3/034 GLP / GEP Unpublished	N	Y	MCW (Adama)
KCP 6.2, KCP 6.4.1	Meronka, K.	2013	Efficacy of MCW-2222 SL on codling moth (*Cydia pomonella*) in apple in Poland Fertico Sp. z o o., Błędów, Poland Report No.: 13_02_F13_026 Sponsor No.: PL13IEMABSD206B GLP / GEP KIIIA 6.1.3/035 Unpublished	N	Y	MCW (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	Data protection claimed Y/N	Owner
KCP 6.2, KCP 6.4.1	Meronka, K.	2013	Efficacy of MCW-2222 SL on codling moth (*Cydia pomonella*) in apple in Poland Fertico Sp. z o o., Błędów, Poland Report No.: 13_03_F13_027 Sponsor No.: PL13IEMABSD206C KIIIA 6.1.3/036 GLP / GEP Unpublished	N	Y	MCW (Adama)
KCP 6.2, KCP 6.4.1	Meronka, K.	2013	Efficacy of MCW-2222 SL on codling moth (*Cydia pomonella*) in apple in Poland Fertico Sp. z o o., Błędów, Poland Report No.: 13_04_F13_028 Sponsor No.: PL13IEMABSD206D KIIIA 6.1.3/037 GLP / GEP Unpublished	N	Y	MCW (Adama)
KCP 6.2, KCP 6.4.1	Meronka, K.	2013	Efficacy of MCW-2222 SL against aphids (and other insects) in apple trees in Poland Fertico Sp. z o o., Błędów, Poland Report No.: 14_01_F13_029 Sponsor No.: PL13IEMABSD207A KIIIA 6.1.3/038 GLP / GEP Unpublished	N	Y	AGAN PL (Adama)
KCP 6.2, KCP 6.4.1	Meronka, K.	2013	Efficacy of MCW-2222 SL against aphids (and other insects) in apple trees in Poland Fertico Sp. z o o., Błędów, Poland Report No.: 14_02_F13_030 Sponsor No.: PL13IEMABSD207B KIIIA 6.1.3/039 GLP / GEP Unpublished	N	Y	AGAN PL (Adama)
KCP 6.2, KCP 6.4.1	Meronka, K.	2013	Efficacy of MCW-2222 SL against aphids (and other insects) in apple trees in Poland Fertico Sp. z o o., Błędów, Poland Report No.: 14_03_F13_031 Sponsor No.: PL13IEMABSD207C KIIIA 6.1.3/040	N	Y	AGAN PL (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	Data protection claimed Y/N	Owner
			GLP / GEP Unpublished			
KCP 6.2, KCP 6.4.1	Meronka, K.	2013	Efficacy of MCW-2222 SL on aphids (and other insects) in apple tree in Poland Fertico Sp. z o o., Błędów, Poland Report No.: 14_04_F13_032 Sponsor No.: PL13IEMABSD207D KIIIA 6.1.3/041 GLP / GEP Unpublished	N	Y	AGAN PL (Adama)
KCP 6.2, KCP 6.4.1	Ogrodnicz ek, A.	2014	Efficacy of MCW-2222 in control of *Aphis pomi* and other pests in case of their occurrence in apple orchard, Poland 2014 Fertico Sp. z o.o., Błędów Poland Report No.: 15_01_F14_029 Sponsor No.: PL14IEMABSD109A KIIIA 6.1.3/042 GLP / GEP Unpublished	N	Y	ADAMA*
KCP 6.2, KCP 6.4.1	Ogrodnicz ek, A.	2014	Efficacy of MCW-2222 in control of *Aphis pomi* and other pests in case of their occurrence in apple orchard, Poland 2014 Fertico Sp. z o.o., Błędów Poland Report No.: 15_02_F14_030 Sponsor No.: PL14IEMABSD109B KIIIA 6.1.3/043 GLP / GEP Unpublished	N	Y	ADAMA*
KCP 6.2, KCP 6.4.1	Ogrodnicz ek, A.	2014	Efficacy of MCW-2222 in control of *Aphis pomi* and other pests in case of their occurrence in apple orchard, Poland 2014 Fertico Sp. z o.o., Błędów Poland Report No.: 15_03_F14_031 Sponsor No.: PL14IEMABSD109C KIIIA 6.1.3/044 GLP / GEP Unpublished	N	Y	ADAMA*
KCP 6.2, KCP 6.4.1	Ogrodnicz ek, A.	2014	Efficacy of MCW-2222 in control of *Aphis pomi* and other pests in case of their occurrence in apple orchard, Poland 2014 Fertico Sp. z o.o., Błędów Poland Report No.: 15_04_F14_032	N	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	Data protection claimed Y/N	Owner
			Sponsor No.: PL14IEMABSD109D KIIIA 6.1.3/045 GLP / GEP Unpublished			
KCP 6.2, KCP 6.4.1	Ogrodnicz ek, A.	2014	Efficacy of MCW-2222 in control of *Aphis pomi* and other pests in case of their occurrence in apple orchard, Poland 2014 Fertico Sp. z o.o., Błędów Poland Report No.: 15_05_F14_033 Sponsor No.: PL14IEMABSD109E KIIIA 6.1.3/046 GLP / GEP Unpublished	N	Y	ADAMA*
KCP 6.2, KCP 6.4.1	Felczak, K.	2015	Efficacy of MCW-2222 in control of green apple aphid *Aphis pomi i*n apple orchard, Poland 2015 Fertico Sp. z o.o., Błędów Poland Report No.: 55_PROT_F15_113 Sponsor No.: PL15IEMABSD127A KIIIA 6.1.3/047 GLP / GEP Unpublished	N	Y	ADAMA*
KCP 6.2, KCP 6.4.1	Felczak, K.	2015	Efficacy of MCW-2222 in control of green apple aphid *Aphis pomi* in apple orchard, Poland 2015 Fertico Sp. z o.o., Błędów Poland Report No.: 55_PROT_F15_114 Sponsor No.: PL15IEMABSD127B KIIIA 6.1.3/048 GLP / GEP Unpublished	N	Y	ADAMA*
KCP 6.2, KCP 6.4.1	Hargitai, C.	2013	Efficacy of MCW-2222 SL on aphids in apple in Hungary in 2013 Government Office of Somogy County, Kaposvár, Hungary Report No.: not stated Sponsor No.: HU13IEMABSD632A KIIIA 6.1.3/052 GLP / GEP Unpublished	N	Y	AGAN HU (Adama)
KCP 6.2, KCP 6.4.1	Coman, M.	2014	Efficacy of MCW 2222 SL on apple codling moth *Cydia pomo-nella* - Location 2	N	Y	MAROM (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	Data protection claimed Y/N	Owner
			ICDP, Pitesti-Maracineni, Romania Report No.: 2593, 2210 2014 Sponsor No.: RO14IEMABSD045B KIIIA 6.1.3/059 GLP / GEP Unpublished			
KCP 6.2, KCP 6.4.1	Coman, M.	2014	Efficacy of MCW 2222 SL on green aphid *Aphis pomi* ICDP, Pitesti-Maracineni, Romania Report No.: 2590, 2210 2014 Sponsor No.: RO14IEMABSD046A KIIIA 6.1.3/060 GLP / GEP Unpublished	N	Y	MAROM (Adama)
KCP 6.2, KCP 6.4.1	Toth, F.	2013	Efficacy of MCW-2222 SL against aphids on apple - Slovakia - Valice 2013 Gemerprodukt Valice OVD, Rimavská Sobota, Slovakia Report No.: not stated Sponsor No.: SK13IEMABSD001A KIIIA 6.1.3/069 GLP / GEP Unpublished	N	Y	Agrovita (Adama)
KCP 6.2, KCP 6.4.1	Toth, F.	2013	Efficacy of MCW-2222 SL against aphids on apple - Slovakia - Camovec 2013 Gemerprodukt Valice OVD, Rimavská Sobota, Slovakia Report No.: not stated Sponsor No.: SK13IEMABSD001B KIIIA 6.1.3/070 GLP / GEP Unpublished	N	Y	Agrovita (Adama)
KCP 6.2, KCP 6.4.1	Tóth, F.	2015	Efficacy of MCW-2222 SL on Aphids in apple, Slovakia 2014 Efficacy of MCW-2222 SL on aphids in apple, Slovakia 2014 Gemerprodukt Valice OVD, Rimavská Sobota, Slovakia Report No.: not stated Sponsor No.: SK14IEMABSD001A KIIIA 6.1.3/073 GLP / GEP Unpublished	N	Y	ADAMA* SK

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	Data protection claimed Y/N	Owner
KCP 6.2, KCP 6.4.1	Tóth, F.	2015	Efficacy of MCW-2222 SL on green apple aphid in apple in Slovakia 2015 Gemerprodukt Valice OVD, Rimavská Sobota, Slovakia Report No.: not stated Sponsor No.: SK15IEMABSD001A KIIIA 6.1.3/080 GLP / GEP Unpublished	N	Y	ADAMA* SK
KCP 6.2, KCP 6.4.1	Tóth, F.	2015	Efficacy of MCW-2222 SL on green apple aphid in apple in Čamovce- Slovakia 2015 Gemerprodukt Valice OVD, Rimavská Sobota, Slovakia Report No.: not stated Sponsor No.: SK15IEMABSD001B KIIIA 6.1.3/081 GLP / GEP Unpublished	N	Y	ADAMA* SK
KCP 6.2, KCP 6.4.1	Baratis, T.	2013	Efficacy of MCW-2222 on *Diabrotica virgifera virgifera* in maize in Hungary 2013 SynTech Research Hungary Kft, Szombathely, Hungary Report No.: SRHU13-065-135IE Sponsor No.: HU13IEZEAMX131A KIIIA 6.1.3/085 GLP / GEP Unpublished	N	Y	AGAN HU (Adama)
KCP 6.2, KCP 6.4.1	Ripka, G.	2013	Efficacy of MCW-2222 on *Diabrotica virgifera virgifera* in maize in Hungary 2013 Government Office of Vas Country, Szombathely, Hungary Report No.: not stated Sponsor No.: HU13IEZEAMX131B KIIIA 6.1.3/086 GLP / GEP Unpublished	N	Y	AGAN HU (Adama)
KCP 6.2, KCP 6.4.1	Gabi, G.	2013	Efficacy of MCW-2222 on *Diabrotica virgifera virgifera* in maize in Hungary 2013 Government Office of Tolna Conunty, Szekszárd, Hungary Report No.: not stated Sponsor No.: HU13IEZEAMX131C KIIIA 6.1.3/087	N	Y	AGAN HU (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	Data protection claimed Y/N	Owner
			GLP / GEP Unpublished			
KCP 6.2, KCP 6.4.1	Blaskó, D.	2014	Efficacy of MCW-2222 on *Diabrotica virgifera virgifera* in maize in Hungary in 2014 ANADIAG Hungary Kft., Komárom, Hungary Report No.: not stated Sponsor No.: HU14IEZEAMX001A KIIIA 6.1.3/088 GLP / GEP Unpublished	N	Y	ADAMA* HU
KCP 6.2, KCP 6.4.1	Hoffmann é, P.Z.	2015	Efficacy of MCW-2222 on *Diabrotica virgifera virgifera* in maize in Hungary in 2014 Növénypathyka Kft., Kaposvár, Hungary Report No.: NP63 2014 Sponsor No.: HU14IEZEAMX001B KIIIA 6.1.3/089 GLP / GEP Unpublished	N	Y	ADAMA* HU
KCP 6.2, KCP 6.4.1	Varga, A.	2015	Efficacy of MCW-2222 on *Ostrinia nubilalis* in maize in Hungary in 2015 SynTech Research Hungary Kft, Szombathely, Hungary Report No.: SRHU15-220-135IE Sponsor No.: HU15IEZEAMX102A KIIIA 6.1.3/090 GLP / GEP Unpublished	N	Y	ADAMA* HU
KCP 6.2, KCP 6.4.1	Magyar, B.	2015	Efficacy of MCW-2222 on *Ostrinia nubilalis* in maize in Hungary in 2015 Fructika Kft, Tiszakanyár, Hungary Report No.: not stated Sponsor No.: HU15IEZEAMX102B KIIIA 6.1.3/091 GLP / GEP Unpublished	N	Y	ADAMA* HU
KCP 6.2, KCP 6.4.1	Eberhart, A.	2014	Determination of efficacy of MCW-2222 SL against *Diabrotica virgifera virgifera* in maize, 1 site in Romania 2014 Eurofins Agroscience Services SRL, Timisoara, Romania Report No.: S14-02549-01	N	Y	MAROM (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	Data protection claimed Y/N	Owner
			Sponsor No.: RO14IEZEAMX043A KIIIA 6.1.3/092 GLP / GEP Unpublished			
KCP 6.2, KCP 6.4.1	Eberhart, A.	2014	Determination of efficacy of MCW-2222 SL against *Diabrotica virgifera virginifera* in maize, 1 site in Romania 2014 Eurofins Agroscience Services SRL, Timisoara, Romania Report No.: S14-02549-02 Sponsor No.: RO14IEZEAMX043B KIIIA 6.1.3/093 GLP / GEP Unpublished	N	Y	MAROM (Adama)
KCP 6.2, KCP 6.4.1	Eberhart, A.	2014	Determination of efficacy of MCW-2222 SL against *Diabrotica virgifera virginifera* in maize, 1 site in Romania 2014 Eurofins Agroscience Services SRL, Timisoara, Romania Report No.: S14-02549-03 Sponsor No.: RO14IEZEAMX043C KIIIA 6.1.3/094 GLP / GEP Unpublished	N	Y	MAROM (Adama)
KCP 6.2, KCP 6.4.1	Eberhart, A.	2015	Determination of Efficacy of MCW-2222 SL against *Ostrinia nubilalis* in Maize, 1 Site in Romania 2015 Eurofins Agroscience Services S.R.L., Timișoara, Romania Report No.: S15-03090-01 Sponsor No.: RO15IEZEAMX031A KIIIA 6.1.3/095 GLP / GEP Unpublished	N	Y	ADAMA* RO
KCP 6.2, KCP 6.4.1	Eberhart, A.	2015	Determination of Efficacy of MCW-2222 SL against *Ostrinia nubilalis* in Maize, 1 Site in Romania 2015 Eurofins Agroscience Services S.R.L., Timișoara, Romania Report No.: S15-03090-02 Sponsor No.: RO15IEZEAMX031B KIIIA 6.1.3/096 GLP / GEP Unpublished	N	Y	ADAMA* RO
KCP 6.2, KCP 6.4.1	Eberhart, A.	2015	Determination of Efficacy of MCW-2222 SL against *Ostrinia nubilalis* in Maize, 1 Site in Romania 2015	N	Y	ADAMA* RO

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	Data protection claimed Y/N	Owner
			Eurofins Agroscience Services S.R.L., Timișoara, Romania Report No.: S15-03090-03 Sponsor No.: RO15IEZEAMX031C KIIIA 6.1.3/097 GLP / GEP Unpublished			
KCP 6.2, KCP 6.4.1	Soltesz, J.	2015	Efficacy of MCW-2222 on *Diabrotica virgifera virginifera* in maize, Slovakia 2014 Fyse, s.r.o. AgroLab, Kolare, Slovakia Report No.: not stated Sponsor No.: SK14IEZEAMX001A KIIIA 6.1.3/098 GLP / GEP Unpublished	N	Y	Agrovita (Adama)
KCP 6.2, KCP 6.4.1	Soltesz, J.	2015	Efficacy of MCW-2222 on *Diabrotica virgifera virginifera* in maize, Slovakia 2014 Fyse, s.r.o. AgroLab, Kolare, Slovakia Report No.: not stated Sponsor No.: SK14IEZEAMX001B KIIIA 6.1.3/099 GLP / GEP Unpublished	N	Y	Agrovita (Adama)
KCP 6.2, KCP 6.4.1	Tóth, F.	2015	Efficacy of MCW-2222 on *Diabrotica virgifera virgifera* in maize, Slovakia 2014 Gemerprodukt Valice OVD, Rimavská Sobota, Slovakia Report No.: not stated Sponsor No.: SK14IEZEAMX001C KIIIA 6.1.3/100 GLP / GEP Unpublished	N	Y	ADAMA* SK
KCP 6.2, KCP 6.4.1	Hornik, P.	2013	Analysis of efficacy to MCW-2222 SL on Colorado Beetle in potato in the Czech republic in 2013 ZS Nechanice, s.r.o., Nechanice, Czech Republic Report No.: not stated Sponsor No.: CZ13IESOLTU026A KIIIA 6.1.3/101 GLP / GEP Unpublished	N	Y	Agrovita (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	Data protection claimed Y/N	Owner
KCP 6.2, KCP 6.4.1	Spurova, R.	2013	Efficacy of MCW-2222 in potato ZS Trutnov s.r.o., Trutnov, Czech Republic Report No.: not stated Sponsor No.: CZ13IESOLTU026B KIIIA 6.1.3/102 GLP / GEP Unpublished	N	Y	Agrovita (Adama)
KCP 6.2, KCP 6.4.1	Heryán, J.	2013	Analysis of efficacy to MCW-2222 SL on aphids and Colorado beetle in potato Zemedelska ZS Kujavy, s.r.o., Kujavy, Czech Republic Report No.: not stated Sponsor No.: CZ13IESOLTU026C KIIIA 6.1.3/103 GLP / GEP Unpublished	N	Y	Agrovita (Adama)
KCP 6.2, KCP 6.4.1	Hornik, P.	2014	Analysis of efficacy to MCW-2222 sl on colorado beetle in potato in the Czech ZS Nechanice, Nechanice, Czech Republic Republic in 2014 Report No.: not stated Sponsor No.: CZ14IESOLTU009A KIIIA 6.1.3/104 GLP / GEP Unpublished	N	Y	Agrovita (Adama)
KCP 6.2, KCP 6.4.1	Daňa, P.	2014	Analysis of Efficacy to MCW-2222 SL on Colorado Beetle in Potato in the Czech Republic in 2014 Zemedelska ZS Kujavy, s.r.o., Kujavy, Czech Republic Report No.: not stated Sponsor No.: CZ14IESOLTU009B KIIIA 6.1.3/105 GLP / GEP Unpublished	N	Y	Agrovita (Adama)
KCP 6.2, KCP 6.4.1	Spurova, R.	2014	Analysis of efficacy to MCW-2222 SL on Colorado beetle in potato in the Czech Republic in 2014 Zkusebni stanice Trutnov s.r.o., Trutnov, Czech Republic Report No.: not stated Sponsor No.: CZ14IESOLTU009C KIIIA 6.1.3/106	N	Y	MCW (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	Data protection claimed Y/N	Owner
			GLP / GEP Unpublished			
KCP 6.2, KCP 6.4.1	Zickart, U.	2014	Analysis of efficacy to MCW-2222 SL on Colorado beetle in potato, Germany 2014 BioChem agrar GmbH, Machern, Germany Report No.: 14 1061 1738 Sponsor No.: DE14IESOLTU320M KIIIA 6.1.3/107 GLP / GEP Unpublished	N	Y	ADAMA* DE
KCP 6.2, KCP 6.4.1	Zickart, U.	2015	Analysis of Efficacy to MCW-2222 SL on Colorado beetle in potato, Germany 2015 BioChem agrar GmbH, Machern, Germany Report No.: 14 1062 1762 Sponsor No.: DE15IESOLTU320A KIIIA 6.1.3/108 GLP / GEP Unpublished	N	Y	ADAMA* DE
KCP 6.2, KCP 6.4.1	Zickart, U.	2015	Analysis of Efficacy to MCW-2222 SL on Colorado beetle in potato, Germany 2015 BioChem agrar GmbH, Machern, Germany Report No.: 14 1047 1763 Sponsor No.: DE15IESOLTU320B KIIIA 6.1.3/109 GLP / GEP Unpublished	N	Y	ADAMA* DE
KCP 6.2, KCP 6.4.1	Zickart, U.	2015	Analysis of Efficacy to MCW-2222 SL on Colorado beetle in potato, Germany 2015 BioChem agrar GmbH NL Agroplan, Uedem, Germany Report No.: 14 1069 5061 Sponsor No.: DE15IESOLTU320C KIIIA 6.1.3/110 GLP / GEP Unpublished	N	Y	ADAMA* DE
KCP 6.2, KCP 6.4.1	Kukula- Mlynarczyk, A.	2010	The evaluation of efficacy and selectivity of Acetamiprid 200 SL for the control of *Leptinotarsa decemlineata* on potato BIOTEK Agriculture Polska Sp. z o o., Oława, Poland Report No.: DPE 10/321/IOK-01	N	Y	MCW (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	Data protection claimed Y/N	Owner
			Sponsor No.: not stated KIIIA 6.1.3/111 GLP / GEP Unpublished			
KCP 6.2, KCP 6.4.1	Kukula- Mlynarczyk, A.	2010	The evaluation of efficacy and selectivity of Acetamiprid 200 SL for the control of *Leptinotarsa decemlineata* on potato BIOTEK Agriculture Polska Sp. z o o., Oława, Poland Report No.: DPE 10/321/IOK-02 Sponsor No.: not stated KIIIA 6.1.3/112 GLP / GEP Unpublished	N	Y	MCW (Adama)
KCP 6.2, KCP 6.4.1	Furman- Fratczak, K.	2014	The evaluation of efficacy and selectivity of MCW- 2222 (Acetamiprid 200 Sl) for the control of *Leptinotarsa decemlineata* on potato BIOTEK Agriculture Polska Sp. z o o., Oława, Poland Report No.: DPE 13/632/IOK-01 Sponsor No.: PL13IESOLTU204A KIIIA 6.1.3/113 GLP / GEP Unpublished	N	Y	MCW (Adama)
KCP 6.2, KCP 6.4.1	Furman- Fratczak, K.	2014	The evaluation of efficacy and selectivity of MCW- 2222 (Acetamiprid 200 SL) for the control of *Leptinotarsa decemlineata* on potato BIOTEK Agriculture Polska Sp. z o o., Oława, Poland Report No.: DPE 13/632/IOK-02 Sponsor No.: PL13IESOLTU204B KIIIA 6.1.3/114 GLP / GEP Unpublished	N	Y	MCW (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	Data protection claimed Y/N	Owner
KCP 6.2, KCP 6.4.1	Pławusze wski, M.	2013	Determination of efficacy of MCW-2222 against Colorado potato beetle in potato Eurofins Agroscience Services Sp. z o. o. Szamotuły, Poland Report No.: S13-02850-01 Sponsor No.: PL13IESOLTU204C KIIIA 6.1.3/115 GLP / GEP Unpublished	N	Y	MCW (Adama)
KCP 6.2, KCP 6.4.1	Pławusze wski, M.	2013	Determination of efficacy of MCW-2222 against Colorado potato beetle on potato Eurofins Agroscience Services Sp. z o. o., Szamotuły, Poland Report No.: S13-02850-02 Sponsor No.: PL13IESOLTU204D KIIIA 6.1.3/116 GLP / GEP Unpublished	N	Y	MCW (Adama)
KCP 6.2, KCP 6.4.1	Meronka, K.	2015	Efficacy of MCW-2222 SL applied in the control of Colorado beetle *Leptinotarsa decemlineata* in potato, Poland 2014 Fertico Sp. z o.o., Błędów Poland Report No.: 13_01_F14_025 Sponsor No.: PL14IESOLTU108A KIIIA 6.1.3/118 GLP / GEP Unpublished	N	Y	ADAMA*
KCP 6.2, KCP 6.4.1	Szemende ra, A.	2014	Efficacy of MCW-2222 SL applied in the control of Colorado beetle *Leptinotarsa decemlineata* in potato, Poland 2014 Fertico Sp. z o.o., Błędów Poland Report No.: 13_PROT_F14 Sponsor No.: PL14IESOLTU108B KIIIA 6.1.3/119 GLP / GEP Unpublished	N	Y	ADAMA* PL
KCP 6.2, KCP 6.4.1	Kukuła, A.	2014	The evaluation of efficacy and selectivity of MCW- 2222 (Acet-amipryd 200 SL) for the control of pests on potato AGRECO Sp. z o.o., Oława, Poland Report No.: 14ADA0117-1	N	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	Data protection claimed Y/N	Owner
			Sponsor No.: PL14IESOLTU108C KIIIA 6.1.3/120 GLP / GEP Unpublished			
KCP 6.2, KCP 6.4.1	Kukuła, A.	2014	The evaluation of efficacy and selectivity of MCW- 2222 (Acet-amipryd 200 SL) for the control of pests on potato AGRECO Sp. z o.o., Oława, Poland Report No.: 14ADA0117-2 Sponsor No.: PL14IESOLTU108D KIIIA 6.1.3/121 GLP / GEP Unpublished	N	Y	ADAMA*
KCP 6.2, KCP 6.4.1	Głowacki, G.	2014	Determination of efficacy of MCW-2222 against Colorado potato beetle (*Leptinotarsa decemlineata*) in potato Eurofins Agroscience Services Sp. z o.o., Kaźmierz, Poland Report No.: S14-02126-01 Sponsor No.: PL14IESOLTU108E KIIIA 6.1.3/122 GLP / GEP Unpublished	N	Y	ADAMA* PL
KCP 6.2, KCP 6.4.1	Głowacki, G.	2014	Determination of efficacy of MCW-2222 against Colorado potato beetle potato Eurofins Agroscience Services Sp. z o.o., Kaźmierz, Poland Report No.: S13-02126-02 Sponsor No.: PL14IESOLTU108F KIIIA 6.1.3/123 GLP / GEP Unpublished	N	Y	ADAMA* PL
KCP 6.2, KCP 6.4.1	Furman- Frątczak, K.	2015	The evaluation of efficacy and selectivity of MCW- 2222 (Acet-amiprid 200 SL) for the control of *Leptinotarsa decemlineata* on potato BIOTEK Agriculture Polska Sp. Z o.o., Oława, Polska Report No.: 711/1/1/1 Sponsor No.: PL14IESOLTU108G KIIIA 6.1.3/124 GLP / GEP Unpublished	N	Y	ADAMA* PL

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	Data protection claimed Y/N	Owner
KCP 6.2, KCP 6.4.1	Eberhart, A.	2014	Determination of Efficacy of MCW-2222 SL against Colorado Beetle and/or Aphids in Potatoes, 5 Sites in Romania 2014 Eurofins Agroscience Service GmbH, Stade, Germany Report No.: S14-02548-01 Sponsor No.: RO14IESOLTU044A KIIIA 6.1.3/125 GLP / GEP Unpublished	N	Y	ADAMA* RO
KCP 6.2, KCP 6.4.1	Eberhart, A.	2014	Determination of Efficacy of MCW-2222 SL against Colorado Beetle and/or Aphids in Potatoes, 1 Site in Romania 2014 Eurofins Agroscience Service GmbH, Stade, Germany Report No.: S14-02548-02 Sponsor No.: RO14IESOLTU044B KIIIA 6.1.3/126 GLP / GEP Unpublished	N	Y	ADAMA* RO
KCP 6.2, KCP 6.4.1	Eberhart, A.	2014	Determination of Efficacy of MCW-2222 SL against Colorado Beetle and/or Aphids in Potatoes, 1 Site in Romania 2014 Eurofins Agroscience Service GmbH, Stade, Germany Report No.: S14-02548-03 Sponsor No.: RO14IESOLTU044C KIIIA 6.1.3/127 GLP / GEP Unpublished	N	Y	ADAMA* RO
KCP 6.2, KCP 6.4.1	Hermezui, M.	2014	Report on biological evaluation of Product: MCW- 2222 SL National Institute of Research and Development for Potato and Sugar Beet, Braşov, Romania Report No.: 2035/05.11.2014 Sponsor No.: RO14IESOLTU044D Not KIIIA 6.1.3/128 GLP / GEP Unpublished	N	Y	ADAMA*
KCP 6.2, KCP 6.4.1	Hermezui, M.	2014	Report on biological evaluation of Product: MCW- 2222 SL National Institute of Research and Development for Potato and Sugar Beet, Braşov, Romania Report No.: 2036/05.11.2014 Sponsor No.: RO14IESOLTU044E Not KIIIA 6.1.3/129	N	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	Data protection claimed Y/N	Owner
			GLP / GEP Unpublished			
KCP 6.2, KCP 6.4.1	Eberhart, A.	2015	Determination of Efficacy of MCW-2222 SL against Colorado Potato Beetles in Potato, 1 Site in Romania 2015 Eurofins Agroscience Services S.R.L., Timișoara, Romania Report No.: S15-03079-01 Sponsor No.: RO15IESOLTU012A KIIIA 6.1.3/130 GLP / GEP Unpublished	N	Y	ADAMA* RO
KCP 6.2, KCP 6.4.1	Eberhart, A.	2015	Determination of Efficacy of MCW-2222 SL against Colorado Potato Beetles in Potato, 1 Site in Romania 2015 Eurofins Agroscience Services S.R.L., Timișoara, Romania Report No.: S15-03079-02 Sponsor No.: RO15IESOLTU012B KIIIA 6.1.3/131 GLP / GEP Unpublished	N	Y	ADAMA* RO
KCP 6.2, KCP 6.4.1	Forgacova , L.	2013	Analysis of efficacy of MCW-2222 SL against Colorado beetle on potato, Slovakia 2013 Ing. L'ubica Forgáčová, Boliarov, Slovakia Report No.: not stated Sponsor No.: SK13IESOLTU001A KIIIA 6.1.3/132 GLP / GEP Unpublished	N	Y	Agrovita (Adama)
KCP 6.2, KCP 6.4.1	Schenke, E.	2013	Analysis of efficacy of MCW-2222 SL against Colorado beetle on potato, Slovakia 2013 Fyse, s.r.o. AgroLab Kolare, Slovakia Report No.: not stated Sponsor No.: SK13IESOLTU001B KIIIA 6.1.3/133 GLP / GEP Unpublished	N	Y	Agrovita (Adama)
KCP 6.2, KCP 6.4.1	Forgacova , L.	2014	Analysis of efficacy to MCW-2222 SL against Colorado beetle on potato Ing. Lubica Forgacova, Boliarov, Slovakia Report No.: not stated	N	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	Data protection claimed Y/N	Owner
			Sponsor No.: SK14IESOLTU001A KIIIA 6.1.3/134 GLP / GEP Unpublished			
KCP 6.2, KCP 6.4.1	Forgacova , L.	2014	Analysis of efficacy to MCW-2222 SL against Colorado beetle on potato Ing. Lubica Forgacova, Boliarov, Slovakia Report No.: not stated Sponsor No.: SK14IESOLTU001B KIIIA 6.1.3/135 GLP / GEP Unpublished	N	Y	ADAMA*
KCP 6.2, KCP 6.4.1	Ceri, L.	2015	Analysis of efficacy to MCW-2222 SL on Colorado beetle in potato, Slovakia 2014 Fyse, s.r.o. AgroLab, Kolare, Slovakia Report No.: not stated Sponsor No.: SK14IESOLTU001C KIIIA 6.1.3/136 GLP / GEP Unpublished	N	Y	ADAMA*
KCP 6.2, KCP 6.4.1	Vendula, H.	2011	Pollen beetle, cabbage seed weevil and pod midge on rape Zemservis ZS Domaninek s.r.o., Bystrice nad Pernstejnem, Czech Republic Report No.: EZ-DOM-I-11/12 Sponsor No.: not stated KIIIA 6.1.3/169 GLP / GEP Unpublished	N	Y	ADAMA*
KCP 6.2, KCP 6.4.1	Fiala, T.	2011	Determination of efficacy MCW-2222 against pollen beetle, cabbage seed weevil and pod midge on winter rape ZS Kluky, spol. s.r.o., Kluky, Czech Republic Report No.: EZ-KLU-I-11/13 Sponsor No.: not stated KIIIA 6.1.3/170 GLP / GEP Unpublished	N	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	Data protection claimed Y/N	Owner
KCP 6.2, KCP 6.4.1	Spurova, R.	2011	Pollen beetle, cabbage seed weevil and pod midge on rape ZS Trutnov s.r.o., Trutnov, Czech Republic Report No.: EZ-TRU-I-11/17 Sponsor No.: not stated KIIIA 6.1.3/171 GLP / GEP Unpublished	N	Y	ADAMA*
KCP 6.2, KCP 6.4.1	Fiala, T.	2012	Analysis of efficacy of MCW-2222 SL on biting insects and in oil seed rape ZS Kluky, spol. s.r.o., Kluky, Czech Republic Report No.: EZ-KLU-I-12/01 Sponsor No.: not stated KIIIA 6.1.3/172 GLP / GEP Unpublished	N	Y	ADAMA*
KCP 6.2, KCP 6.4.1	Trnka, M.	2012	Analysis of efficacy of MCW-2222 SL on biting insects and oil seed rape Zemservis ZS Domaninek s.r.o., Bystrice nad Pernstejnem, Czech Republic Report No.: EZ-DOM-I-12/04 Sponsor No.: not stated KIIIA 6.1.3/173 GLP / GEP Unpublished	N	Y	ADAMA*
KCP 6.2, KCP 6.4.1	Spurova, R.	2012	Analysis of efficacy to Mavrik, Pyrinex CS, further insecticides and combinations on pyrethroid-resistant pollen beetle (Meli-gethes aeneus) ZS Trutnov s.r.o., Trutnov, Czech Republic Report No.: EZ-TRU-I-12/07 Sponsor No.: not stated KIIIA 6.1.3/174 GLP / GEP Unpublished	N	Y	Agrovita (Adama)
KCP 6.2, KCP 6.4.1	Cáp, J.	2012	Analysis of efficacy of MCW-2222 SL on biting insects and in oil seed rape ZS Nechanice, s.r.o., Nechanice, Czech Republic Report No.: EZ-NEC-I-12/16	N	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	Data protection claimed Y/N	Owner
			Sponsor No.: not stated KIIIA 6.1.3/175 GLP / GEP Unpublished			
KCP 6.2, KCP 6.4.1	Cáp, J.	2013	Efficacy evaluation of MCW-2222 against biting insects on oil seed rape in the Czech Republic in 2013 ZS Nechanice, s.r.o., Nechanice, Czech Republic Report No.: not stated Sponsor No.: CZ13IEBRNN023A KIIIA 6.1.3/176 GLP / GEP Unpublished	N	Y	Agrovita (Adama)
KCP 6.2, KCP 6.4.1	Trnka, M.	2013	Efficacy evaluation of MCW-2222 against biting insects on oil seed rape in the Czech Republic in 2013 Zemservis ZS Domaninek s.r.o., Bystrice nad Pernstejnem, Czech Republic Report No.: not stated Sponsor No.: CZ13IEBRNN023D KIIIA 6.1.3/178 GLP / GEP Unpublished	N	Y	Agrovita (Adama)
KCP 6.2, KCP 6.4.1	Cáp, J.	2013	Efficacy evaluation of MCW-2222 against pollen beetle on oil seed rape in the Czech Republic in 2013 ZS Nechanice, s.r.o., Nechanice, Czech Republic Report No.: not stated Sponsor No.: CZ13IEBRNN023F KIIIA 6.1.3/180 GLP / GEP Unpublished	N	Y	Agrovita (Adama)
KCP 6.2, KCP 6.4.1	Trnka, M.	2013	Evaluation of MCW-2222 against pollen beetle on oil seed rape in the Czech Republic in 2013 Zemservis ZS Domaninek s.r.o., Bystrice nad Pernstejnem, Czech Republic Report No.: not stated Sponsor No.: CZ13IEBRNN023I KIIIA 6.1.3/181 GLP / GEP Unpublished	N	Y	Agrovita (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	Data protection claimed Y/N	Owner
KCP 6.2, KCP 6.4.1	Cáp, J.	2014	Efficacy evaluation of MCW-2222 against biting insects on oil seed rape in the Czech Republic in 2014 ZS Nechanice, s.r.o., Nechanice, Czech Republic Report No.: not stated Sponsor No.: CZ14IEBRSNW005A KIIIA 6.1.3/182 GLP / GEP Unpublished	N	Y	Agrovita (Adama)
KCP 6.2, KCP 6.4.1	Subr, J.	2014	Analysis of Efficacy to MCW-2222 SL on biting insects in oil seed rape in the Czech Republic in 2014 Zkusebni stanice Trutnov s.r.o., Trutnov, Czech Republic Report No.: not stated Sponsor No.: CZ14IEBRSNW005B KIIIA 6.1.3/183 GLP / GEP Unpublished	N	Y	Agrovita (Adama)
KCP 6.2, KCP 6.4.1	Cáp, J.	2014	Efficacy evaluation of MCW-2222 against pollen beetle on oil seed rape in the Czech Republic in 2014 ZS Nechanice, s.r.o., Nechanice, Czech Republic Report No.: not stated Sponsor No.: CZ14IEBRSNW006A KIIIA 6.1.3/184 GLP / GEP Unpublished	N	Y	Agrovita (Adama)
KCP 6.2, KCP 6.4.1	Spurova, R.	2014	Efficacy of MCW-2222 SL on MELIAE in oil seed rape. ZS Trutnov s.r.o., Trutnov, Czech Republic Report No.: not stated Sponsor No.: CZ14IEBRSNW006B KIIIA 6.1.3/185 GLP / GEP Unpublished	N	Y	Agrovita (Adama)
KCP 6.2, KCP 6.4.1	Cáp, J.	2014	Efficacy evaluation of MCW-2222 on *Ceutorhynchus assimilis* and *Dasineura brassicae* on oil seed rape in the Czech Republic in 2014 ZS Nechanice, s.r.o., Nechanice, Czech Republic Report No.: not stated Sponsor No.: CZ14IEBRSNW007A KIIIA 6.1.3/186	N	Y	Agrovita (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	Data protection claimed Y/N	Owner
			GLP / GEP Unpublished			
KCP 6.2, KCP 6.4.1	Subr, J.	2015	Analysis of Efficacy to MCW-2222 SL on *Ceutorhynchus assimilis* and *Dasineura brassicae* in oil seed rape in the Czech Republic in 2014 Zkusebni stanice Trutnov s.r.o., Trutnov, Czech Republic Report No.: not stated Sponsor No.: CZ14IEBRSNW007B KIIIA 6.1.3/187 GLP / GEP Unpublished	N	Y	Agrovita (Adama)
KCP 6.2, KCP 6.4.1	Čáp, J.	2015	Analysis of Efficacy to MCW-2222 SL on biting insects in oil seed rape, Czech Republic 2015 ZS Nechanice, Nechanice, Czech Republic Report No.: not stated Sponsor No.: CZ15IEBRSNW001A KIIIA 6.1.3/188 GLP / GEP Unpublished	N	Y	ADAMA* CZ
KCP 6.2, KCP 6.4.1	Subr, J.	2015	Analysis of Efficacy to MCW-2222 SL on biting insects in oil seed rape, Czech Republic2015 Zkusebni stanice Trutnov s.r.o., Trutnov, Czech Republic Report No.: not stated Sponsor No.: CZ15IEBRSNW001B KIIIA 6.1.3/189 GLP / GEP Unpublished	N	Y	ADAMA* CZ
KCP 6.2, KCP 6.4.1	Čáp, J.	2015	Analysis of Efficacy to MCW-2222 SL on biting insects in oil seed rape, Czech Republic2015 ZS Nechanice, Nechanice, Czech Republic Report No.: not stated Sponsor No.: CZ15IEBRSNW001D KIIIA 6.1.3/190 GLP / GEP Unpublished	N	Y	ADAMA* CZ
KCP 6.2, KCP 6.4.1	Subr, J.	2015	Analysis of Efficacy to MCW-2222 SL on biting insects in oil seed rape, Czech Republic2015	N	Y	ADAMA* CZ

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	Data protection claimed Y/N	Owner
			Zkusebni stanice Trutnov s.r.o., Trutnov, Czech Republic Report No.: not stated Sponsor No.: CZ15IEBRSNW001E KIIIA 6.1.3/191 GLP / GEP Unpublished			
KCP 6.2, KCP 6.4.1	Čáp, J.	2015	Analysis of Efficacy to MCW-2222 SL on biting insects in oil seed rape, Czech Republic2015 ZS Nechanice, Nechanice, Czech Republic Report No.: not stated Sponsor No.: CZ15IEBRSNW001G KIIIA 6.1.3/192 GLP / GEP Unpublished	N	Y	ADAMA* CZ
KCP 6.2, KCP 6.4.1	Subr, J.	2015	Analysis of Efficacy to MCW-2222 SL on biting insects in oil seed rape, Czech Republic 2015 SL ON BITING INSECTS IN OIL SEED RAPE, CZECH REPUBLIC 2015 Zkusebni stanice Trutnov s.r.o., Trutnov, Czech Republic Report No.: not stated Sponsor No.: CZ15IEBRSNW001H KIIIA 6.1.3/193 GLP / GEP Unpublished	N	Y	ADAMA* CZ
KCP 6.2, KCP 6.4.1	Čáp, J.	2015	Analysis of Efficacy to MCW-2222 SL on biting insects in oil seed rape, Czech Republic 2015 ZS Nechanice, Nechanice, Czech Republic Report No.: not stated Sponsor No.: CZ15IEBRSNW001I KIIIA 6.1.3/194 GLP / GEP Unpublished	N	Y	ADAMA* CZ
KCP 6.2, KCP 6.4.1	Zickart, U.	2011	Efficacy of Mavrik, Pyrinex 25 CS, and MCW-2222 on pyrethroid resistant blossom beetles (*Meligethes aeneus*) on winter oil seed rape BioChem agrar GmbH, Machern OT Gerichshain, Germany Report No.: 11 1067 482 Sponsor No.: FCS11-3026-E03 KIIIA 6.1.3/195	N	Y	FCS (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	Data protection claimed Y/N	Owner
			GLP / GEP Unpublished			
KCP 6.2, KCP 6.4.1	Rohr, J.	2013	Analysis of efficacy of MCW-2222 SL on biting insects and *Dasineura brassicae* in oil seed rape Agrartest GmbH, Aarbergen-Panrod, Germany Report No.: not stated Sponsor No.: FCS12-3101-E02 KIIIA 6.1.3/196 GLP / GEP Unpublished	N	Y	FCS (Adama)
KCP 6.2, KCP 6.4.1	Rohr, J.	2014	Analysis of efficacy to MCW-2222 SL on *Ceutorhynchus napi/quadridens* in winter oil seed rape Agrartest GmbH, Aarbergen-Panrod, Germany Report No.: not stated Sponsor No.: DE14IEBRSNW320A KIIIA 6.1.3/197 GLP / GEP Unpublished	N	Y	FCS (Adama)
KCP 6.2, KCP 6.4.1	Rohr, J.	2014	Analysis of efficacy to MCW-2222 SL on *Meligethes aeneus* in oil seed rape Agrartest GmbH, Aarbergen-Panrod, Germany Report No.: not stated Sponsor No.: DE14IEBRSNW320C KIIIA 6.1.3/198 GLP / GEP Unpublished	N	Y	FCS (Adama)
KCP 6.2, KCP 6.4.1	Zickart, U.	2014	Analysis of efficacy to MCW-2222 SL on brassica pod midge (DASYBR) in oil seed rape, Germany 2014 BioChem agrar GmbH, Goch-Nierswalde, Germany Report No.: 14 1064 1669 Sponsor No.: DE14IEBRSNW320H KIIIA 6.1.3/199 GLP / GEP Unpublished	N	Y	ADAMA* DE
KCP 6.2, KCP 6.4.1	Rohr, J.	2015	Analysis of Efficacy to MCW-2222 SL on stem weevil in oil seed rape, Germany 2015 Agrartest GmbH, Aarbergen-Panrod, Germany Report No.: not stated	N	Y	ADAMA* DE

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	Data protection claimed Y/N	Owner
			Sponsor No.: DE15IEBRSNW320A KIIIA 6.1.3/200 GLP / GEP Unpublished			
KCP 6.2, KCP 6.4.1	Rohr, J.	2015	Analysis of Efficacy to MCW-2222 SL on pollen beetle in oil seed rape, Germany 2015 Agrartest GmbH, Aarbergen-Panrod, Germany Report No.: not stated Sponsor No.: DE15IEBRSNW320E KIIIA 6.1.3/201 GLP / GEP Unpublished	N	Y	ADAMA* DE
KCP 6.2, KCP 6.4.1	Perner, J.	2015	Efficacy analysis of MCW-2222 SL against pollen beetles (*Meligethes aeneus*) in oil seed rape - Germany, 2015 U.A.S. GmbH, Jena, Germany Report No.: 077_15_Z Sponsor No.: DE15IEBRSNW320G KIIIA 6.1.3/202 GLP / GEP Unpublished	N	Y	ADAMA* DE
KCP 6.2, KCP 6.4.1	von Hörster, D.	2015	Analysis of the Efficacy of MCW-2222 SL on Pollen Beetle in oil seed rape Fiel Research Support, Wunstorf, Germany Report No.: FRS034/15 Sponsor No.: DE15IEBRSNW320H KIIIA 6.1.3/203 GLP / GEP Unpublished	N	Y	ADAMA* DE
KCP 6.2, KCP 6.4.1	von Hörster, D.	2015	Analysis of the Efficacy of MCW-2222 SL on Cabbage Seed Weevil and Blossom Beetle in oil seed rape Field Research Support, Wunstorf, Germany Report No.: FRS035/15 Sponsor No.: DE15IEBRSNW320K KIIIA 6.1.3/204 GLP / GEP Unpublished	N	Y	ADAMA* DE

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	Data protection claimed Y/N	Owner
KCP 6.2, KCP 6.4.1	Gajek, D.	2012	Efficacy of MCW-2222 in the control of *Meligethes aeneus* on winter rape, Poland 2012 Fertico Sp. z o.o., Błędów Poland Report No.: 036_01_F12_079 Sponsor No.: not stated KIIIA 6.1.3/212 GLP / GEP Unpublished	N	Y	MCW (Adama)
KCP 6.2, KCP 6.4.1	Gajek, D.	2012	Efficacy of MCW-2222 in the control of *Meligethes aeneus* on winter rape, Poland 2012 Fertico Sp. z o.o., Błędów Poland Report No.: 036_02_F12_080 Sponsor No.: not stated KIIIA 6.1.3/213 GLP / GEP Unpublished	N	Y	MCW (Adama)
KCP 6.2, KCP 6.4.1	Gajek, D.	2012	Efficacy of MCW-2222 in the control of *Meligethes aeneus* on winter rape, Poland 2012 Fertico Sp. z o.o., Błędów Poland Report No.: 036_03_F12_081 Sponsor No.: not stated KIIIA 6.1.3/214 GLP / GEP Unpublished	N	Y	MCW (Adama)
KCP 6.2, KCP 6.4.1	Gajek, D.	2012	Efficacy of MCW-2222 in the control of *Meligethes aeneus* on winter rape, Poland 2012 Fertico Sp. z o.o., Błędów Poland Report No.: 036_04_F12_082 Sponsor No.: not stated KIIIA 6.1.3/215 GLP / GEP Unpublished	N	Y	MCW (Adama)
KCP 6.2, KCP 6.4.1	Szemende ra, A.	2013	Efficacy of MCW-2222 in the control of *Ceutorhynchus napi* and *Ceutorhynchus quadridens* in winter rape, Poland 2013 Fertico Sp. z o o., Błędów, Poland Report No.: 10_01_F13_019 Sponsor No.: PL13IEBRSNW201A KIIIA 6.1.3/216	N	Y	MCW (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	Data protection claimed Y/N	Owner
			GLP / GEP Unpublished			
KCP 6.2, KCP 6.4.1	Szemende ra, A.	2013	Efficacy of MCW-2222 in the control of C*eutorhynchus napi* and *Ceutorhynchus quadridens* in winter rape, Poland 2013 Fertico Sp. z o o., Błędów, Poland Report No.: 10_02_F13_020 Sponsor No.: PL13IEBRSNW201B KIIIA 6.1.3/217 GLP / GEP Unpublished	N	Y	MCW (Adama)
KCP 6.2, KCP 6.4.1	Furman- Fratczak, K.	2014	The evaluation of efficacy and selectivity of MCW- 2222 (Acetamiprid 200 SL) for the control of *Ceutorhynchus napi* and *Ceutorhynchus quadridens* on winter oilseed rape BIOTEK Agriculture Polska Sp. z o o., Oława, Poland Report No.: DPE 13/630/IOL-01 Sponsor No.: PL13IEBRSNW201C KIIIA 6.1.3/218 GLP / GEP Unpublished	N	Y	MCW (Adama)
KCP 6.2, KCP 6.4.1	Furman- Fratczak, K.	2014	The evaluation of efficacy and selectivity of MCW- 2222 (Acetamiprid 200 SL) for the control of *Ceutorhynchus napi* and *Ceutorhynchus quadridens* on winter oilseed rape BIOTEK Agriculture Polska Sp. z o o., Oława, Poland Report No.: DPE 13/630/IOL-02 Sponsor No.: PL13IEBRSNW201D KIIIA 6.1.3/219 GLP / GEP Unpublished	N	Y	MCW (Adama)
KCP 6.2, KCP 6.4.1	Furman- Fratczak, K.	2013	The evaluation of efficacy and selectivity of MCW- 2222 (Acetamiprid 200 SL) for the control of *Ceutorhynchus napi* and *Ceutorhynchus quadridens* on winter oilseed rape BIOTEK Agriculture Polska Sp. z o o., Oława, Poland Report No.: DPE 13/631/IOL-01 Sponsor No.: PL13IEBRSNW202A KIIIA 6.1.3/220 GLP / GEP Unpublished	N	Y	MCW (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	Data protection claimed Y/N	Owner
KCP 6.2, KCP 6.4.1	Furman- Fratczak, K.	2013	The evaluation of efficacy and selectivity of MCW- 2222 (Acetamiprid 200 SL) for the control of *Ceutorhynchus napi* and *Ceutorhynchus quadridens* on winter oilseed rape BIOTEK Agriculture Polska Sp. z o o., Oława, Poland Report No.: DPE 13/631/IOL-02 Sponsor No.: PL13IEBRSNW202B KIIIA 6.1.3/221 GLP / GEP Unpublished	N	Y	MCW (Adama)
KCP 6.2, KCP 6.4.1	Chermuła, L.	2014	Determination of efficacy of MCW-2222 used singly against blossom beetle on winter rape Eurofins Agroscience Services Sp. z o o., Szamotuły, Poland Report No.: S13-02601-02 Sponsor No.: PL13IEBRSNW202C KIIIA 6.1.3/222 GLP / GEP Unpublished	N	Y	AGAN PL (Adama)
KCP 6.2, KCP 6.4.1	Chermuła, L.	2014	Determination of efficacy of MCW-2222 used singly against Blossom beetle on winter rape. Eurofins Agroscience Services Sp. z o o., Szamotuły, Poland Report No.: S13-02601-03 Sponsor No.: PL13IEBRSNW202D KIIIA 6.1.3/223 GLP / GEP Unpublished	N	Y	AGAN PL (Adama)
KCP 6.2, KCP 6.4.1	Chermuła, L.	2013	Determination of efficacy of MCW-2222 used singly and in mixture against cabbage seed weevil and Brassica pod midge on winter rape Eurofins Agroscience Services Sp. z o o., Szamotuły, Poland Report No.: S13-02602-01 Sponsor No.: PL13IEBRSNW203A KIIIA 6.1.3/224 GLP / GEP Unpublished	N	Y	AGAN PL (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	Data protection claimed Y/N	Owner
KCP 6.2, KCP 6.4.1	Chermuła, L.	2014	Determination of efficacy of MCW-2222 used singly and in mixture with Mavrik 240 EW against cabbage seed weevil and Brassica pod midge in winter rape Eurofins Agroscience Services Sp. z o o., Szamotuły, Poland Report No.: S13-02602-02 Sponsor No.: PL13IEBRSNW203B KIIIA 6.1.3/225 GLP / GEP Unpublished	N	Y	AGAN PL (Adama)
KCP 6.2, KCP 6.4.1	Szemende ra, A.	2013	DRAFT: Efficacy of MCW-2222 in the control of *Ceutorhynchus assimilis* and *Dasineura brassicae* on winter oil seed rape, Poland 2013 Fertico Sp. z o o., Błędów, Poland Report No.: 11_01_F13_021 Sponsor No.: PL13IEBRSNW203C KIIIA 6.1.3/226 GLP / GEP Unpublished	N	Y	MCW (Adama)
KCP 6.2, KCP 6.4.1	Szemende ra, A.	2013	DRAFT: Efficacy of MCW-2222 in the control of *Ceutorhynchus assimilis* and *Dasineura brassicae* on winter oil seed rape, Poland 2013 Fertico Sp. z o o., Błędów, Poland Report No.: 11_02_F13_022 Sponsor No.: PL13IEBRSNW203D KIIIA 6.1.3/227 GLP / GEP Unpublished	N	Y	MCW (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	Data protection claimed Y/N	Owner
KCP 6.2, KCP 6.4.1	Furman- Fratczak, K.	2015	The evaluation of efficacy and selectivity of MCW- 2222 (Acetamiprid 200 SL) for the control of *Ceutorhynchus napi* and *Ceutorhynchus quadriens* on winter oil seed rape BIOTEK Agriculture Polska Sp. z o o., Oława, Poland Report No.: DPE 14/682/IOL-01 Sponsor No.: PL14IEBRSNW301A KIIIA 6.1.3/228 GLP / GEP Unpublished	N	Y	ADAMA*
KCP 6.2, KCP 6.4.1	Furman- Fratczak, K.	2015	The evaluation of efficacy and selectivity of MCW- 2222 (Acetamiprid 200 SL) for the control of *Ceutorhynchus napi* and *Ceutorhynchus quadriens* on winter oil seed rape BIOTEK Agriculture Polska Sp. z o o., Oława, Poland Report No.: DPE 14/682/IOL-02 Sponsor No.: PL14IEBRSNW301B KIIIA 6.1.3/229 GLP / GEP Unpublished	N	Y	ADAMA*
KCP 6.2, KCP 6.4.1	Głowacki, G.	2014	Determination of the efficacy of MCW-2222 (Acetamiprid 200 g/L) against cabbage stem weevil (*Ceutorhynchus napi*) on the winter rape Eurofins Agroscience Services Sp. z o.o., Kaźmierz, Poland Report No.: S14-01801-01 Sponsor No.: PL14IEBRSNW301C KIIIA 6.1.3/230 GLP / GEP Unpublished	N	Y	ADAMA* PL
KCP 6.2, KCP 6.4.1	Głowacki, G.	2014	Determination of efficacy of MCW-2222 (Acetamiprid 200 g/l) used against cabbage seed weevil and cabbage seedstalk curculio in winter rape Eurofins Agroscience Services Sp. z o.o., Kaźmierz, Poland Report No.: S14-01801-02 Sponsor No.: PL14IEBRSNW301D KIIIA 6.1.3/231 GLP / GEP Unpublished	N	Y	ADAMA* PL
KCP 6.2, KCP 6.4.1	Furman- Fratczak, K.	2015	The evaluation of efficacy and selectivity of MCW- 2222 (Acetamiprid 200 SL) for the control of *Meligethes aeneus* on winter	N	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	Data protection claimed Y/N	Owner
			oil seed rape BIOTEK Agriculture Polska Sp. z o o., Oława, Poland Report No.: DPE 14/684/IOL-01 Sponsor No.: PL14IEBRSNW302A KIIIA 6.1.3/232 GLP / GEP Unpublished			
KCP 6.2, KCP 6.4.1	Furman- Fratczak, K.	2015	The evaluation of efficacy and selectivity of MCW- 2222 (Acetamiprid 200 SL) for the control of *Meligethes aeneus* on winter oil seed rape BIOTEK Agriculture Polska Sp. z o o., Oława, Poland Report No.: DPE 14/684/IOL-02 Sponsor No.: PL14IEBRSNW302B KIIIA 6.1.3/233 GLP / GEP Unpublished	N	Y	ADAMA*
KCP 6.2, KCP 6.4.1	Pawlak, A.	2014	Analysis of the Efficacy of MCW-2222 SL on *Meligethes aeneus* in oil seed rape Staphyt Sp. Z o.o., Poznań, Poland Report No.: APK-14-18723-PL01 Sponsor No.: PL14IEBRSNW302C KIIIA 6.1.3/234 GLP / GEP Unpublished	N	Y	ADAMA* PL
KCP 6.2, KCP 6.4.1	Pawlak, A.	2014	Analysis of the Efficacy of MCW-2222 SL on *Meligethes aeneus* in oil seed rape Staphyt Sp. Z o.o., Poznań, Poland Report No.: APK-14-18723-PL02 Sponsor No.: PL14IEBRSNW302D KIIIA 6.1.3/235 GLP / GEP Unpublished	N	Y	ADAMA* PL
KCP 6.2, KCP 6.4.1	Głowacki, G.	2014	Determination of efficacy of MCW-2222 used singly against blossom beetle on winter rape Eurofins Agroscience Services Sp. z o.o., Kaźmierz, Poland Report No.: S14-01850-01 Sponsor No.: PL14IEBRSNW302E KIIIA 6.1.3/236	N	Y	ADAMA* PL

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	Data protection claimed Y/N	Owner
			GLP / GEP Unpublished			
KCP 6.2, KCP 6.4.1	Głowacki, G.	2014	Determination of the efficacy of MCW-2222 (Acetamiprid 200 g/L) against blossom beetle (*Meligethes aeneus*) on the winter rape Eurofins Agroscience Services Sp. z o.o., Kaźmierz, Poland Report No.: S14-01850-02 Sponsor No.: PL14IEBRSNW302F KIIIA 6.1.3/237 GLP / GEP Unpublished	N	Y	ADAMA* PL
KCP 6.2, KCP 6.4.1	Furman- Fratczak, K.	2015	The evaluation of efficacy and selectivity of MCW- 2222 (Acet-amiprid 200 SL) for the control *of Ceutorhynchus assimilis* and *Dasineura brassicae* on winter oil seed rape BIOTEK Agriculture Polska Sp. z o o., Oława, Poland Report No.: DPE 14/683/IOL-01 Sponsor No.: PL14IEBRSNW303A KIIIA 6.1.3/238 GLP / GEP Unpublished	N	Y	ADAMA*
KCP 6.2, KCP 6.4.1	Furman- Fratczak, K.	2015	The evaluation of efficacy and selectivity of MCW- 2222 (Acet-amiprid 200 SL) for the control of *Ceutorhynchus assimilis* and *Dasineura brassicae* on winter oil seed rape BIOTEK Agriculture Polska Sp. z o o., Oława, Poland Report No.: DPE 14/683/IOL-02 Sponsor No.: PL14IEBRSNW303B KIIIA 6.1.3/239 GLP / GEP Unpublished	N	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	Data protection claimed Y/N	Owner
KCP 6.2, KCP 6.4.1	Głowacki, G.	2014	Determination of efficacy of MCW-2222 used against cabbage seed weevil and Brassica pod midge on winter rape Eurofins Agroscience Services Sp. z o.o., Kaźmierz, Poland Report No.: S14-01851-01 Sponsor No.: PL14IEBRSNW303C KIIIA 6.1.3/240 GLP / GEP Unpublished	N	Y	ADAMA* PL
KCP 6.2, KCP 6.4.1	Głowacki, G.	2014	Determination of efficacy of MCW-2222 used against cabbage seed weevil and Brassica pod midge on winter rape Eurofins Agroscience Services Sp. z o.o., Kaźmierz, Poland Report No.: S14-01851-02 Sponsor No.: PL14IEBRSNW303D KIIIA 6.1.3/241 GLP / GEP Unpublished	N	Y	ADAMA* PL
KCP 6.2, KCP 6.4.1	Furman- Frątczak, K.	2015	The evaluation of efficacy and selectivity of MCW- 2222 (acetamipryd 200 SL) for the control of *Ceutorhynchus napi* and *Ceutorhynchus quadridens* on winter oilseed rape BIOTEK Agriculture Polska Sp. Z o.o., Oława, Polska Report No.: not stated Sponsor No.: PL15IEBRSNW301A KIIIA 6.1.3/242 GLP / GEP Unpublished	N	Y	ADAMA* PL
KCP 6.2, KCP 6.4.1	Furman- Frątczak, K.	2015	The evaluation of efficacy and selectivity of MCW- 2222 (Acetamipryd 200 SL) for the control of *Ceutorhynchus napi* and *Ceutorhynchus quadridens* on winter oilseed rape BIOTEK Agriculture Polska Sp. Z o.o., Oława, Polska Report No.: not stated Sponsor No.: PL15IEBRSNW301B KIIIA 6.1.3/243 GLP / GEP Unpublished	N	Y	ADAMA* PL
KCP 6.2, KCP 6.4.1	Furman- Frątczak, K.	2015	The evaluation of efficacy and selectivity of MCW- 2222 (Acetamipryd 200 SL) for the control of *Ceutorhynchus napi* and *Ceutorhynchus quadridens* on winter oilseed rape BIOTEK Agriculture Polska Sp. Z o.o., Oława, Polska	N	Y	ADAMA* PL

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	Data protection claimed Y/N	Owner
			Report No.: not stated Sponsor No.: PL15IEBRSNW301C KIIIA 6.1.3/244 GLP / GEP Unpublished			
KCP 6.2, KCP 6.4.1	Pawlak, A.	2015	Analysis of the Efficacy to MCW-222 on *Ceutorhynchus napi* in oil seed rape, Poland 2015 Staphyt Sp. z o.o., Poznań, Poland Report No.: APK-15-21973-PL01 Sponsor No.: PL15IEBRSNW301D KIIIA 6.1.3/245 GLP / GEP Unpublished	N	Y	ADAMA* PL
KCP 6.2, KCP 6.4.1	Pawlak, A.	2015	Analysis of the Efficacy to MCW-222 on *Ceutorhynchus napi* in oil seed rape, Poland 2015 Staphyt Sp. z o.o., Poznań, Poland Report No.: APK-15-21973-PL02 Sponsor No.: PL15IEBRSNW301E KIIIA 6.1.3/246 GLP / GEP Unpublished	N	Y	ADAMA* PL
KCP 6.2, KCP 6.4.1	Furman- Frątczak, K.	2015	The evaluation of efficacy and selectivity of MCW- 2222 (acetamipryd 200 SL) for the control of *Ceutorhynchus napi* and *Ceutorhynchus quadridens* on winter oilseed rape BIOTEK Agriculture Polska Sp. Z o.o., Oława, Polska Report No.: not stated Sponsor No.: PL15IEBRSNW302A KIIIA 6.1.3/247 GLP / GEP Unpublished	N	Y	ADAMA*PL
KCP 6.2, KCP 6.4.1	Pawlak, A.	2015	Analysis of the Efficacy to MCW-222 on *Ceutorhynchus quadridens* in oil seed rape, Poland 2015 Staphyt Sp. z o.o., Poznań, Poland Report No.: APK-15-22199-PL01 Sponsor No.: PL15IEBRSNW302B KIIIA 6.1.3/248 GLP / GEP Unpublished	N	Y	ADAMA*PL

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	Data protection claimed Y/N	Owner
KCP 6.2, KCP 6.4.1	Pawlak, A.	2015	Analysis of the Efficacy to MCW-222 on *Ceutorhynchus quadridens* in oil seed rape, Poland 2015 Staphyt Sp. z o.o., Poznań, Poland Report No.: APK-15-22199-PL02 Sponsor No.: PL15IEBRSNW302C KIIIA 6.1.3/249 GLP / GEP Unpublished	N	Y	ADAMA*PL
KCP 6.2, KCP 6.4.1	Szemende ra, A.	2015	Efficacy of MCW - 2222 in the control of cabbage seed weevil *Ceutorhynchus assimilis* on winter oilseed rape, Poland 2015 Fertico Sp. z o o., Błędów, Poland Report No.: 035_01_F15_077 Sponsor No.: PL15IEBRSNW303A KIIIA 6.1.3/250 GLP / GEP Unpublished	N	Y	ADAMA* PL
KCP 6.2, KCP 6.4.1	Szemende ra, A.	2015	Efficacy of MCW - 2222 in the control of cabbage seed weevil *Ceutorhynchus assimilis* on winter oilseed rape, Poland 2015 Fertico Sp. z o o., Błędów, Poland Report No.: 035_01_F15_078 Sponsor No.: PL15IEBRSNW303B KIIIA 6.1.3/251 GLP / GEP Unpublished	N	Y	ADAMA* PL
KCP 6.2, KCP 6.4.1	Chermuła, Ł.	2015	Determination of efficacy of MCW-2222 used against cabbage seed weevil and Brassica pod midge on winter rape. Eurofins Agroscience Services Sp. z o. o., Kaźmierz, Poland Report No.: S15-02387-01 Sponsor No.: PL15IEBRSNW304A KIIIA 6.1.3/252 GLP / GEP Unpublished	N	Y	ADAMA* PL

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	Data protection claimed Y/N	Owner
KCP 6.2, KCP 6.4.1	Chermuła, Ł.	2015	Determination of efficacy of MCW-2222 used against cabbage seed weevil and Brassica pod midge on winter rape. Eurofins Agroscience Services Sp. z o. o., Kaźmierz, Poland Report No.: S15-02387-02 Sponsor No.: PL15IEBRSNW304B KIIIA 6.1.3/253 GLP / GEP Unpublished	N	Y	ADAMA* PL
KCP 6.2, KCP 6.4.1	Ferenc, S.	2011	Control on rape blossom beetle and cabbage seed weevil in oilseed rape by foliar spraying Government Office of Nógrád County, Balassagyarmat, Hungary Report No.: Z 11/1/2011 Sponsor No.: not stated Not KIIIA 6.1.3/254 GLP / GEP Unpublished	N	Y	AGAN HU (Adama)
KCP 6.2, KCP 6.4.1	Csaba, N.	2011	Control of common pollen beetle and cabbage seedpod weevil in oilseed rape Government Office of Somogy County, Kaposvár, Hungary Report No.: Z 11/2/2011 Sponsor No.: not stated Not KIIIA 6.1.3/255 GLP / GEP Unpublished	N	Y	AGAN HU (Adama)
KCP 6.2, KCP 6.4.1	Barasits, T.	2011	Efficacy and selectivity of MCW-2222 on insects of winter oilseed rape SynTech Research Hungary Kft, Táplánszentkereszt, Hungary Report No.: SRHU11-097-135IE Sponsor No.: not stated KIIIA 6.1.3/256 GLP / GEP Unpublished	N	Y	AGAN HU (Adama)
KCP 6.2, KCP 6.4.1	Barasits, T.	2011	Efficacy and selectivity of MCW-2222 on insects of winter oilseed rape SynTech Research Hungary Kft, Táplánszentkereszt, Hungary Report No.: SRHU11-098-135IE Sponsor No.: not stated KIIIA 6.1.3/257	N	Y	AGAN HU (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	Data protection claimed Y/N	Owner
			GLP / GEP Unpublished			
KCP 6.2, KCP 6.4.1	István, F.	2012	Analysis of the efficacy of MCW-2222 SL on biting insects and in oil seed rape Government Office of Vas Country, Szombathely, Hungary Report No.: not stated Sponsor No.: HU12IE-MCW2222-BRSNW_Vas KIIIA 6.1.3/258 GLP / GEP Unpublished	N	Y	ADAMA* HU
KCP 6.2, KCP 6.4.1	Ripka, G.	2012	Efficacy of insecticides against pollen beetle in oilseed-rape at flowering time Government Office of Nógrád County, Balassagyarmat, Hungary Report No.: HU12-IE-Mavrik-Mon-BRSNW Nóg Sponsor No.: not stated Not KIIIA 6.1.3/259 GLP / GEP Unpublished	N	Y	AGAN HU (Adama)
KCP 6.2, KCP 6.4.1	Barasits, T.	2012	Efficacy of insecticides against pollen beetle in oil seed rape at flowering time SynTech Research Hungary Kft, Táplánszentkereszt, Hungary Report No.: SRHU12-173-135IE Sponsor No.: HU12-IE-Mavrik-Mon-BRSNW-173 KIIIA 6.1.3/260 GLP / GEP Unpublished	N	Y	AGAN HU (Adama)
KCP 6.2, KCP 6.4.1	Barasits, T.	2012	Efficacy of insecticides against pollen beetle in oil seed rape at flowering time SynTech Research Hungary Kft, Táplánszentkereszt, Hungary Report No.: SRHU12-174-135IE Sponsor No.: HU12-IE-Mavrik-Mon-BRSNW-174 KIIIA 6.1.3/261 GLP / GEP Unpublished	N	Y	AGAN HU (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	Data protection claimed Y/N	Owner
KCP 6.2, KCP 6.4.1	Barasits, T.	2012	Analysis of efficacy of MCW-2222 SL on biting insects in oil seed rape SynTech Research Hungary Kft, Táplánszentkereszt, Hungary Report No.: SRHU12-175-135IE Sponsor No.: HU12IE-MCW2222-BRSNW-175 KIIIA 6.1.3/262 GLP / GEP Unpublished	N	Y	AGAN HU (Adama)
KCP 6.2, KCP 6.4.1	Barasits, T.	2012	Analysis of efficacy of MCW-2222 SL on biting insects in oil seed rape SynTech Research Hungary Kft, Táplánszentkereszt, Hungary Report No.: SRHU12-176-135IE Sponsor No.: HU12IE-MCW2222-BRSNW-176 KIIIA 6.1.3/263 GLP / GEP Unpublished	N	Y	AGAN HU (Adama)
KCP 6.2, KCP 6.4.1	Barasits, T.	2013	Analysis of efficacy to MCW-2222 SL on biting insects in oilseed rape SynTech Research Hungary Kft, Szombathely, Hungary Report No.: SRHU13-068-135IE Sponsor No.: HU13IEBRSNW431A KIIIA 6.1.3/264 GLP / GEP Unpublished	N	Y	AGAN HU (Adama)
KCP 6.2, KCP 6.4.1	Ripka, G.	2013	Analysis of efficacy to MCW-2222 SL on biting insects in oil seed rape in Hungary 2013 Government Office of Vas County, Szombathely, Hungary Report No.: not stated Sponsor No.: HU13IEBRSNW431B KIIIA 6.1.3/265 GLP / GEP Unpublished	N	Y	AGAN HU (Adama)
KCP 6.2, KCP 6.4.1	Ripka, G.	2013	Analysis of efficacy to MCW-2222 SL on biting insects in oil seed rape in Hungary 2013 Government Office of Nógrád County, Salgótarján, Hungary Report No.: not stated Sponsor No.: HU13IEBRSNW431C Not KIIIA 6.1.3/266	N	Y	AGAN HU (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	Data protection claimed Y/N	Owner
			GLP / GEP Unpublished			
KCP 6.2, KCP 6.4.1	Barasits, T.	2013	Analysis of efficacy to MCW-2222 SL on biting insects in oilseed rape SynTech Research Hungary Kft, Szombathely, Hungary Report No.: SRHU13-069-135IE Sponsor No.: HU13IEBRSNW432A KIIIA 6.1.3/267 GLP / GEP Unpublished	N	Y	AGAN HU (Adama)
KCP 6.2, KCP 6.4.1	Ripka, G.	2013	Analysis of efficacy to MCW-2222 SL on biting insects in oil seed rape in Hungary 2013 Government Office of Vas County, Szombathely, Hungary Report No.: not stated Sponsor No.: HU13IEBRSNW432B KIIIA 6.1.3/268 GLP / GEP Unpublished	N	Y	AGAN HU (Adama)
KCP 6.2, KCP 6.4.1	Ripka, G.	2013	Analysis of efficacy to MCW-2222 SL on biting insects in oil seed rape in Hungary 2013 Government Office of Nógrád County, Salgótarján, Hungary Report No.: not stated Sponsor No.: HU13IEBRSNW432C Not KIIIA 6.1.3/269 GLP / GEP Unpublished	N	Y	AGAN HU (Adama)
KCP 6.2, KCP 6.4.1	Ripka, G.	2013	Analysis of efficacy to MCW-2222 SL on biting insects in oil seed rape in Hungary 2013 Government Office of Vas County, Szombathely, Hungary Report No.: not stated Sponsor No.: HU13IEBRSNW433B KIIIA 6.1.3/270 GLP / GEP Unpublished	N	Y	AGAN HU (Adama)
KCP 6.2, KCP 6.4.1	Ripka, G.	2013	Analysis of efficacy to MCW-2222 SL on biting insects in oil seed rape in Hungary 2013 Government Office of Nógrád County, Salgótarján, Hungary Report No.: not stated	N	Y	AGAN HU (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	Data protection claimed Y/N	Owner
			Sponsor No.: HU13IEBRSNW433C Not KIIIA 6.1.3/271 GLP / GEP Unpublished			
KCP 6.2, KCP 6.4.1	Barasits, T.	2013	Efficacy of insecticides against pollen beetle in oilseed rape at flowering time SynTech Research Hungary Kft, Szombathely, Hungary Report No.: SRHU13-071-135IE Sponsor No.: HU13IEBRSNW434A KIIIA 6.1.3/272 GLP / GEP Unpublished	N	Y	AGAN HU (Adama)
KCP 6.2, KCP 6.4.1	Barasits, T.	2013	Efficacy of insecticides against pollen beetle in oilseed rape at flowering time SynTech Research Hungary Kft, Szombathely, Hungary Report No.: SRHU13-072-135IE Sponsor No.: HU13IEBRSNW434B KIIIA 6.1.3/273 GLP / GEP Unpublished	N	Y	AGAN HU (Adama)
KCP 6.2, KCP 6.4.1	Ripka, G.	2013	Efficacy of insecticides against pollen beetle in oilseed-rape at flowering time in Hungary 2013 Government Office of Vas Country, Szombathely, Hungary Report No.: not stated Sponsor No.: HU13IEBRSNW434C KIIIA 6.1.3/274 GLP / GEP Unpublished	N	Y	AGAN HU (Adama)
KCP 6.2, KCP 6.4.1	Ripka, G.	2013	Efficacy of insecticides against pollen beetle in oilseed-rape at flowering time in Hungary 2013 Government Office of Nógrád County, Salgótarján, Hungary Report No.: not stated Sponsor No.: HU13IEBRSNW434D Not KIIIA 6.1.3/275 GLP / GEP Unpublished	N	Y	AGAN HU (Adama)
KCP 6.2, KCP 6.4.1	Liposits, V.	2013	Efficacy of insecticides against pollen beetle in oilseed-rape at flowering time in Hungary 2013	N	Y	AGAN HU (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	Data protection claimed Y/N	Owner
			Government Office of County Zala, Zalaegerszeg, Hungary Report No.: not stated Sponsor No.: HU13IEBRSNW434E KIIIA 6.1.3/276 GLP / GEP Unpublished			
KCP 6.2, KCP 6.4.1	Ripka, G.	2013	Efficacy of insecticides against pollen beetle in oilseed-rape at flowering time in Hungary 2013 Government Office of Somogy County, Kaposvár, Hungary Report No.: not stated Sponsor No.: HU13IEBRSNW434F KIIIA 6.1.3/277 GLP / GEP Unpublished	N	Y	AGAN HU (Adama)
KCP 6.2, KCP 6.4.1	István, F.	2014	Analysis of efficacy to MCW-2222 SL on biting insects in oil seed rape in Hungary 2014 Government Office of Vas Country, Szombathely, Hungary Report No.: not stated Sponsor No.: HU14IEBRSNW011A KIIIA 6.1.3/278 GLP / GEP Unpublished	N	Y	ADAMA* HU
KCP 6.2, KCP 6.4.1	Ripka, G.	2014	Analysis of efficacy to MCW-2222 SL on biting insects in oil seed rape in Hungary 2014 Government Office of Nógrád County, Salgótarján, Hungary Report No.: not stated Sponsor No.: HU14IEBRSNW011B KIIIA 6.1.3/279 GLP / GEP Unpublished	N	Y	ADAMA* HU
KCP 6.2, KCP 6.4.1	Barasits, T.	2014	Analysis of efficacy to MCW-2222 SL on biting insects in oil seed rape in Hungary 2014 SynTech Research Hungary Kft, Szombathely, Hungary Report No.: SRHU14-040-135IE Sponsor No.: HU14IEBRSNW012A KIIIA 6.1.3/280 GLP / GEP Unpublished	N	Y	ADAMA* HU

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	Data protection claimed Y/N	Owner
KCP 6.2, KCP 6.4.1	Barasits, T.	2014	Analysis of efficacy to MCW-2222 SL on biting insects in oil seed rape in Hungary 2014 SynTech Research Hungary Kft, Szombathely, Hungary Report No.: SRHU14-041-135IE Sponsor No.: HU14IEBRSNW012B KIIIA 6.1.3/281 GLP / GEP Unpublished	N	Y	ADAMA* HU
KCP 6.2, KCP 6.4.1	Barasits, T.	2014	Analysis of efficacy to MCW-2222 SL on biting insects in oil seed rape SynTech Research Hungary Kft, Szombathely, Hungary Report No.: SRHU14-042-135IE Sponsor No.: HU14IEBRSNW013A KIIIA 6.1.3/282 GLP / GEP Unpublished	N	Y	ADAMA* HU
KCP 6.2, KCP 6.4.1	Barasits, T.	2014	Analysis of efficacy to MCW-2222 SL on biting insects in oil seed rape SynTech Research Hungary Kft, Szombathely, Hungary Report No.: SRHU14-043-135IE Sponsor No.: HU14IEBRSNW013B KIIIA 6.1.3/283 GLP / GEP Unpublished	N	Y	ADAMA* HU
KCP 6.2, KCP 6.4.1	István, F.	2015	Analysis of the efficacy of MCW-2222 SL on biting insects and in oil seed rape in Hungary 2015 Government Office of Vas Country, Szombathely, Hungary Report No.: not stated Sponsor No.: HU15IEBRSNW101A KIIIA 6.1.3/284 GLP / GEP Unpublished	N	Y	ADAMA* HU
KCP 6.2, KCP 6.4.1	Szántóné Veszelka, M.	2015	Analysis of the efficacy of MCW-2222 SL on biting insects and in oil seed rape in Hungary 2015 Government Office of Nógrád County, Balassagyarmat, Hungary Report No.: not stated Sponsor No.: HU15IEBRSNW101B KIIIA 6.1.3/285	N	Y	ADAMA* HU

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	Data protection claimed Y/N	Owner
			GLP / GEP Unpublished			
KCP 6.2, KCP 6.4.1	István, F.	2015	Analysis of the efficacy of MCW-2222 SL on biting insects and in oil seed rape in Hungary 2015 Government Office of Vas Country, Szombathely, Hungary Report No.: not stated Sponsor No.: HU15IEBRSNW102A KIIIA 6.1.3/286 GLP / GEP Unpublished	N	Y	ADAMA* HU
KCP 6.2, KCP 6.4.1	Hoffmann é, P.Z.	2015	Analysis of the efficacy of MCW-2222 SL on biting insects and in oil seed rape in Hungary 2015 Növénypathyka Kft., Kaposvár, Hungary Report No.: not stated Sponsor No.: HU15IEBRSNW103A KIIIA 6.1.3/287 GLP / GEP Unpublished	N	Y	ADAMA* HU
KCP 6.2, KCP 6.4.1	Barasits, T.	2015	Analysis of the efficacy of MCW-2222 SL on biting insects and in oil seed rape in Hungary 2015 SynTech Research Hungay, Táplánszentkereszt, Hungary Report No.: SRHU15-217-135IE Sponsor No.: HU15IEBRSNW103B KIIIA 6.1.3/288 GLP / GEP Unpublished	N	Y	ADAMA* HU
KCP 6.2, KCP 6.4.1	Barasits, T.	2015	Analysis of the efficacy of MCW-2222 SL on biting insects and in oil seed rape in Hungary 2015 SynTech Research Hungay, Táplánszentkereszt, Hungary Report No.: SRHU15-218-135IE Sponsor No.: HU15IEBRSNW103C KIIIA 6.1.3/289 GLP / GEP Unpublished	N	Y	ADAMA* HU
KCP 6.2, KCP 6.4.1	Ritecz, J.	2015	Analysis of the efficacy of MCW-2222 SL on biting insects and in oil seed rape in Hungary 2015 SynTech Research Hungay, Táplánszentkereszt, Hungary Report No.: SRHU15-219-135IE	N	Y	ADAMA* HU

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	Data protection claimed Y/N	Owner
			Sponsor No.: HU15IEBRSNW103D KIIIA 6.1.3/290 GLP / GEP Unpublished			
KCP 6.2, KCP 6.4.1	Barasits, T.	2015	Analysis of the efficacy of MCW-2222 SL on biting insects and in oil seed rape in Hungary 2015 SynTech Research Hungay, Táplánszentkereszt, Hungary Report No.: SRHU15-215-135IE Sponsor No.: HU15IEBRSNW104A KIIIA 6.1.3/291 GLP / GEP Unpublished	N	Y	ADAMA* HU
KCP 6.2, KCP 6.4.1	Hoffmann é, P.Z.	2015	Analysis of the efficacy of MCW-2222 SL on biting insects and in oil seed rape in Hungary 2015 Növénypathyka Kft., Kaposvár, Hungary Report No.: not stated Sponsor No.: HU15IEBRSNW104B KIIIA 6.1.3/292 GLP / GEP Unpublished	N	Y	ADAMA* HU
KCP 6.2, KCP 6.4.1	Ripka, G.	2015	Analysis of the efficacy of MCW-2222 SL on biting insects and in oil seed rape in Hungary 2015 Government Office of Vas Country, Szombathely, Hungary Report No.: not stated Sponsor No.: HU15IEBRSNW104C KIIIA 6.1.3/293 GLP / GEP Unpublished	N	Y	ADAMA* HU
KCP 6.2, KCP 6.4.1	Szántóné Veszelka, M.	2015	Analysis of the efficacy of MCW-2222 SL on biting insects and in oil seed rape in Hungary 2015 Government Office of Nógrád County, Balassagyarmat, Hungary Report No.: not stated Sponsor No.: HU15IEBRSNW104D KIIIA 6.1.3/294 GLP / GEP Unpublished	N	Y	ADAMA* HU

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	Data protection claimed Y/N	Owner
KCP 6.2, KCP 6.4.1	Jozefiak, D.	2013	Analysis of the efficacy of MCW-2222 SL against *Ceutorhynchus napi*, on oil seed rape, Slovakia 2013 UKSUP Bratislava branch office Kosice, Kosice, Slovakia Report No.: KE/4-13 Sponsor No.: SK13IEBRSNW001A KIIIA 6.1.3/295 GLP / GEP Unpublished	N	Y	Agrovita (Adama)
KCP 6.2, KCP 6.4.1	Toth, F.	2013	Analysis of the Efficacy of MCW-2222 SL against *Ceutorhynchus napi, quadridens* on oil seed rape, Slovakia 2013 Gemerprodukt Valice OVD, Rimavská Sobota, Slovakia Report No.: not stated Sponsor No.: SK13IEBRSNW001B KIIIA 6.1.3/296 GLP / GEP Unpublished	N	Y	Agrovita (Adama)
KCP 6.2, KCP 6.4.1	Jozefiak, D.	2013	Analysis of efficacy of MCW-2222 SL against *Meligethes aeneus* on oil seed rape, Slovakia 2013 UKSUP, Košice, Slovakia Report No.: not stated Sponsor No.: SK13IEBRSNW002A KIIIA 6.1.3/297 GLP / GEP Unpublished	N	Y	Agrovita (Adama)
KCP 6.2, KCP 6.4.1	Toth, F.	2013	Analysis of efficacy of MCW-2222 SL against *Meligethes aeneus* on oil seed rape, Slovakia 2013 Gemerprodukt Valice OVD, Rimavská Sobota, Slovakia Report No.: not stated Sponsor No.: SK13IEBRSNW002B KIIIA 6.1.3/298 GLP / GEP Unpublished	N	Y	Agrovita (Adama)
KCP 6.2, KCP 6.4.1	Toth, F.	2013	Analysis of efficacy of MCW-2222 SL against *Dasineura brassicae, Ceutorhynchus assimilis* on oil seed rape, Slovakia 2013 Gemerprodukt Valice OVD, Rimavská Sobota, Slovakia Report No.: not stated Sponsor No.: SK13IEBRSNW003B KIIIA 6.1.3/299	N	Y	Agrovita (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	Data protection claimed Y/N	Owner
			GLP / GEP Unpublished			
KCP 6.2, KCP 6.4.1	Jozefiak, D.	2014	Analysis of efficacy to MCW-2222 SL on Ceuta, Ceutqu in oil seed rape, Slovakia 2014 UKSUP, Košice, Slovakia Report No.: not stated Sponsor No.: SK14IEBRSNW001A KIIIA 6.1.3/300 GLP / GEP Unpublished	N	Y	Agrovita SK (Adama)
KCP 6.2, KCP 6.4.1	Tóth, F.	2015	Analysis of efficacy to MCW-2222 SL on Ceuta, Ceutq in oil seed rape, Slovakia 2014 Gemerprodukt Valice OVD, Rimavská Sobota, Slovakia Report No.: not stated Sponsor No.: SK14IEBRSNW001B KIIIA 6.1.3/301 GLP / GEP Unpublished	N	Y	ADAMA* SK
KCP 6.2, KCP 6.4.1	Tóth, F.	2015	Analysis of efficacy to MCW-2222 SL on Ceuta, Ceutq in oil seed rape, Slovakia 2014 Gemerprodukt Valice OVD, Rimavská Sobota, Slovakia Report No.: not stated Sponsor No.: SK14IEBRSNW001C KIIIA 6.1.3/302 GLP / GEP Unpublished	N	Y	ADAMA* SK
KCP 6.2, KCP 6.4.1	Soltesz, J.	2015	Analysis of efficacy to MCW-2222 SL on Ceuta, Ceutq in oil seed rape, Slovakia 2014 Fyse, s.r.o. AgroLab, Kolare, Slovakia Report No.: not stated Sponsor No.: SK14IEBRSNW001D KIIIA 6.1.3/303 GLP / GEP Unpublished	N	Y	Agrovita SK (Adama)
KCP 6.2, KCP 6.4.1	Jozefiak, D.	2014	Analysis of efficacy to MCW-2222 SL on Melia in oil seed rape, Slovakia 2014 UKSUP, Košice, Slovakia Report No.: not stated	N	Y	Agrovita SK (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	Data protection claimed Y/N	Owner
			Sponsor No.: SK14IEBRSNW002A KIIIA 6.1.3/304 GLP / GEP Unpublished			
KCP 6.2, KCP 6.4.1	Tóth, F.	2015	Analysis of efficacy to MCW-2222 SL on Melia in oil seed rape, Slovakia 2014 Gemerprodukt Valice OVD, Rimavská Sobota, Slovakia Report No.: not stated Sponsor No.: SK14IEBRSNW002B KIIIA 6.1.3/305 GLP / GEP Unpublished	N	Y	Agrovita SK (Adama)
KCP 6.2, KCP 6.4.1	Jozefiak, D.	2015	Analysis of the efficacy of MCW-2222 SL against *Ceutorhynchus napi*, on oil seed rape, Slovakia 2015 UKSUP Bratislava branch office Kosice, Kosice, Slovakia Report No.: not stated Sponsor No.: SK15IEBRSNW001A KIIIA 6.1.3/306 GLP / GEP Unpublished	N	Y	ADAMA* SK
KCP 6.2, KCP 6.4.1	Forgáčová , L.	2015	Analysis of the efficacy of MCW-2222 SL against *Ceutorhynchus napi*, on oil seed rape, Slovakia 2015 Ing. L'ubica Foráčová, Boliarov, Slovakia Report No.: LF/01/in/15 Sponsor No.: SK15IEBRSNW001B KIIIA 6.1.3/307 GLP / GEP Unpublished	N	Y	ADAMA* SK
KCP 6.2, KCP 6.4.1	Jozefiak, D.	2015	Analysis of the efficacy of MCW-2222 SL against *Ceutorhynchus assimilis, Dasineura bassicae* on oil seed rape, Slovakia 2015 UKSUP Bratislava branch office Kosice, Kosice, Slovakia Report No.: KE/I/06-15 Sponsor No.: SK15IEBRSNW001D KIIIA 6.1.3/308 GLP / GEP Unpublished	N	Y	ADAMA* SK
KCP 6.2, KCP 6.4.1	Jozefiak, D.	2015	Analysis of the efficacy to MCW-2222 SL against *Ceuthorynchus napi* in oil seed rape, Slovakia 2015	N	Y	ADAMA* SK

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	Data protection claimed Y/N	Owner
			UKSUP Bratislava branch office Kosice, Kosice, Slovakia Report No.: KE/I/04-15 Sponsor No.: SK15IEBRSNW001I KIIIA 6.1.3/309 GLP / GEP Unpublished			
KCP 6.3/01	Thieme, Thomas	2013	Relative susceptibility of field populations of the oilseed rape pollen beetle (*Meligethes aeneus*) collected 2013 in Austria, the Czech Republic, France, Germany, Hungary, Poland and GB to the insecticides Biscaya, chlorpyrifosethyl, tau-fluvalinate and acetamiprid, in comparison to lambda-cyhalothrin BTL Bio-Test Labor GmbH Sagerheide GEP Unpublished	N	V	ADAMA*
KCP 6.3/02	Thieme, Thomas	2014	Relative susceptibility of field populations of the oilseed rape pollen beetle (*Meligethes aeneus*) collected 2014 in Austria, Czech Republic, France, Germany, Hungary, Poland and UK to the insecticides Biscaya, chlorpyrifosethyl, tau-fluvalinate and acetamiprid, in comparison to lambda-cyhalothrin BTL Bio-Test Labor GmbH Sagerheide, GEP Unpublished	N	Y	ADAMA*
KCP 6.3/03	Bielza, Pablo	2015	Resistance monitoring of samples treated with the Insecticide "MCW-2222" in *Myzus persicae* Universidad Politécnica de Cartagena report n° 31005814 GEP Unpublished	N	Y	ADAMA*
KCP 6.4.4	Kukuła, A.	2014	Sensory evaluation - the influence of the plant protection product MCW-2222 (Acetamipryd 200 SL) on taint of processing potatoes AGRECO Sp. z o.o., Oława, Poland Report No.: not stated Sponsor No.: 15ADA0139-6 KIIIA 6.1.4/001 GLP / GEP Unpublished	N	Y	ADAMA*
KCP 6.4.4	Kukuła, A.	2015	Sensory evaluation - the influence of the plant protection product MCW-222 (Acetamiprid 200 SL) on taint of processing potatoes	N	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	Data protection claimed Y/N	Owner
			AGRECO Sp. z o.o., Oława, Poland Report No.: 15ADA0188-2 Sponsor No.: DE15IESOLTU320C KIIIA 6.1.4/002 GLP / GEP Unpublished			
KCP 6.4.4	Kukuła, A.	2015	Sensory evaluation - the influence of the plant protection product MCW-222 (Acetamiprid 200 SL) on taint of processing potatoes AGRECO Sp. z o.o., Oława, Poland Report No.: 15ADA0188-3 Sponsor No.: DE15IESOLTU320A KIIIA 6.1.4/003 GLP / GEP Unpublished	N	Y	ADAMA*
KCP 6.4.4	Kukuła, A.	2015	Sensory evaluation - the influence of the plant protection product MCW-222 (Acetamiprid 200 SL) on taint of processing potatoes AGRECO Sp. z o.o., Oława, Poland Report No.: 15ADA0188-4 Sponsor No.: DE15ISSOLTU320B KIIIA 6.1.4/004 GLP / GEP Unpublished	N	Y	ADAMA*
KCP 6.4.4	Kukuła, A.	2015	Sensory evaluation - the influence of the plant protection product MCW-222 (Acetamiprid 200 SL) on taint of fresh and processing apples AGRECO Sp. z o.o., Oława, Poland Report No.: 15ADA0187-1 Sponsor No.: CZ15IEMABSD001B KIIIA 6.1.4/005 GLP / GEP Unpublished	N	Y	ADAMA*
KCP 6.4.4	Kukuła, A.	2015	Sensory evaluation - the influence of the plant protection product MCW-222 (Acetamiprid 200 SL) on taint of fresh and processing apples AGRECO Sp. z o.o., Oława, Poland Report No.: 15ADA0187-2 Sponsor No.: PL15IEMABSD126A KIIIA 6.1.4/006	N	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	Data protection claimed Y/N	Owner
			GLP / GEP Unpublished			
KCP 6.4.4	Kukuła, A.	2015	Sensory evaluation - the influence of the plant protection product MCW-222 (Acetamiprid 200 SL) on taint of fresh and processing apples AGRECO Sp. z o.o., Oława, Poland Report No.: 15ADA0187-3 Sponsor No.: PL15IEMABSD126B KIIIA 6.1.4/007 GLP / GEP Unpublished	N	Y	ADAMA*
KCP 6.4.4	Kukuła, A.	2015	Sensory evaluation - the influence of the plant protection product MCW-222 (Acetamiprid 200 SL) on taint of processing potatoes AGRECO Sp. z o.o., Oława, Poland Report No.: 15ADA0188-1 Sponsor No.: RO15IESOLTU012A KIIIA 6.1.4/008 GLP / GEP Unpublished	N	Y	ADAMA*
KCP 6.4.4	Kukuła, A.	2014	Sensory evaluation - the influence of the plant protection product MCW-222 (Acetamiprid 200 SL) on taint of fresh and processing apples AGRECO Sp. z o.o., Oława, Poland Report No.: 15ADA0138-4 Sponsor No.: not stated KIIIA 6.1.4/009 GLP / GEP Unpublished	N	Y	ADAMA*
KCP 6.4.4	Kukuła, A.	2014	Sensory evaluation - the influence of the plant protection product MCW-222 (Acetamiprid 200 SL) on taint of fresh and processing apples AGRECO Sp. z o.o., Oława, Poland Report No.: 15ADA0138-5 Sponsor No.: not stated KIIIA 6.1.4/010 GLP / GEP Unpublished	N	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	Data protection claimed Y/N	Owner
KCP 6.4.4	Kukuła, A.	2014	Sensory evaluation - the influence of the plant protection product MCW-222 (Acetamiprid 200 SL) on taint of fresh and processing apples AGRECO Sp. z o.o., Oława, Poland Report No.: 15ADA0138-1 Sponsor No.: not stated KIIIA 6.1.4/011 GLP / GEP Unpublished	N	Y	ADAMA*
KCP 6.4.4	Kukuła, A	Kukuła,	Sensory evaluation - the influence of the plant protection product MCW-222 (Acetamiprid 200 SL) on taint of fresh and processing apples AGRECO Sp. z o.o., Oława, Poland Report No.: 15ADA0138-2 Sponsor No.: not stated KIIIA 6.1.4/012 GLP / GEP Unpublished	N	Y	ADAMA*
KCP 6.4.4	Kukuła, A.	2014	Sensory evaluation - the influence of the plant protection product MCW-222 (Acetamiprid 200 SL) on taint of fresh and processing apples AGRECO Sp. z o.o., Oława, Poland Report No.: 15ADA0138-3 Sponsor No.: not stated KIIIA 6.1.4/013 GLP / GEP Unpublished	N	Y	ADAMA*
KCP 6.4.4	Kukuła, A.	2014	Sensory evaluation - the influence of the plant protection product MCW-222 (Acetamiprid 200 SL) on taint ofprocessing potatoes AGRECO Sp. z o.o., Oława, Poland Report No.: 15ADA0139-1 Sponsor No.: not stated KIIIA 6.1.4/014 GLP / GEP Unpublished	N	Y	ADAMA*
KCP 6.4.4	Kukuła, A.	2014	Sensory evaluation - the influence of the plant protection product MCW-222 (Acetamiprid 200 SL) on taint ofprocessing potatoes AGRECO Sp. z o.o., Oława, Poland	N	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	Data protection claimed Y/N	Owner
			Report No.: 15ADA0139-2 Sponsor No.: not stated KIIIA 6.1.4/015 GLP / GEP Unpublished			
KCP 6.4.4	Kukuła, A.	2014	Sensory evaluation - the influence of the plant protection product MCW-222 (Acetamiprid 200 SL) on taint ofprocessing potatoes AGRECO Sp. z o.o., Oława, Poland Report No.: 15ADA0139-3 Sponsor No.: not stated KIIIA 6.1.4/016 GLP / GEP Unpublished	N	Y	ADAMA*

*For all Adama studies Nufarm has a Letter of access

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
-	-	-	-	-	-

List of open literature

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Verte-brate study Y/N	Owner
KCP 6.0	Federal Office of Consumer Protection and Food Safety (BVL)	n.a.	Formulation types of plant protection products Available online: https://www.bvl.bund.de/EN/Tasks/04_Plant_protection_products/01_ppp_tasks/08_ProductChemistry/01_ppp_coformulants_formulationChemistry/01_ppp_formulation_types/ppp_formulation_types_node.html (access: 08.07.2020)	N	Open literature
KCP 6.3	Food and Agriculture Organization of the United Nations (FAO)	2012	International Code of Conduct on the Distribution and Use of Pesticides, Guidelines on Prevention and Management of Pesticide Resistance Available online: http://www.fao.org/fileadmin/templates/agphome/documents/Pests_Pesticides/Code/FAO_RMG_Sept_12.pdf (access: 29.04.2020)	N	Open literature
KCP 6.3	Insecticide Resistance Action Committee	2020	The IRAC Mode of action classification. Available online: https://www.irac-online.org/modes-of-action/ (access: 23.03.2019)	N	Open literature
KCP 6.3	Insecticide Resistance Action Committee	2020	Resistance Available online: https://www.irac-online.org/about/resistance/ (access: 23.03.2020)	N	Open literature
KCP 6.3	Insecticide Resistance Action Committee	2020	Pests Available online: https://www.irac-online.org/pests/ (access: 23.03.2020)	N	Open literature

Data point	Author(s)	Year	**Title** **Company Report No.** **Source (where different from company)** **GLP or GEP status** **Published or not**	**Verte-brate study Y/N**	**Owner**
KCP 6.0/ KCP 6.3	Insecticide Resistance Action Committee	2014	IRAC Guidelines for Management of Resistance to Group 4 insecticides. Issued, March 2015 Version 2.0 Available online: https://www.irac-online.org/updated-irm-guidelines-for-group-4-insecticides/ (access: 11.03.2020)	N	Open literature
KCP 6.3	Insecticide Resistance Action Committee	2019	Insecticide Mode of Action, Training slide deck, IRAC MoA Workgroup Version 1.0, April 2019 Available online: https://irac-online.org/teams/mode-of-action/presentations/ (access: 29.04.2020)	N	Open literature
KCP 6.3	Insecticide Resistance Action Committee	2018	IRM for sustainable whitefly control with special reference to Bemisia tabaci. Available online: https://www.irac-online.org/pests/bemisia-tabaci/ (access: 23.03.2020)	N	Open literature
KCP 6.3	Insecticide Resistance Action Committee	2016	Colorado Potato Beetle (*Leptinotarsa decemlineata*) IRM Poster Available online: https://irac-online.org/documents/colorado-potato-beetle-irm-poster/?ext=pdf (access: 23.03.2020)	N	Open literature
KCP 6.3	Insecticide Resistance Action Committee	2018	Major mechanisms of insecticide resistance in green peach aphid *Myzus persicae* Sulzer. Available online: https://www.irac-online.org/pests/myzus-persicae/ (access: 19.03.2020)	N	Open literature
KCP 6.3	Michigan State University, Insecticide Resistance Action Committee	2019	Arthropod Pesticide Resistance Database Available online: https://www.pesticideresistance.org/ (access: 18.12.2019)	N	Open literature

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
-	-	-	-	-	-

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
-	-	-	-	-	-