FINAL REGISTRATION REPORT

Part B

Section 3

Efficacy Data and Information

Concise summary

Product code: MIEDZIAN EXTRA 350 SC

Product names: **MIEDZIAN EXTRA 350 SC,**

~~**COBRESAL EXTRA 350 SC, KARES 350 SC**~~

Chemical active substance:

Copper as a copper oxychloride, 350 g/l

Central

Zonal Rapporteur Member State: **Poland**

CORE ASSESSMENT

(re-authorization according art. 43 and art. 51, Reg. 1107/2009)

Applicant: **Synthos Agro Sp. z o.o.**

Submission date: **07/2020**

MS Finalisation date: 02/2022; 08/2022 03/2023

Version history

When	What
07/2020	Renewal of registration of plant protection product according art. 43, Reg. 1107/2009
03/2021	Addition the information on product GAP approved under first evaluation and under extension to minor uses for the Miedzian Extra 350 SC
02/2022	GAP revision
02/2022	ZRMs evaluated dRR submitted by Applicant in February 2022
08/2022	The Final RR
03/2023	ZRMs corrected GAP according to comments from MRiRW

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

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

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

Comments of zRMS:	Comments of zRMS are in commenting boxes at the end of each chapter. The text of dRR was generally not changed or rewritten (small changes in the document are in grey).

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

Abstract

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

3.1.1 Intended uses

3.1.1.1 The currently valid GAP for the product Miedzian Extra 350 SC

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Use-No. [e]	**Member state(s)**	**Crop and/ or situation** **(crop destination / purpose of crop)**	**F, Fn, Fpn G, Gn, Gpn or I**	**Pests or Group of pests controlled** (additionally: developmental stages of the pest or pest group)	**Application**				**Application rate**			**PHI** (days)	**Remarks:** e.g. g safener/synergist per ha [f]
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	kg or L product / ha a) max. rate per appl. b) max. total rate per crop/season	g or kg as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max		

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Use-No. [e]	**Member state(s)**	**Crop and/ or situation** **(crop destination / purpose of crop)**	**F, Fn, Fpn G, Gn, Gpn or I**	**Pests or Group of pests controlled** (additionally: developmental stages of the pest or pest group)	**Application**				**Application rate**			**PHI** (days)	**Remarks:** e.g. g safener/synergist per ha [f]
					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	Fpn	*Venturia inaequalis*	spraying	BBCH 00-07	a)1 b)2	7-10	a)1,5 b)3,0	a) 0,525 kg Cu/ha b) 1,05 kg Cu/ha	500-750	n.a.	
2	PL	Pear	Fpn	*Venturia inaequalis* *Erwinia amylovora*	spraying	BBCH 00-07 BBCH 60-71	a)1 b)2 a)1 b)2	7-10 7-10	a)1,5 b)3,0 a)1,5 b)3,0	a) 0,525 kg Cu/ha b) 1,05 kg Cu/ha a) 0,525 kg Cu/ha b) 1,05 kg Cu/ha	500-750	7	
3	PL	Cherry, sweet cherry	Fpn	*Pseudomonas syringae*	Spraying	BBCH 51 BBCH 60	1 2	7-10	a) 3 b)3 a)1,5 b)3	a) 1,05 kg Cu/ha b)1,05 kg Cu/ha a) 0,525 kg Cu/ha b) 1,05 kg Cu/ha	500-750	7	
4	PL	Peach	Fpn	*Taphrina deformans*	Spraying	BBCH 00-03	1	-	7,0	2,45 kg Cu/ha	700	n.a.	
5	PL	Tomato (outdoor)	Fpn	*Pseudomonas syringae pv. Tomato,* *Phytophthora infestans*	Spraying	BBCH 51-85	3	7	a)2,5 b)7,5	a)0,875kg Cu/ha b)2,625 kg Cu/ha	700	7	
6	PL	Tomato (indoor)	I	*Pseudomonas syringae pv. Tomato,* *Phytophthora infestans*	Spraying	BBCH 56-88	3	7	a)3,0 b)9,0	a)1.05 kg Cu/ha b)3.15 kg Cu/ha	1200	7	
7	PL	Cucumber (outdoor)	Fpn	*Pseudomonas syringae pv. Lachrymans,* *Pseudoperonospora cubensis*	Spraying	BBCH 62-78	3	7-10	a)2,5 b)7,5	a)0,875kg Cu/ha b)2,625 kg Cu/ha	700	7	
8	PL	French bean, bean with pods	Fpn	*Pseudomonas syringae pv. Phaseolicola,* *Colletotrichum lindemuthi-anum,* *Botritis cinerea*	Spraying	BBCH 65-69	3	7	a)2,5 b)7,5	a)0,875kg Cu/ha b)2,625 kg Cu/ha	700	7	
Minor uses according to Article 51 (zonal uses)													

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Use-No. [e]	**Member state(s)**	**Crop and/ or situation** **(crop destination / purpose of crop)**	**F, Fn, Fpn G, Gn, Gpn or I**	**Pests or Group of pests controlled** (additionally: developmental stages of the pest or pest group)	**Application**				**Application rate**			**PHI** (days)	**Remarks:** e.g. g safener/synergist per ha [f]
					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		
9	PL	Grape (table, wine)	Fpn	*Plasmopara viticola*	Spraying	BBCH 13-17, 71-73, 73-77	3	10	a)3,0 b)9,0	a)1,05kg Cu/ha b)3,15 kg Cu/ha	500-900	7	
10	PL	Currant	Fpn	*Drepanopeziza ribis, Mycosphaerella ribis Cronartium ribicola,*	Spraying	BBCH 59-81	3	10	a)3,0 b)9,0	a)1,05kg Cu/ha b)3,15kg Cu/ha	700	7	
11	PL	*Goniolimon tatari-cum*	F	*Peronospora statices*	spraying	Rosettes with 15-18 leaves	3	7	a) 2,0 b)6,0	a)0,7 kg Cu/ha B)2,1 kg Cu/ha	1000	n.a.	
12	PL	Walnut	Fpn	*Gnomonia leptostyla, Xantomonas campestris pv. Juglandis,*	Spraying	Before flow-ering	2	10-14	a)3 b)6	a)1,05kg Cu/ha b)2,10 kg Cu/ha	800-1000	n.a.	
13	PL	Hazelnut	Fpn	*Gnomonia leptostyla, Xanthomonas arboricola pv. corylina*	Spraying	Before flow-ering	2	10-14	a)3 b)6	a)1,05kg Cu/ha b)2,10 kg Cu/ha	800-1000	n.a.	

3.1.1.1 Acceptability of intended uses (and respective fall-back GAPs, if applicable) - re-authorization according art. 43, Reg. 1107/2009

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: devel-opmental stages of the pest or pest group)	Application				Application rate			PHI (days)	Remarks: e.g. g safener/ synergist per ha, other dose rate expression, dose range (min-max)	zRMS Conclusion (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	Fpn	*Venturia inaequalis*	spraying	BBCH 00-07	a)1 b)2	7-10	a)1,5 b)3,0	a) 0,525 kg Cu/ha b) 1,05 kg Cu/ha	500-750	n.a.		Acceptable
2	PL	Pear	Fpn	*Venturia inaequalis* *Erwinia amylovora*	spraying	BBCH 00-07 BBCH 60-71	a)1 b)2 a)1 b)2	7-10 7-10	a)1,5 b)3,0 a)1,5 b)3,0	a) 0,525 kg Cu/ha b) 1,05 kg Cu/ha a) 0,525 kg Cu/ha b) 1,05 kg Cu/ha	500-750	7		Acceptable
3	PL	Cherry, sweet cherry	Fpn	*Pseudomonas syringae*	Spraying	BBCH 51 BBCH 60	1 2	7-10	a) 3 b)3 a)1,5 b)3	a) 1,05 kg Cu/ha b)1,05 kg Cu/ha a) 0,525 kg Cu/ha b) 1,05 kg Cu/ha	500-750	14		Acceptable
~~4~~	~~PL~~	~~Peach~~	~~Fpn~~	~~*Taphrina deformans*~~	~~Spraying~~	~~BBCH 00-03~~	~~1~~	~~-~~	~~3,0~~	~~1,05 kg Cu/ha~~	~~700~~	~~n.a.~~		Not acceptable. Only as minor use accordance to Article 51 can be accepted.
Minor uses according to Article 51 (field uses)														

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: devel-opmental stages of the pest or pest group)	Application				Application rate			PHI (days)	Remarks: e.g. g safener/ synergist per ha, other dose rate expression, dose range (min-max)	zRMS Conclusion (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			
~~3~~ 5	PL	Quince	Fpn	*Venturia inaequalis* *Erwinia amylovora*	spraying	BBCH 00-07 BBCH 60-71	a)1 b)2 a)1 b)2	7-10 7-10	a)1,5 b)3,0 a)1,5 b)3,0	a) 0,525 kg Cu/ha b) 1,05 kg Cu/ha a) 0,525 kg Cu/ha b) 1,05 kg Cu/ha	500-750	7		Acceptable
~~4~~ 6	PL	Medlar	Fpn	*Venturia inaequalis* *Erwinia amylovora*	spraying	BBCH 00-07 BBCH 60-71	a)1 b)2 a)1 b)2	7-10 7-10	a)1,5 b)3,0 a)1,5 b)3,0	a) 0,525 kg Cu/ha b) 1,05 kg Cu/ha a) 0,525 kg Cu/ha b) 1,05 kg Cu/ha	500-750	7		Acceptable
~~5~~	~~PL~~	~~Cherry, sweet cherry~~	~~Fpn~~	~~*Pseudomonas syringae*~~	~~Spraying~~	~~BBCH 51~~ ~~BBCH 60~~	~~1~~ ~~2~~	~~7-10~~	~~a) 3~~ ~~b)3~~ ~~a)1,5~~ ~~b)3~~	~~a) 1,05 kg Cu/ha~~ ~~b)1,05 kg Cu/ha~~ ~~a) 0,525 kg Cu/ha~~ ~~b) 1,05 kg Cu/ha~~	~~500-750~~	~~14~~		
~~6~~ 7	PL	Apricot	Fpn	*Pseudomonas syringae*	Spraying	BBCH 51 BBCH 60	1 2	7-10	a) 3 b)3 a)1,5 b)3	a) 1,05 kg Cu/ha b)1,05 kg Cu/ha a) 0,525 kg Cu/ha b) 1,05 kg Cu/ha	500-750	14		Acceptable
~~7~~ 8	PL	Plum	Fpn	*Pseudomonas syringae*	Spraying	BBCH 51	1	7-10	a) 3	a) 1,05 kg	500-750	14		Acceptable

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: devel-opmental stages of the pest or pest group)	Application				Application rate			PHI (days)	Remarks: e.g. g safener/ synergist per ha, other dose rate expression, dose range (min-max)	zRMS Conclusion (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			
						BBCH 60	2		b)3 a)1,5 b)3	Cu/ha b)1,05 kg Cu/ha a) 0,525 kg Cu/ha b) 1,05 kg Cu/ha				
~~8~~ 9	PL	Peach	Fpn	*Taphrina deformans*	Spraying	BBCH 00-03	1	-	3,0	1,05 kg Cu/ha	700	n.a.		Acceptable
~~9~~ 10	PL	Walnut	Fpn	*Gnomonia leptostyla, Xantomonas cam-pestris pv. Juglandis,*	Spraying	Before flow-ering	2	10-14	a)3 b)6	a)1,05kg Cu/ha b)2,10 kg Cu/ha	800-1000	n.a.		Acceptable
~~10~~ 11	PL	Hazelnut	Fpn	*Gnomonia leptostyla, Xanthomonas arbori-cola pv. corylina*	Spraying	Before flow-ering	2	10-14	a)3 b)6	a)1,05kg Cu/ha b)2,10 kg Cu/ha	800-1000	n.a.		Acceptable
~~11~~ 12	PL	Tomato (outdoor)	Fpn	*Pseudomonas syringae pv. Tomato, Phytophthora infestans*	Spraying	BBCH 51-85	3	7	a)2,5 b)7,5	a)0,875kg Cu/ha b)2,625 kg Cu/ha	700	7		Tomato (outdoor) should be accepted as zonal use, not according to Article 51
~~12~~ 13	PL	Tomato (indoor)	I	*Pseudomonas syringae pv. Tomato, Phytophthora infestans*	Spraying	BBCH 56-88	3	7	a)3.6 b)10.8	a)1.25 kg Cu/ha b)3.75 kg Cu/ha	200-1000	3		Acceptable
~~13~~ 14	PL	Aubergines (out-door)	Fpn	*Pseudomonas syringae, Phytophthora infestans*	Spraying	BBCH 51-85	3	7	a)2,5 b)7,5	a)0,875kg Cu/ha b)2,625 kg Cu/ha	700	7		Aceptable
~~14~~ 15	PL	Aubergines (in-door)	I	*Pseudomonas syringae pv. Tomato, Phytophthora infestans*	Spraying	BBCH 56-88	3	7	a)3.6 b)10.8	a)1.25 kg Cu/ha b)3.75 kg Cu/ha	200-1000	3		Acceptable
~~15~~ 16	PL	Cucumber (out-door)	Fpn	*Pseudomonas syringae pv. Lachrymans,*	Spraying	BBCH 62-78	3	7-10	a)2,5 b)7,5	a)0,875kg Cu/ha	700	3		Cucumber (outdoor)

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: devel-opmental stages of the pest or pest group)	Application				Application rate			PHI (days)	Remarks: e.g. g safener/ synergist per ha, other dose rate expression, dose range (min-max)	zRMS Conclusion (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			
				Pseudoperonospora cubensis						b)2,625 kg Cu/ha				should be accepted as zonal use, not accord-ing to Arti-cle 51
~~16~~ 17	PL	Cucumber (in-door)	I	*Pseudomonas syringae pv. Lachrymans*, *Pseudoperonospora cubensis*	Spraying	BBCH 10-89	4	7	a) 2.3 b) 9.2	a) 0.800kg Cu/ha b)3,20 kg Cu/ha	200-1500	3		Acceptable
~~17~~ 18	PL	Gherkins	Fpn	*Pseudomonas syringae pv. Lachrymans*, *Pseudoperonospora cubensis*	Spraying	BBCH 62-78	3	7-10	a)2,5 b)7,5	a)0,875kg Cu/ha b)2,625 kg Cu/ha	700	7		Acceptable
~~18~~ 19	PL	Courgette	Fpn	*Pseudomonas syringae pv. Lachrymans*, *Pseudoperonospora cubensis*	Spraying	BBCH 62-78	3	7-10	a)2,5 b)7,5	a)0,875kg Cu/ha b)2,625 kg Cu/ha	700	7		Acceptable
~~19~~ 20	PL	Melon (indoor)	I	*Pseudoperonospora cubensis* *Alternaria spp Colleto-trichum orbiculare* *Bacterial diseases*	Spraying	BBCH 10-89	3	7	a)3.6 b)10.8	a)1.25 kg Cu/ha b)3.75 kg Cu/ha	200-1500	7		Acceptable
~~20~~ 21	PL	Pumpkins (in-door)	I	Pseudoperonospora cubensis *Alternaria spp Colleto-trichum orbiculare* *Bacterial diseases*	Spraying	BBCH 10-89	3	7	a)3.6 b)10.8	a)1.25 kg Cu/ha b)3.75 kg Cu/ha	200-1500	7		Acceptable
~~21~~ 22	PL	Watermelon (indoor)	I	*Pseudoperonospora cubensis* *Alternaria spp Colleto-trichum orbiculare* *Bacterial diseases*	Spraying	BBCH 10-89	3	7	a)3.6 b)10.8	a)1.25 kg Cu/ha b)3.75 kg Cu/ha	200-1500	7		Acceptable

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: devel-opmental stages of the pest or pest group)	Application				Application rate			PHI (days)	Remarks: e.g. g safener/ synergist per ha, other dose rate expression, dose range (min-max)	zRMS Conclusion (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			
~~22~~ 23	PL	French bean, bean with pods	Fpn	*Pseudomonas syringae pv. Phaseolicola, Colletotrichum linde-muthianum, Botritis cinerea*	Spraying	BBCH 65-69	3	7	a)2,5 b)7,5	a)0,875kg Cu/ha b)2,625 kg Cu/ha	700	7		French bean should be accepted as zonal use, not accord-ing to Arti-cle 51
~~23~~ 24	PL	Peas with pods	Fpn	*Pseudomonas syringae pv. Phaseolicola, Colletotrichum linde-muthianum, Botritis cinerea*	Spraying	BBCH 65-69	3	7	a)2,5 b)7,5	a)0,875kg Cu/ha b)2,625 kg Cu/ha	700	7		Acceptable
~~24~~ 25	PL	Grape (table, wine)	Fpn	*Plasmopara viticola*	Spraying	BBCH 13-17, 71-73, 73-77	3	10	a)3,0 b)9,0	a)1,05kg Cu/ha b)3,15 kg Cu/ha	500-900	21		Acceptable
~~25~~ 26	PL	Currant	Fpn	*Drepanopeziza ribis, Mycosphaerella ribis* *Cronartium ribicola,*	Spraying	BBCH 59-65 BBCH 65 -81	2	10	a)3,0 b)6,0	a)1,05kg Cu/ha b)2,1kg Cu/ha	700	7		Acceptable

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

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

Column 15: zRMS conclusion.

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

3.2 Efficacy data (KCP 6)

Introduction

Applicant applies for authorization for the marketing of plant protection product Miedzian Extra 350 SC pursuant to article 33 of the Regulation of the European Parliament and the Council in a number 1107/2009 of 21 October 2009.
DRR this core assessment. The application shall be in Poland. The applicant points out Poland as a country rapporteur Requested. The formulation of this product is suspension concentrate (SC).
This document describes the acceptable use conditions required for the registration of Miedzian Extra 350 SC containing as a.i copper oxychloride (350g Cu/L).
Copper oxychloride is the common name for dicopper (II) chloride trihydroxide (IUPAC).

This documentation is being written for renewal of product Miedzian Extra 350 SC. Miedzian Extra 350 SC was used for many years for the control such pathogen as

Description of active substances

Copper oxychloride is not a new substance. Copper oxychloride is the common name for dicopper (II) chloride trihydroxide (IUPAC). CAS number for copper oxychloride is 1332-40-7.

Mode of action

Copper oxychloride belong to Group Y, and have multisite activity. It interferes with several of the (fungus) vital life functions. For this reason resistance is less likely to develop. Copper oxychloride is a protectant fungicide/bactericide which prevents infection on plants. Its mode of action is by interfering with the enzyme system of spores and mycelium, a process which is usually irreversible. It forms a chemical barrier against fungal attack and is a foliar fungicide with preventative action.

Table 3.2-1: Details of the active substances

Active substance	Copper oxychloride
Concentration (Unit: g/kg or g/L...)	350 g Cu/L
Chemical group	Inorganic compound
Mode of action	Multi-site activity
Biological action	preventive
Group of pesticides	fungicide

Description of the plant protection product

Miedzian Extra 350 SC is suspension concentrate (SC) containing 350g Cu/L copper oxychloride.

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

Crop(s)	Target Uses (s)	Member State	Currently registered rate(s)	Requested rate(s)	Comments / Other relevant details on GAPs
Apple	*Venturia inaequalis*	PL	1,5 l/ha	0,9- 1,5 l/ha	
Pear	*Venturia pyrina*, *Erwinia amylovora*	PL	1,5 l/ha 0,75 l/ha, 1,5 l/ka	1,5 l/ha 0,75 l/ha, 1,5 l/ka	
Quince	*Venturia inaequalis*, *Erwinia amylovora*	PL	-	1,5 l/ha	
Medlar	*Venturia inaequalis*, *Erwinia amylovora*	PL	-	1,5 l/ha	
Cherry, sweet cherry	*Pseudomonas syringae*	PL	1,5-3,0 l/ha	1,5-3,0 l/ha	
Apricot	*Pseudomonas syringae*	PL	-	1,5-3,0 l/ha	
Plum	*Pseudomonas syringae*	PL	-	1,5-3,0 l/ha	
Peach	*Taphrina deformans*	PL	7 l/ha	3 l/ha	
Walnut	*Gnomonia leptostyla*, *Xantomonas campestris pv. Juglandis*,	PL	2,0-3,0 l/ha	2,0-3,0 l/ha	
Hazelnut	*Gnomonia leptostyla*, *Xanthomonas arboricola pv. corylina*	PL	2,0-3,0 l/ha	2,0-3,0 l/ha	
Tomato (outdoor)	*Pseudomonas syringae pv. Tomato*, *Phytophthora infestans*	PL	2,0-2,5 l/ha	2,5 l/ha	
Tomato (indoor)	*Pseudomonas syringae pv. Tomato*, *Phytophthora infestans*	PL	3,0 l/ha	3,6 l/ha	
Aubergines (outdoor)	*Pseudomonas syringae*, *Phytophthora infestans*	PL	-	2,5 l/ha	
Aubergines (indoor)	*Pseudomonas syringae*, *Phytophthora infestans*	PL	-	2,5 l/ha	
Cucumber (indoor)	*Pseudomonas syringae pv. Lachrymans*, *Pseudoperonospora cubensis*	PL	-	1,6 kg/ha	
Cucumber (outdoor)	*Pseudomonas syringae pv. Lachrymans*, *Pseudoperonospora cubensis*	PL	2,0-2,5 l/ha	2,5 l/ha	
Gherkins	*Pseudomonas syringae pv. Lachrymans*, *Pseudoperonospora cubensis*	PL	-	2,3 l/ha	

Crop(s)	Target Uses (s)	Member State	Currently registered rate(s)	Requested rate(s)	Comments / Other relevant details on GAPs
Courgette	*Pseudomonas syringae pv. Lachrymans, Pseudoperonospora cubensis*	PL	-	2,5 l/ha	
Melon (in-door)	*Pseudoperonospora cubensis , Alternaria spp Colleto-trichum spp Bacterial diseases*	PL	-	3,6 l/ha	
Pumpkins (indoor)	*Pseudoperonospora cubensis , Alternaria spp Colletotrichum spp Bacterial diseases*	PL	-	3,6 l/ha	
Watermelon (indoor)	*Pseudoperonospora cubensis Alternaria spp Colletotrichum spp Bacterial diseases*	PL	-	3,6 l/ha	
French bean	*Pseudomonas syringae pv. Phaseolicola, Colletotrichum linde-muthianum, Botritis cinerea*	PL	2,0-2,5 l/ha	2,5 l/ha	
Bean with pods	*Pseudomonas syringae pv. Phaseolicola, Colletotrichum linde-muthianum, Botritis cinerea*	PL	-	2,5 l/ha	
Peas with pods	*Pseudomonas syringae pv. Phaseolicola, Colletotrichum linde-muthianum, Botritis cinerea*	PL	-	2,5 l/ha	
Grape (table, wine)	*Plasmopara viticola*	PL	3,0 l/ha	3,0 l/ha	
Currant	*Drepanopeziza ribis, Cronartium ribicola, Mycosphaerella ribis*	PL	3,0 l/ha	3,0 l/ha	

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

Description of the target pests

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

EPPO code	Scientific name	Common name*
VENTIN	*Venturia inaequalis*	Parch jabłoni

EPPO code	Scientific name	Common name*
VENTPI	*Venturia pyrina*	Parch gruszy
ERWIAM	*Erwinia amylovora*	Zaraza ogniowa
PSDMSY	*Pseudomonas syringae*	Rak bakteryjny drzew pestkowych
TAPHDE	*Taphrina deformans*	Kędzierzawość liści brzoskwini
GNOMLE	*Gnomonia leptostyla*	Antraknoza
XANTJU	*Xantomonas campestris pv. Juglandis*	Bakteryjna zgorzel
XANTCY	*Xanthomonas arboricola pv. corylina*	Bakteryjna zgorzel
PSDMTM	*Pseudomonas syringae pv. Tomato*	Baktryjna cętkowatość
PHYTIN	*Phytophthora infestans*	Zaraza ziemniaka
PSDMLA	*Pseudomonas syringae pv. Lachrymans*	Bakteryjna kanciasta plamistość
PSPECU	*Pseudoperonospora cubensis*	Mączniak rzekomy dyniowatych
ALTEST	*Alternaria spp*	alternarioza
COLLLA	*Colletotrichum orbiculare*	antraknoza
PSDMPH	*Pseudomonas syringae pv. Phaseolicola*	Bakterioza obwódkowa fasoli
COLLLD	*Colletotrichum lindemuthianum*	Antraknoza fasoli
BOTRICI	*Botritis cinerea*	Szara pleśń
PLASVI	*Plasmopara viticola*	Mączniak rzekomy winorośli
DREPRI	*Drepanopeziza ribis*	Antraknoza porzeczki
CORONRI	*Cronartium ribicola*	Rdza wejmutkowo-porzeczkowa
MYCORI	*Mycosphaerella ribis*	Biała plamistość liści

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

Crop and/or situation	Crop status		Pests or group of pests controlled	Pest status	
	Major	minor		Major	minor
Apple	PL	-	*Venturia inaequalis*	PL	-
Pear	-	PL	*Venturia pyrina*	PL	-
			Erwinia amylovora	PL	-
Quince	-	PL	*Venturia inaequalis*	PL	-
			Erwinia amylovora	PL	-
Medlar	-	PL	*Venturia inaequalis*	PL	-
			Erwinia amylovora	PL	-
Cherry	-	PL	*Pseudomonas syringae*	PL	-
Sweet cherry	-	PL	*Pseudomonas syringae*	PL	-
Apricot	-	PL	*Pseudomonas syringae*	PL	-
Plum	-	PL	*Pseudomonas syringae*	PL	-
Peach	-	PL	*Taphrina deformans*	PL	-

Crop and/or situation	Crop status		Pests or group of pests controlled	Pest status	
	Major	minor		Major	minor
Walnut	-	PL	*Gnomonia leptostyla*	PL	-
			Xantomonas campestris pv. Juglandis	PL	-
Hazelnut	-	PL	*Gnomonia leptostyla,*	PL	-
			Xanthomonas arboricola pv. corylina	PL	-
Tomato (outdoor)	-	PL	*Pseudomonas syringae pv. Tomato,*	PL	-
			Phytophthora infestans	PL	-
Tomato (indoor)	-	PL	*Pseudomonas syringae pv. Tomato,*	PL	-
			Phytophthora infestans	PL	-
Aubergines (outdoor)	-	PL	*Pseudomonas syringae*	PL	-
			Phytophthora infestans	PL	-
Aubergines (indoor)	-	PL	*Pseudomonas syringae*	PL	-
			Phytophthora infestans	PL	-
Cucumber (indoor)	-	PL	*Pseudomonas syringae pv. Lachrymans*	PL	-
			Pseudoperonospora cubensis	PL	-
Cucumber (outdoor)	-	PL	*Pseudomonas syringae pv. Lachrymans*	PL	-
			Pseudoperonospora cubensis	PL	-
Gherkins	-	PL	*Pseudomonas syringae pv. Lachrymans*	PL	-
			Pseudoperonospora cubensis	PL	-
Courgette	-	PL	*Pseudomonas syringae pv. Lachrymans*	PL	-
			Pseudoperonospora cubensis	PL	-
Melon (indoor)	-	PL	*Pseudoperonospora cubensis*	PL	-
			Alternaria spp	PL	-
			Colletotrichum orbiculare	PL	-
			Bacterial diseases	PL	-
Pumpkins (indoor)	-	PL	*Pseudoperonospora cubensis*	PL	-
			Alternaria spp	PL	-
			Colletotrichum orbiculare	PL	-

Crop and/or situation	Crop status		Pests or group of pests controlled	Pest status	
	Major	minor		Major	minor
			Bacterial diseases	PL	-
Watermelon (indoor)	-	PL	*Pseudoperonospora cubensis*	PL	-
			Alternaria spp	PL	-
			Colletotrichum orbiculare	PL	-
			Bacterial diseases	PL	-
French bean, bean with pods, peas with pods	-	PL	*Pseudomonas syringae pv. Phaseolicola,*	PL	-
			Colletotrichum lindemuthianum,	PL	-
			Botritis cinerea	PL	-
Grape (table, wine)	-	PL	*Plasmopara viticola*	PL	-
Currant	-	PL	*Drepanopeziza ribis*	PL	-
			Cronartium ribicola	PL	-
			Mycosphaerella ribis	PL	-

Compliance with the Uniform Principles

Assessment was performed according to EPPO guidelines.

Information on trials submitted (3.1 Efficacy data)

Table 3.2-5: Presentation of trials (efficacy trials, preliminary trials...)

Crop(s) *	Target(s)*	Country	Years	Type of trial**	Number of trials (number of valid trials)		GEP, non-GEP, official***	Comments (any other relevant information)
					Poland	-		
Apple	*Venturia inaequalis*	PL	2006	E	4	-	GEP	
			2019	MED + E	4	-	GEP	
TOTAL	-	-		-	8	-	-	
Pear	*Venturia pyrina*	PL	2006	E	2	-	GEP	
	TOTAL	-		-	2	-	-	
	Erwinia amylovora	PL	2006	MED+E	2	-	GEP	
TOTAL	-	-		-	4	-	-	
Cherry	*Pseudomonas syringae*	PL	2006	MED+E	2	-	GEP	

Crop(s) *	Target(s)*	Country	Years	Type of trial**	Number of trials (number of valid trials)		GEP, non-GEP, official***	Comments (any other relevant information)
					Poland	-		
TOTAL	-	-		-	2	-	-	
Tomato (outdoor)	*Pseudomonas syringae pv. Tomato,*	PL	2006	MED+E	2	-	GEP	
	TOTAL	-		-	2	-	-	
	Phytophthora infestans	PL	2006	MED+E	2	-	GEP	
TOTAL	-	-		-	4	-	-	
Cucumber (outdoor)	*Pseudomonas syringae pv. Lachrymans*	PL	2006	MED+E	2	-	GEP	
	TOTAL	-		-	2	-	-	
	Pseudoperonospora cubensis	PL	2006	MED+E	2	-	GEP	
TOTAL	-	-		-	4	-	-	
French bean	*Pseudomonas syringae pv. Phaseolicola,*	PL	2006	MED+E	2	-	GEP	
	TOTAL	-		-	2	-	-	
	Colletotrichum lindemuthianum,	PL	2006	MED+E	2	-	GEP	
	TOTAL	-		-	2	-	-	
	Botritis cinerea	PL	2006	MED+E	2	-	GEP	
TOTAL	-	-		-	6	-	-	

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

Table 3.2-6: Presentation of reference standards used in trials (efficacy trials, preliminary trials...)

Crop(s)	Reference standard	Country(ies) where the product is registered (1)	Authorization number	Active substance(s)	Formulation		Registered application rate(3)	Application rate in trials (per treatment)	Remark(4)
					Type(2)	Concentration of a.s.			
Apple	Champion 50 WP	PL	Zezwolenie MRiRW nr R-181/2018 z dnia 14.12.2018 r.	copper hydroxide	WP	500 g/kg	1 kg/ha	0,75 kg/ha,	
	Cuproflow 375 SC	PL	Zezwolenie MRiRW Nr R – 25/2004 z dnia 27.05.2004 r., zmienione decyzją MRiRW Nr R-89/2006 z dnia 07.11.2006 r., zmienione decyzją	copper oxychloride	SC	375g/L	1,5-2 l/ha	1,5 l/ha	

Crop(s)	Reference standard	Country(ies) where the product is registered (1)	Authorization number	Active substance(s)	Formulation		Registered application rate(3)	Application rate in trials (per treatment)	Remark(4)
					Type(2)	Concentration of a.s.			
			MRiRW nr R-124 /2008 z dnia 25. 07.2008 r., zmienione decyzją MRiRW nr R- 165/2009 r. z dnia 22.10.2009 r., decyzją MRiRW nr R-11/2010d z dnia 20.01.2010 r., decyzją MRiRW nr R-32/2011d z dnia 27.01.2011 r. oraz decyzją MRiRW nr R - 298/2012d z dnia 09.11.2012 r.						
	Miedzian 50 WP	PL	Zezwolenie MRiRW n r R 134/2015 z dn ia 03.09.2015 r. ostatnio zmienione decyzją MRIRW nr R 621 /201 9 d z dnia 29 08 .201 9 r.	copper oxychloride	WP	500g/kg	1,5 kg/ha	1,5 kg/ha	
	Kocide 101 WP	PL	Zezwolenie MRiGŻ Nr 236/97 z dnia 22.11.1997r. Zmienione decyzja MRiRW Nr R - 554/2003p z dnia 25.09.2003r. oraz decyzją MRiRW Nr R - 248/2004o z dnia 18.05.2004 r.	copper hydroxide	WP	500 g/kg	1,5 kg/ha	1,5kg/ha	
	Nordox 75 WG	PL	Zezwolenie MRiRW nr R - 173/2015 z dnia 20.10.2015 r., zmienione decyzji MRiRW nr R - 537/2016d z dnia 22.11.2016 r.	copper oxide	WG	750g/kg	1kg/ha	1kg/ha	
	Cuproflow 377,5 SC	PL	Zezwolenie MRiRW nr R - 139/2015 z dnia 16.09.2015 r.	copper oxychloride	SC	377,5g/L	2l/ha	2l/ha	
Pear	Miedzian 50 WP	PL	Zezwolenie MRiRW n r R 134/2015 z dn ia 03.09.2015 r. ostatnio zmienione decyzją MRIRW nr R 621 /201 9 d z dnia 29 08 .201 9 r.	copper oxychloride	WP	500g/kg	1,5 kg/ha	1,5 kg/ha, 3 kg/ha	
	Champion 50 WP	PL	Zezwolenie MRiRW nr R-181/2018 z dnia 14.12.2018 r.	copper hydroxide	WP	500 g/kg	1 kg/ha	0,75 kg/ha, 1,5 kg/ha, 3,0 kg/ha	
	Cuproflow 375 SC	PL	Zezwolenie MRiRW nr R-25/2004 z dnia 27.05.2004 r. zmienione ostatecznie decyzją MRiRW nr R-298/2012d z dnia 09.11.2012 r.	copper oxychloride	SC	375g/L	1,5-2 l/ha	1,5l/ha, 2 l/ha,	
	Kocide 101 WP	PL	Zezwolenie MRiGŻ Nr 236/97 z dnia 22.11.1997r. Zmienione decyzja MRiRW Nr R - 554/2003p z dnia 25.09.2003r. oraz decyzją MRiRW Nr R - 248/2004o z dnia 18.05.2004 r.	copper hydroxide	WP	500 g/kg	1,5kg/ha	0,75 kg/ha, 1,5 kg/ha, 3 kg/ha	

Crop(s)	Reference standard	Country(ies) where the product is registered (1)	Authorization number	Active substance(s)	Formulation		Registered application rate(3)	Application rate in trials (per treatment)	Remark(4)
					Type(2)	Concentration of a.s.			
Cherry	Miedzian 50 WP	PL	Zezwolenie MRiRW n r R 134/2015 z dn ia 03.09.2015 r. ostatnio zmienione decyzją MRIRW nr R 621 /201 9 d z dnia 29 08 .201 9 r.	copper oxychloride	WP	500 g/kg	1,5- 3,0 kg/ha,	1,5- 3,0 kg/ha,	
	Champion 50 WP	PL	Zezwolenie MRiRW nr R-181/2018 z dnia 14.12.2018 r	copper hydroxide	WP	500 g/kg	1,5 kg/ha, 3 kg/ha	1,5 kg/ha, 3kg/ha	
	Funguran-OH 50 WP	PL	Zezwolenie MRiRW nr R - 189/2014 z dnia 12.09.2014 r. zmienione decyzją MRiRW nr R - 239/2016d z dnia 05.05.2016 r.	copper hydroxide	WP	767,7 g/kg	1,5-3,0 kg/ha	1,5 kg/ha, 3 kg/ha	
Tomato (outdoor)	Miedzian 50 WG	PL	Zezwolenie MRiRW nr R-58/2009 z dnia 04.05.2009 r. zmienione decyzją MRiRW nr R-203/2010d z dnia 20.07.2010 r.	copper oxychloride	WG	500g/kg	2,5 kg/ha	2,5 kg/ha	
	Miedzian 50 WP	PL	Zezwolenie MRiRW n r R 134/2015 z dn ia 03.09.2015 r. ostatnio zmienione decyzją MRIRW nr R 621 /201 9 d z dnia 29 08 .201 9 r.	copper oxychloride	WP	500 g/kg	2,5- 3,0 kg/ha,	2,5- 6,0 kg/ha,	
Cucumber (outdoor)	Miedzian 50 WG	PL	Zezwolenie MRiRW nr R-58/2009 z dnia 04.05.2009 r. zmienione decyzją MRiRW nr R-203/2010d z dnia 20.07.2010 r.	copper oxychloride	WG	500 g/kg	2,5 kg/ha	2,5 kg/ha	
	Miedzian 50 WP	PL	Zezwolenie MRiRW n r R 134/2015 z dn ia 03.09.2015 r. ostatnio zmienione decyzją MRIRW nr R 621 /201 9 d z dnia 29 08 .201 9 r.	copper oxychloride	WP	500 g/kg	2,5- 3,0 kg/ha,	2,5- 6,0 kg/ha,	
French bean	Miedzian 50 WP	PL	Zezwolenie MRiRW n r R 134/2015 z dn ia 03.09.2015 r. ostatnio zmienione decyzją MRIRW nr R 621 /201 9 d z dnia 29 08 .201 9 r.	copper oxychloride	WP	500 g/kg	3,0 kg/ha,	2,5 kg/ha,	

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

Comments of zRMS:	All necessary information's were provided above by Applicant. This document summarises the information related to the efficacy of the plant protection product – Miedzian Extra 350 SC. Miedzian Extra 350 SC containing copper oxychloride, 350 g/l (as Cu). The formulation of this product is a suspension concentrate (SC). All necessary information's

	about tested plant protection products, active substances, studied pests, reference products, etc. are correctly presented in this drr by Applicant. Copper oxychloride is a protectant fungicide/bactericide which prevents infection on plants. Its mode of action is by interfering with the enzyme system of spores and mycelium, a process which is usually irreversible. It forms a chemical barrier against fungal attack and is a foliar fungicide with preventative action. In Poland 27 plant protection products containing copper are already registered. **The data presented in this dossier fully support the renewal under Article 43 of Miedzian Extra 350 SC for the control of pests included in GAP table and label project.**

3.2.1 Preliminary tests (KCP 6.1)

Preliminary studies have not been conducted because the active substance (copper oxychloride) is known and has long been used in the protection of plants. The effect of the active substances is well known and sufficient large scale efficacy trials are available to evaluate the effectiveness of Miedzian Extra 350 SC. Therefore preliminary tests are not described and not required. This documentation is being written for renewal of product Miedzian Extra 350 SC. Miedzian Extra 350 SC was used for many years in orchards and vegetable plantations for the control of: *Venturia inaequalis, Venturia pyrina, Erwinia amylovora, Pseudomonas syringae, Taphrina deformans, Gnomonia leptostyla, Xantomonas campestris pv. Juglandis, Xanthomonas arboricola pv. Corylina, Pseudomonas syringae pv. Tomato, Phytophthora infestans, Pseudomonas syringae pv. Lachrymans, Perenospora cubensis, Alternaria spp, Colletotrichum spp , Bacterial diseases, Plasmopara viticola, Drepanopeziza ribis, Cronartium ribicola, Mycosphaerella ribis* and *Peronospora ssp.*

Comments of zRMS:	Products containing copper compounds, including copper oxychloride, have been registered for many years (over 28) and the efficacy of the active ingredient has been widely researched and is well known. Therefore, no preliminary screening tests are required in the opinion of Evaluator. **Also, in accordance with the Article 43 of Regulation (EC) No 1107/2009, the already submitted data will not be re-evaluated because the conclusions of previous assessments are still considered valid in the case of no significant change of the GAP table.**

3.2.2 Minimum effective dose tests (KCP 6.2)

No results of preliminary screening tests are here. The efficacy of reduced rates of Miedzian Extra 350 SC for control of pathogens in apple, pear, cherry, tomato (outdoor), cucumber (outdoor) and french beans orchards was investigated in field tests carried out between years 2006 and 2019. In the appropriate researches of efficacy were tested several doses and to register was chosen the lowest effective. All researches were conducted according to EPPO standard PP 1/225 *'Minimum effective dose'.*

APPLE/VENTIN

4 field trials were established in order to determine the minimum effective dose for the control of the apple /VENTIN. Miedzian Extra 350 SC was tested at 0,9 l/ha, 1,2 l/ha and 1,5 l/ha in apple for the control of VENTIN. The rates reflect the proposed label rate 60% and 80% of the full recommended rate of Miedzian Extra 350 SC in accordance with the EPPO standard PP 1/225 '*Minimum effective dose'*.

PEAR/ ERWIAM

2 field trials were established in order to determine the minimum effective dose for the control of the pear /ERWIAM. Miedzian Extra 350 SC was tested at 0,75 l/ha and 1,5 l/ha in pear for the control of ERWIAM. The rates reflect the proposed label rate 50% and 100% of the full recommended rate of Miedzian Extra 350 SC in accordance with the EPPO standard PP 1/225 '*Minimum effective dose'*.

CHERRY/ PSDMSY

2 field trials were established in order to determine the minimum effective dose for the control of the cherry /PSDMSY. Miedzian Extra 350 SC was tested at 1,5 l/ha and 3,0 l/ha in cherry for the control of PSDMSY. The rates reflect the proposed label rate 50% and 100% of the full recommended rate of Miedzian Extra 350 SC in accordance with the EPPO standard PP 1/225 '*Minimum effective dose'*.

TOMATO (outdoor)/ PSDMTM

2 field trials were established in order to determine the minimum effective dose for the control of the tomato (outdoor) /PSDMTM. Miedzian Extra 350 SC was tested at 2,0 l/ha, 2,5 l/ha and 5,0 l/ha in tomato (outdoor) for the control of PSDMTM. The rates reflect the proposed label rate 40%, 50% and 100% of the full recommended rate of Miedzian Extra 350 SC in accordance with the EPPO standard PP 1/225 '*Minimum effective dose'*.

TOMATO (outdoor)/ PHYTIN

2 field trials were established in order to determine the minimum effective dose for the control of the tomato (outdoor) /PHYTIN. Miedzian Extra 350 SC was tested at 2,0 l/ha, 2,5 l/ha and 5,0 l/ha in tomato (outdoor) for the control of PHYTIN. The rates reflect the proposed label rate 40%, 50% and 100% of the full recommended rate of Miedzian Extra 350 SC in accordance with the EPPO standard PP 1/225 '*Minimum effective dose'*.

CUCUMBER (outdoor)/ PSDMLA

2 field trials were established in order to determine the minimum effective dose for the control of the cucumber (outdoor) /PSDMLA. Miedzian Extra 350 SC was tested at 2,0 l/ha, 2,5 l/ha and 6 l/ha in cucumber (outdoor) for the control of PSDMLA. The rates reflect the proposed label rate 40%, 50% and 100% of the full recommended rate of Miedzian Extra 350 SC in accordance with the EPPO standard PP 1/225 '*Minimum effective dose'*.

CUCUMBER (outdoor)/ PSPECU

2 field trials were established in order to determine the minimum effective dose for the control of the cucumber (outdoor) /PSPECU. Miedzian Extra 350 SC was tested at 2,0 l/ha, 2,5 l/ha and 6 l/ha in cucumber (outdoor) for the control of PSPECU. The rates reflect the proposed label rate 40%, 50% and 100% of the full recommended rate of Miedzian Extra 350 SC in accordance with the EPPO standard PP 1/225 '*Minimum effective dose'*.

FRENCH BEAN/ PSDMPH

2 field trials were established in order to determine the minimum effective dose for the control of the french bean/PSDMPH. Miedzian Extra 350 SC was tested at 2,0 l/ha, 2,5 l/ha and 5,0 l/ha in french bean for the control of PSDMPH. The rates reflect the proposed label rate 40%, 50% and 100% of the full recommended rate of Miedzian Extra 350 SC in accordance with the EPPO standard PP 1/225 '*Minimum effective dose'*.

FRENCH BEAN/ COLLLD

2 field trials were established in order to determine the minimum effective dose for the control of the french bean/COLLLD. Miedzian Extra 350 SC was tested at 2,0 l/ha, 2,5 l/ha and 5,0 l/ha in french bean for the control of COLLD. The rates reflect the proposed label rate 40%, 50% and 100% of the full recommended rate of Miedzian Extra 350 SC in accordance with the EPPO standard PP 1/225 '*Minimum effective dose'*.

FRENCH BEAN/ BOTRICI

2 field trials were established in order to determine the minimum effective dose for the control of the french bean/BOTRICI. Miedzian Extra 350 SC was tested at 2,0 l/ha, 2,5 l/ha and 5,0 l/ha in french bean for the control of BOTRICI. The rates reflect the proposed label rate 40%, 50% and 100% of the full recommended rate of Miedzian Extra 350 SC in accordance with the EPPO standard PP 1/225 '*Minimum effective dose'*.

Comments of zRMS:	In order to provide information to establish the minimum effective dose, some of the trials conducted to demonstrate efficacy should include at least two lower dose(s) than recommended dose. In the appropriate research of efficacy were tested differ doses and to register was chosen the lowest effective, which is in accordance to EPPO 1/225 (2). During field tests Applicant used different doses of fungicide Miedzian Extra 350 SC containing copper oxychloride. So, in the appropriate research of efficacy were tested differ doses and to register was chosen the lowest effective, which is in accordance with EPPO 1/225 (2). What is more, fungicides products containing active ingredient – copper oxychloride have been allowed to use for many years. Also, in the literature of crop protection vast amounts of information can be found on efficacy of the plant protection products containing copper oxychloride. **However, in accordance with the Article 43 of Regulation (EC) No 1107/2009, the already submitted data will not be re-evaluated because the conclusions of previous assessments are still considered valid in the case of no significant change of the GAP table.** Applicant submitted only new data for apple against VENTIN – 4 additional trials carried out in 2019, however the same doses were studied as in trials from 2006 (assessed during previous registration).

3.2.3 Efficacy tests (KCP 6.2)

The applicant submitted 27 reports (in total) showing the results in research into product efficacy carried out between 2006 and 2019 in apple trees (8 trials), pear (4 trials), cherry (2 trials), tomato (outdoor) (4 trials), cucumber (outdoor) (4 trials) and french bean (6 trials).

List of these reports is contained in Appendix 1.

The efficacy trials were designed, conducted and reported according to the following EPPO guidelines:
PP 1/152(4) Design and analysis of efficacy evaluation trials
PP 1/181(4) Conduct and reporting of efficacy evaluation trials including good experimental practice
PP 1/135(4) Phytotoxicity assessment
PP 1/225(2) Minimum effective dose

APPLE/VENTIN

Trial: OR/18/2006/1/I

Guidelines	General guidelines	EPPO PP 1/152 (4), EPPO PP 1/135 (4), EPPO PP 1/181 (4), EPPO PP 1/225 (2)

	Specific guidelines	EPPO PP 1/5(3)
Experimental design	Plot design	Random Complete Block (RCB)
	Plot size	4,5m x 3,0m
	Number of replications	4
Crop	Trials per crop	Apple
	Varieties per crop	Jonagold
	Sowing period	1987
Application	Crop stage (BBCH)* at application	BBCH 51-55
	Number of applications Intervals between applications	3
	Spray volumes	600 L/ha
Assessment	Assessment types	Analysis of infected leaves (6-stage bonitation scale) and fruits (3-stage bonitation scale)
	Assessment dates	Leaves: 30.05.2006, 12.07.2006; fruits: 12.07.2006
Other relevant information	e.g. Soil type, pH (in case of soil active substance …)	loamy soil
	e.g. Natural / artificial innoculation…	natural
	e.g. Field / Greenhouse...	Orchard, Dąbrowice (near Skierniewice)/ prov. mazowieckie (Poland)

The biological effectiveness of Miedzian Extra 350 SC in controlling apple scab was assessed on the basis of analysis of infected leaves and fruits. Observations were carried out on 200 leaves in each of the four replicates (trial of 800 leaves - 4 repetitions of 200) twice a season and on 100 fruits in each of the 4 replicates (trial of 400 fruits - 4 replicates of 100). The degree of leaf and fruit infestation was assessed using a 6-point bonitation scale (0 - no disease symptoms, 5 - over 75% of the area occupied by the fungus for leaves and over 30% for fruit).
The effectiveness of the Miedzian Extra 350 SC fungicide used at 1,5 l/ha was very high. In protecting leaves from scab, it exceeded 98 and 95%, respectively in the first and second assessment dates, and amounted to over 92% in fruit protection. The size of the surface of the leaves and fruits occupied by the fungus on trees protected by the Miedzian Extra 350 SC fungicide and standard fungicides did not differ significantly.
The effectiveness of the standard fungicides used, Champion 50 WP, Cuproflow 375 SC and Miedzian 50 WP, was very high. Their effectiveness, both in leaf and fruit protection, was over 90% and did not differ from the effectiveness of the tested fungicide, Miedzian Extra 350 SC.
Weather conditions characterized by frequent rainfall in the first part of the 2006 season (April and May), and the accompanying mass seeding of *V. inaequalis* bag spores caused a strong occurrence of apple scab. In the orchard in Dąbrowice, at the end of May, about 50% of the leaves were infected on unprotected trees of the Jonagold variety, and 40% of the leaves were infested on the plots, which were not treated in the dates of application of copper fungicides (the first three spraying), which indicates very much sick pressure at that time.
During the research, neither the leaves nor the fruit of the Jonagold variety was found to show any symptoms of phytotoxic effects of the tested preparation Miedzian Extra 350 SC.
During visual observations, no effects of the test product on non-target organisms were found.
Fungicide Miedzian Extra 350 SC applied at a dose of 1,5 l/ha showed high efficiency in combating apple scab, in leaf protection over 95% and in fruit protection - 92%.

Trial: OR/18/2006/1/II

Guidelines	General guidelines	EPPO PP 1/152 (4), EPPO PP 1/135 (4), EPPO PP 1/181 (4), EPPO PP 1/225 (2)
	Specific guidelines	EPPO PP 1/5(3)
Experimental design	Plot design	Random Complete Block (RCB)
	Plot size	4,0m x 2,5m
	Number of replications	4
Crop	Trials per crop	Apple
	Varieties per crop	Idared
	Sowing period	1991
Application	Crop stage (BBCH)* at application	BBCH 51-55
	Number of applications Intervals between applications	3
	Spray volumes	600 L/ha
Assessment	Assessment types	Analysis of infected leaves (6-stage bonitation scale) and fruits (3-stage bonitation scale)
	Assessment dates	Leaves: 13.06.2006, 10.08.2006; fruits: 25.08.2006
Other relevant information	e.g. Soil type, pH (in case of soil active substance …)	sandy loam soil
	e.g. Natural / artificial innoculation…	natural
	e.g. Field / Greenhouse...	Orchard, Miłobądź (near Tczew)/ prov. pomorskie (Poland)

The biological effectiveness of Miedzian Extra 350 SC in controlling apple scab was assessed on the basis of analysis of infected leaves and fruits. Observations were carried out on 200 leaves in each of the four replicates (trial of 800 leaves - 4 repetitions of 200) twice a season and on 100 fruits in each of the 4 replicates (trial of 400 fruits - 4 replicates of 100). The degree of leaf and fruit infestation was assessed using a 6-point bonitation scale: (0 - no disease symptoms, 5 - over 75% of the area occupied by the fungus for leaves and over 30% for fruit).
The effectiveness of the Miedzian Extra 350 SC fungicide applied at a dose of 1,5 l/ha in controlling scab was very high and amounted to 100% and 99,8% in leaf protection and 99,4% in fruit protection. The effectiveness of this fungicide was the same as that of standard fungicides.
The effectiveness of the standard fungicides used, Miedzian 50 WP, Cuproflow 375 SC and Kocide 101 WP, was very high. Their effectiveness, both in leaf and fruit protection, ranged from 98,9% to 100% and did not differ from the effectiveness of the tested fungicide, Miedzian Extra 350 SC.
Weather conditions, with frequent rainfall in May, were favorable for the development of apple scab. In the orchard in Miłobiedz, leaf infestation on unprotected trees, Idared in the middle of June amounted to 27% and at the beginning of August - 72%. At the end of August, 65% of fruit was infected on control trees.
During the research, neither the leaves nor the fruit of the Idared variety showed signs of phytotoxic effects of the tested preparation Miedzian Extra 350 SC.
During visual observations, no effects of the test agent on non-target organisms were found.

Fungicide Miedzian Extra 350 SC applied at a dose of 1,5 l/ha for the first three treatments showed very high efficiency in combating apple scab, over 99%.

Trial: OR/18/2006/1/III

Guidelines	General guidelines	EPPO PP 1/152 (4), EPPO PP 1/135 (4), EPPO PP 1/181 (4), EPPO PP 1/225 (2)
	Specific guidelines	EPPO PP 1/5(3)
Experimental design	Plot design	Random Complete Block (RCB)
	Plot size	3,5m x 1,1m
	Number of replications	4
Crop	Trials per crop	Apple
	Varieties per crop	Ligol
	Sowing period	2001
Application	Crop stage (BBCH)* at application	BBCH 53-56
	Number of applications Intervals between applications	3
	Spray volumes	600 L/ha
Assessment	Assessment types	Analysis of infected leaves (6-stage bonitation scale) and fruits (3-stage bonitation scale)
	Assessment dates	Leaves: 30.05.2006, 30.06.2006; fruits: 30.06.2006, 07.09.2006
Other relevant information	e.g. Soil type, pH (in case of soil active substance …)	loamy soil
	e.g. Natural / artificial innoculation…	natural
	e.g. Field / Greenhouse...	Orchard, Cielądz (near Rawa Mazowiecka)/ prov. łódzkie (Poland)

The biological effectiveness of Miedzian Extra 350 SC in controlling apple scab was assessed on the basis of analysis of infected leaves and fruits. Observations were carried out on 200 leaves in each of the four replicates (800 leaf test - 4 replicates of 200) and on 100 fruits in each of the 4 replicates (400 fruit sample - 4 replicates of 100). The degree of leaf and fruit infestation was assessed using a 6-point bonitation scale (0 - no disease symptoms, 5 - over 75% of the area occupied by the fungus for leaves and 30% for fruit).
The effectiveness of the Miedzian Extra 350 SC fungicide applied at a dose of 1,5 l/ha was very high and in leaf protection against infestation was 98% and 89,6%, and in fruit protection 96% and 98,3%. The effectiveness of Miedzian Extra 350 SC was the same as the standard fungicides Miedzian 50 WP, Cuproflow 375 SC and Champion 50 WP. On the trees sprayed with the tested preparation and standard fungicides, no significant differences were found in the size of the leaf and fruit area occupied by the fungus.
The effectiveness of the standard fungicides Miedzian 50 WP, Cuproflow 375 SC and Champion 50 WP in combating apple scab was high and ranged from 89% to 98% in leaf protection and from 94% to 99% in fruit protection.
Weather conditions with a lot of rainfall in the first part of the 2006 season, as well as the relatively early sowing of sack spores of *Venturia inaequalis*, the culprit of scab, caused a strong outbreak. Already at the

end of May, leaf infestation on unprotected trees in the orchard in Cielądz was over 75%, and fruit infection at the end of June - 95%.
During the research, neither the leaves nor the fruits of the Ligol variety were found to show any symptoms of phytotoxic effects of the tested preparation Miedzian Extra 350 SC.
During visual observations, no effects of the test agent on non-target organisms were found.
Fungicide Miedzian Extra 350 SC applied at a dose of 1,5 l/ha for the first three treatments showed high efficiency in combating apple scab.

Trial: OR/18/2006/1/IV

Guidelines	General guidelines	EPPO PP 1/152 (4), EPPO PP 1/135 (4), EPPO PP 1/181 (4), EPPO PP 1/225 (2)
	Specific guidelines	EPPO PP 1/5(3)
Experimental design	Plot design	Random Complete Block (RCB)
	Plot size	3m x 0,8m
	Number of replications	4
Crop	Trials per crop	Apple
	Varieties per crop	Jonica
	Sowing period	1999
Application	Crop stage (BBCH)* at application	BBCH 09-55
	Number of applications Intervals between applications	3
	Spray volumes	600 L/ha
Assessment	Assessment types	Analysis of infected leaves (6-stage bonitation scale) and fruits (3-stage bonitation scale)
	Assessment dates	Leaves: 24.05.2006, 18.08.2006; fruits: 08.09.2006,
Other relevant information	e.g. Soil type, pH (in case of soil active substance …)	loamy soil
	e.g. Natural / artificial innoculation…	natural
	e.g. Field / Greenhouse...	Orchard, Dąbkowice (near Kutno)/ prov. łódzkie (Poland)

The biological effectiveness of Miedzian Extra 350 SC in controlling apple scab was assessed on the basis of analysis of infected leaves and fruits. Observations were carried out on 200 leaves in each of the four replicates (trial of 800 leaves - 4 repetitions of 200) twice a season and on 100 fruits in each of the 4 replicates (trial of 400 fruits - 4 replicates of 100). The degree of leaf and fruit infestation was assessed using a 6-point bonitation scale: 0 - no disease symptoms, 5 - over 75% of the area occupied by the fungus for leaves and over 30% for fruit).
The effectiveness of the Miedzian Extra 350 SC fungicide used at a dose of 1,5 l/ha in the control of apple scab was very high and in the protection of leaves against scab was 99,9% and the fruit - 100%. The effectiveness of this fungicide was the same as that of standard fungicides.
The effectiveness of the standard fungicides used, Miedzian 50 WP, Cuproflow 375 SC and Kocide 101 WP, was very high. Their effectiveness, both in protecting leaves and fruits, was over 99% and did not differ from the effectiveness of the tested fungicide, Miedzian Extra 350 SC.
Weather conditions in the spring (in April and May) were conducive to the development of apple scab. In

the orchard in Dąbkowice, leaf infestation on unprotected Jonica cultivars at the end of May was 42%. Small rainfall in June and no rainfall in July inhibited the development of the disease and in mid-August a slight increase in leaf infection, up to 50%, was noted. In contrast, rainfall in August favored fruit infestation, and in early September 55% of infected fruit was recorded on unprotected trees.
During the research, neither the leaves nor the fruit of the Jonica variety were found to show symptoms of phytotoxic effects of the tested preparation Miedzian Extra 350 SC.
During visual observations, no effects of the test agent on non-target organisms were found.
Fungicide Miedzian Extra 350 SC applied at a dose of 1,5 l/ha for the first three treatments showed very high efficiency in combating apple scab.

Trial: ZF/S/7/2019/1/I

Guidelines	General guidelines	EPPO PP 1/152 (4), EPPO PP 1/135 (4), EPPO PP 1/181 (4), EPPO PP 1/225 (2)
	Specific guidelines	EPPO PP 1/5(3)
Experimental design	Plot design	Random Complete Block (RCB)
	Plot size	4m x 1,6m
	Number of replications	4
Crop	Trials per crop	Apple
	Varieties per crop	Ligol
	Sowing period	2006
Application	Crop stage (BBCH)* at application	BBCH 55-56
	Number of applications Intervals between applications	2
	Spray volumes	600 L/ha
Assessment	Assessment types	Analysis of infected leaves (6-stage bonitation scale) and fruits (3-stage bonitation scale)
	Assessment dates	Leaves: 17.05.2019, 27.06.2019; fruits: 27.06.2019, 30.07.2019
Other relevant information	e.g. Soil type, pH (in case of soil active substance …)	loam soil
	e.g. Natural / artificial innoculation…	natural
	e.g. Field / Greenhouse...	Orchard, Rogów/prov. łódzkie (Poland)

The biological efficacy of Miedzian Extra 350 SC in control of apple scab was evaluated on the basis of infected leaves and fruits. Observations of 200 leaves and 100 fruits in each of four replications were made twice in the season (samples 800 leaves and 400 fruits). For leaves the following grading scale was used: 0- healthy leaf, 1- 0,5% of leaf surface covered by fungus, 2- 3%, 3- 12.5%, 4- 35%, 5- above 75% leaf surface covered by fungus and for fruits 1 - healthy fruit, 2 – 1-3 spots, 3 - >3 spots on fruit.
Fungicide Miedzian Extra 350 SC applied in doses 1,5 l, 1,2 l and 0,9 l/ha efficiently limited severity of apple scab during all evaluations of leaves and fruits. During 1st evaluation of leaves the efficacy amounted from 90,4% to 96,2%, but during 2nd evaluation it amounted from 80,0% to 93,3% depending on the dose and evaluation time. The efficacy was not significantly different between doses of tested product and standard fungicides Nordox 75 WG and Cuproflow 377,5 SC. During two evaluations of fruits, Miedzian Extra 350 SC limited severity of disease in all doses and its efficacy amounted from

47,4% to 95,5%, depending on a dose and evaluation time and was similar to standard fungicides Nordox 75 WG and Cuproflow 377,5 SC.
Standard fungicides Nordox 75 WG and Cuproflow 377.5 SC limited occurrence of apple scab and the efficacy in protection of leaves amounted from 80,0% to 98,0%, while in protection of fruits from 68,4% to 95,5% depending of the applied fungicide and evaluation time.
In 2019 season, in orchard in Rogów, the symptoms of apple scab on untreated trees cv. 'Ligol' occurred at very low intensity. On untreated trees 5,2% and 1,5% of leaves and 1,9% and 2,2% of fruits were infected, respectively during I and II evaluation.
During the experiment, no symptoms of phytotoxicity both on leaves and fruits after application of Miedzian Extra 350 SC on apple trees of 'Ligol' cv. was noted.
Tested fungicide Miedzian Extra 350 SC did not affect negatively quality and the yield of apple cv. 'Ligol'.
During visual observations no influence of tested product on organisms, which were not the subject of control, was noted.
At a low severity of apple scab, fungicide Miedzian Extra 350 SC in all applied doses limited occurrence of apple scab.
During both evaluations of leaves and fruits the efficacy of Miedzian Extra 350 SC did not significantly differ between doses of tested product and was similar to standard fungicides Nordox 75 WG and Cuproflow 377,5 SC.

Trial: ZF/S/7/2019/1/II

Guidelines	General guidelines	EPPO PP 1/152 (4), EPPO PP 1/135 (4), EPPO PP 1/181 (4), EPPO PP 1/225 (2)
	Specific guidelines	EPPO PP 1/5(3)
Experimental design	Plot design	Random Complete Block (RCB)
	Plot size	4m x 2m
	Number of replications	4
Crop	Trials per crop	Apple
	Varieties per crop	Jonagored
	Sowing period	2006
Application	Crop stage (BBCH)* at application	BBCH 53-54
	Number of applications Intervals between applications	2
	Spray volumes	600 L/ha
Assessment	Assessment types	Analysis of infected leaves (6-stage bonitation scale) and fruits (3-stage bonitation scale)
	Assessment dates	Leaves: 17.05.2019, 27.06.2019; fruits: 27.06.2019, 30.07.2019
Other relevant information	e.g. Soil type, pH (in case of soil active substance …)	loam soil
	e.g. Natural / artificial innoculation…	natural
	e.g. Field / Greenhouse...	Orchard, Rogów/prov. łódzkie (Poland)

The biological efficacy of Miedzian Extra 350 SC in control of apple scab was evaluated on the basis of

infected leaves and fruits. Observations of 200 leaves and 100 fruits in each of four replications were made twice in the season (samples 800 leaves and 400 fruits). For leaves the following grading scale was used: 0- healthy leaf, 1- 0,5% of leaf surface covered by fungus, 2- 3%, 3- 12,5%, 4- 35%, 5- above 75% leaf surface covered by fungus and for fruits 1 - healthy fruit, 2 – 1-3 spots, 3 - >3 spots on fruit.
Fungicide Miedzian Extra 350 SC applied in doses 1,5 l, 1,2 l and 0,9 l/ha efficiently limited severity of apple scab during all evaluations of leaves and fruits. During 1st evaluation of leaves the efficacy amounted from 88,5% to 99,5%, but during 2nd evaluation it amounted from 90.0% to 100% depending on the dose and evaluation time. The efficacy was not significantly different between doses of tested product and standard fungicides Nordox 75 WG and Cuproflow 377,5 SC. During two evaluations of fruits, Miedzian Extra 350 SC limited severity of disease in all doses and its efficacy amounted from 66,7% to 100%, depending on a dose and evaluation time and was similar to standard fungicides Nordox 75 WG and Cuproflow 377,5 SC.
Standard fungicides Nordox 75 WG and Cuproflow 377.5 SC limited occurrence of apple scab and the efficacy in protection of leaves amounted from 66,7% to 100%, while in protection of fruits 100% regardless of the applied fungicide and evaluation time.
In 2019 season, in orchard in Rogów, the symptoms of apple scab on untreated trees cv. 'Jonagored' occurred at very low intensity. On untreated trees 6,1% and 0,3% of leaves and 0,3% and 0,7% of fruits were infected, respectively during I and II evaluation.
Tested fungicide Miedzian Extra 350 SC did not affect negatively quality and the yield of apple cv. ‘Jonagored’.
During visual observations no influence of tested product on organisms, which were not the subject of control, was noted.
At a low severity of apple scab, fungicide Miedzian Extra 350 SC in all applied doses limited occurrence of apple scab.
During both evaluations of leaves and fruits the efficacy of Miedzian Extra 350 SC did not significantly differ between doses of tested product and was similar to standard fungicides Nordox 75 WG and Cuproflow 377,5 SC.

Trial: ZF/S/7/2019/1/III

Guidelines	General guidelines	EPPO PP 1/152 (4), EPPO PP 1/135 (4), EPPO PP 1/181 (4), EPPO PP 1/225 (2)
	Specific guidelines	EPPO PP 1/5(3)
Experimental design	Plot design	Random Complete Block (RCB)
	Plot size	3,5m x 1m
	Number of replications	4
Crop	Trials per crop	Apple
	Varieties per crop	Ligol
	Sowing period	2006
Application	Crop stage (BBCH)* at application	BBCH 55-56
	Number of applications Intervals between applications	2
	Spray volumes	600 L/ha
Assessment	Assessment types	Analysis of infected leaves (6-stage bonitation scale) and fruits (3-stage bonitation scale)
	Assessment dates	Leaves: 20.05.2019, 26.06.2019; fruits: 26.06.2019, 31.07.2019
Other rele-	e.g. Soil type, pH (in	loam soil

vant information	case of soil active substance …)	
	e.g. Natural / artificial innoculation…	natural
	e.g. Field / Greenhouse...	Orchard, Grzymkowice (near Biała Rawska)/prov. łódzkie (Poland)

The biological efficacy of Miedzian Extra 350 SC in control of apple scab was evaluated on the basis of infected leaves and fruits. Observations of 200 leaves and 100 fruits in each of four replications were made twice in the season (samples 800 leaves and 400 fruits). For leaves the following grading scale was used: 0- healthy leaf, 1- 0,5% of leaf surface covered by fungus, 2- 3%, 3- 12,5%, 4- 35%, 5- above 75% leaf surface covered by fungus and for fruits 1 - healthy fruit, 2 – 1-3 spots, 3 - >3 spots on fruit.
Fungicide Miedzian Extra 350 SC applied in doses 1.5 l, 1.2 l and 0.9 l/ha efficiently limited severity of apple scab during all evaluations of leaves and fruits. During 1st evaluation of leaves the efficacy amounted from 90,7% to 96,3%, but during 2nd evaluation it amounted from 66,7% to 98,0% depending on the dose and evaluation time. The efficacy was not significantly different between doses of tested product and standard fungicides Nordox 75 WG and Cuproflow 377,5 SC. During two evaluations of fruits, Miedzian Extra 350 SC limited severity of disease in all doses and its efficacy amounted from 70,0% to 94,7%, depending on a dose and evaluation time and was similar to standard fungicides Nordox 75 WG and Cuproflow 377,5 SC.
Standard fungicides Nordox 75 WG and Cuproflow 377.5 SC limited occurrence of apple scab and the efficacy in protection of leaves amounted from 90,7% to 98,0%, while in protection of fruits from 94,7% to 100% depending of the applied fungicide and evaluation time.
In 2019 season, in orchard in Grzymkowice near Biała Rawska, the symptoms of apple scab on untreated trees cv. 'Ligol' occurred at very low intensity. On untreated trees 5,4% and 1,5% of leaves and 1,9% and 1,0% of fruits were infected, respectively during I and II evaluation.
During the experiment, no symptoms of phytotoxicity both on leaves and fruits after application of Miedzian Extra 350 SC on apple trees of 'Ligol' cv. was noted.
Tested fungicide Miedzian Extra 350 SC did not affect negatively quality and the yield of apple cv. 'Ligol'.
During visual observations no influence of tested product on organisms, which were not the subject of control, was noted.
At a low severity of apple scab, fungicide Miedzian Extra 350 SC in all applied doses limited occurrence of apple scab. During both evaluations of leaves and fruits the efficacy of Miedzian Extra 350 SC did not significantly differ between doses of tested product and was similar to standard fungicides Nordox 75 WG and Cuproflow 377,5 SC.

Trial: ZF/S/7/2019/1/IV

Guidelines	General guidelines	EPPO PP 1/152 (4), EPPO PP 1/135 (4), EPPO PP 1/181 (4), EPPO PP 1/225 (2)
	Specific guidelines	EPPO PP 1/5(3)
Experimental design	Plot design	Random Complete Block (RCB)
	Plot size	3,5m x 1m
	Number of replications	4
Crop	Trials per crop	Apple
	Varieties per crop	Jonagold Decosta
	Sowing period	2006
Application	Crop stage (BBCH)* at application	BBCH 53-54
	Number of	2

	applications Intervals between applications	
	Spray volumes	600 L/ha
Assessment	Assessment types	Analysis of infected leaves (6-stage bonitation scale) and fruits (3-stage bonitation scale)
	Assessment dates	Leaves: 20.05.2019, 26.06.2019; fruits: 26.06.2019, 31.07.2019
Other relevant information	e.g. Soil type, pH (in case of soil active substance …)	loam soil
	e.g. Natural / artificial innoculation…	natural
	e.g. Field / Greenhouse...	Orchard, Grzymkowice (near Biała Rawska)/prov. łódzkie (Poland)

The biological efficacy of Miedzian Extra 350 SC in control of apple scab was evaluated on the basis of infected leaves and fruits. Observations of 200 leaves and 100 fruits in each of four replications were made twice in the season (samples 800 leaves and 400 fruits). For leaves the following grading scale was used: 0- healthy leaf, 1- 0,5% of leaf surface covered by fungus, 2- 3%, 3- 12,5%, 4- 35%, 5- above 75% leaf surface covered by fungus and for fruits 1 - healthy fruit, 2 – 1-3 spots, 3 - >3 spots on fruit.
Fungicide Miedzian Extra 350 SC applied in doses 1.5 l, 1.2 l and 0.9 l/ha efficiently limited severity of apple scab during all evaluations of leaves and fruits. During 1st evaluation of leaves the efficacy amounted from 96,5% to 99,5%, but during 2nd evaluation it amounted from 93,8% to 100% depending on the dose and evaluation time. The efficacy was not significantly different between doses of tested product and standard fungicides Nordox 75 WG and Cuproflow 377,5 SC. During the second evaluation of fruits intensity of disease was very low and the evaluation of efficacy tested products was not possible.
Standard fungicides Nordox 75 WG and Cuproflow 377,5 SC limited occurrence of apple scab and the efficacy in protection of leaves amounted from 81,3% to 98,2% depending of the applied fungicide and evaluation time. During 1st evaluation of fruits tested products showed the efficacy: 100% for Nordox 75 WG and 88,9% for Cuproflow 377,5 SC. During the second evaluation infection of fruits was very low and the evaluation of efficacy standard products was not possible.
In 2019 season, in orchard in Grzymkowice near Biała Rawska, the symptoms of apple scab on untreated trees cv. 'Jonagold Decosta' occurred at very low intensity. On untreated trees 5,7% and 1,6% of leaves and 0,9% and 0,3% of fruits were infected, respectively during I and II evaluation.
During the experiment, no symptoms of phytotoxicity both on leaves and fruits after application of Miedzian Extra 350 SC on apple trees of 'Jonagold Decosta' cv. was noted.
Tested fungicide Miedzian Extra 350 SC did not affect negatively quality and the yield of apple cv. 'Jonagold Decosta'.
During visual observations no influence of tested product on organisms, which were not the subject of control, was noted.
At a low severity of apple scab, fungicide Miedzian Extra 350 SC in all applied doses limited occurrence of apple scab. During both evaluations of leaves and first evaluation of fruits the efficacy of Miedzian Extra 350 SC did not significantly differ between doses of tested product and was similar to standard fungicides Nordox 75 WG and Cuproflow 377,5 SC. During the second evaluation infection of fruits was very low and the evaluation of efficacy used products was not possible.

PEAR/ VENTPI

TRIAL:OR/18/2006/2/I

Guidelines	General guidelines	EPPO PP 1/152 (4), EPPO PP 1/135 (4), EPPO PP 1/181 (4), EPPO PP 1/225 (2)
	Specific guidelines	EPPO PP 1/5 (3)

Experimental design	Plot design	Random Complete Block (RCB)
	Plot size	4,0m x 2m
	Number of replications	4
Crop	Trials per crop	Pear
	Varieties per crop	Faworytka
	Sowing period	2001
Application	Crop stage (BBCH)* at application	BBCH 53-65
	Number of applications Intervals between applications	4
	Spray volumes	600 L/ha
Assessment	Assessment types	Analysis of infected leaves (6-stage bonitation scale) and fruits (3-stage bonitation scale)
	Assessment dates	Leaves: 20.06.2006; fruits: 28.08.2006
Other relevant information	e.g. Soil type, pH (in case of soil active substance …)	Sandy mugwort soil
	e.g. Natural / artificial innoculation…	natural
	e.g. Field / Greenhouse...	Orchard, Józefów (near Rogów)/prov. łódzkie (Poland)

The biological effectiveness of the Miedzian Extra 350 SC preparation in combating scab is assessed by analyzing infected leaves and fruits. Observations were carried out on 200 leaves in each of the four replicates (800 leaf test - 4 replicates of 200) and on 100 fruits in each of the 4 replicates (400 fruit sample - 4 replicates of 100). The degree of leaf and fruit infestation was assessed using a 6-point bonitation scale (0 - no disease symptoms, 5 - over 75% of the area occupied by the fungus for leaves and 30% for fruit).
The effectiveness of the Miedzian Extra 350 SC fungicide applied at a dose of 1,5 l/ha in controlling scab was very good and amounted to 100% for leaves and 95,1% for fruit. The effectiveness of the preparation in protecting leaves against infestation was the same as in standard fungicides, while in fruit protection it was significantly higher than the standard preparation Miedzian 50 WP, but lower than the preparations Champion 50 WP and Cuproflow 375 SC. On the trees sprayed with the tested preparation and standard fungicides, there were no significant differences in the size of the surface of leaves and fruit occupied by the fungus.
The effectiveness of the standard fungicides Miedzian 50 WP, Champion 50 WP and Cuproflow 375 SC in protecting leaves against scab of pears was very good and amounted to 100%. In fruit protection, the effectiveness of Champion 50 WP and Cuproflow 375 SC preparations was also 100%, while the effectiveness of the Miedzian 50 WP preparation was lower and amounted to 82,8%.
In the 2006 season, scab on pear leaves was low, while on fruit it was moderate. In the orchard in Józefów, on unprotected trees of susceptible cultivar Faworytka, 3% of leaves and 31% of fruit were infected.
During the research, neither the leaves nor the fruit of the Faworytka variety were found to show any signs of phytotoxic effects of the tested preparation Miedzian Extra 350 SC.
During visual observations, no effects of the test agent on non-target organisms were found.
Fungicide Miedzian Extra 350 SC applied at a dose of 1,5 l/ha for the first four treatments has shown very good effectiveness in controlling scab.

TRIAL:OR/18/2006/2/II

Guidelines	General guidelines	EPPO PP 1/152 (4), EPPO PP 1/135 (4), EPPO PP 1/181 (4), EPPO PP 1/225 (2)
	Specific guidelines	EPPO PP 1/5(3)
Experimental design	Plot design	Random Complete Block (RCB)
	Plot size	4m x 2,5m
	Number of replications	4
Crop	Trials per crop	Pear
	Varieties per crop	Faworytka
	Sowing period	1988
Application	Crop stage (BBCH)* at application	BBCH 9-56
	Number of applications Intervals between applications	3
	Spray volumes	600 L/ha
Assessment	Assessment types	Analysis of infected leaves (6-stage bonitation scale) and fruits (3-stage bonitation scale)
	Assessment dates	Leaves: 13.06.2006, 16.08.2006; fruits: 10.08.2006
Other relevant information	e.g. Soil type, pH (in case of soil active substance …)	sandy loam soil
	e.g. Natural / artificial innoculation…	natural
	e.g. Field / Greenhouse...	Orchard, Miłobądź (near Tczew)/prov. pomorskie (Poland)

The biological effectiveness of the Miedzian Extra 350 SC preparation in combating scab is assessed by analyzing infected leaves and fruits. Observations were carried out on 200 leaves in each of the four replicates (trial 800 leaves - 4 repetitions of 200) twice a season and on 100 fruits in each of the 4 replicates (trial 400 fruits - 4 repetitions of 100). The degree of leaf and fruit infestation was assessed using a 6-point bonitation scale: (0 - no disease symptoms, 5 - over 75% of the area occupied by the fungus for leaves and over 30% for fruit).
The effectiveness of the Miedzian Extra 350 SC fungicide applied at a dose of 1,5 l/ha in controlling scab was good at 99,7% and 87,6% in leaf protection and 95,9% in fruit protection. The effectiveness of this fungicide was the same as that of standard fungicides.
The effectiveness of the standard fungicides used, Miedzian 50 WP, Cuproflow 375 SC and Kocide 101 WP, was effective in controlling scab. Their effectiveness in leaf protection ranged from 88,4% to 100% and in fruit protection it was even higher and ranged from 96,6% to 97,9%. The effectiveness of standard fungicides was the same as that of the tested fungicide Miedzian Extra 350 SC.
Weather conditions, with frequent rainfall in May, June and August, were conducive to the development of scab. In the orchard in Miłobiedz, leaf infestation on unprotected pears of Faworytek cultivar was 10% in mid-June and 54% in mid-August. Pear fruit was particularly heavily infected. Just before harvest, as much as 70% of fruit was infected on unprotected pears.
During the research, neither the leaves nor the fruit of pear Faworytka cultivar were found to show any symptoms of phytotoxic effects of the tested preparation Miedzian Extra 350 SC.
During visual observations, no effects of the test agent on non-target organisms were found.
Fungicyd Miedzian Extra 350 SC zastosowany w obniżonej dawce - 1,5 l/ha, do pierwszych trzech zabiegów, wykazał dobrą efektywność w ochronie liści (87,6% i 99,7%) oraz bardzo wysoką efektywność w

ochronie owoców gruszy przed parchem gruszy (95,9%). Efektywność badanego środka była taka sama jak fungicydów standardowych.

PEAR/ ERWIAM

TRIAL: OR/18/2006/3a

Guidelines	General guidelines	EPPO PP 1/152 (4), EPPO PP 1/135 (4), EPPO PP 1/181 (4), EPPO PP 1/225 (2)
	Specific guidelines	EPPO PP 1/166(3)
Experimental design	Plot design	Independent system
	Plot size	3 trees per replication
	Number of replications	5
Crop	Trials per crop	Apple
	Varieties per crop	Ligol
	Sowing period	Not relevant
Application	Crop stage (BBCH)* at application	BBCH 39
	Number of applications Intervals between applications	1
	Spray volumes	700 L/ha
Assessment	Assessment types	Analysis of infected shoots
	Assessment dates	13.07.2006, 20.07.2006
Other relevant information	e.g. Soil type, pH (in case of soil active substance …)	Not relevant
	e.g. Natural / artificial innoculation…	artificial innoculation
	e.g. Field / Greenhouse...	Greenhouse

Research in the greenhouse was carried out on one-year-old susceptible apple trees of the Ligol variety, planted in containers and placed in an isolated camera.
Experimental combinations: trees protected by the tested specimen and comparative specimens, as well as control trees are placed on window sills with appropriate distances between combinations so that the tested specimens do not transfer during spraying to adjacent combinations. Each combination was represented by 15 trees (5 replicates x 3 trees).
The tested preparation was applied to trees in the form of spraying 3 hours before their artificial infection. The preparation was used in doses specified in the recommendations. The dose used was expressed as the concentration (%) in the appropriate volume of water, which corresponded to the recommended dose per hectare in 700 liters of water.
A suspension of a highly virulent strain of *E. amylovora* with a concentration of 106 bacteria per milliliter was used to artificially infect plants. The bacterial suspension was applied using a sprayer ensuring uniform distribution. To ensure high humidity for 24 hours, infected tops of the shoots are covered with a plastic bag.
At each date, the number of shoots with disease symptoms was recorded, and the severity of the disease was assessed by comparing the length of therothed part of the shoot to the total length of the shoot. At

each observation date, confirmation was obtained that the assessed signs were caused by *E. amylovora.*
The effectiveness of the Miedzian Extra 350 SC fungicide at a dose of 0,75 l/ha evaluated within 6 days after inoculation was 47,7%; 13 days after inoculation- 12,8%, and at 1,5 l/ha: 27,9 and 20,5% respectively. Efficiency of the respondent was worse than standard fungicides: Kocide 101 WP at 0,75 and 1,5 kg/ha and Curpoflow 375 SC at 1,5 and 2,0 l/ha.
The efficacy of Cuproflow 375 SC at 1,5 and 2,0 l/ha at 6 days after inoculation was 68,5 and 82,0%, respectively, and 13 days after inoculation 64,8 and 67,0%, respectively.
The effectiveness of Kocide 101 at doses of 0,75 and 1,5 kg/ha evaluated within 6 days after inoculation was 48,6% and 58,6, respectively, and 13 days after inoculation- 54,9% and 54,6%, respectively.
The severity of fire blight on untreated apple shoots was high and after 6 days after inoculation it was 11,1% of the affected part of the shoot, and after 13 days- 81,0%. It was similar to the application of the tested preparation, but significantly higher than on shoots treated with standard fungicides: Kocide 101 WP at 0,75 and 1,5 kg/ha and Cuproflow 375 SC at 1,5 and 2,0 l/ha.
Phytotoxicity after application of the preparation and standard preparations on apple shoots Ligol variety was not found.
Fungicide Miedzian Extra 350 SC applied in doses of 0,75 and 1,5 l/ha did not limit the occurrence of fire blight on apple shoots of the Ligol variety.
The tested fungicide Miedzian Extra 350 SC applied at 0,75 and 1,5 l/ha, showed, in preventing the onset of fire blight, a worse effect as Cuproflow 375 SC comparative preparations at 1,5 and 2,0 l/ha and Kocide 101 WP at 0,75 and 1,5 kg/ha.

TRIAL: OR/18/2006/3b

Guidelines	General guidelines	EPPO PP 1/152 (4), EPPO PP 1/135 (4), EPPO PP 1/181 (4), EPPO PP 1/225 (2)
	Specific guidelines	EPPO PP 1/166(3)
Experimental design	Plot design	Independent system
	Plot size	10 buds of pear fruit in repetition
	Number of replications	4
Crop	Trials per crop	Pear
	Varieties per crop	Konferencja
	Sowing period	Not relevant
Application	Crop stage (BBCH)* at application	BBCH 73
	Number of applications Intervals between applications	1
	Spray volumes	700 L/ha
Assessment	Assessment types	Analysis of infected buds (5-stage bonitation scale)
	Assessment dates	13.08.2006, 17.08.2006
Other relevant information	e.g. Soil type, pH (in case of soil active substance …)	Not relevant
	e.g. Natural / artificial innoculation…	artificial innoculation
	e.g. Field / Greenhouse...	Laboratory tests

Laboratory evaluation of the effectiveness of preparations using pear fruit buds, Conference variety. The

tests were carried out in humidity mini cameras at room temperature. Each combination was represented by 40 fruit buds (4 replicates x 10 units).
The dates and methods of application of the test and comparative preparations were the same.
The tested preparation was applied to the buds in the form of spraying shortly before their artificial infection (6 hours). The preparation was used in doses specified in the recommendations. The dose used was expressed as the concentration (%) in the appropriate volume of water, which corresponded to the recommended dose per hectare in 700 liters of water.
A suspension of the highly virulent strain of *Erwinia amylovora* with a concentration of 108 bacteria per milliliter was used to artificially infect the germs. The bacterial suspension was applied using a sprayer ensuring uniform distribution.
Observations were made twice: 3 and 7 days after inoculation. At each time the severity of the disease was assessed according to the bonitation scale: 0 - no symptoms, 1 - trace symptoms, 2 - necrosis and leaks covering about half a bud, 3 - necrosis and leaks covering more than half a bud, 4 - necrosis and leaks covering the entire surface. Re-isolation also confirmed that the assessed signs were caused by *E. amylovora.*
The efficiency of the Miedzian Extra 350 SC fungicide at a dose of 0,75 l/ha assessed within 3 days after inoculation was 93,1%, and 7 days after inoculation - 50.0%, while at 1,5 l/ha respectively: 93,1 and 62,5%.
Efficiency of the respondent comparative 0,75 l/ha was the same or higher, and 1,5 l/ha the same or lower as the standard fungicides used at the appropriate doses.
The efficacy of Cuproflow 375 SC at a dose of 1,5 l/ha evaluated within 3 days after inoculation was 97,9% and 7 days after inoculation- 62,5%; while at 2,0 l/ha, 100 and 87,5% respectively.
The effectiveness of Champion 50 WP at a dose of 0,75 kg/ha evaluated within 3 days after inoculation was 86,2% and 7 days after inoculation- 32,5%; at a dose of 1,5 kg/ha, respectively: 96,6 and 85,0%; whereas at the dose of 3,0 kg/ha: 100 and 97,5% respectively.
The effectiveness of Kocide 101 WP at 0,75 kg/ha, evaluated within 3 days after inoculation, was 58,6, and 7 days after inoculation- 15,0%; whereas at 1,5 and 3,0 kg/ha, the efficacy assessed 3 days after inoculation was 100% and 7 days after inoculation 92,5 and 100%, respectively.
The degree of infection of the untreated compounds was high and after 3 days after inoculation it was 1,45, and after 7 days 4,0. It was significantly higher than the degree of infection of the compounds treated with the tested fungicide and standard fungicides at all doses used.
No phytotoxicity was found after application of the tested product and standard product for pear fruit buds, Conference variety.
Fungicide Miedzian Extra 350 SC applied in doses of 0,75 and 1,5 l/ha significantly reduced the occurrence of fire blight on pear fruit buds, variety Conference.
The tested fungicide Miedzian Extra 350 SC applied at a dose of 0,75 l/ha, showed the same effect or better in the prevention of fire blight as the comparative preparations Cuproflow 375 SC at a dose of 1,5 l/ha, Champion 50 WP and Kocide 101 WP used at a dose of 0,75 kg/ha.
The tested fungicide Miedzian Extra 350 SC, applied at a dose of 1,5 l/ha, showed the same effect as preventing the onset of fire blight as the Cuproflow 375 SC comparator at a dose of 1,5 l/ha, but worse performance as the Cuproflow 375 comparator SC at 2,0 l/ha, Champion 50 WP and Kocide 101 WP used at 1,5 and 3,0 kg/ha.

CHERRY/ PSDMSY

TRIAL:OR/18/2006/4a

Guidelines	General guidelines	EPPO PP 1/152 (4), EPPO PP 1/135 (4), EPPO PP 1/181 (4), EPPO PP 1/225 (2)
	Specific guidelines	
Experimental design	Plot design	Random Complete Block (RCB)
	Plot size	3m x 1,5m
	Number of replications	4
Crop	Trials per crop	Cherry

	Varieties per crop	Nefris
	Sowing period	1999
Application	Crop stage (BBCH)* at application	BBCH 51-73
	Number of applications Intervals between applications	6
	Spray volumes	700 L/ha
Assessment	Assessment types	Analysis of infected leaves and fruits
	Assessment dates	Leaves: 10.07.2006; fruits: 22.06.2006
Other relevant information	e.g. Soil type, pH (in case of soil active substance …)	podzolic soil with sandy loam soil
	e.g. Natural / artificial innoculation…	natural
	e.g. Field / Greenhouse...	Orchard, Dąbrowice (near Skierniewice)/prov. łódzkie (Poland)

The biological effectiveness of the Miedzian Extra 350 SC fungicide in combating bacterial cancer of stone trees in the field was assessed on the basis of the number of infected leaves and fruits. Observations were made after clear disease symptoms appeared in control trees. In duplicate, 200 randomly selected leaves and 100 fruits found at different locations on the tree crown were analyzed. 800 leaves and 400 fruits were analyzed in each combination (four replicates).
The effectiveness of the Miedzian Extra 350 SC fungicide in combating stone tree bacterial cancer was 47,8% on leaves and 48,4% on fruit. The effectiveness of the test agent was the same as the standard preparations.
The effectiveness of all standard fungicides was similar and in the case of Miedzian 50 WP on leaves 43,8%, on fruits a 44,0%, Champion 50 WP respectively 51,8% and 48,4% and Funguran-OH 50 WP 47,1% and 44,8%.
In the 2006 season, the symptoms of bacterial cancer of stone trees on cherries Nefris variety were of moderate intensity. 27,6% of leaves and 22,3% of fruits were infected on unprotected trees.
During observations on the cherry variety 'Nefris', no phytotoxic effect of the fungicide Miedzian Extra 350 SC was found.
During visual observations, no effects of the test agent on non-target organisms were found.
Fungicide Miedzian Extra 350 SC in field conditions, with moderate disease pressure, clearly reduced the occurrence of stone tree bacterial cancer on cherries of the Nefris variety. The effectiveness of the tested fungicide was the same as that of the standard fungicides: Champion 50 WP, Funguran-OH 50 WP and Miedzian 50 WP.
Fungicide Miedzian Extra 350 SC applied at a dose of 3,0 l/ha during bud swelling and 1,5 l/ha during flowering and fruit growth showed satisfactory, same as standard fungicides, preventive action in reducing the occurrence of bacterial cancer of trees stone.
Copper preparations are currently the only preparations recommended for controlling bacterial cancer of stone trees. Their field performance usually does not exceed 50%.

TRIAL:OR/18/2006/4b

Guidelines	General guidelines	EPPO PP 1/152 (4), EPPO PP 1/135 (4), EPPO PP 1/181 (4), EPPO PP 1/225 (2)
	Specific guidelines	

Experimental design	Plot design	Independent system
	Plot size	10 buds of cherry fruit in repetition
	Number of replications	5
Crop	Trials per crop	Cherry
	Varieties per crop	Napoleon
	Sowing period	not relevant
Application	Crop stage (BBCH)* at application	BBCH 77
	Number of applications Intervals between applications	1
	Spray volumes	700 L/ha
Assessment	Assessment types	Analysis of infected buds (5-stage bonitation scale)
	Assessment dates	21.05.2006, 22.05.2006, 23.05.2006
Other relevant information	e.g. Soil type, pH (in case of soil active substance …)	Not relevant
	e.g. Natural / artificial innoculation…	artificial innoculation
	e.g. Field / Greenhouse...	Laboratory tests

Laboratory evaluation of the effectiveness of preparations using cherry fruit buds, variety Napoleon.
The tests were carried out in humidity mini cameras at room temperature.
Each combination was represented by 50 fruit buds (5 repetitions x 10 units).
The dates and methods of application of the test and comparative preparations were the same.
The tested preparation was applied to the buds in the form of spraying shortly before their artificial infection (6 hours). The preparation was used in doses specified in the recommendations. The dose used was expressed as the concentration (%) in the appropriate volume of water, which corresponded to the recommended dose of 700 l per hectare.
A suspension of a highly virulent *Pseudomonas syringae* strain with a concentration of 108 bacteria per milliliter was used to artificially infect the germs. The bacterial suspension was applied using a sprayer ensuring uniform distribution.

Observations were made three times: 3, 4 and 5 days after inoculation. At each time the severity of the disease was assessed according to the bonitation scale: 0 - no symptoms, 1 - necrosis up to 1 mm in diameter, 2 - necrosis about 2 mm, 3 - necrosis over 2 mm. Re-isolation also confirmed that the assessed signs were caused by *P. syringae*.
The effectiveness of the Miedzian Extra 350 SC fungicide at a dose of 1,5 l/ha evaluated within 3 days after inoculation was 66,7%; 4 days after inoculation - 60%; 5 days after inoculation 61,0%, and at a dose of 3,0 l/ha, respectively: 88,9; 92,0 and 87,8%. Efficiency of the respondent was the same as standard fungicides used at 1,5 kg/ha and 3,0 kg/ha.
The effectiveness of Champion 50 WP at a dose of 1,5 kg/ha evaluated within 3 days after inoculation was 77,8%; 4 days after inoculation- 76%; 5 days after inoculation 56,1%, and at a dose of 3 kg/ha respectively: 98,9; 92,0 and 95,1%.
The effectiveness of Funguran-OH 50 WP at a dose of 1,5 kg/ha evaluated within 3 days after inoculation was 77,8%; 4 days after inoculation- 68%; 5 days after inoculation 70,7%, and at a dose of 3 kg/ha, respectively: 88,9; 84,0 and 85,4%.
The degree of infection of the untreated buds was high and 0,9 days after inoculation; after 4 days- 1,25 and after 5 days already 2,05. It was significantly higher than the degree of infestation of compounds

treated with the tested fungicide and standard fungicides, used both in the dose of 1,5 kg/ha and 3,0 kg/ha. During observations on cherry fruit buds of the Napoleon variety, there was no phytotoxic effect of the fungicide Miedzian Extra 350 SC.
The Fungicide Miedzian Extra 350 SC applied at 1,5 l/ha and 3,0 l/ha significantly reduced the occurrence of bacterial cancer on cherry fruit buds of the Napoleon variety.
The tested fungicide Miedzian Extra 350 SC, applied in doses of 1,5 l/ha and 3,0 l/ha, showed the same effect as comparator preparations in the prevention of bacterial cancer.
The obtained results of the effectiveness of the fungicide Miedzian Extra 350 SC in preventing the occurrence of bacterial cancer can be transferred to all stone tree species with bacterial cancer.

TOMATO (outdoor)/ PSDMTM

TRIAL:PoZ 6/10 ba

Guidelines	General guidelines	EPPO PP 1/152 (4), EPPO PP 1/135 (4), EPPO PP 1/181 (4), EPPO PP 1/225 (2)
	Specific guidelines	EPPO PP 1/121(2)
Experimental design	Plot design	Random Complete Block (RCB)
	Plot size	$5m^2$
	Number of replications	4
Crop	Trials per crop	Tomato
	Varieties per crop	Fuga
	Sowing period	25.05.2006
Application	Crop stage (BBCH)* at application	BBCH 51-85
	Number of applications Intervals between applications	4
	Spray volumes	700 L/ha
Assessment	Assessment types	Analysis of infected leaves and fruits
	Assessment dates	14.07.2006, 25.08.2006
Other relevant information	e.g. Soil type, pH (in case of soil active substance …)	sandy soil on loam
	e.g. Natural / artificial innoculation…	provocative conditions
	e.g. Field / Greenhouse...	Field, Skierniewice/prov. łódzkie (Poland)

Weather conditions prevailing in the 2006 growing season favored the development of potato blight only in the second half of the summer, when the average air temperature decreased and significant rainfall occurred. Weather conditions negatively affected the growth of tomatoes causing fruit cracking.
Potato blight occurred rapidly to a large extent on the entire surface of experiments No. 1 and 2. Tomato bacterial disease was moderate.
In order to maintain uniform infection of plants, fogging of plants with water in the evening was used.
Fungicide Miedzian Extra 350 SC (copper oxychloride) was tested at a dose of 2,0 l/ha and 2,5 l/ha in protecting tomatoes against bacterial tuberculosis and potato blight. The comparative products were Miedzian 50 WP at 2,5 kg/ha and Miedzian 50 WG at 2,5 kg/ha. The research was carried out at two loca-

tions in Skierniewice: location 1 in the provocation field for disease development, second location in the conventional field in Powiercie 135 km away, with different environmental conditions of natural infection by Phytophthora infestans.
Fungicide Miedzian Extra 350 SC (copper oxychloride) at a dose of 2,0 l/ha and 2,5 l/ha showed high, comparable to standard measures, effectiveness in protecting tomatoes against bacterial tomato tuberosity and moderate against late blight and statistically significantly reduced development diseases.
The use of Miedzian Extra 350 SC had a significant impact on the increase in the quantity and quality of tomato yield as compared to the control combination. No phytotoxicity effects were observed on the treated plants with fungicide at doses of 2 l, 2,5 l and 5,0 l/ha.
The tested fungicide Miedzian Extra 350 SC (copper oxychloride) at a dose of 2,0 l/ha and 2,5 l/ha showed high biological effectiveness in protecting tomatoes, comparable to standard measures and against bacterial tuberculosis of tomato and moderate potato blight, which was 64% in experiment # 1 and 96% in experiment # 2 at a higher dose of the product (2,5 l/ha) compared to the control facility.
The application of the tested dose of the product statistically significantly increased the amount and quality of commercial yield in comparison.
The test agent did not show phytotoxicity at all test locations.
Based on previous research, we can recommend the registration of Miedzian Extra 350 SC (copper oxychloride) at a dose of 2,0 l- 2,5 l/ha in the protection of tomatoes against bacterial tomato tuberosity and potato blight. A higher dose should be used in conditions of increased threat of plants with potato blight.
We recommend 2-3 spraying with this agent at intervals of 7-10, alternating with products from other chemical groups.
The protection of tomatoes should be carried out in accordance with the signaling or preventive measures in periods of the expected risk of late blight.
Water dose used in trial was 700 l/ha.

TRIAL:PoT 6/10 ba

Guidelines	General guidelines	EPPO PP 1/152 (4), EPPO PP 1/135 (4), EPPO PP 1/181 (4), EPPO PP 1/225 (2)
	Specific guidelines	EPPO PP 1/121(2)
Experimental design	Plot design	Random Complete Block (RCB)
	Plot size	$5m^2$
	Number of replications	4
Crop	Trials per crop	Tomato
	Varieties per crop	Fuga
	Sowing period	25.05.2006
Application	Crop stage (BBCH)* at application	BBCH 51-84
	Number of applications Intervals between applications	4
	Spray volumes	700 L/ha
Assessment	Assessment types	Analysis of infected leaves and fruits
	Assessment dates	14.07.2006, 10.08.2006
Other relevant information	e.g. Soil type, pH (in case of soil active substance …)	sandy soil on loam
	e.g. Natural / artificial innoculation…	natural

	e.g. Field / Greenhouse...	Field, Powiercie/prov. wielkopolskie (Poland)

Weather conditions prevailing in the 2006 growing season favored the development of potato blight only in the second half of the summer, when the average air temperature decreased and significant rainfall occurred. Weather conditions negatively affected the growth of tomatoes causing fruit cracking.
Potato blight occurred rapidly to a large extent on the entire surface of experiments No. 1 and 2. Tomato bacterial disease was moderate.
In order to maintain uniform infection of plants, fogging of plants with water in the evening was used.
Fungicide Miedzian Extra 350 SC (copper oxychloride) was tested at a dose of 2,0 l/ha and 2,5 l/ha in protecting tomatoes against bacterial tuberculosis and potato blight. The comparative products were Miedzian 50 WP at 2,5 kg/ha and Miedzian 50 WG at 2,5 kg/ha. The research was carried out at two locations in Skierniewice: location 1 in the provocation field for disease development, second location in the conventional field in Powiercie 135 km away, with different environmental conditions of natural infection by Phytophthora infestans.
Fungicide Miedzian Extra 350 SC (copper oxychloride) at a dose of 2,0 l/ha and 2,5 l/ha showed high, comparable to standard measures, effectiveness in protecting tomatoes against bacterial tomato tuberosity and moderate against late blight and statistically significantly reduced development diseases.
The use of Miedzian Extra 350 SC had a significant impact on the increase in the quantity and quality of tomato yield as compared to the control combination. No phytotoxicity effects were observed on the treated plants with fungicide at doses of 2 l, 2,5 l and 5,0 l/ha.
The tested fungicide Miedzian Extra 350 SC (copper oxychloride) at a dose of 2,0 l/ha and 2,5 l/ha showed high biological effectiveness in protecting tomatoes, comparable to standard measures and against bacterial tuberculosis of tomato and moderate potato blight, which was 64% in experiment # 1 and 96% in experiment # 2 at a higher dose of the product (2,5 l/ha) compared to the control facility.
The application of the tested dose of the product statistically significantly increased the amount and quality of commercial yield in comparison.
The test agent did not show phytotoxicity at all test locations.
Based on previous research, we can recommend the registration of Miedzian Extra 350 SC (copper oxychloride) at a dose of 2,0 l- 2,5 l/ha in the protection of tomatoes against bacterial tomato tuberosity and potato blight. A higher dose should be used in conditions of increased threat of plants with potato blight.
We recommend 2-3 spraying with this agent at intervals of 7-10, alternating with products from other chemical groups.
The protection of tomatoes should be carried out in accordance with the signaling or preventive measures in periods of the expected risk of late blight.
Water dose used in trial was 700 l/ha.

TOMATO (outdoor)/ PHYTIN

TRIAL: PoZ 6/10 za

Guidelines	General guidelines	EPPO PP 1/152 (4), EPPO PP 1/135 (4), EPPO PP 1/181 (4), EPPO PP 1/225 (2)
	Specific guidelines	EPPO PP 1/121(2)
Experimental design	Plot design	Random Complete Block (RCB)
	Plot size	$5m^2$
	Number of replications	4
Crop	Trials per crop	Tomato
	Varieties per crop	Fuga
	Sowing period	25.05.2006
Application	Crop stage (BBCH)* at	BBCH 51-85

	application	
	Number of applications Intervals between applications	4
	Spray volumes	700 L/ha
Assessment	Assessment types	Analysis of infected leaves and fruits
	Assessment dates	14.07.2006, 25.08.2006
Other relevant information	e.g. Soil type, pH (in case of soil active substance …)	sandy soil on loam
	e.g. Natural / artificial innoculation…	provocative conditions
	e.g. Field / Greenhouse...	Field, Skierniewice/prov. łódzkie (Poland)

Weather conditions prevailing in the 2006 growing season favored the development of potato blight only in the second half of the summer, when the average air temperature decreased and significant rainfall occurred. Weather conditions negatively affected the growth of tomatoes causing fruit cracking.
Potato blight occurred rapidly to a large extent on the entire surface of experiments No. 1 and 2. Tomato bacterial disease was moderate.
In order to maintain uniform infection of plants, fogging of plants with water in the evening was used.
Fungicide Miedzian Extra 350 SC (copper oxychloride) was tested at a dose of 2,0 l/ha and 2,5 l/ha in protecting tomatoes against bacterial tuberculosis and potato blight. The comparative products were Miedzian 50 WP at 2,5 kg/ha and Miedzian 50 WG at 2,5 kg/ha. The research was carried out at two locations in Skierniewice: location 1 in the provocation field for disease development, second location in the conventional field in Powiercie 135 km away, with different environmental conditions of natural infection by Phytophthora infestans.
Fungicide Miedzian Extra 350 SC (copper oxychloride) at a dose of 2,0 l/ha and 2,5 l/ha showed high, comparable to standard measures, effectiveness in protecting tomatoes against bacterial tomato tuberosity and moderate against late blight and statistically significantly reduced development diseases.
The use of Miedzian Extra 350 SC had a significant impact on the increase in the quantity and quality of tomato yield as compared to the control combination. No phytotoxicity effects were observed on the treated plants with fungicide at doses of 2 l, 2,5 l and 5,0 l/ha.
The tested fungicide Miedzian Extra 350 SC (copper oxychloride) at a dose of 2,0 l/ha and 2,5 l/ha showed high biological effectiveness in protecting tomatoes, comparable to standard measures and against bacterial tuberculosis of tomato and moderate potato blight, which was 64% in experiment # 1 and 96% in experiment # 2 at a higher dose of the product (2,5 l/ha) compared to the control facility.
The application of the tested dose of the product statistically significantly increased the amount and quality of commercial yield in comparison.
The test agent did not show phytotoxicity at all test locations.
Based on previous research, we can recommend the registration of Miedzian Extra 350 SC (copper oxychloride) at a dose of 2,0 l- 2,5 l/ha in the protection of tomatoes against bacterial tomato tuberosity and potato blight. A higher dose should be used in conditions of increased threat of plants with potato blight.
We recommend 2-3 spraying with this agent at intervals of 7-10, alternating with products from other chemical groups.
The protection of tomatoes should be carried out in accordance with the signaling or preventive measures in periods of the expected risk of late blight.
Water dose used in trial was 700 l/ha.

TRIAL:PoT 6/10 za

Guidelines	General guidelines	EPPO PP 1/152 (4), EPPO PP 1/135 (4), EPPO PP 1/181 (4), EPPO PP

		1/225 (2)
	Specific guidelines	EPPO PP 1/121(2)
Experimental design	Plot design	Random Complete Block (RCB)
	Plot size	$5m^2$
	Number of replications	4
Crop	Trials per crop	Tomato
	Varieties per crop	Fuga
	Sowing period	25.05.2006
Application	Crop stage (BBCH)* at application	BBCH 51-84
	Number of applications Intervals between applications	4
	Spray volumes	700 L/ha
Assessment	Assessment types	Analysis of infected leaves and fruits
	Assessment dates	14.07.2006, 10.08.2006
Other relevant information	e.g. Soil type, pH (in case of soil active substance …)	sandy soil on loam
	e.g. Natural / artificial innoculation…	natural
	e.g. Field / Greenhouse...	Field, Powiercie/prov. wielkopolskie (Poland)

Weather conditions prevailing in the 2006 growing season favored the development of potato blight only in the second half of the summer, when the average air temperature decreased and significant rainfall occurred. Weather conditions negatively affected the growth of tomatoes causing fruit cracking.
Potato blight occurred rapidly to a large extent on the entire surface of experiments No. 1 and 2. Tomato bacterial disease was moderate.
In order to maintain uniform infection of plants, fogging of plants with water in the evening was used.
Fungicide Miedzian Extra 350 SC (copper oxychloride) was tested at a dose of 2,0 l/ha and 2,5 l/ha in protecting tomatoes against bacterial tuberculosis and potato blight. The comparative products were Miedzian 50 WP at 2,5 kg/ha and Miedzian 50 WG at 2,5 kg/ha. The research was carried out at two locations in Skierniewice: location 1 in the provocation field for disease development, second location in the conventional field in Powiercie 135 km away, with different environmental conditions of natural infection by Phytophthora infestans.
Fungicide Miedzian Extra 350 SC (copper oxychloride) at a dose of 2,0 l/ha and 2,5 l/ha showed high, comparable to standard measures, effectiveness in protecting tomatoes against bacterial tomato tuberosity and moderate against late blight and statistically significantly reduced development diseases.
The use of Miedzian Extra 350 SC had a significant impact on the increase in the quantity and quality of tomato yield as compared to the control combination. No phytotoxicity effects were observed on the treated plants with fungicide at doses of 2 l, 2,5 l and 5,0 l/ha.
The tested fungicide Miedzian Extra 350 SC (copper oxychloride) at a dose of 2,0 l/ha and 2,5 l/ha showed high biological effectiveness in protecting tomatoes, comparable to standard measures and against bacterial tuberculosis of tomato and moderate potato blight, which was 64% in experiment # 1 and 96% in experiment # 2 at a higher dose of the product (2,5 l/ha) compared to the control facility.
The application of the tested dose of the product statistically significantly increased the amount and quality of commercial yield in comparison.

The test agent did not show phytotoxicity at all test locations.
Based on previous research, we can recommend the registration of Miedzian Extra 350 SC (copper oxychloride) at a dose of 2,0 l- 2,5 l/ha in the protection of tomatoes against bacterial tomato tuberosity and potato blight. A higher dose should be used in conditions of increased threat of plants with potato blight.
We recommend 2-3 spraying with this agent at intervals of 7-10, alternating with products from other chemical groups.
The protection of tomatoes should be carried out in accordance with the signaling or preventive measures in periods of the expected risk of late blight.
Water dose used in trial was 700 l/ha.

CUCUMBER (outdoor)/ PSDMLA

TRIAL: OgZ 6/10 bk

Guidelines	General guidelines	EPPO PP 1/152 (4), EPPO PP 1/135 (4), EPPO PP 1/181 (4), EPPO PP 1/225 (2)
	Specific guidelines	EPPO PP 1/121(2)
Experimental design	Plot design	Random Complete Block (RCB)
	Plot size	10 m2
	Number of replications	4
Crop	Trials per crop	cucumber
	Varieties per crop	Śremska
	Sowing period	24.05.2006
Application	Crop stage (BBCH)* at application	BBCH 15-79
	Number of applications Intervals between applications	6
	Spray volumes	700 L/ha
Assessment	Assessment types	Analysis of infected leaves
	Assessment dates	09.07.2006, 21.07.2006, 03.08.2006, 14.08.2006
Other relevant information	e.g. Soil type, pH (in case of soil active substance …)	sandy soil on loam
	e.g. Natural / artificial innoculation…	provocative conditions
	e.g. Field / Greenhouse...	Field, Skierniewice/ prov. łódzkie (Poland)

Weather conditions prevailing in the growing season 2006 were conducive to the development of powdery mildew on cucumbers and bacterial angular blotch due to the possibility of plantation sprinkling. Cucumber growth was normal.
Downy mildew appeared in a high intensity and uniform intensity on the entire surface of experiments No. 1, 2, weak bacterial angular spotty. In order to maintain uniform infection of plants, fogging of plants with water in the evening was used.
Fungicide Miedzian Extra 350 SC (copper oxychloride) was tested in doses: 2,0 l and 2,5 l/ha in the protection of cucumbers against downy mildew and bacterial angular spotting in field cultivation. The comparative agent was the Miedzian 50 WG fungicide at 2,5 kg/ha and Miedzian 50 WP at 2,5 kg/ha. The research was carried out at two locations in Skierniewice, location 1 in the provocation field for disease

development, the second location in the conventional field in Powiercie 135 km away, with different environmental conditions of infection by Pseudoperonospora cubensis.
Fungicide Miedzian Extra 350 SC at doses of 2,0 l and 2,5 l/ha showed high effectiveness in protecting cucumbers in field cultivation against bacterial angular spotted (100%) and insufficient against downy mildew compared to the control object.
The use of Miedzian Extra 350 SC in the doses tested did not significantly increase the quantity and quality of cucumber yield compared to the control combination. No phytotoxic effect of the agent on plants was observed at all doses and stages of development of plants and fruits studied.
The tested fungicide Miedzian Extra 350 SC (copper oxychloride) in doses: 2,0 l and 2,5 l/ha showed high biological effectiveness in protecting cucumbers in field cultivation against bacterial angular spotty and insufficient against downy mildew compared to the control object .
The application of the tested dose of the agent in a statistically significant manner did not affect the increase in the height and quality of commercial cucumbers compared to standard objects.
There was no phytotoxic effect of the agent on plants in all subjects.
Based on previous research, we can recommend the registration of Miedzian Extra 350 SC (copper oxychloride) in doses: 2,0 l and 2,5 l/ha in the protection of cucumbers in field cultivation against bacterial angular mottling. We recommend 2-3 spraying with this agent at intervals of 7-10, alternating with agents from other chemical groups. The agent limits the occurrence of downy mildew in the early stages of plant growth.
Cucumbers should be protected in accordance with the signaling or preventive measures during periods of expected danger of downy mildew.
Water dose used in trial was 700 l/ha.

TRIAL:OgT 6/10 bk

Guidelines	General guidelines	EPPO PP 1/152 (4), EPPO PP 1/135 (4), EPPO PP 1/181 (4), EPPO PP 1/225 (2)
	Specific guidelines	EPPO PP 1/121(2)
Experimental design	Plot design	Random Complete Block (RCB)
	Plot size	10 m2
	Number of replications	4
Crop	Trials per crop	cucumber
	Varieties per crop	Śremska
	Sowing period	29.05.2006
Application	Crop stage (BBCH)* at application	BBCH 75-78
	Number of applications Intervals between applications	4
	Spray volumes	700 L/ha
Assessment	Assessment types	Analysis of infected leaves
	Assessment dates	31.07.2006, 07.08.2006, 14.08.2006, 28.08.2006
Other relevant information	e.g. Soil type, pH (in case of soil active substance …)	sandy soil on loam
	e.g. Natural / artificial innoculation…	natural
	e.g. Field / Greenhouse...	Field, Powiercie/prov. wielkopolskie (Poland)

Weather conditions prevailing in the growing season 2006 were conducive to the development of powdery mildew on cucumbers and bacterial angular blotch due to the possibility of plantation sprinkling. Cucumber growth was normal.
Downy mildew appeared in a high intensity and uniform intensity on the entire surface of experiments No. 1, 2, weak bacterial angular spotty. In order to maintain uniform infection of plants, fogging of plants with water in the evening was used.
Fungicide Miedzian Extra 350 SC (copper oxychloride) was tested in doses: 2,0 l and 2,5 l/ha in the protection of cucumbers against downy mildew and bacterial angular spotting in field cultivation. The comparative agent was the Miedzian 50 WG fungicide at 2,5 kg/ha and Miedzian 50 WP at 2,5 kg/ha. The research was carried out at two locations in Skierniewice, location 1 in the provocation field for disease development, the second location in the conventional field in Powiercie 135 km away, with different environmental conditions of infection by Pseudoperonospora cubensis.
Fungicide Miedzian Extra 350 SC at doses of 2,0 l and 2,5 l/ha showed high effectiveness in protecting cucumbers in field cultivation against bacterial angular spotted (100%) and insufficient against downy mildew compared to the control object.
The use of Miedzian Extra 350 SC in the doses tested did not significantly increase the quantity and quality of cucumber yield compared to the control combination. No phytotoxic effect of the agent on plants was observed at all doses and stages of development of plants and fruits studied.
The tested fungicide Miedzian Extra 350 SC (copper oxychloride) in doses: 2,0 l and 2,5 l/ha showed high biological effectiveness in protecting cucumbers in field cultivation against bacterial angular spotty and insufficient against downy mildew compared to the control object .
The application of the tested dose of the agent in a statistically significant manner did not affect the increase in the height and quality of commercial cucumbers compared to standard objects.
There was no phytotoxic effect of the agent on plants in all subjects.
Based on previous research, we can recommend the registration of Miedzian Extra 350 SC (copper oxychloride) in doses: 2,0 l and 2,5 l/ha in the protection of cucumbers in field cultivation against bacterial angular mottling. We recommend 2-3 spraying with this agent at intervals of 7-10, alternating with agents from other chemical groups. The agent limits the occurrence of downy mildew in the early stages of plant growth.
Cucumbers should be protected in accordance with the signaling or preventive measures during periods of expected danger of downy mildew.
Water dose used in trial was 700 l/ha.

CUCUMBER (outdoor)/ PSPECU

TRIAL:OgZ 6/10 mr

Guidelines	General guidelines	EPPO PP 1/152 (4), EPPO PP 1/135 (4), EPPO PP 1/181 (4), EPPO PP 1/225 (2)
	Specific guidelines	EPPO PP 1/121(2)
Experimental design	Plot design	Random Complete Block (RCB)
	Plot size	10 m2
	Number of replications	4
Crop	Trials per crop	Cucumber
	Varieties per crop	Śremski
	Sowing period	24.05.2006
Application	Crop stage (BBCH)* at application	BBCH 15-79
	Number of applications	6

	Intervals between applications	
	Spray volumes	700 L/ha
Assessment	Assessment types	Analysis of infected leaves
	Assessment dates	09.07.2006, 21.07.2006, 03.08.2006, 14.08.2006
Other relevant information	e.g. Soil type, pH (in case of soil active substance …)	sandy soil on loam
	e.g. Natural / artificial innoculation…	provocative conditions
	e.g. Field / Greenhouse...	Field, Skierniewice/ prov. łódzkie (Poland)

Weather conditions prevailing in the growing season 2006 were conducive to the development of powdery mildew on cucumbers and bacterial angular blotch due to the possibility of plantation sprinkling. Cucumber growth was normal.
Downy mildew appeared in a high intensity and uniform intensity on the entire surface of experiments No. 1, 2, weak bacterial angular spotty. In order to maintain uniform infection of plants, fogging of plants with water in the evening was used.
Fungicide Miedzian Extra 350 SC (copper oxychloride) was tested in doses: 2,0 l and 2,5 l/ha in the protection of cucumbers against downy mildew and bacterial angular spotting in field cultivation. The comparative agent was the Miedzian 50 WG fungicide at 2,5 kg/ha and Miedzian 50 WP at 2,5 kg/ha. The research was carried out at two locations in Skierniewice, location 1 in the provocation field for disease development, the second location in the conventional field in Powiercie 135 km away, with different environmental conditions of infection by Pseudoperonospora cubensis.
Fungicide Miedzian Extra 350 SC at doses of 2,0 l and 2,5 l/ha showed high effectiveness in protecting cucumbers in field cultivation against bacterial angular spotted (100%) and insufficient against downy mildew compared to the control object.
The use of Miedzian Extra 350 SC in the doses tested did not significantly increase the quantity and quality of cucumber yield compared to the control combination. No phytotoxic effect of the agent on plants was observed at all doses and stages of development of plants and fruits studied.
The tested fungicide Miedzian Extra 350 SC (copper oxychloride) in doses: 2,0 l and 2,5 l/ha showed high biological effectiveness in protecting cucumbers in field cultivation against bacterial angular spotty and insufficient against downy mildew compared to the control object .
The application of the tested dose of the agent in a statistically significant manner did not affect the increase in the height and quality of commercial cucumbers compared to standard objects.
There was no phytotoxic effect of the agent on plants in all subjects.
Based on previous research, we can recommend the registration of Miedzian Extra 350 SC (copper oxychloride) in doses: 2,0 l and 2,5 l/ha in the protection of cucumbers in field cultivation against bacterial angular mottling. We recommend 2-3 spraying with this agent at intervals of 7-10, alternating with agents from other chemical groups. The agent limits the occurrence of downy mildew in the early stages of plant growth.
Cucumbers should be protected in accordance with the signaling or preventive measures during periods of expected danger of downy mildew.
Water dose used in trial was 700 l/ha.

TRIAL:OgT 6/10 mr

Guidelines	General guidelines	EPPO PP 1/152 (4), EPPO PP 1/135 (4), EPPO PP 1/181 (4), EPPO PP 1/225 (2)
	Specific guidelines	EPPO PP 1/121(2)
Experimental	Plot design	Random Complete Block (RCB)

design	Plot size	10 m2
	Number of replications	4
Crop	Trials per crop	cucumber
	Varieties per crop	Śremska
	Sowing period	29.05.2006
Application	Crop stage (BBCH)* at application	BBCH 75-78
	Number of applications Intervals between applications	4
	Spray volumes	700 L/ha
Assessment	Assessment types	Analysis of infected leaves
	Assessment dates	31.07.2006, 07.08.2006, 14.08.2006, 28.08.2006
Other relevant information	e.g. Soil type, pH (in case of soil active substance …)	sandy soil on loam
	e.g. Natural / artificial innoculation…	natural
	e.g. Field / Greenhouse...	Field, Powiercie/prov. wielkopolskie (Poland)

Weather conditions prevailing in the growing season 2006 were conducive to the development of powdery mildew on cucumbers and bacterial angular blotch due to the possibility of plantation sprinkling. Cucumber growth was normal.
Downy mildew appeared in a high intensity and uniform intensity on the entire surface of experiments No. 1, 2, weak bacterial angular spotty. In order to maintain uniform infection of plants, fogging of plants with water in the evening was used.
Fungicide Miedzian Extra 350 SC (copper oxychloride) was tested in doses: 2,0 l and 2,5 l/ha in the protection of cucumbers against downy mildew and bacterial angular spotting in field cultivation. The comparative agent was the Miedzian 50 WG fungicide at 2,5 kg/ha and Miedzian 50 WP at 2,5 kg/ha. The research was carried out at two locations in Skierniewice, location 1 in the provocation field for disease development, the second location in the conventional field in Powiercie 135 km away, with different environmental conditions of infection by Pseudoperonospora cubensis.
Fungicide Miedzian Extra 350 SC at doses of 2,0 l and 2,5 l/ha showed high effectiveness in protecting cucumbers in field cultivation against bacterial angular spotted (100%) and insufficient against downy mildew compared to the control object.
The use of Miedzian Extra 350 SC in the doses tested did not significantly increase the quantity and quality of cucumber yield compared to the control combination. No phytotoxic effect of the agent on plants was observed at all doses and stages of development of plants and fruits studied.
The tested fungicide Miedzian Extra 350 SC (copper oxychloride) in doses: 2,0 l and 2,5 l/ha showed high biological effectiveness in protecting cucumbers in field cultivation against bacterial angular spotty and insufficient against downy mildew compared to the control object .
The application of the tested dose of the agent in a statistically significant manner did not affect the increase in the height and quality of commercial cucumbers compared to standard objects.
There was no phytotoxic effect of the agent on plants in all subjects.
Based on previous research, we can recommend the registration of Miedzian Extra 350 SC (copper oxychloride) in doses: 2,0 l and 2,5 l/ha in the protection of cucumbers in field cultivation against bacterial angular mottling. We recommend 2-3 spraying with this agent at intervals of 7-10, alternating with agents from other chemical groups. The agent limits the occurrence of downy mildew in the early stages of plant

growth.
Cucumbers should be protected in accordance with the signaling or preventive measures during periods of expected danger of downy mildew.
Water dose used in trial was 700 l/ha.

FRENCH BEAN/ PSDMPH

TRIAL:FaZ 6/10 ba

Guidelines	General guidelines	EPPO PP 1/152 (4), EPPO PP 1/135 (4), EPPO PP 1/181 (4), EPPO PP 1/225 (2)
	Specific guidelines	EPPO PP 1/121(2)
Experimental design	Plot design	Random Complete Block (RCB)
	Plot size	10 m^2
	Number of replications	4
Crop	Trials per crop	French bean
	Varieties per crop	Złota Saxa
	Sowing period	28.05.2006
Application	Crop stage (BBCH)* at application	BBCH 65-69
	Number of applications Intervals between applications	2
	Spray volumes	700 L/ha
Assessment	Assessment types	Analysis of infected leaves and pods
	Assessment dates	15.07.2006, 08.08.2006
Other relevant information	e.g. Soil type, pH (in case of soil active substance …)	sandy soil on loam
	e.g. Natural / artificial innoculation…	provocative conditions
	e.g. Field / Greenhouse...	Field, Skierniewice/ prov. łódzkie (Poland)

Weather conditions prevailing in the 2006 growing season were conducive to the development of gray mold and bacteriosis at the end of the growing season due to lower temperatures and periodic high rainfall. In addition, in order to obtain provocation conditions for the development of bean anthracnose, gray mold and bacteriosis, the experimental plants were successively irrigated.
Fungicide Miedzian Extra 350 SC (copper oxychloride) was tested at a dose of 2,0 and 2,5 l/ha in comprehensive protection of string beans against bean anthracnose, gray mold and bacteriosis. The comparative agent was the Miedzian 50 WP fungicide (copper oxychloride) at a dose of 2,5 kg/ha. The research was carried out at two locations in Skierniewice: location 1 in the provocation field for disease development, second location in the conventional field in ZSPG Powiercie, 135 km away with different environmental conditions of infection by Colletotrichum lindemuthianum, Botrytis cinerea and Pseudomonas phaseolicola.
Fungicide Miedzian Extra 350 SC at a dose of 2,5 and 3,0 kg/ha has shown high effectiveness in protecting green beans against a complex of diseases: bean anthracnose, gray mold and bacteriosis.
The application of the product at doses of Miedzian Extra 350 SC at the dose of 2,0 and 2,5 l/ha had a significant impact on the increase in the quantity and quality of string beans, compared to the control

combination.
No phytotoxicity effects were observed on the treated plants with fungicide.
The tested fungicide Miedzian Extra 350 SC (copper oxychloride) at a dose of 2,0 and 2,5 l/ha showed very high biological effectiveness in protecting beans and against a complex of fungal diseases: bean anthracnose, gray mold and bacteriosis. The level of disease severity was 70-100% in all study locations, compared to the control object.
The application of the tested dose of the product statistically significantly increased the amount and quality of commercial crop compared to the control variant, not treated with plant protection products.
The tested agent Miedzian Extra 350 SC (copper oxychloride) at a dose of 2,0, 2,5 and 5,0 l/ha did not show phytotoxicity at all test locations.

TRIAL:FaT 6/10 ba

Guidelines	General guidelines	EPPO PP 1/152 (4), EPPO PP 1/135 (4), EPPO PP 1/181 (4), EPPO PP 1/225 (2)
	Specific guidelines	EPPO PP 1/121(2)
Experimental design	Plot design	Random Complete Block (RCB)
	Plot size	10 m^2
	Number of replications	4
Crop	Trials per crop	French bean
	Varieties per crop	Złota Saxa
	Sowing period	28.05.2006
Application	Crop stage (BBCH)* at application	BBCH 65-69
	Number of applications Intervals between applications	2
	Spray volumes	700 L/ha
Assessment	Assessment types	Analysis of infected leaves and pods
	Assessment dates	15.07.2006, 08.08.2006
Other relevant information	e.g. Soil type, pH (in case of soil active substance …)	sandy soil on loam
	e.g. Natural / artificial innoculation…	natural
	e.g. Field / Greenhouse...	Field, Powiercie/prov. wielkopolskie (Poland)

Weather conditions prevailing in the 2006 growing season were conducive to the development of gray mold and bacteriosis at the end of the growing season due to lower temperatures and periodic high rainfall. In addition, in order to obtain provocation conditions for the development of bean anthracnose, gray mold and bacteriosis, the experimental plants were successively irrigated.
Fungicide Miedzian Extra 350 SC (copper oxychloride) was tested at a dose of 2,0 and 2,5 l/ha in comprehensive protection of string beans against bean anthracnose, gray mold and bacteriosis. The comparative agent was the Miedzian 50 WP fungicide (copper oxychloride) at a dose of 2,5 kg/ha. The research was carried out at two locations in Skierniewice: location 1 in the provocation field for disease development, second location in the conventional field in ZSPG Powiercie, 135 km away with different environmental conditions of infection by Colletotrichum lindemuthianum, Botrytis cinerea and Pseudomonas phaseolicola.

Fungicide Miedzian Extra 350 SC at a dose of 2,5 and 3,0 kg/ha has shown high effectiveness in protecting green beans against a complex of diseases: bean anthracnose, gray mold and bacteriosis.
The application of the product at doses of Miedzian Extra 350 SC at the dose of 2,0 and 2,5 l/ha had a significant impact on the increase in the quantity and quality of string beans, compared to the control combination.
No phytotoxicity effects were observed on the treated plants with fungicide.
The tested fungicide Miedzian Extra 350 SC (copper oxychloride) at a dose of 2,0 and 2,5 l/ha showed very high biological effectiveness in protecting beans and against a complex of fungal diseases: bean anthracnose, gray mold and bacteriosis. The level of disease severity was 70-100% in all study locations, compared to the control object.
The application of the tested dose of the product statistically significantly increased the amount and quality of commercial crop compared to the control variant, not treated with plant protection products.
The tested agent Miedzian Extra 350 SC (copper oxychloride) at a dose of 2,0, 2,5 and 5,0 l/ha did not show phytotoxicity at all test locations.

FRENCH BEAN/ COLLLD

TRIAL:FaZ 6/10 an

Guidelines	General guidelines	EPPO PP 1/152 (4), EPPO PP 1/135 (4), EPPO PP 1/181 (4), EPPO PP 1/225 (2)
	Specific guidelines	EPPO PP 1/121(2)
Experimental design	Plot design	Random Complete Block (RCB)
	Plot size	10 m^2
	Number of replications	4
Crop	Trials per crop	French bean
	Varieties per crop	Złota Saxa
	Sowing period	28.05.2006
Application	Crop stage (BBCH)* at application	BBCH 65-69
	Number of applications Intervals between applications	2
	Spray volumes	700 L/ha
Assessment	Assessment types	Analysis of infected leaves and pods
	Assessment dates	15.07.2006, 08.08.2006
Other relevant information	e.g. Soil type, pH (in case of soil active substance …)	sandy soil on loam
	e.g. Natural / artificial innoculation…	provocative conditions
	e.g. Field / Greenhouse...	Field, Skierniewice/ prov. łódzkie (Poland)

Weather conditions prevailing in the 2006 growing season were conducive to the development of gray mold and bacteriosis at the end of the growing season due to lower temperatures and periodic high rainfall. In addition, in order to obtain provocation conditions for the development of bean anthracnose, gray mold and bacteriosis, the experimental plants were successively irrigated.
Fungicide Miedzian Extra 350 SC (copper oxychloride) was tested at a dose of 2,0 and 2,5 l/ha in com-

prehensive protection of string beans against bean anthracnose, gray mold and bacteriosis. The comparative agent was the Miedzian 50 WP fungicide (copper oxychloride) at a dose of 2,5 kg/ha. The research was carried out at two locations in Skierniewice: location 1 in the provocation field for disease development, second location in the conventional field in ZSPG Powiercie, 135 km away with different environmental conditions of infection by Colletotrichum lindemuthianum, Botrytis cinerea and Pseudomonas phaseolicola.
Fungicide Miedzian Extra 350 SC at a dose of 2,5 and 3,0 kg/ha has shown high effectiveness in protecting green beans against a complex of diseases: bean anthracnose, gray mold and bacteriosis.
The application of the product at doses of Miedzian Extra 350 SC at the dose of 2,0 and 2,5 l/ha had a significant impact on the increase in the quantity and quality of string beans, compared to the control combination.
No phytotoxicity effects were observed on the treated plants with fungicide.
The tested fungicide Miedzian Extra 350 SC (copper oxychloride) at a dose of 2,0 and 2,5 l/ha showed very high biological effectiveness in protecting beans and against a complex of fungal diseases: bean anthracnose, gray mold and bacteriosis. The level of disease severity was 70-100% in all study locations, compared to the control object.
The application of the tested dose of the product statistically significantly increased the amount and quality of commercial crop compared to the control variant, not treated with plant protection products.
The tested agent Miedzian Extra 350 SC (copper oxychloride) at a dose of 2,0, 2,5 and 5,0 l/ha did not show phytotoxicity at all test locations.

TRIAL:FaT 6/10 an

Guidelines	General guidelines	EPPO PP 1/152 (4), EPPO PP 1/135 (4), EPPO PP 1/181 (4), EPPO PP 1/225 (2)
	Specific guidelines	EPPO PP 1/121(2)
Experimental design	Plot design	Random Complete Block (RCB)
	Plot size	10 m^2
	Number of replications	4
Crop	Trials per crop	French bean
	Varieties per crop	Złota Saxa
	Sowing period	28.05.2006
Application	Crop stage (BBCH)* at application	BBCH 65-69
	Number of applications Intervals between applications	2
	Spray volumes	700 L/ha
Assessment	Assessment types	Analysis of infected leaves and pods
	Assessment dates	15.07.2006, 08.08.2006
Other relevant information	e.g. Soil type, pH (in case of soil active substance …)	sandy soil on loam
	e.g. Natural / artificial innoculation…	natural
	e.g. Field / Greenhouse...	Field, Powiercie/prov. wielkopolskie (Poland)

Weather conditions prevailing in the 2006 growing season were conducive to the development of gray

mold and bacteriosis at the end of the growing season due to lower temperatures and periodic high rainfall. In addition, in order to obtain provocation conditions for the development of bean anthracnose, gray mold and bacteriosis, the experimental plants were successively irrigated.
Fungicide Miedzian Extra 350 SC (copper oxychloride) was tested at a dose of 2,0 and 2,5 l/ha in comprehensive protection of string beans against bean anthracnose, gray mold and bacteriosis. The comparative agent was the Miedzian 50 WP fungicide (copper oxychloride) at a dose of 2,5 kg/ha. The research was carried out at two locations in Skierniewice: location 1 in the provocation field for disease development, second location in the conventional field in ZSPG Powiercie, 135 km away with different environmental conditions of infection by Colletotrichum lindemuthianum, Botrytis cinerea and Pseudomonas phaseolicola.
Fungicide Miedzian Extra 350 SC at a dose of 2,5 and 3,0 kg/ha has shown high effectiveness in protecting green beans against a complex of diseases: bean anthracnose, gray mold and bacteriosis.
The application of the product at doses of Miedzian Extra 350 SC at the dose of 2,0 and 2,5 l/ha had a significant impact on the increase in the quantity and quality of string beans, compared to the control combination.
No phytotoxicity effects were observed on the treated plants with fungicide.
The tested fungicide Miedzian Extra 350 SC (copper oxychloride) at a dose of 2,0 and 2,5 l/ha showed very high biological effectiveness in protecting beans and against a complex of fungal diseases: bean anthracnose, gray mold and bacteriosis. The level of disease severity was 70-100% in all study locations, compared to the control object.
The application of the tested dose of the product statistically significantly increased the amount and quality of commercial crop compared to the control variant, not treated with plant protection products.
The tested agent Miedzian Extra 350 SC (copper oxychloride) at a dose of 2,0, 2,5 and 5,0 l/ha did not show phytotoxicity at all test locations.

FRENCH BEAN/ BOTRICI

TRIAL: FaZ 6/10 sz

Guidelines	General guidelines	EPPO PP 1/152 (4), EPPO PP 1/135 (4), EPPO PP 1/181 (4), EPPO PP 1/225 (2)
	Specific guidelines	EPPO PP 1/121(2)
Experimental design	Plot design	Random Complete Block (RCB)
	Plot size	10 m^2
	Number of replications	4
Crop	Trials per crop	French bean
	Varieties per crop	Złota Saxa
	Sowing period	28.05.2006
Application	Crop stage (BBCH)* at application	BBCH 65-69
	Number of applications Intervals between applications	2
	Spray volumes	700 L/ha
Assessment	Assessment types	Analysis of infected leaves and pods
	Assessment dates	15.07.2006, 08.08.2006
Other relevant information	e.g. Soil type, pH (in case of soil active substance …)	sandy soil on loam
	e.g. Natural / artificial	provocative conditions

	innoculation…	
	e.g. Field / Greenhouse...	Field, Skierniewice/ prov. łódzkie (Poland)

Weather conditions prevailing in the 2006 growing season were conducive to the development of gray mold and bacteriosis at the end of the growing season due to lower temperatures and periodic high rainfall. In addition, in order to obtain provocation conditions for the development of bean anthracnose, gray mold and bacteriosis, the experimental plants were successively irrigated.
Fungicide Miedzian Extra 350 SC (copper oxychloride) was tested at a dose of 2,0 and 2,5 l/ha in comprehensive protection of string beans against bean anthracnose, gray mold and bacteriosis. The comparative agent was the Miedzian 50 WP fungicide (copper oxychloride) at a dose of 2,5 kg/ha. The research was carried out at two locations in Skierniewice: location 1 in the provocation field for disease development, second location in the conventional field in ZSPG Powiercie, 135 km away with different environmental conditions of infection by Colletotrichum lindemuthianum, Botrytis cinerea and Pseudomonas phaseolicola.
Fungicide Miedzian Extra 350 SC at a dose of 2,5 and 3,0 kg/ha has shown high effectiveness in protecting green beans against a complex of diseases: bean anthracnose, gray mold and bacteriosis.
The application of the product at doses of Miedzian Extra 350 SC at the dose of 2,0 and 2,5 l/ha had a significant impact on the increase in the quantity and quality of string beans, compared to the control combination.
No phytotoxicity effects were observed on the treated plants with fungicide.
The tested fungicide Miedzian Extra 350 SC (copper oxychloride) at a dose of 2,0 and 2,5 l/ha showed very high biological effectiveness in protecting beans and against a complex of fungal diseases: bean anthracnose, gray mold and bacteriosis. The level of disease severity was 70-100% in all study locations, compared to the control object.
The application of the tested dose of the product statistically significantly increased the amount and quality of commercial crop compared to the control variant, not treated with plant protection products.
The tested agent Miedzian Extra 350 SC (copper oxychloride) at a dose of 2,0, 2,5 and 5,0 l/ha did not show phytotoxicity at all test locations.

TRIAL: FaT 6/10 sz

Guidelines	General guidelines	EPPO PP 1/152 (4), EPPO PP 1/135 (4), EPPO PP 1/181 (4), EPPO PP 1/225 (2)
	Specific guidelines	EPPO PP 1/121(2)
Experimental design	Plot design	Random Complete Block (RCB)
	Plot size	10 m^2
	Number of replications	4
Crop	Trials per crop	French bean
	Varieties per crop	Złota Saxa
	Sowing period	28.05.2006
Application	Crop stage (BBCH)* at application	BBCH 65-69
	Number of applications Intervals between applications	2
	Spray volumes	700 L/ha
Assessment	Assessment types	Analysis of infected leaves and pods
	Assessment dates	15.07.2006, 08.08.2006

Other relevant information	e.g. Soil type, pH (in case of soil active substance …)	sandy soil on loam
	e.g. Natural / artificial innoculation…	natural
	e.g. Field / Greenhouse...	Field, Powiercie/prov. wielkopolskie (Poland)

Weather conditions prevailing in the 2006 growing season were conducive to the development of gray mold and bacteriosis at the end of the growing season due to lower temperatures and periodic high rainfall. In addition, in order to obtain provocation conditions for the development of bean anthracnose, gray mold and bacteriosis, the experimental plants were successively irrigated.
Fungicide Miedzian Extra 350 SC (copper oxychloride) was tested at a dose of 2,0 and 2,5 l/ha in comprehensive protection of string beans against bean anthracnose, gray mold and bacteriosis. The comparative agent was the Miedzian 50 WP fungicide (copper oxychloride) at a dose of 2,5 kg/ha. The research was carried out at two locations in Skierniewice: location 1 in the provocation field for disease development, second location in the conventional field in ZSPG Powiercie, 135 km away with different environmental conditions of infection by Colletotrichum lindemuthianum, Botrytis cinerea and Pseudomonas phaseolicola.
Fungicide Miedzian Extra 350 SC at a dose of 2,5 and 3,0 kg/ha has shown high effectiveness in protecting green beans against a complex of diseases: bean anthracnose, gray mold and bacteriosis.
The application of the product at doses of Miedzian Extra 350 SC at the dose of 2,0 and 2,5 l/ha had a significant impact on the increase in the quantity and quality of string beans, compared to the control combination.
No phytotoxicity effects were observed on the treated plants with fungicide.
The tested fungicide Miedzian Extra 350 SC (copper oxychloride) at a dose of 2,0 and 2,5 l/ha showed very high biological effectiveness in protecting beans and against a complex of fungal diseases: bean anthracnose, gray mold and bacteriosis. The level of disease severity was 70-100% in all study locations, compared to the control object.
The application of the tested dose of the product statistically significantly increased the amount and quality of commercial crop compared to the control variant, not treated with plant protection products.
The tested agent Miedzian Extra 350 SC (copper oxychloride) at a dose of 2,0, 2,5 and 5,0 l/ha did not show phytotoxicity at all test locations.

APPLE/VENTIN

Table 3.2-7: Efficacy of Miedzian Extra 350 SC and standard products in all trials.

trial number	product	Dose	infected leaves				infected fruits			
			I evaluation		II evaluation		I evaluation		II evaluation	
			percent of infected leaves	efficacy	percent of infected leaves	efficacy	percent of infected fruits	efficacy	percent of infected fruits	efficacy
ZF/S/7/2019/1/I	control	-	5,2 b*	-	1,5 b	-	1,9 b	-	2,2 b	-
	Miedzian Extra 350 SC	1,5 l/ha	0,5 a	**90,4**	0,1 a	**93,3**	0,1 a	**94,7**	0,3 a	**86,4**
	Miedzian Extra 350 SC	1,2 l/ha	0,3 a	**94,2**	0,3 a	**80**	0,1 a	**94,7**	0,3 a	**86,4**
	Miedzian Extra 350 SC	0,9 l/ha	0,2 a	**96,2**	0,1 a	**93,3**	1,0 ab	**47,4**	0,1 a	**95,5**
	Nordox 75 WG	1,0 kg/ha	0,4 a	**92,3**	0,03 a	**98**	0,3 a	**84,2**	0,3 a	**86,4**
	Cuproflow 377,5 SC	2,0 l/ha	0,2 a	**96,2**	0,3 a	**80**	0,6 ab	**68,4**	0,1 a	**95,5**
ZF/S/7/2019/1/II	control	-	6,1 b*	-	0,3 a	-	0,3 a	-	0,7 b	-
	Miedzian Extra 350 SC	1,5 l/ha	0,7 a	**88,5**	0,00	**100**	0,00	**100**	0,00	**100**
	Miedzian Extra 350 SC	1,2 l/ha	0,03 a	**99,5**	0,03 a	**90**	0,1 a	**66,7**	0,1 a	**85,7**
	Miedzian Extra 350 SC	0,9 l/ha	0,1 a	**98,4**	0,00	**100**	0,00	**100**	0,1 a	**85,7**
	Nordox 75 WG	1,0 kg/ha	0,00	**100**	0,00	**100**	0,00	**100**	0,00	**100**
	Cuproflow 377,5 SC	2,0 l/ha	0,3 a	**95,1**	0,1 a	**66,7**	0,00	**100**	0,00	**100**

ZF/S/7/2019/1/III	control	-	5,4 b*	-	1,5 b	-	1,9 b	-	1,0 b	-
	Miedzian Extra 350 SC	1,5 l/ha	0,2 a	**96,3**	0,3 a	**80**	0,3 a	**84,2**	0,3 ab	**70**
	Miedzian Extra 350 SC	1,2 l/ha	0,2 a	**96,3**	0,5 a	**66,7**	0,1 a	**94,7**	0,3 ab	**70**
	Miedzian Extra 350 SC	0,9 l/ha	0,5 a	**90,7**	0,03 a	**98**	0,3 a	**84,2**	0,3 ab	**70**
	Nordox 75 WG	1,0 kg/ha	0,3 a	**94,4**	0,03 a	**98**	0,1 a	**94,7**	0,00	**100**
	Cuproflow 377,5 SC	2,0 l/ha	0,5 a	**90,7**	0,13 a	**91,3**	0,1 a	**94,7**	0,00	**100**
ZF/S/7/2019/1/IV	control	-	5,7 b	-	1,6 b	-	0,9 b	-	0,3 a	-
	Miedzian Extra 350 SC	1,5 l/ha	0,2 a	**96,5**	0,00	**100**	0,1 a	**88,9**	0,3 a	-
	Miedzian Extra 350 SC	1,2 l/ha	0,03 a	**99,5**	0,03 a	**98,1**	0,00	**100**	0,00	**100**
	Miedzian Extra 350 SC	0,9 l/ha	0,2 a	**96,5**	0,1 a	**93,8**	0,00	**100**	0,1 a	**66,7**
	Nordox 75 WG	1,0 kg/ha	0,1 a	**98,2**	0,1 a	**93,8**	0,00	**100**	0,1 a	**66,7**
	Cuproflow 377,5 SC	2,0 l/ha	0,5 a	**91,2**	0,3 a	**81,3**	0,1 a	**88,9**	0,3 a	-
OR/18/2006/1/I	control	-	49.0 b*	-	71.7 c	-	87.5 c	-	-	-
	Miedzian Extra 350 SC	1,5 l/ha	0.9 a	**98.2**	3.1 a	**95,7**	7.0 a	**92**	-	-
	Miedzian 50 WP	1,5 kg/ha	1.2 a	**97.6**	2.8 a	**96,1**	6.7 a	**92,3**	-	-
	Champion 50 WP	0,75 kg/ha	2.9 a	**94.1**	3.8 a	**94,7**	3.0 a	**96,6**	-	-
	Cuproflow 375 S.C.	1,5 l/ha	1.1 a	**97.8**	3.2 a	**95,5**	1.6 a	**98,2**	-	-
OR/18/2006/1/II	control	-	26.7 b*	-	71.7 b	-	64,96	-	-	-
	Miedzian Extra 350 SC	1,5 l/ha	-	**100**	0,13	**99,8**	0,37	**99,4**	-	-
	Miedzian 50 WP	1,5 kg/ha	-	**100**	0.36 a	**99,5**	0,73	**98,9**	-	-
	Cuproflow 375 S.C.	1,5 l/ha	-	**100**	0.03 a	**99,9**	0	**100**	-	-
	Kocide 101 WP	1,5 kg/ha	0,03	**99,9**	0.13 a	**99,8**	0,37	**99,4**	-	-
OR/18/2006/1/III	control	-	76,8 b*	-	78,1 b	-	94,8 b	-	98,1 b	-
	Miedzian Extra 350 SC	1,5 l/ha	1,5 a	**98**	8,1 a	**89,6**	3,9 a	**95,9**	1,7 a	**98,3**
	Miedzian 50 WP	1,5 kg/ha	2,0 a	**97,4**	8,6 a	**89**	1,3 a	**98,6**	3,6 a	**96,3**
	Champion 50 WP	0,75 kg/ha	1,4 a	**98,2**	8,3 a	**89,4**	5,9 a	**93,8**	3,7 a	**96,2**
	Cuproflow 375 S.C.	1,5 l/ha	1,2 a	**98,4**	8,0 a	**89,8**	2,0 a	**97,9**	0,9 a	**99,1**
OR/18/2006/1/IV	control	-	42,4 b*	-	49,9 b	-	54,78 b	-	-	-
	Miedzian Extra 350 SC	1,5 l/ha	0,06 a	**99,9**	0,13 a	**99,9**	0	**100**	-	-
	Miedzian 50 WP	1,5 kg/ha	0,3 a	**99,3**	0,03 a	**99,9**	0,06 a	**99,9**	-	-
	Cuproflow 375 S.C.	1,5 l/ha	0,3 a	**99,3**	0,13 a	**99,7**	0	**100**	-	-
	Kocide 101 WP	1,5 kg/ha	0,4 a	**99,1**	0,03 a	**99,9**	0,06	**99,9**	-	-

A total of 8 trials were carried out to evaluate the efficacy of Miedzian Extra 350 SC for control of VENTIN in apple orchards. Trials were conducted in different regions in Poland where orchards are grown commercially. Trials were made of randomized block design with a minimum of four replicates. Miedzian Extra 350 SC was applied at dose rates: 0,9 l/ha, 1,2 l/ha and 1,5 l/ha. As a standards were used Nordox 75 WG (1 kg/ha), Cuproflow 377,5 SC (2 L/ha), Champion 50 WP (0,75 kg/ha), Cuproflow 375 SC (1,5 L/ha), Miedzian 50 WP (1,5 kg/ha) and Kocide 101 WP (1,5 kg/ha). These studies were described in compliance with the principles of Good Experimental Practice (GEP) while the test results were summarize in appropriate Tables (see attachment No. 3.2-7a and No. 3.2-7b).

Table 3.2-7a: Average efficacy of Miedzian Extra 350 SC and standard products.

average efficacy				
trial number	product	dose	infected leaves	infected fruits
ZF/S/7/2019/1/I	control	-	-	-
	Miedzian Extra 350 SC	1,5 l/ha	91,85	90,55
	Miedzian Extra 350 SC	1,2 l/ha	87,1	90,55
	Miedzian Extra 350 SC	0,9 l/ha	94,75	71,45
	Nordox 75 WG	1,0 kg/ha	95,15	85,3
	Cuproflow 377,5 SC	2,0 l/ha	88,1	81,95
ZF/S/7/2019/1/II	control	-	-	-
	Miedzian Extra 350 SC	1,5 l/ha	94,25	100
	Miedzian Extra 350 SC	1,2 l/ha	94,75	76,2
	Miedzian Extra 350 SC	0,9 l/ha	99,2	92,85
	Nordox 75 WG	1,0 kg/ha	100	100
	Cuproflow 377,5 SC	2,0 l/ha	80,9	100

ZF/S/7/2019/1/III	control	-	-	-
	Miedzian Extra 350 SC	1,5 l/ha	88,15	77,1
	Miedzian Extra 350 SC	1,2 l/ha	81,5	82,35
	Miedzian Extra 350 SC	0,9 l/ha	94,35	77,1
	Nordox 75 WG	1,0 kg/ha	96,2	97,35
	Cuproflow 377,5 SC	2,0 l/ha	91	97,35
ZF/S/7/2019/1/IV	control	-	-	-
	Miedzian Extra 350 SC	1,5 l/ha	98,25	88,9
	Miedzian Extra 350 SC	1,2 l/ha	98,8	100
	Miedzian Extra 350 SC	0,9 l/ha	95,15	83,35
	Nordox 75 WG	1,0 kg/ha	96	83,35
	Cuproflow 377,5 SC	2,0 l/ha	86,25	88,9
OR/18/2006/1/I	control	-	-	-
	Miedzian Extra 350 SC	1,5 l/ha	95,7	92
	Miedzian 50 WP	1,5 kg/ha	96,1	92,3
	Champion 50 WP	0,75 kg/ha	94,7	96,6
	Cuproflow 375 S.C.	1,5 l/ha	95,5	98,2
OR/18/2006/1/II	control	-	-	-
	Miedzian Extra 350 SC	1,5 l/ha	99,9	99,4
	Miedzian 50 WP	1,5 kg/ha	99,75	98,9
	Cuproflow 375 S.C.	1,5 l/ha	99,95	100
	Kocide 101 WP	1,5 kg/ha	99,85	99,4
OR/18/2006/1/III	control	-	-	-
	Miedzian Extra 350 SC	1,5 l/ha	93,8	97,1
	Miedzian 50 WP	1,5 kg/ha	93,2	97,45
	Champion 50 WP	0,75 kg/ha	93,8	95
	Cuproflow 375 S.C.	1,5 l/ha	94,1	98,5
OR/18/2006/1/IV	control	-	-	-
	Miedzian Extra 350 SC	1,5 l/ha	99,9	100
	Miedzian 50 WP	1,5 kg/ha	99,6	99,9
	Cuproflow 375 S.C.	1,5 l/ha	99,5	100
	Kocide 101 WP	1,5 kg/ha	99,5	99,9

Table 3.2-7b: Summary of average efficacy of Miedzian Extra 350 SC and standard products.

product	dose	average efficacy
Miedzian Extra 350 SC	1,5 l/ha	94,18
Miedzian Extra 350 SC	1,2 l/ha	88,91
Miedzian Extra 350 SC	0,9 l/ha	88,53
Nordox 75 WG	1,0 kg/ha	94,17
Cuproflow 377,5 SC	2,0 l/ha	89,31
Miedzian 50 WP	1,5 kg/ha	97,15
Champion 50 WP	0,75 kg/ha	95,03
Cuproflow 375 S.C.	1,5 l/ha	98,22
Kocide 101 WP	1,5 kg/ha	99,66

Summary and conclusion (APPLE/VENTIN)
Miedzian Extra 350 SC at all doses (1,5 l/ha, 1,2 l/ha, 0,9 l/ha) significantly reduced occurrence of VENTIN in apple orchards. At dose 0,9 l/ha average efficacy reached 88,53%, at dose 1,2 l/ha average efficacy reached 88,91% and at dose 1,5 l/ha average efficacy reached 94,18 %. There was no significant different between Miedzian Extra 350 SC and standard fungicides (Nordox 75 WG, Cuproflow 377,5 SC, Champion 50 WP, Cuproflow 375 SC, Miedzian 50 WP, Kocide 101 WP). Due to low level of infection to significantly reduce VENTIN recommended dose of Miedzian Extra 350 SC is 0,9-1,5 l/ha. The dose should be selected depending on the severity of the infection.

PEAR/ VENTPI

Table 3.2-8: Efficacy of Miedzian Extra 350 SC and standard products in all trials.

trial number	product	Dose	infected leaves				infected fruits	
			I evaluation		II evaluation		I evaluation	
			percent of infected leaves	efficacy	percent of infected leaves	efficacy	percent of in-fected fruits	efficacy
OR/18/2006/2/I	control	-	2,9 b*	-	-	-	30,9 d	-
	Miedzian Extra 350 SC	1,5 l/ha	0,0 a	**100**	-	-	1,5 b	**95,1**
	Miedzian 50 WP	1,5 kg/ha	0,0 a	**100**	-	-	5,3 c	**82,8**
	Champion 50 WP	0,75 kg/ha	0,0 a	**100**	-	-	0,0 a	**100**
	Cuproflow 375 SC	1,5 l/ha	0,0 a	**100**	-	-	0,0 a	**100**
OR/18/2006/2/II	control	-	10,6 b	-	54,1 b	-	70,6 b	-
	Miedzian Extra 350 SC	1,5 l/ha	0,03 a	**99,7**	6,7 a	**87,6**	0,05 a	**95,9**
	Miedzian 50 WP	3 kg/ha	0	**100**	6,3 a	**88,4**	0.04 a	**96,6**
	Cuproflow 375 S.C.	1,5 l/ha	0	**100**	5,1 a	**91,1**	0,03 a	**97,3**
	Kocide 101 WP	3 kg/ha	0	**100**	5,6 a	**89,6**	0.02 a	**97,9**

A total of 2 trials were carried out to evaluate the efficacy of Miedzian Extra 350 SC for control of VENTPI in pear orchards. Trials were conducted in different regions in Poland where orchards are grown commercially. Trials were made of randomized block design with a minimum of four replicates. Miedzian Extra 350 SC was applied at dose rate: 1,5 l/ha. As a standards were used Cuproflow 375 SC (1,5 L/ha), Champion 50 WP (0,75 kg/ha), Miedzian 50 WP (1,5 kg/ha) and Kocide 101 WP (3 kg/ha). These studies were described in compliance with the principles of Good Experimental Practice (GEP) while the test results were summarize in appropriate Tables (see attachment No. 3.2-8a and No. 3.2-8b).

Table 3.2-8a: Average efficacy of Miedzian Extra 350 SC and standard products.

average efficacy				
trial number	product	Dose	infected leaves	infected fruits
OR/18/2006/2/I	control	-	-	-
	Miedzian Extra 350 SC	1,5 l/ha	100	95,1
	Miedzian 50 WP	1,5 kg/ha	100	82,8
	Champion 50 WP	0,75 kg/ha	100	100
	Cuproflow 375 SC	1,5 l/ha	100	100
OR/18/2006/2/II	control	-	-	-
	Miedzian Extra 350 SC	1,5 l/ha	93,65	95,9
	Miedzian 50 WP	3 kg/ha	94,2	96,6
	Cuproflow 375 S.C.	1,5 l/ha	95,55	97,3
	Kocide 101 WP	3 kg/ha	94,8	97,9

Table 3.2-8b: Summary of average efficacy of Miedzian Extra 350 SC and standard products.

product	Dose	average efficacy
Miedzian Extra 350 SC	1,5 l/ha	96,16
Miedzian 50 WP	1,5 kg/ha	91,40
Miedzian 50 WP	3 kg/ha	95,40
Champion 50 WP	0,75 kg/ha	100,00
Cuproflow 375 SC	1,5 l/ha	98,21
Kocide 101 WP	3 kg/ha	96,35

Summary and conclusion (PEAR/VENTPI)

Miedzian Extra 350 SC at dose 1,5 l/ha significantly reduced occurrence of VENTPI in pear orchards. At dose 1,5 l/ha average efficacy reached 96,16%. There was no significant different between Miedzian Extra 350 SC and standard fungicides (Champion 50 WP, Cuproflow 375 SC, Miedzian 50 WP, Kocide 101 WP). To significantly reduce VENTPI recommended dose of Miedzian Extra 350 SC is 1,5 l/ha.
In case of PEAR/VENTPI, carried 2 trials on pear and support it with 8 trials on apple (according to Harmonization Meeting about effectiveness 'Annex 2- Generic Extrapolation Tables') give possibilities to extend use on pear against VENTPI. Recommended dose to control VENTPI in pear orchards is 1,5 l/ha.

PEAR/ ERWIAM

Table 3.2-9: Efficacy of Miedzian Extra 350 SC and standard products in all trials.

trial number	product	Dose	infected shoots			
			I assessment 6-7 days after inoculation		II assessment 13-14 days after inoculation	
			Shoot necrosis [%]	efficacy	Shoot necrosis [%]	efficacy
OR/18/2006/3a	control	-	11,1b*	-	81,0b	-
	Miedzian Extra 350 SC	0,75 l/ha	5,8ab	**47,7**	70,6b	**12,8**
	Miedzian Extra 350 SC	1,5 l/ha	8,0ab	**27,9**	64,4b	**20,5**
	Cuproflow 375 SC	1,5 l/ha	3,5a	**68,5**	28,5a	**64,8**
	Cuproflow 375 SC	2,0 l/ha	2,0 a	**82**	26,7 a	**67**
	Kocide 101 WP	0,75 kg/ha	5,7ab	**48,6**	36,5a	**54,9**
	Kocide 101 WP	1,5 kg/ha	4,6ab	**58,6**	36,8a	**54,6**
trial number	product	Dose	infected flowers			
			I assessment 3 days after inoculation		II assessment 7 days after inoculation	
			Flowers necrosis [%]	efficacy	Flowers necrosis [%]	efficacy
OR/18/2006/3b	control	-	1,45 c*	-	4,0 e	-
	Miedzian Extra 350 SC	0,75 l/ha	0,1 a	**93,1**	2,0 b	**50**
	Miedzian Extra 350 SC	1,5 l/ha	0,1 a	**93,1**	1,5 b	**62,5**
	Cuproflow 375 SC	1,5 l/ha	0,03 a	**97,9**	1,5 b	**62,5**
	Cuproflow 375 SC	2,0 l/ha	0,0 a	**100**	0,5 a	**87,5**
	Champion 50 WP	0,75 kg/ha	0,2 a	**86,2**	2,7 c	**32,5**
	Champion 50 WP	1,5 kg/ha	0,05 a	**96,6**	0,6 a	**85**
	Champion 50 WP	3,0 kg/ha	0,0 a	**100**	0,1 a	**97,5**
	Kocide 101 WP	0,75 kg/ha	0,6 b	**58,6**	3,4 d	**15**
	Kocide 101 WP	1,5 kg/ha	0,0 a	**100**	0,3 a	**92,5**
	Kocide 101 WP	3,0 kg/ha	0,0 a	**100**	0,0 a	**100**

A total of 2 trials were carried out to evaluate the efficacy of Miedzian Extra 350 SC for control of ERWIAM in pear orchards. Trials were conducted in different regions in Poland where orchards are grown commercially. Trials were made of randomized block design with a minimum of four replicates. Miedzian Extra 350 SC was applied at dose rates: 0,75 l/ha and 1,5 l/ha. As a standards were used Cuproflow 375 SC (1,5 l/ha, 2,0 l/ha), Champion 50 WP (0,75 kg/ha, 1,5 kg/ha and 3,0 kg/ha) and Kocide 101 WP (0,75 kg/ha, 1,5 kg/ha and 3,0 kg/ha). These studies were described in compliance with the principles of Good Experimental Practice (GEP) while the test results were summarize in appropriate Table (see attachment No. 3.2-9a).

Table 3.2-9a: Average efficacy of Miedzian Extra 350 SC and standard products.

average efficacy			
trial number	product	Dose	infected shoots
OR/18/2006/3a	control	-	-
	Miedzian Extra 350 SC	0,75 l/ha	30,25
	Miedzian Extra 350 SC	1,5 l/ha	24,2

	Cuproflow 375 SC	1,5 l/ha	66,65
	Cuproflow 375 SC	2,0 l/ha	74,5
	Kocide 101 WP	0,75 kg/ha	51,75
	Kocide 101 WP	1,5 kg/ha	56,6
trial number	product	Dose	infected flowers
OR/18/2006/3b	control	-	-
	Miedzian Extra 350 SC	0,75 l/ha	71,55
	Miedzian Extra 350 SC	1,5 l/ha	77,8
	Cuproflow 375 SC	1,5 l/ha	80,2
	Cuproflow 375 SC	2,0 l/ha	93,75
	Champion 50 WP	0,75 kg/ha	59,35
	Champion 50 WP	1,5 kg/ha	90,8
	Champion 50 WP	3,0 kg/ha	98,75
	Kocide 101 WP	0,75 kg/ha	36,8
	Kocide 101 WP	1,5 kg/ha	96,25
	Kocide 101 WP	3,0 kg/ha	100

Summary and conclusion (PEAR/ERWIAM)
Miedzian Extra 350 SC at dose 1,5 l/ha reduced occurrence of ERWIAM on infected flowers in pear orchards. At dose 1,5 l/ha average efficacy reached 77,8%. There was no significant different between Miedzian Extra 350 SC and standard fungicides (Champion 50 WP, Cuproflow 375 SC, Kocide 101 WP). To reduce ERWIAM recommended dose of Miedzian Extra 350 SC is 1,5 l/ha at BBCH stage 60-69 and 0,75 l/ha at BBCH stage 71.

CHERRY/ PSDMSY

Table 3.2-10: Efficacy of Miedzian Extra 350 SC and standard products in all trials.

trial number	product	Dose	I evaluation		II evaluation		III evaluation	
			percent of infected fruits	efficacy	percent of infected fruits	efficacy	percent of infected fruits	efficacy
OR/18/2006/4 b	control	-	0,9 c*	**0**	1,25 b	**0**	2,05 c	**0**
	Miedzian Extra 350 SC	1,5 l/ha	0,3 b	**66,7**	0,5 a	**60**	0,8 b	**61**
	Miedzian Extra 350 SC	3,0 l/ha	0,1 ab	**88,9**	0,1 a	**92**	0,25 ab	**87,8**
	Champion 50 WP	1,5 kg/ha	0,2 a	**77,8**	0,3 a	**76**	0,9 b	**56,1**
	Champion 50 WP	3,0 kg/ha	0,01 a	**98,9**	0,1 a	**92**	0,1 a	**95,1**
	Funguran-OH 50WP	1,5 kg/ha	0,2 a	**77,8**	0,4 a	**68**	0,6 ab	**70,7**
	Funguran-OH 50WP	3,0 kg/ha	0,1 a	**88,9**	0,2 a	**84**	0,3 a	**85,4**
trial number	product	Dose	I evaluation		II evaluation		-	-
			percent of infected leaves	efficacy	percent of infected fruits	efficacy	-	-
OR/18/2006/4a	control	-	27,6	**-**	22,3	**-**	-	-
	Miedzian Extra 350 SC	3,0 l/ha /1,5 l/ha	14,4	**47,8**	11,5	**48,4**	-	-
	Miedzian 50 WP	3,0 kg/ha /1,5 kg/ha	15,5	**43,8**	12,5	**44**	-	-
	Champion 50 WP	3,0 kg/ha /1,5 kg/ha	13,3	**51,8**	11,5	**48,4**	-	-
	Funguran-OH 50WP	3,0 kg/ha /1,5 kg/ha	14,6	**47,1**	12,3	**44,8**	-	-

A total of 2 trials were carried out to evaluate the efficacy of Miedzian Extra 350 SC for control of PSDMSY in cherry orchards. Trials were conducted in different regions in Poland where orchards are grown commercially. Trials were made of randomized block design with a minimum of four replicates. Miedzian Extra 350 SC was applied at dose rates: 1,5 l/ha, 3,0 l/ha and together 3,0 l/ha /1,5 l/ha (higher

dose at BBCH 51 and lower dose at BBCH 60). As a standards were used Champion 50 WP (1,5kg/ha, and 3,0 kg/ha and together 3,0 kg/ha /1,5 kg/ha), Miedzian 50 WP (together 3,0 kg/ha /1,5 kg/ha) and Funguran-OH 50 WP (1,5kg/ha, and 3,0 kg/ha and together 3,0 kg/ha /1,5 kg/ha). These studies were described in compliance with the principles of Good Experimental Practice (GEP) while the test results were summarize in appropriate Table (see attachment No. 3.2-10a).

Table 3.2-10a: Average efficacy of Miedzian Extra 350 SC and standard products.

average efficacy			
trial number	product	Dose	infected leaves and fruits
OR/17/2006/4a	control	-	-
	Miedzian Extra 350 SC	1,5 L/ha; 3 L/ha	48,1
	Miedzian 50 WP	1,5 kg/ha; 3 kg/ha	43,9
	Champion 50 WP	1,5 kg/ha, 3 kg/ha	50,1
	Funguran-OH 50WP	1,5 kg/ha, 3 kg/ha	45,95
OR/18/2006/4 b	control	-	-
	Miedzian Extra 350 SC	1,5 l/ha	62,57
	Miedzian Extra 350 SC	3,0 l/ha	89,57
	Champion 50 WP	1,5 kg/ha	69,97
	Champion 50 WP	3,0 kg/ha	95,33
	Funguran-OH 50WP	1,5 kg/ha	72,17
	Funguran-OH 50WP	3,0 kg/ha	86,10

Summary and conclusion (CHERRY/PSDMSY)
Miedzian Extra 350 SC at dose 3,0 l/ha significantly reduced occurrence of PSDMSY in cherry orchards. At dose 3,0 l/ha average efficacy reached 89,57%. There was no significant different between Miedzian Extra 350 SC and standard fungicides (Champion 50 WP, Miedzian 50 WP and Funguran-OH 50 WP). To significantly reduce PSDMSY recommended dose of Miedzian Extra 350 SC is 3,0 l/ha BBCH 51 and 1,5 l.ha at BBCH stage 60.

TOMATO (outdoor)/ PSDMTM

Table 3.2-11: Efficacy of Miedzian Extra 350 SC and standard products in all trials.

trial number	product	Dose	I evaluation		II evaluation	
			percent of infected leaves	efficacy	percent of infected leaves	efficacy
PoZ 6/10 ba	control	-	6,1 a	-	21,3 a	-
	Miedzian Extra 350 SC	2 l/ha	1,0 b	**84**	1,3 d	**93**
	Miedzian Extra 350 SC	2,5 l/ha	1,3 b	**79**	2,8 c	**82**
	Miedzian Extra 350 SC	5 l/ha	-	-	-	-
	Miedzian 50 WP	2,5 kg/ha	0,8 b	**86**	2,3 c	**89**
	Miedzian 50 WP	6 kg/ha	-	-	-	-
	Miedzian 50 WG	2,5 kg/ha	1,3 b	**79**	3,5 b	**83**
PoT 6/10 ba	control	-	5,1 a	-	5,1 a	-
	Miedzian Extra 350 SC	2 l/ha	0,1 b	**99**	2,4	**55**
	Miedzian Extra 350 SC	2,5 l/ha	0 b	**100**	1,8	**84**
	Miedzian Extra 350 SC	5 l/ha	-	-	-	-
	Miedzian 50 WP	2,5 kg/ha	0 b	**100**	2,4	**55**
	Miedzian 50 WP	6 kg/ha	-	-	-	-
	Miedzian 50 WG	2,5 kg/ha	0 b	**100**	2	**60**

A total of 2 trials were carried out to evaluate the efficacy of Miedzian Extra 350 SC for control of PSDMTM in tomato (outdoor). Trials were conducted in different regions in Poland. Trials were made of randomized block design with a minimum of four replicates. Miedzian Extra 350 SC was applied at dose

rates: 2,0 l/ha, 2,5 l/ha and 5,0 l/ha. As a standards were used Miedzian 50 WP (2,5 kg/ha and 6 kg/ha) and Miedzian 50 WG (2,5kg/ha). These studies were described in compliance with the principles of Good Experimental Practice (GEP) while the test results were summarize in appropriate Tables (see attachment No. 3.2-11a and 3.2-11b).

Table 3.2-11a: Average efficacy of Miedzian Extra 350 SC and standard products.

average efficacy			
trial number	product	Dose	infected leaves
PoZ 6/10 ba	control	-	-
	Miedzian Extra 350 SC	2 l/ha	88,5
	Miedzian Extra 350 SC	2,5 l/ha	80,5
	Miedzian Extra 350 SC	5 l/ha	-
	Miedzian 50 WP	2,5 kg/ha	87,5
	Miedzian 50 WP	6 kg/ha	-
	Miedzian 50 WG	2,5 kg/ha	81
PoT 6/10 ba	control	-	-
	Miedzian Extra 350 SC	2 l/ha	77
	Miedzian Extra 350 SC	2,5 l/ha	92
	Miedzian Extra 350 SC	5 l/ha	-
	Miedzian 50 WP	2,5 kg/ha	77,5
	Miedzian 50 WP	6 kg/ha	-
	Miedzian 50 WG	2,5 kg/ha	80

Table 3.2-11b: Summary of average efficacy of Miedzian Extra 350 SC and standard products.

product	Dose	average efficacy
Miedzian Extra 350 SC	2 l/ha	82,75
Miedzian Extra 350 SC	2,5 l/ha	86,25
Miedzian Extra 350 SC	5 l/ha	-
Miedzian 50 WP	2,5 kg/ha	82,5
Miedzian 50 WP	6 kg/ha	-
Miedzian 50 WG	2,5 kg/ha	80,5

Summary and conclusion (TOMATO (outdoor)/PSDMTM)
Miedzian Extra 350 SC at dose 2,0 l/ha significantly reduced occurrence of PSDMTM in tomato (outdoor). At dose 2,0 l/ha average efficacy reached 82,75%. There was no significant different between Miedzian Extra 350 SC and standard fungicides (Miedzian 50 WP and Miedzian 50 WG). To significantly reduce PSDMTM recommended dose of Miedzian Extra 350 SC is 2,0-2,5 l/ha. The dose should be selected depending on the severity of the infection.

TOMATO (outdoor)/ PHYTIN

Table 3.2-12: Efficacy of Miedzian Extra 350 SC and standard products in all trials.

trial number	product	Dose	I evaluation		II evaluation	
			percent of infected leaves	efficacy	percent of infected leaves	efficacy
PoZ 6/10 za	control	-	7,4 a	-	66,4 a	-
	Miedzian Extra 350 SC	2 l/ha	2,5 b	**66**	25,7 b	**64**
	Miedzian Extra 350 SC	2,5 l/ha	1,5 c	**79**	19,6 e	**69**

	Miedzian Extra 350 SC	5 l/ha	-	**-**	-	**-**
	Miedzian 50 WP	2,5 kg/ha	1,9 b	**74**	24,6 c	**64**
	Miedzian 50 WP	6 kg/ha	-	**-**	-	**-**
	Miedzian 50 WG	2,5 kg/ha	2,0 b	**73**	22,2 d	**67**
PoT 6/10 za	control	-	9,0 a	**-**	94,2 a	**-**
	Miedzian Extra 350 SC	2 l/ha	2,4 b	**73**	10,4	**89**
	Miedzian Extra 350 SC	2,5 l/ha	1,0 c	**89**	8,4	**91**
	Miedzian Extra 350 SC	5 l/ha	-	**-**	-	**-**
	Miedzian 50 WP	2,5 kg/ha	1,7 c	**81**	6,3 b	**93**
	Miedzian 50 WP	6 kg/ha	-	**-**	-	**-**
	Miedzian 50 WG	2,5 kg/ha	2,1 b	**77**	6,3 b	**93**

A total of 2 trials were carried out to evaluate the efficacy of Miedzian Extra 350 SC for control of PHYTIN in tomato (outdoor). Trials were conducted in different regions in Poland. Trials were made of randomized block design with a minimum of four replicates. Miedzian Extra 350 SC was applied at dose rates: 2,0 l/ha, 2,5 l/ha and 5,0 l/ha. As a standards were used Miedzian 50 WP (2,5 kg/ha and 6 kg/ha) and Miedzian 50 WG (2,5kg/ha). These studies were described in compliance with the principles of Good Experimental Practice (GEP) while the test results were summarize in appropriate Tables (see attachment No. 3.2-12a and 3.2-12b).

Table 3.2-12a: Average efficacy of Miedzian Extra 350 SC and standard products.

average efficacy			
trial number	product	Dose	infected leaves
PoZ 6/10 za	control	-	-
	Miedzian Extra 350 SC	2 l/ha	65
	Miedzian Extra 350 SC	2,5 l/ha	74
	Miedzian Extra 350 SC	5 l/ha	-
	Miedzian 50 WP	2,5 kg/ha	69
	Miedzian 50 WP	6 kg/ha	-
	Miedzian 50 WG	2,5 kg/ha	70
PoT 6/10 za	control	-	-
	Miedzian Extra 350 SC	2 l/ha	81
	Miedzian Extra 350 SC	2,5 l/ha	90
	Miedzian Extra 350 SC	5 l/ha	-
	Miedzian 50 WP	2,5 kg/ha	87
	Miedzian 50 WP	6 kg/ha	-
	Miedzian 50 WG	2,5 kg/ha	85

Table 3.2-12b: Summary of average efficacy of Miedzian Extra 350 SC and standard products.

product	Dose	average efficacy
Miedzian Extra 350 SC	2 l/ha	73
Miedzian Extra 350 SC	2,5 l/ha	82
Miedzian Extra 350 SC	5 l/ha	-
Miedzian 50 WP	2,5 kg/ha	78
Miedzian 50 WP	6 kg/ha	-
Miedzian 50 WG	2,5 kg/ha	77,5

Summary and conclusion (TOMATO (outdoor)/PHYTIN)
Miedzian Extra 350 SC at dose 2,5 l/ha significantly reduced occurrence of PHYTIN in tomato (outdoor). At dose 2,5 l/ha average efficacy reached 82%. There was no significant different between Miedzian Extra 350 SC and standard fungicides (Miedzian 50 WP and Miedzian 50 WG). To significantly reduce PHYTIN recommended dose of Miedzian Extra 350 SC isn2,5 l/ha.

CUCUMBER (outdoor)/ PSDMLA

Table 3.2-13: Efficacy of Miedzian Extra 350 SC and standard products in all trials.

trial number	product	Dose	I evaluation		II evaluation	
			percent of infected leaves	efficacy	percent of infected leaves	efficacy
OgZ 6/10 bk	control	-	3,0 a	-	2,8 a	-
	Miedzian Extra 350 SC	2 l/ha	0 b	**100**	0 b	**100**
	Miedzian Extra 350 SC	2,5 l/ha	0 b	**100**	0 b	**100**
	Miedzian Extra 350 SC	5 l/ha	-	-	-	-
	Miedzian 50 WP	2,5 kg/ha	0 b	**100**	0 b	**100**
	Miedzian 50 WP	6 kg/ha	-	-	-	-
	Miedzian 50 WG	2,5 kg/ha	0	**100**	0 b	**100**
OgT 6/10 bk	control	-	2,0 a	-	1,8 a	-
	Miedzian Extra 350 SC	2 l/ha	0 b	**100**	0 b	**100**
	Miedzian Extra 350 SC	2,5 l/ha	0 b	**100**	0 b	**100**
	Miedzian Extra 350 SC	5 l/ha	-	-	-	-
	Miedzian 50 WP	2,5 kg/ha	0 b	**100**	0 b	**100**
	Miedzian 50 WP	6 kg/ha	-	-	-	-
	Miedzian 50 WG	2,5 kg/ha	0 b	**100**	0 b	**100**

A total of 2 trials were carried out to evaluate the efficacy of Miedzian Extra 350 SC for control of PSDMLA in cucumber (outdoor). Trials were conducted in different regions in Poland. Trials were made of randomized block design with a minimum of four replicates. Miedzian Extra 350 SC was applied at dose rates: 2,0 l/ha, 2,5 l/ha and 5,0 l/ha. As a standards were used Miedzian 50 WP (2,5 kg/ha and 6 kg/ha) and Miedzian 50 WG (2,5kg/ha). These studies were described in compliance with the principles of Good Experimental Practice (GEP) while the test results were summarize in appropriate Tables (see attachment No. 3.2-13a and 3.2-13b).

Table 3.2-13a: Average efficacy of Miedzian Extra 350 SC and standard products.

average efficacy			
trial number	product	Dose	infected leaves
OgZ 6/10 bk	control	-	-
	Miedzian Extra 350 SC	2 l/ha	100
	Miedzian Extra 350 SC	2,5 l/ha	100
	Miedzian Extra 350 SC	5 l/ha	-
	Miedzian 50 WP	2,5 kg/ha	100
	Miedzian 50 WP	6 kg/ha	-
	Miedzian 50 WG	2,5 kg/ha	100
OgT 6/10 bk	control	-	-
	Miedzian Extra 350 SC	2 l/ha	100
	Miedzian Extra 350 SC	2,5 l/ha	100
	Miedzian Extra 350 SC	5 l/ha	-
	Miedzian 50 WP	2,5 kg/ha	100
	Miedzian 50 WP	6 kg/ha	-
	Miedzian 50 WG	2,5 kg/ha	100

Table 3.2-13b: Summary of average efficacy of Miedzian Extra 350 SC and standard products.

product	Dose	average efficacy
Miedzian Extra 350 SC	2 l/ha	100
Miedzian Extra 350 SC	2,5 l/ha	100

Miedzian Extra 350 SC	5 l/ha	-
Miedzian 50 WP	2,5 kg/ha	100
Miedzian 50 WP	6 kg/ha	-
Miedzian 50 WG	2,5 kg/ha	100

Summary and conclusion (CUCUMBER (outdoor)/PSDMLA)
Miedzian Extra 350 SC at dose 2,0 l/ha significantly reduced occurrence of PSDMLA in cucumber (outdoor). At dose 2,0 l/ha average efficacy reached 100%. There was no significant different between Miedzian Extra 350 SC and standard fungicides (Miedzian 50 WP and Miedzian 50 WG). To significantly reduce PSDMLA recommended dose of Miedzian Extra 350 SC is 2,0-2,5 l/ha. The dose should be selected depending on the severity of the infection.

CUCUMBER (outdoor)/ PSPECU

Table 3.2-14: Efficacy of Miedzian Extra 350 SC and standard products in all trials.

trial number	product	Dose	I evaluation		II evaluation	
			percent of infected leaves	efficacy	percent of infected leaves	efficacy
OgZ 6/10 mr	control	-	18,8 a	-	90,0 a	-
	Miedzian Extra 350 SC	2 l/ha	8,5 b	**55**	72,5 b	**19**
	Miedzian Extra 350 SC	2,5 l/ha	7,9 c	**58**	72,5 b	**19**
	Miedzian Extra 350 SC	5 l/ha	-	-	-	-
	Miedzian 50 WP	2,5 kg/ha	5,0 e	**73**	72,5 b	**19**
	Miedzian 50 WP	6 kg/ha	-	-	-	-
	Miedzian 50 WG	2,5 kg/ha	6,2 d	**54**	71,0 b	**18**
OgT 6/10 mr	control	-	24,7 a	-	87,5 a	-
	Miedzian Extra 350 SC	2 l/ha	7,6 b	**69**	34,1 b	**61**
	Miedzian Extra 350 SC	2,5 l/ha	7,7 b	**69**	33,6 b	**62**
	Miedzian Extra 350 SC	5 l/ha	-	-	-	-
	Miedzian 50 WP	2,5 kg/ha	6,4 c	**74**	20,7 d	**76**
	Miedzian 50 WP	6 kg/ha	-	-	-	-
	Miedzian 50 WG	2,5 kg/ha	3,8 d	**85**	27,1 c	**69**

A total of 2 trials were carried out to evaluate the efficacy of Miedzian Extra 350 SC for control of PSPECU in cucumber (outdoor). Trials were conducted in different regions in Poland. Trials were made of randomized block design with a minimum of four replicates. Miedzian Extra 350 SC was applied at dose rates: 2,0 l/ha, 2,5 l/ha and 5,0 l/ha. As a standards were used Miedzian 50 WP (2,5 kg/ha and 6 kg/ha) and Miedzian 50 WG (2,5kg/ha). These studies were described in compliance with the principles of Good Experimental Practice (GEP) while the test results were summarize in appropriate Tables (see attachment No. 3.2-14a and 3.2-14b).

Table 3.2-14a: Average efficacy of Miedzian Extra 350 SC and standard products.

average efficacy			
trial number	product	Dose	infected leaves
OgZ 6/10 mr	control	-	-
	Miedzian Extra 350 SC	2 l/ha	37
	Miedzian Extra 350 SC	2,5 l/ha	38,5
	Miedzian Extra 350 SC	5 l/ha	-
	Miedzian 50 WP	2,5 kg/ha	46
	Miedzian 50 WP	6 kg/ha	-
	Miedzian 50 WG	2,5 kg/ha	36
OgT 6/10 mr	control	-	-
	Miedzian Extra 350 SC	2 l/ha	65
	Miedzian Extra 350 SC	2,5 l/ha	65,5
	Miedzian Extra 350 SC	5 l/ha	-
	Miedzian 50 WP	2,5 kg/ha	75

	Miedzian 50 WP	6 kg/ha	-
	Miedzian 50 WG	2,5 kg/ha	77

Table 3.2-14b: Summary of average efficacy of Miedzian Extra 350 SC and standard products.

product	Dose	average efficacy
Miedzian Extra 350 SC	2 l/ha	51
Miedzian Extra 350 SC	2,5 l/ha	52
Miedzian Extra 350 SC	5 l/ha	-
Miedzian 50 WP	2,5 kg/ha	60,5
Miedzian 50 WP	6 kg/ha	-
Miedzian 50 WG	2,5 kg/ha	56,5

Summary and conclusion (CUCUMBER (outdoor)/PSPECU)
Miedzian Extra 350 SC at dose 2,5 l/ha reduced occurrence of PSPECU in cucumber (outdoor). At dose 2,5 l/ha average efficacy reached 52%. There was no significant different between Miedzian Extra 350 SC and standard fungicides (Miedzian 50 WP and Miedzian 50 WG). To significantly reduce PSPECU recommended dose of Miedzian Extra 350 SC is 2,5 l/ha.

FRENCH BEAN/ PSDMPH

Table 3.2-15: Efficacy of Miedzian Extra 350 SC and standard products in all trials.

trial number	product	Dose	I evaluation		II evaluation	
			percent of infected leaves	efficacy	percent of infected leaves	efficacy
FaZ6/10 ba	control	-	2,4 a	-	3,8 a	-
	Miedzian Extra 350 SC	2 l/ha	0,0 b	**100**	0,2 b	**95**
	Miedzian Extra 350 SC	2,5 l/ha	0,0 b	**100**	0,2 b	**95**
	Miedzian Extra 350 SC	5 l/ha	-	-	-	-
	Miedzian 50 WP	2,5 kg/ha	0,0 b	**100**	0,2 b	**95**
FaT6/10 ba	control	-	3,1 a	-	3,9 a	-
	Miedzian Extra 350 SC	2 l/ha	0,0 b	**100**	0,3 b	**92**
	Miedzian Extra 350 SC	2,5 l/ha	0,0 b	**100**	0,3 b	**82**
	Miedzian Extra 350 SC	5 l/ha	-	-	-	-
	Miedzian 50 WP	2,5 kg/ha	0,0 b	**100**	0,2 b	**93**

A total of 2 trials were carried out to evaluate the efficacy of Miedzian Extra 350 SC for control of PSDMPH in french bean. Trials were conducted in different regions in Poland. Trials were made of randomized block design with a minimum of four replicates. Miedzian Extra 350 SC was applied at dose rates: 2,0 l/ha, 2,5 l/ha and 5,0 l/ha. As a standards were used Miedzian 50 WP (2,5 kg/ha). These studies were described in compliance with the principles of Good Experimental Practice (GEP) while the test results were summarize in appropriate Tables (see attachment No. 3.2-15a and 3.2-15b).

Table 3.2-15a: Average efficacy of Miedzian Extra 350 SC and standard products.

average efficacy			
trial number	product	Dose	infected leaves
FaZ6/10 ba	control	-	-
	Miedzian Extra 350 SC	2 l/ha	97,5
	Miedzian Extra 350 SC	2,5 l/ha	97,5
	Miedzian Extra 350 SC	5 l/ha	-
	Miedzian 50 WP	2,5 kg/ha	97,5

FaT6/10 ba	control	-	-
	Miedzian Extra 350 SC	2 l/ha	96
	Miedzian Extra 350 SC	2,5 l/ha	91
	Miedzian Extra 350 SC	5 l/ha	-
	Miedzian 50 WP	2,5 kg/ha	96,5

Table 3.2-15b: Summary of average efficacy of Miedzian Extra 350 SC and standard products.

product	Dose	average efficacy
Miedzian Extra 350 SC	2 l/ha	96,75
Miedzian Extra 350 SC	2,5 l/ha	94,25
Miedzian Extra 350 SC	5 l/ha	-
Miedzian 50 WP	2,5 kg/ha	97

Summary and conclusion (FRENCH BEAN/PSDMPH)
Miedzian Extra 350 SC at dose 2,0 l/ha significantly reduced occurrence of PSDMPH in french bean (outdoor). At dose 2,0 l/ha average efficacy reached 96,75%. There was no significant different between Miedzian Extra 350 SC and standard fungicide (Miedzian 50 WP). To significantly reduce PSDMPH recommended dose of Miedzian Extra 350 SC is 2,0-2,5 l/ha. The dose should be selected depending on the severity of the infection.

FRENCH BEAN/ COLLLD

Table 3.2-16: Efficacy of Miedzian Extra 350 SC and standard products in all trials.

trial number	product	Dose	I evaluation		II evaluation	
			percent of infected leaves	efficacy	percent of infected leaves	efficacy
FaZ6/10 an	control	-	0,9 a	-	4,7 a	-
	Miedzian Extra 350 SC	2 l/ha	0,0 b	**100**	0,7 b	**82**
	Miedzian Extra 350 SC	2,5 l/ha	0,0 b	**100**	0,4 c	**92**
	Miedzian Extra 350 SC	5 l/ha	-	-	-	-
	Miedzian 50 WP	2,5 kg/ha	0,0 b	**100**	0,7 b	**82**
FaT6/10 an	control	-	1,0 a	-	4,9 a	-
	Miedzian Extra 350 SC	2 l/ha	0,0 b	**100**	1,1 b	**78**
	Miedzian Extra 350 SC	2,5 l/ha	0,0 b	**100**	1,0 b	**79**
	Miedzian Extra 350 SC	5 l/ha	-	-	-	-
	Miedzian 50 WP	2,5 kg/ha	0,0 b	**100**	1,1 b	**78**

A total of 2 trials were carried out to evaluate the efficacy of Miedzian Extra 350 SC for control of COLLLD in french bean. Trials were conducted in different regions in Poland. Trials were made of randomized block design with a minimum of four replicates. Miedzian Extra 350 SC was applied at dose rates: 2,0 l/ha, 2,5 l/ha and 5,0 l/ha. As a standards were used Miedzian 50 WP (2,5 kg/ha). These studies were described in compliance with the principles of Good Experimental Practice (GEP) while the test results were summarize in appropriate Tables (see attachment No. 3.2-16a and 3.2-16b).

Table 3.2-16a: Average efficacy of Miedzian Extra 350 SC and standard products.

average efficacy			
trial number	product	Dose	infected leaves
FaZ6/10 an	control	-	-
	Miedzian Extra 350 SC	2 l/ha	91
	Miedzian Extra 350 SC	2,5 l/ha	96

	Miedzian Extra 350 SC	5 l/ha	-
	Miedzian 50 WP	2,5 kg/ha	91
FaT6/10 an	control	-	-
	Miedzian Extra 350 SC	2 l/ha	89
	Miedzian Extra 350 SC	2,5 l/ha	89,5
	Miedzian Extra 350 SC	5 l/ha	-
	Miedzian 50 WP	2,5 kg/ha	89

Table 3.2-16b: Summary of average efficacy of Miedzian Extra 350 SC and standard products.

product	Dose	average efficacy
Miedzian Extra 350 SC	2 l/ha	90
Miedzian Extra 350 SC	2,5 l/ha	92,75
Miedzian Extra 350 SC	5 l/ha	-
Miedzian 50 WP	2,5 kg/ha	90

Summary and conclusion (FRENCH BEAN/COLLLD)
Miedzian Extra 350 SC at dose 2,0 l/ha significantly reduced occurrence of COLLLD in french bean (outdoor). At dose 2,0 l/ha average efficacy reached 90%. There was no significant different between Miedzian Extra 350 SC and standard fungicide (Miedzian 50 WP). To significantly reduce COLLLD recommended dose of Miedzian Extra 350 SC is 2,0-2,5 l/ha. The dose should be selected depending on the severity of the infection.

FRENCH BEAN/ BOTRICI

Table 3.2-17: Efficacy of Miedzian Extra 350 SC and standard products in all trials.

trial number	product	Dose	I evaluation		II evaluation	
			percent of infected leaves	efficacy	percent of infected leaves	efficacy
FaZ6/10 sz	control	-	9,0 a	-	12,3 a	-
	Miedzian Extra 350 SC	2 l/ha	1,0 b	**84**	3,7 b	**69**
	Miedzian Extra 350 SC	2,5 l/ha	0,9 b	**89**	3,5 b	**71**
	Miedzian Extra 350 SC	5 l/ha	-	-	-	-
	Miedzian 50 WP	2,5 kg/ha	1,0 b	**84**	3,8 b	**69**
FaT6/10 sz	control	-	3,2 a	-	9,8 a	-
	Miedzian Extra 350 SC	2 l/ha	0,9 b	**72**	3,0 b	**69**
	Miedzian Extra 350 SC	2,5 l/ha	1,0 b	**70**	2,9 b	**70**
	Miedzian Extra 350 SC	5 l/ha	-	-	-	-
	Miedzian 50 WP	2,5 kg/ha	0,9 b	**72**	3,0 b	**69**

A total of 2 trials were carried out to evaluate the efficacy of Miedzian Extra 350 SC for control of BOTRICI in french bean. Trials were conducted in different regions in Poland. Trials were made of randomized block design with a minimum of four replicates. Miedzian Extra 350 SC was applied at dose rates: 2,0 l/ha, 2,5 l/ha and 5,0 l/ha. As a standards were used Miedzian 50 WP (2,5 kg/ha). These studies were described in compliance with the principles of Good Experimental Practice (GEP) while the test results were summarize in appropriate Tables (see attachment No. 3.2-17a and 3.2-17b).

Table 3.2-17a: Average efficacy of Miedzian Extra 350 SC and standard products.

average efficacy			
trial number	product	Dose	infected leaves
FaZ6/10 sz	control	-	-
	Miedzian Extra 350 SC	2 l/ha	76,5
	Miedzian Extra 350 SC	2,5 l/ha	80

	Miedzian Extra 350 SC	5 l/ha	-
	Miedzian 50 WP	2,5 kg/ha	76,5
FaT6/10 sz	control	-	-
	Miedzian Extra 350 SC	2 l/ha	70,5
	Miedzian Extra 350 SC	2,5 l/ha	70
	Miedzian Extra 350 SC	5 l/ha	-
	Miedzian 50 WP	2,5 kg/ha	70,5

Table 3.2-17b: Summary of average efficacy of Miedzian Extra 350 SC and standard products.

product	Dose	average efficacy
Miedzian Extra 350 SC	2 l/ha	73,5
Miedzian Extra 350 SC	2,5 l/ha	75
Miedzian Extra 350 SC	5 l/ha	-
Miedzian 50 WP	2,5 kg/ha	73,5

Summary and conclusion (FRENCH BEAN/BOTRICI)
Miedzian Extra 350 SC at dose 2,0 l/ha reduced occurrence of BOTRICI in french bean (outdoor). At dose 2,0 l/ha average efficacy reached 73,5%. There was no significant different between Miedzian Extra 350 SC and standard fungicide (Miedzian 50 WP). To significantly reduce BOTRICI recommended dose of Miedzian Extra 350 SC is 2,0-2,5 l/ha. The dose should be selected depending on the severity of the infection.

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

Miedzian Extra 350 SC at all tested rates did not have a negative effect on crop quality apple, pear, cherry, tomato, cucumber and french bean varieties studied. There was no effect of the test preparations on the quality parameters of yield.

Summary and conclusion

Tested product Miedzian Extra 350 SC showed high efficacy reduced the severity of VENTIN on apple, VENTPI and ERWIAM on pear, PSDMSY on cherry, PSDMTM and PHYTIN on tomato (outdoor), PSDMILA and PSPECU on cucumber (outdoor) and PSDMPH, COLLLD and BOTRICI on french bean.

APPLE/VENTIN

Due to low level of infection to significantly reduce VENTIN recommended dose of Miedzian Extra 350 SC is 0,9-1,5 l/ha. The dose should be selected depending on the severity of the infection.

PEAR/ VENTPI

To significantly reduce VENTPI recommended dose of Miedzian Extra 350 SC is 1,5 l/ha.
In case of PEAR/VENTPI, carried 2 trials on pear and support it with 8 trials on apple (according to Harmonization Meeting about effectiveness 'Annex 2- Generic Extrapolation Tables') give possibilities to extend use on pear against VENTPI. Recommended dose to control VENTPI in pear orchards is 1,5 l/ha.

PEAR/ ERWIAM

To reduce ERWIAM recommended dose of Miedzian Extra 350 SC is 1,5 l/ha at BBCH stage 60-69 and 0,75 l/ha at BBCH stage 71.

CHERRY/ PSDMSY

To significantly reduce PSDMSY recommended dose of Miedzian Extra 350 SC is 3,0 l/ha BBCH 51 and 1,5 l.ha at BBCH stage 60.

TOMATO (outdoor)/ PSDMTM

To significantly reduce PSDMTM recommended dose of Miedzian Extra 350 SC is 2,0-2,5 l/ha. The dose should be selected depending on the severity of the infection.

TOMATO (outdoor)/ PHYTIN

To significantly reduce PHYTIN recommended dose of Miedzian Extra 350 SC isn2,5 l/ha.

CUCUMBER (outdoor)/ PSDMLA

To significantly reduce PSDMLA recommended dose of Miedzian Extra 350 SC is 2,0-2,5 l/ha. The dose should be selected depending on the severity of the infection.

CUCUMBER (outdoor)/ PSPECU

To significantly reduce PSPECU recommended dose of Miedzian Extra 350 SC is 2,5 l/ha.

FRENCH BEAN/ PSDMPH

To significantly reduce PSDMPH recommended dose of Miedzian Extra 350 SC is 2,0-2,5 l/ha. The dose should be selected depending on the severity of the infection.

FRENCH BEAN/ COLLLD

To significantly reduce COLLLD recommended dose of Miedzian Extra 350 SC is 2,0-2,5 l/ha. The dose should be selected depending on the severity of the infection.

FRENCH BEAN/ BOTRICI

To significantly reduce BOTRICI recommended dose of Miedzian Extra 350 SC is 2,0-2,5 l/ha. The dose should be selected depending on the severity of the infection.

Due to unknown crop height LWA dose was not calculated.
Efficacy of tested fungicide was higher or without significand different compered to standard products. There was no negative effect of the test preparations on the quality parameters of yield.

Comments of zRMS:	All necessary information's were provided above by Applicant. This document summarises the information related to the efficacy of the plant protection product – Miedzian Extra 350 SC containing copper oxychloride, 350 g/l. **The data presented in this dossier fully support the renewal under Article 43 of Miedzian Extra 350 SC containing copper oxychloride, 350 g/l for the control of fungicide diseases in apple, pear, cherry and sweet cherry in Poland. Also, many minor uses can be accepted, according to Article 51.** Data used for previous registration should not been assessed for renewal. However, Applicant submitted some new trials performed in 2019 on apples against VENTIN (4 trials). Those trials only confirmed the conclusions of the previous registration, which is that Miedzian Extra 350 SC significantly reduced occurrence of VENTIN in apple orchards. Miedzian Extra 350 SC in trials from 2019 was used at following doses: 1,5 l/ha, 1,2 l/ha, 0,9 l/ha in 2 applications (after second

application, an evaluation of effectiveness was made). During previous application, the recommended dose was also 1,5 l/ha applied in twice application at intervals of 7-10 days. For apple against VENTIN applicant submitted in total 8 trials. Those studies were performed during two growing seasons – 2006 and 2019.

Applicant submitted trials (those data are from previous registration and were submitted in main body of the label) for some minor uses: cherry against PSDMSY (2 trials), tomato (outdoor – 4 trials) against PSDMTH (2 trials) and PHYTIN (2 trials), cucumber (outdoor – 4 trials) against PSDMLA (2 trials) and PSPECU (2 trials) and French bean (6 trials) against PSDMPH (2 trials), COLLLD (2 trials) and BOTRICI (2 trials). In the opinion of Evaluator, those uses should be presented in the main body of label and GAP table after renewal, as it was during the previous registration.

For new minor uses or accepted minor uses at previous registration (peach, sweet cherry, tomato indoor) for which no trials have been submitted, they may be registered in accordance with the terms and conditions of the previous registration, provided that other sections also accept these terms and conditions (e.g., residue section). So, sweet cherry can be accepted in the main part of label, because it was already registered previous and now it is a renewal of registration. New trials are not required if all conditions as, for example window application, dose, BBCH is not changed in comparable to previous registration.

Peach can be registered only as minor crop according to Article 51, because of lack of trials and dose change by Applicant. At previous registration the dose 7,0 kg/ha was registered, now submitted for registration is dose 3,0 kg/ha. Without any efficacy trials we cannot assessed if such lower dose can be efficacy.

In our opinion, minor uses which were not included in the label during previous registration, but Applicant proposed the new ones in GAP table and label project - can be accepted. Those accepted new minor uses are tomato (in greenhouse use), aubergines (out- and indoor), cucumber (indoor), Gherkins, courgette, melon (indoor), pumpkins (indoor), watermelon (indoor), grape (table, wine) and currant.

For the purposes of renewal, it is also necessary to propose LWA doses for pear, cherry, sweet cherry and apple trees.

EFFECTIVENESS ACCORDING TO LWA APPROACH:

According to EPPO PP 1/239, the application rate should be calculated per treated leaf wall area unit (LWA) and results of the test product should be presented and interpreted according to LWA by the applicant. From efficacy`s point of view, the reference to ha ground area is not sufficient anymore (EPPO PP 1/239). Therefore, the Evaluator calculated the LWA for Miedzian Extra 350 SC, using the treated canopy height as well as the row distance between the rows from the single trial reports (where these parameters were available).

Conversion of the application dose in l/ha LWA
According to the EPPO guideline PP 1/239(2) “great efforts are being made to obtain optimum efficacy from the applied product and to avoid unnecessary emission of products into the environment and residues in feed and food” and “the best watt to achieves this is to adapt dose rate to the area where the treatment is needed (e.g. crop canopy) and its structure.
An easy way to establish correct application dose in three-dimensional crops is to use dose per treated leaf area unit (LWA).

To calculate LWA is needed to know distance between rows and treated foliage height.

Calculation of LWA:

$$\text{Leaf Wall Area (LWA)} = \frac{2 \times \text{tree height [m]}}{\text{Distance between rows [m]}} \times 10\,000\ m^2/ha$$

However, due to unknown crop height, LWA dose was not calculated by Applicant. In efficacy studies only, distance between rows was presented, lack of plants height or number of plants per ha. So, Evaluator used average values of apple tree height in Polish orchards for purpose the dose LWA for orchards.

Usually, large fruit trees for the garden or orchard are planted every 4 meters in a row, and the rows are determined every 5 meters, medium fruit trees are planted every 3 meters in rows, with a distance between the rows of 4 meters, and the lowest fruit trees, grafted on dwarf rootstocks - every 2 meters in rows determined every 3 meters. In orchards apple trees height is usually between 2,5 – 3,5 m, so those values were used for calculations.

For pear, the distance between trees in a row must be 3,5-4 m. In recent years, many varieties of pear have been introduced on scarification rootstocks, allowing fruit to be produced on 1,8 to 2,5 m tall trees.

For cherry and sweet cherry, the height is usually 1,5-2,5 m and row spacing: 2-2,5m.

For determining the dose per ha ground for every m canopy height we should dose per ha LWA * conversion factor (the conversion factor is calculated by dividing the leaf wall area by 10 000) *canopy height (m) = ‘dose per ha ground per m canopy height).

- apple: for calculations, the Evaluator used average height of plants (lack of height in studies report). Range of LWA vary between 12500 (2,5m height, 4 m distance between row) to 17500 (3,5 m height, 4 m distance between row). In Poland the average LWA for apples is usually between 16000-17000 (average: 16500), which corresponds to 0,91 l/ha LWA (correspond to dose 1,5 l/ha per ground). Calculated dose LWA was added to label project for apple against VENTIN.

- pear: for calculations, the Evaluator used average height of plants (lack of height in studies report). Range of LWA vary between 10286 (1,8m height, 3,5 m distance between row) to 12500 (2,5 m height, 4 m distance between row). In Poland the average LWA for pear is usually between 10000-12000 (average: 11000), which corresponds to 1,36 l/ha LWA (it corresponds to dose per ground 1,5 l/ha) and 0,68 l/ha (which corresponds to dose 0,75 l/ha per ground). Calculated dose LWA was added to label project for pear against ERWIAM and VENTIN.

- cherry and sweet cherry: for calculations, the Evaluator used average height of plants (lack of height in studies report). Range of LWA vary between 15000 (1,5m height, 2,0 m distance between row) to 20000 (2,5 m height, 2,5 m distance between row). In Poland the average LWA for pear is usually between 15000-17000 (average: 16000), which corresponds to 0,94 l/ha LWA (it corresponds to dose 1,5 l/ha per ground) and 1,88 l/ha LWA (which corresponds to dose 3,0 l/ha per ground). Calculated dose LWA was added to label project for cherry against PSDMSY.

As ZRMs we present only the obtained results (on the basis on average LWA for each crop).

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

Copper is one of the earliest known material used for plant pathogenic fungi and bacteria. It has been used in viticulture for over a century in the form of the well-known Bordeaux mixture. In all five forms of copper it is the copper ion (Cu2+) that is the only biologically active ingredient. As with other older fungicides with multi-site activity such as sulphur, dithiocarbamates, phtalimids and chlorothalonil, no resistance to copper has been reported in any fungal pathogen and copper fungicides have retained their full effectiveness despite extensive use over many years.
In recent times there have been incidences of bacterial resistance to metallic copper especially in the species *Pseudomonas spp*, However, a lot of these species exist as epiphytic populations (and are therefore not considered true pathogens) on the surfaces of plants, contributing to the complexing of copper ions applied to the leaf surfaces and thus indirectly affecting the effect on pathogenic species.
In the field management of bacteriosis, copper compounds still remain the only highly efficient compounds used for the control of the most important and widespread bacterial diseases.
In terms of pathogen resistance, according to FRAC (2005), pathogens showing high risk of development of resistance to fungicides include the causal agents of late blights and downy mildew, *Phytophthora infestans, Plasmopara viticola and Pseudoperonospora cubensis.*
Several studies about the resistance of the bacteria *Xanthomonas* to copper in Europe, were conducted in the field on walnut trees (*Xanthomonas arboricola pv. juglandis*) in France, and also more commonly there is a suspicion of resistance to copper of the bacteria *Xanthomona*s, isolated in the overseas departments (especially on Citrus crops and Solanaceae). The walnut is the second fruit species in France and special national monitoring program has been conducted since 2007.
Also there is some information about the resistance of the different copper forms of *Xanthomonas* to optimize the monitoring of this disease. A special program was developed for risk assessment against this pest in order to avoid the resistance of the bacteria *Xanthomonas* to copper.
The potential resistance of the bacterial pathogen *Pseudomonas savastanoi pv. savastanoi* to copper was studied in Cordoba, Spain. This pathogen is considered as one of the most common diseases on olive (Olea europaea). The relationship between the sensitivity of bacterial strains to copper and intensity of treatments in the olive groves of origin was studied through new developed specific laboratory techniques. ("Evaluación de la tolerancia al cobre en *Pseudomonas savastanoi pv. savastanoi*, bacteria causante de la tuberculosis del olivo " by Pedro Miranda Fuentes).
Following the FRAC definition of fungicide resistance it is considered to use the terms "reduced sensitivity" or "tolerance".
However, when the pathogen risk is assessed in relation to the inherent resistance risk of the fungicide class, the combined resistance risk gives a true picture of the risk of resistance to copper. With multi-site fungicides such as copper, where the fungicide resistance risk is low, the combined risk that includes the highly resistant pathogen, in reality becomes much lower. In addition, the overall combined risk of copper fungicide resistance, pathogen resistance as well as the agronomic risk is low for copper compounds.

Comments of zRMS:	The following dossier section should follow EPPO standard PP 1/213(4) *Resistance risk analysis in particular point 6. Registration requirements and Appendix I of the standard.* The fungicide-resistant population develops because the sensitive population is suppressed, and the rare fungicide-resistant individual can multiply and occupy the biological niche previously filled by the sensitive population. An increase in the frequency of such resistant strains may result in loss of disease control. As a general principle, resistance develops at different rates depending on the pathogen type, nature of the epidemic (or disease severity) and use pattern of the fungicide. The active substance copper oxychloride belongs to the chemical class of inorganic copper compounds in the group of multisite contact fungicides and is classified in Group M01 by FRAC (FRAC MOA Code: Multi-site, Group code M01). Copper oxychloride is a protective fungicide used to control bacterial and fungal

	diseases of fruit, vegetable, nut, and field crops. These diseases include mildew, leaf spots, blights and apple scab. It is used as a protective fungicide (Bordeaux mixture) for leaf application and seed treatment. It is also used as an algacide and herbicide, and to kill slugs and snails in irrigation and municipal water treatment systems. It has been used to control Dutch elm disease. Copper fungicides have been used by fruit and vegetable growers for many years as protectant treatments to prevent spore germination on plant tissue. Fungicides based on copper provide cost effective disease control but also have an additional benefit over non-copper fungicides which is their activity against bacterial pathogens. Plant surfaces need to have a complete coverage of copper fungicide to defend the plant against infection. Copper fungicides work by preventing spore germination and can act at several stages in the fungus development. Any plant surface left untreated remains a potential disease infection site. Copper oxychloride has multisite mode of action and therefore resistance rarely develop. In a study conducted by Barak and Edgington (1984), thiol compounds in the fungal cells could be involved in such resistance to a multi-site fungicide like copper oxychloride. **The risk for resistance for inorganic copper is according to Fungicide Resistance Action Committee (FRAC) is low.** Even though resistance appears not to be a problem in the EU according to FRAC, it is of course not a guarantee that it does not exists somewhere in Europe and caution should be taken when using Miedzian Extra 350 SC in the recommended crops at the recommend dose rates. No cross-resistance has been reported between group members M01 to M12, to which copper oxychloride belongs (FRAC, 2012). **FRAC regards the resistance risk of the Group M01 (copper (different salts), hereunder copper oxychloride) as low.** In terms of agronomic practice, the selection pressure on the intended disease target for Miedzian Extra 350 SC may be low to high in annual crops like solanaceous crops. Cultural control measures that can be adopted to reduce selection pressure are e.g. crop rotations, resistant crop varieties, cultural measure like adjusting planting date and soil cultivation (e.g. ploughing) as well as good crop hygiene. As the unmodified use pattern is considered unacceptable, a number of modifiers are proposed which are entirely in accordance with the general recommendations made by FRAC: • Use in alternation with fungicides with a different mode of action • Use as recommended on the label. Do not use reduced doses. Application should be at an early stage of development (e.g. at the first signs of disease or as soon as disease symptoms appear) or as a protective application. • Use other measures such as resistant varieties, good agronomic practice. Where field performance is significantly less than expected and where no other explanation can be found for the reduced performance e.g. application errors, then samples may be taken for sensitivity testing. Where testing is carried out it will be conducted at laboratories experienced in carrying out such testing and using methods recommended by FRAC. Where resistance can be confirmed as the cause for loss of field performance this will be reported to the authorities on an annual basis or as required.

3.4 Adverse effects on treated crops (KCP 6.4)

3.4.1 Phytotoxicity to host crop (KCP 6.4.1)

Phytotoxicity assessment of the tested product (Miedzian Extra 350 SC) was made at the same time as studies of its effectiveness. Phytotoxicity assessment was carried out with the use of different cultivars (commercially grown varieties), which is compliant with PP 1/135 Phytotoxicity assessment.
In all assessment no phytotoxicity was shown.
No phytotoxicity symptom caused by Miedzian Extra 350 SC at the highest dose rate of 5 l/ha was recorded in all trials.

Comments of zRMS:	The phytotoxicity assessments were carried out during efficacy trials about tested plant protection product and have been carried out in accordance with EPPO-Guidelines. The conduct of the field work is principally compliant with "Good Agricultural Practice" and in accordance with EPPO Guidelines PP 1/135. Both EU Directive 91/414 (EU, 1991) and EPPO PP 1/226 (3) – Number of efficacy trials requires testing phytotoxicity at normal (N) and double (2N) recommended dose. N dose, lower and even higher in some trials than recommended doses were studied during trials, which is accepted for fungicides. EPPO 1/135 (3) – Phytotoxicity assessment states: 'EPPO Standards on fungicides, insecticides and plant growth regulators, on the other hand, include only a relatively simple special section on phytotoxicity assessment, because, for these types of plant protection products, phytotoxic effects will be less frequent'. Selectivity trials were not required, which is in accordance with EPPO 1/135 (3). Phytotoxicity was assessed during efficacy trials. Detailed information's are presented by Applicant. Miedzian Extra 350 SC applied at the recommended dose rate did not cause phytotoxicity in any of the submitted trials. Copper is reported to cause damage to flowers and leaves in pome fruit in practice when applied later than BBCH 53. With regard to this, a warning of the possibility of phytotoxic damages to the pome fruit should be put on the label, in the opinion of Evaluator. However, in accordance with the Article 43 of Regulation (EC) No 1107/2009, the already submitted data will not be re-evaluated because the conclusions of previous assessments are still considered valid in the case of no significant change of the GAP table.

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

Tested fungicide Miedzian Extra 350 SC did not affect negatively quality and the yield of apple cv. 'Ligol', 'Jonagored' and 'Jonagored Decosta'. During visual observations no influence of tested product on organisms, which were not the subject of control, was noted.
The use of Miedzian Extra 350 SC had a significant impact on the increase in the quantity and quality of tomato and cucumber yield as compared to the control combination. The application of the tested dose of the product statistically significantly increased the amount and quality of commercial yield in comparison.

Comments of zRMS:	ZRMs agree with Applicant. Miedzian Extra 350 SC containing copper oxychloride applied at the recommended rate did not significantly affect the crop yield of apple, tomato and cucumber. **However, in accordance with the Article 43 of Regulation (EC) No 1107/2009, the already submitted data will not be re-evaluated because the conclusions of previous assessments are still considered valid in the case of no significant change of the GAP table.**

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

The use of Miedzian Extra 350 SC 2,0 l and 2,5 l/ha had a significant impact on the increase in the quantity and quality of tomato yield as compared to the control combination. The application of the tested dose of the agent statistically significantly increased the amount and quality of the commercial crop in comparison.
The use of Miedzian Extra 350 SC in the doses tested did not cause a significant increase in the quantity and quality of cucumber yield compared to the control combination. The application of the tested dose of the product in a statistically significant manner did not affect the increase in the height and quality of commercial yield of cucumbers compared to standard objects.

Comments of zRMS:	ZRMs agree with Applicant. Miedzian Extra 350 SC containing copper oxychloride applied at the recommended rate did not significantly affect the crop yield (tomato, cucumber). **However, in accordance with the Article 43 of Regulation (EC) No 1107/2009, the already submitted data will not be re-evaluated because the conclusions of previous assessments are still considered valid in the case of no significant change of the GAP table.**

3.4.4 Effects on transformation processes (KCP 6.4.4)

Details concerning the remains of the active substance copper oxychloride are contained in Part B section 7.

Comments of zRMS:	Transformation processes that may be sensitive to treatment with plant protection products are considered to be those that depend on biological activity, for example the activity of yeasts in bread-making, baking, vinification and brewing, according to guidance provided in EPPO standard PP1/243(2), Effects of plant protection products on transformation processes. Copper fungicides have not been shown to present a risk of occurrence of taint or odour nor to have an adverse influence on the quality. There are no indications that the use of the product could have an influence on the processing procedure and other products based on the same active ingredient have not been shown to have an adverse influence on these processes. In conclusion, no negative influence of the product Miedzian Extra 350 SC on the yield of treated plants and plant products is to be expected when applied at the intended dose rate and used according to the label recommendations. **However, in accordance with the Article 43 of Regulation (EC) No 1107/2009, the already submitted data will not be re-evaluated because the conclusions of previous assessments are still considered valid in the case of no significant change of the GAP table.**

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

It was not presented in the research. Tested measure is not intended to protect seeds, grains, cuttings, tubers, rhizomes. Product application in accordance with label recommendation has no negative impact on parts of plant used for propagating purposes.

Summary and conclusion

Phytotoxicity assessment of the tested product (Miedzian Extra 350 SC) was made at the same time as studies of its effectiveness. Phytotoxicity assessment was carried out with the use of different cultivars

(commercially grown varieties), which is compliant with PP 1/135 Phytotoxicity assessment.
In all assessment no phytotoxicity was shown.
No phytotoxicity symptom caused by Miedzian Extra 350 SC at the highest dose rate of 5 l/ha was recorded in all trials.
Tested fungicide Miedzian Extra 350 SC did not affect negatively quality and the yield of apple cv. 'Ligol', 'Jonagored' and 'Jonagored Decosta'. During visual observations no influence of tested product on organisms, which were not the subject of control, was noted.
The use of Miedzian Extra 350 SC had a significant impact on the increase in the quantity and quality of tomato and cucumber yield as compared to the control combination. The application of the tested dose of the product statistically significantly increased the amount and quality of commercial yield in comparison.

Comments of zRMS:	Based on the absence of negative effects on parts of plant used for propagating purposes from practice, it can be concluded, that a negative effect of Miedzian Extra 350 SC on parts of plant used for propagating purposes is not expected in the opinion of Evaluator. **However, in accordance with the Article 43 of Regulation (EC) No 1107/2009, the already submitted data will not be re-evaluated because the conclusions of previous assessments are still considered valid in the case of no significant change of the GAP table.**

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

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

Orchards are perennial crops. They can remain in the same post 10-15 years. There is no necessity to check impact on succeeding crops. Therefore the impact on succeeding plants in this case is irrelevant.
At the moment there was no danger in the application of copper oxychloride on neighboring plants. Moreover, the strict adherence to all the rules during the fungicide techniques treatments as well as observance of GEP rules, it can protect the neighboring plants from potential adverse effects relating to the protection of the crop. It is crucial to take care when carrying the liquid spray drift during spraying as well as to keep the appropriate buffer-zone.

Comments of zRMS:	Without any herbicide effect Miedzian Extra 350 SC poses an acceptable risk to succeeding crops and other plants including adjacent crops following the proposed uses. Based on this, it is reasonable to conclude that Miedzian Extra 350 SC has no adverse effects on replacement or succeeding crops sown or planted following its application as per label recommendations. Therefore, no label restrictions on the sowing or planting of succeeding or replacement crops following the application of Miedzian Extra 350 SC is necessary in the opinion of Evaluator. **However, in accordance with the Article 43 of Regulation (EC) No 1107/2009, the already submitted data will not be re-evaluated because the conclusions of previous assessments are still considered valid in the case of no significant change of the GAP table.**

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

During visual observations no influence of tested product on organisms, which were not the subject of control, was noted.
Detailed studies on the possible adverse effects to beneficial organisms are submitted and summarised in Part B, Section 9 (Ecotoxicology).

Summary and conclusion

Orchards are perennial crops. They can remain in the same post 10-15 years. There is no necessity to check impact on succeeding crops. Therefore the impact on succeeding plants in this case is irrelevant.
At the moment there was no danger in the application of copper oxychloride on neighboring plants.
During visual observations no influence of tested product on organisms, which were not the subject of control, was noted.

Comments of zRMS:	Statement accepted. All detailed information's are presented in dRR part B section 9. **However, in accordance with the Article 43 of Regulation (EC) No 1107/2009, the already submitted data will not be re-evaluated because the conclusions of previous assessments are still considered valid in the case of no significant change of the GAP table.**

3.6 Other/special studies

No additional information is considered relevant.

Comments of zRMS:	Statement accepted.

3.7 List of test facilities including the corresponding certificates

Table 3.7-1: List of test facilities

Test facility	Address	Certificate (Yes or No)
Zakład Ochrony Roślin, Pracownia Fitopatologii. (Instytut Ogrodnictwa w Skierniewicach)	ul. Konstytucji 3 Maja 1/3 96-100 Skierniewice	YES
Zakład Ochrony Roślin Sadowniczych	ul. Pomologiczna 18 96-100 Skierniewice	YES

Appendix 1 Lists of data considered in support of the evaluation

Tables considered not relevant can be deleted as appropriate.

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

List of data submitted by the applicant and relied on

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Vertebrate study Y/N	Owner
KCP 3.2.3	Sylwester Masny	2006	Evaluation of the biological effectiveness of the Miedzian Extra 350 SC fungicide applied at a dose of 1,5 kg / ha in control of apple scab (Venturia inaequalis Cooke. Aderh.). OR/18/2006/1/I Zakład Ochrony Roślin Sadowniczych GEP Unpublished	N	Synthos Agro Sp. z o. o. ul. Chemików 1 32-600 Oświęcim
KCP 3.2.3	Beata Meszka	2006	Evaluation of the biological effectiveness of the Miedzian Extra 350 SC fungicide applied at a dose of 1,5 kg / ha in control of apple scab (Venturia inaequalis Cooke. Aderh.). OR/18/2006/1/II Zakład Ochrony Roślin Sadowniczych GEP Unpublished	N	Synthos Agro Sp. z o. o. ul. Chemików 1 32-600 Oświęcim
KCP 3.2.3	Beata Meszka	2006	Evaluation of the biological effectiveness of the Miedzian Extra 350 SC fungicide applied at a dose of 1,5 kg / ha in control of apple scab (Venturia inaequalis Cooke. Aderh.). OR/18/2006/1/III Zakład Ochrony Roślin Sadowniczych GEP Unpublished	N	Synthos Agro Sp. z o. o. ul. Chemików 1 32-600 Oświęcim

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KCP 3.2.3	Hubert Głos	2019	Control of apple scab (Miedzian Extra 350 SC). ZF/S/7/2019/1/I Instytut Ogrodnictwa w Skierniewicach GEP Unpublished	N	Synthos Agro Sp. z o. o. ul. Chemików 1 32-600 Oświęcim
KCP 3.2.3	Hubert Głos	2019	Control of apple scab (Miedzian Extra 350 SC). ZF/S/7/2019/1/II Instytut Ogrodnictwa w Skierniewicach GEP Unpublished	N	Synthos Agro Sp. z o. o. ul. Chemików 1 32-600 Oświęcim
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KCP 3.2.3	Beata Meszka	2006	Evaluation of the biological effectiveness of the Miedzian Extra 350 SC fungicide applied at a dose of 1,5 kg / ha in control of pear scab (Venturia pirina. Aderh.). OR/18/2006/2/I Zakład Ochrony Roślin Sadowniczych	N	Synthos Agro Sp. z o. o. ul. Chemików 1 32-600

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KCP 3.2.3	Piotr Sobiczewski	2006	Evaluation of the biological effectiveness of the fungicide Miedzian Extra 350 SC used in doses of 0,75 kg/ha and 1,5 kg/ha in combating fire blight of apple and pear (Erwinia amylovora). OR/18/2006/3a Zakład Ochrony Roślin Sadowniczych GEP Unpublished	N	Synthos Agro Sp. z o. o. ul. Chemików 1 32-600 Oświęcim
KCP 3.2.3	Piotr Sobiczewski	2006	Evaluation of the biological effectiveness of the fungicide Miedzian Extra 350 SC used in doses of 0,75 kg/ha and 1,5 kg/ha in combating fire blight of apple and pear (Erwinia amylovora). OR/18/2006/3b Zakład Ochrony Roślin Sadowniczych GEP Unpublished	N	Synthos Agro Sp. z o. o. ul. Chemików 1 32-600 Oświęcim
KCP 3.2.3	Stanisław Berczyński	2006	Evaluation of the biological effectiveness of the fungicide Miedzian Extra 350 SC in combating bacterial cancer of stone trees (Pseudomonas syringae). OR/18/2006/4a Zakład Ochrony Roślin Sadowniczych GEP Unpublished	N	Synthos Agro Sp. z o. o. ul. Chemików 1 32-600 Oświęcim
KCP 3.2.3	Piotr Sobiczewski	2006	Assessment of the bilogical effectiveness of the Miedzian Extra 350 SC fungicide used in doses of 1,5 kg/ha and 3,0 kg/ha in controlling bacterial cancer of stone trees (Pseudomonas syringae). OR/18/2006/4b Zakład Ochrony Roślin Sadowniczych	N	Synthos Agro Sp. z o. o. ul. Chemików 1 32-600

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KCP 3.2.3	Józef Robak	2006	EFFICACY OF FUNGICYDE MIEDZIAN EXTRA 350 SC TO CONTOL OF TOMATO DISEASES GROWING IN OPEN FIELD PoZ 6/10 za Zakład Ochrony Roślin Sadowniczych GEP Unpublished	N	Synthos Agro Sp. z o. o. ul. Chemików 1 32-600 Oświęcim
KCP 3.2.3	Józef Robak	2006	EFFICACY OF FUNGICYDE MIEDZIAN EXTRA 350 SC TO CONTOL OF TOMATO DISEASES GROWING IN OPEN FIELD PoZ 6/10 ba Zakład Ochrony Roślin Sadowniczych GEP Unpublished	N	Synthos Agro Sp. z o. o. ul. Chemików 1 32-600 Oświęcim
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KCP 3.2.3	Józef Robak	2006	EFFICACY OF FUNGICYDE MIEDZIAN EXTRA 350 SC TO CONTOL OF CUCUMBER DISEASES GROWING IN OPEN FIELD OgZ 6/10 mr Zakład Ochrony Roślin Sadowniczych	N	Synthos Agro Sp. z o. o. ul. Chemików 1 32-600

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

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The following tables are to be completed by MS

List of data submitted by the applicant and not relied on

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

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