

FINAL REGISTRATION REPORT

Part B

Section 8

Environmental Fate

Detailed summary of the risk assessment

Product code: GLOB2021dF

Product names: PIRLANKO

Chemical active substances:

Prothioconazole, 156 g/L

Boscalid, 156 g/L

Central Zone

Zonal Rapporteur Member State:

Poland

CORE ASSESSMENT

(authorization)

Applicant: GLOBACHEM NV
Submission date: November 2023

zRMS Assessment : 31/01/2025

Following commenting period: 15/05/2025

GAP mistake: 23/05/2026

Final Report: 26/06/2026

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Version history

When	What
November 2023	First submission by applicant
August 2024	Update after comments
January 2025	zRMs evaluated dRR submitted by Applicant
May 2025	Following commenting period
April 2026	Fixing small GAP-related mistake - applicant proposal
May 2026	zRMS conclusion regarding GAP mistake
June 2026	Final Report

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8 Fate and behaviour in the environment (KCP 9)

General comment zRMS
The following data and information were provided by the applicant Globachem NV and have been submitted as a dRR. This document provides the results of the assessment of the zRMS. All comments of the zRMS there are in the grey boxes.

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8.1 Critical GAP and overall conclusions

Table 8.1-1: Critical use pattern of the formulated product

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Use- No. *	Member state(s)	Crop and/or situ- ation (crop destination / purpose of crop)	F, Fn, Fpn G, Gn, Gpn or I **	Pests or Group of pests controlled (additionally: develop- mental stages of the pest or pest group)	Application				Application rate			PHI (days)	Remarks: e.g. g safener/ synergist per ha	Conclusion Groundwater
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between ap- plications (days)	kg or L product/ha a) max. rate per appl. b) max. total rate per crop/season	g or kg as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min/max			
Zonal uses (field or outdoor uses, certain types of protected crops)														
1	PL, CZ, DE, HU, RO, SK, BE	Oilseed Rape, winter	F	Leptma Alternaria Sclerotinia	Foliar Spray	BBCH 14- 18	a) 1 b) 2	21	a) 0.8 L/ha b) 1.6 L/ha	a) Prothiocona- zole : 0.125 kg as/ha Boscalid : 0.125 kg as/ha b) Prothiocona- zole : 0.250 kg as/ha Boscalid : 0.250 kg as/ha	100 - 300	N/A	1 appli- cation in autumn and 1 ap- plication not in au- tumn.	A
						BBCH 21- 59								
2	PL, CZ, DE, HU, RO, SK, BE	Oilseed Rape, winter and spring					BBCH 21- 64 69						a) 1 b) 2	
3-16	PL, CZ, DE, HU, RO, SK, BE	Cereals	F	Fusarium Rust Powdery mildew Leaf blotch, leaf spot	Foliar Spray	BBCH 25 - 69	a) 1 b) 2	21	a) 0.8 L/ha b) 1.6 L/ha	a) Prothiocona- zole : 0.125 kg as/ha Boscalid : 0.125 kg as/ha b) Prothiocona- zole : 0.250 kg as/ha Boscalid : 0.250	100 - 300	N/A	/	A

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										kg as/ha				
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- * 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

Explanation for column 15 “Conclusion”

A	Safe use
R	Further refinement and/or risk mitigation measures required
C	To be confirmed by cMS
N	No safe use

Table 8.1-2: Assessed (critical) uses during approval of Prothioconazole concerning the Section Environmental Fate

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Use- No. *	Member state(s)	Crop and/or situ- ation (crop destination / purpose of crop)	F, Fn, Fpn G, Gn, Gpn or I **	Pests or Group of pests controlled (additionally: develop- mental stages of the pest or pest group)	Application				Application rate			PHI (days)	Remarks: e.g. g safener/ synergist per ha
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between ap- plications (days)	kg or L product/ha a) max. rate per appl. b) max. total rate per crop/season	g or kg as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min/max		
1	N-EU and S-EU	Wheat, rye, triti- cale	F	Rusts, Eyespot, Fusarium spp., Powd. Mildew, Rhynchospor., Septoria	Overall spray	start 26-29 up to BBCH69	1-3	14-21d	0.8	0.2	200-400	35	
2	N-EU and S-EU	Barley, oat	F	Rusts, Eyespot, Pyren. teres, Powd. Mildew, Fusarium spp., Rhyn- chospor.	Overall spray	Start 30 up to BBCH 61	1-2	14-21d	0.8	0.2	200-400	35	
3	N-EU and S-EU	Rape	F	Sclerotinia, Botrytis, Alternaria, Lepto- spæria	Overall spray	Start BBCH 53	1-2	14-28d	0.7	0.175	200-400	56	
4	N-EU and S-EU	Wheat, rye, triti- cale, oat, barley	F	Fusarium spp., Bunt, Smut	Seed treatment	Pre sowing	1	n.a.	5-10 g as/dt seed	approx.. 9-18 g as/ha (180	200-400 mL water:dt	n.a.	

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										kg seed/ha)			
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* 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

Table 8.1-3: Assessed (critical) uses during approval of Boscalid concerning the Section Environmental Fate

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Use-No. *	Member state(s)	Crop and/or situation (crop destination / purpose of crop)	F, Fn, Fpn, G, Gn, Gpn or I **	Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)	Application				Application rate			PHI (days)	Remarks: e.g. g safener/ synergist per ha
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/season	Min. interval between applications (days)	kg or L product/ha a) max. rate per appl. b) max. total rate per crop/season	g or kg as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min/max		
1	EU (North & South)	Grape	F	<i>Botrytis</i>	Spraying	68 – 81	1	-	0.038 – 0.060	0.600	1000 – 1600	28	
2	EU	Oilseed Rape	F	<i>Sclerotinia</i> , <i>Alternaria</i> , <i>Phoma</i>	Spraying	30, 63 – 65	2	4 – 6 weeks	0.062 – 0.125	0.250	200 – 400	-	
3	EU (North & South)	Peas	F	<i>Botrytis</i> , <i>Sclerotinia</i>	Spraying	60 – 69	2	7 – 10	0.125	0.500	400	7	
4	EU (North & South)	Beans	F	<i>Botrytis</i> , <i>Sclerotinia</i>	Spraying	60 - 69	2	7 - 10	0.166	0.500	300	7	

* 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

General comment zRMS

Pirlanko (product code: GLOB2021dF) is suspension concentrate (SC) containing containing 156 g/L prothioconazole and 156 g/L boscalid use as a fungicide in oilseed rape and cereals in Central zone.

Prothioconazole; CAS No 178928-70-6 is recognised as approved for use in plant protection products under Regulation (EC) No 1107/2009 in Annex of Commission Implementing Regulation (EU) No 540/2011 of 25 May 2011 with the expiration of approval on 15 August 2025.

Boscalid; CAS No 188425-85-6 is recognised as approved for use in plant protection products under Regulation (EC) No 1107/2009 in Annex of Commission Implementing Regulation (EU) No 540/2011 of 25 May 2011 with the expiration of approval on 15 April 2026.

The this assessment used end points evaluated on EU level in accordance with EFSA documents:

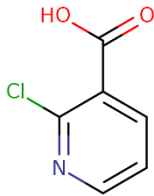
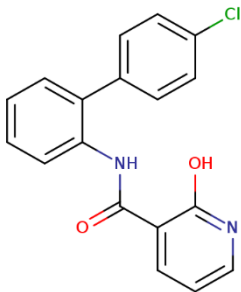
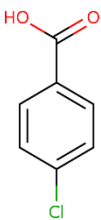
- " Conclusion regarding the peer review of the pesticide risk assessment of the active substance prothioconazole finalised: 12 July 2007"; EFSA Scientific Report (2007) 106, 1-98.
- “Review report for the active substance prothioconazole” SANCO/3923 /07-final 10 December 2007 - 26 January 2021;
- The SANCO report for Boscalid (SANCO/3919/2007-rev.5 – 21/01/2008).

The change in the BBCH range for oilseed rape is included in the existing PECsoil calculations, as crop interception does not change within this change. Furthermore, the PECgw results calculated for BBCH60 and PECsw/sed calculated for BBCH61 also cover the range up to BBCH69, as they fall within the window used by the models for these calculations. Therefore, there is no need to submit new calculations due to the correction made to the GAP table.

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8.2 Metabolites considered in the assessment

Table 8.2-1: Metabolites of Boscalid Prothioconazole potentially relevant for exposure assessment

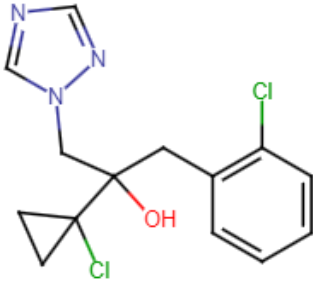
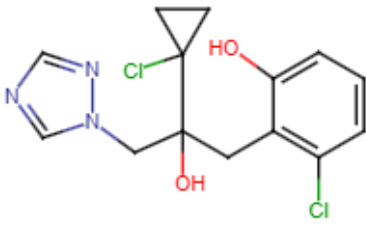
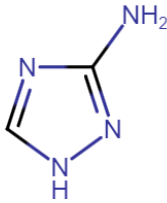
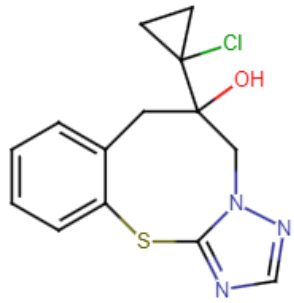
Metabolite	Molar mass	Chemical structure	Maximum observed occurrence in compartments	Exposure assessment required due to
M510F47	157.6		Soil: anaerobic conditions 3d: 2.6% 62d: 6% 90d: 5.9% 120d: 6.7%	-
M510F49	324.8		Soil: aerobic conditions 127d: 9% 181d: 9% 273d: 12.6% 371d: 14.5%	-
M510F64	156.56		Sediment: outdoor conditions 37d: 7.3 % 14 d: 9 % 30 d: 9.4 % 120 d: 1.9 %	-

zRMS comment

Information relating to boscalid metabolites: M510F47, M510F49, M510F64 is in line with EU agreed endpoints as reported in document SANCO/3919/2007-rev.5 – 21/01/2008.
 According to EU Review Report SANCO/3919/2007rev.5, no relevant metabolites of boscalid are formed in soil or aquatic systems.

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Table 8.2-2: Metabolites of Prothioconazole potentially relevant for exposure assessment

Metabolite	Molar mass	Chemical structure	Maximum observed occurrence in compartments	Exposure assessment required due to
Prothioconazole-desthio (M04)	312.2 g/mol		Soil: 57.1% 49.4% Water/sediment systems: - sediment: 26.9%, - water: 32.3% - water/sediment: 54.6%	PEC _{gw} : leaching potential to groundwater PEC _{soil} : risk for soil organisms PEC _{sw/sed} : risk for aquatic organisms PEC _{air}
Prothioconazole-S-methyl (M01)	358.3 g/mol		Soil: 14.6 % Water/sediment systems: - sediment: 9.6%, - water: 3.1%. - water/sediment: 12.7%	PEC _{gw} : leaching potential to groundwater PEC _{soil} : risk for soil organisms PEC _{sw/sed} : risk for aquatic organisms
1,2,4- triazole (M13)	69.1 g/mol		Water/sediment systems: - sediment: 6.1% - water: 37.2% - water/sediment: 41.8%	PEC _{sw/sed} : risk for aquatic organisms
Prothioconazole-thiazocine (M12)	307.8 g/mol		- aqu. photolysis: 14.1%	In the EFSA 106 (2007) it is concluded that under environmental conditions M12 is unlikely to be formed at > 10% in natural surface water systems based on information from the photolysis and water-sediment studies. Therefore, no PEC _{sw} calculations were performed.

zRMS comment

Information relating to prothioconazole metabolites: M04, M01, M13, M12 is in general in line with EU agreed endpoints as reported in EFSA Scientific Report (2007) 106, 1-98 and have been considered in the exposure assessment presented in this report. However, respective corrections were included by the zRMS where necessary.

8.3 Rate of degradation in soil (KCP 9.1.1)

Studies on degradation in soil with the formulation were not performed, since it is possible to extrapolate from data obtained with the active substance.

Evaluation by zRMS	Rate of degradation in soil (KCP 9.1.1)
Comments	No new data. Information in Section 8.3 is available in dossiers of active substances: boscalid and prothioconazole and can be extrapolated to formulation. Therefore no studies have been conducted. EU agreed data were correctly reported.

8.3.1 Aerobic degradation in soil (KCP 9.1.1.1)

8.3.1.1 Boscalid

Table 8.3-1: Summary of aerobic degradation rates for Boscalid - laboratory studies

Boscalid, Laboratory studies, aerobic conditions											
Soil name	Soil type	pH (CaCl ₂)	t.oC	MWHC %	DT50 (d)	DT90 (d)	DT50 (d) 20°C pF2/10kPa	Chi2 (%)	Kinetic model	Evaluated on EU level y/n/ Reference	
Bruch West	Loamy sand	7.4	20	40	108	360	-	-	-	Y/Germany, 2002; Review Report, 2008	
Li 35 b	Loamy sand	6.6	20	40	322	-	-	-	-		
Lufa 2.2	Loamy sand	5.6	20	40	384	-	-	-	-		
US soil	Sandy loam	7.0	20	40	376	-	-	-	-		
Minto (Canada)	Loam	7.7	20	40	133	442	-	-	-		
Geometric mean							232				
pH-dependency: y/n							n				

8.3.1.2 Prothioconazole and its metabolites

The aerobic degradation of Prothioconazole has been evaluated, full details of these studies are provided in the respective EU reference and related documents and summarized in the EFSA (2007) 106, 1-98. No additional studies have been performed.

Prothioconazole, Laboratory studies, aerobic conditions									
Soil name ^{a)}	Soil type ^{a)}	pH ^{a)} (water)	T ^{a)} (°C)	MWHC % ^{a)}	DT ₅₀ (d) ^{a)}	DT ₉₀ (d) ^{a)}	R ^{2 a)}	Kinetic model ^{a)}	Evaluated on EU level y/n/ Reference
Laacher Hof	sandy loam	7.2	20	34.42	0.07	5.3	1.000	FOMC	Y/ EFSA 2007
Stanley	silty clay loam	5.9	20	56.25	0.7	78.2	0.989	FOMC	Y/ EFSA 2007
Höfchen	silt	7.1	20	63.1	0.30	0.99	0.990	SFO	Y/ EFSA 2007
Byromville	loamy sand	6.8	20	not determined	1.27	4.22	0.987	SFO	Y/ EFSA 2007
Geometric mean/Median (n=4)					0.37/0.5				
pH-dependency: y/n					No				
a) data taken from: Draft Assessment Report (DAR) –Volume 3, Annex B, B.8, July 2005									

Prothioconazole-S-methyl (M01), Laboratory studies, aerobic conditions									
Soil name ^{a)}	Soil type ^{a)}	pH ^{a)} (water)	T ^{a)} (°C)	MWHC % ^{a)}	DT ₅₀ (d) ^{a)}	DT ₉₀ (d) ^{a)}	R ^{2 a)}	Kinetic model ^{a)}	Evaluated on EU level y/n/ Reference
Höfchen	loamy silt	7.3	20	63.1	5.9	19.6	0.97	SFO	Y/ EFSA 2007
Laacher Hof AIII	loamy silt	7.9	20	36.4	27.2	90.2	0.955	SFO	Y/ EFSA 2007
Laacher Hof AXXa	sandy loam	7.2	20	34.4	8.2	27.2	0.959	SFO	Y/ EFSA 2007
Stanley	silty clay	6.3	20	43.8	46.0	153	0.965	SFO	Y/ EFSA 2007
Geometric mean/Median (n=4)					15.7/17.7				
pH-dependency: y/n					No				
a) data taken from: Draft Assessment Report (DAR) –Volume 3, Annex B, B.8, July 2005									

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Table 8.3-3: Summary of aerobic degradation rates for Prothioconazole-desthio (M04) - laboratory studies

Prothioconazole -desthio (M04), Laboratory studies, aerobic conditions									
Soil name ^{a)}	Soil type ^{a)}	pH ^{a)} (wa- ter)	T ^{a)} (°C)	MWHC % ^{a)}	DT ₅₀ (d) ^{a)}	DT ₉₀ (d) ^{a)}	R ^{2 a)}	Kinetic model ^{a)}	Evaluated on EU level y/n/ Reference
Höfchen	loamy silt	7.3	20	63.1	34.0	113.0	0.820	SFO	Y/ EFSA 2007
Laacher Hof AIII	loamy silt	7.9	20	36.4	29.6	59.2	0.987	SFO	Y/ EFSA 2007
Laacher Hof AXXa	sandy loam	7.2	20	34.4	7.0	23.2	0.985	SFO	Y/ EFSA 2007
Stanley	silty clay	6.3	20	43.8	18.6	61.9	0.979	SFO	Y/ EFSA 2007
Geometric mean/Median (n=4)					19.0/24.1				
pH-dependency: y/n					No				
a) data taken from: Draft Assessment Report (DAR) –Volume 3, Annex B, B.8, July 2005									

^a default

8.3.2 Anaerobic degradation in soil (KCP 9.1.1.1)

8.3.2.1 Boscalid

Table 8.3-2: Summary of anaerobic degradation rates for Boscalid - laboratory studies

Boscalid, Laboratory studies, anaerobic conditions										
Soil name	Soil type	pH (CaCl2)	t.oC	MWHC %	DT50 (d)	DT90 (d)	DT50 (d) 20°C pF2/10kPa	Chi2 (%)	Kinetic model	Evaluated on EU level y/n/ Reference
Bruch West	Loamy sand	7.4	20	Flooded	261	-	-	-	-	Y/Germany, 2002; Review Report, 2008
Bruch West	Loamy sand	7.4	20	Flooded	345	-	-	-	-	
Geom. mean (n=2)							300			
pH-dependency: y/n							n			

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Table 8.3-3: Summary of anaerobic degradation rates for Boscalid - laboratory studies

Boscalid, Laboratory studies, anaerobic conditions									
Soil type	pH (CaCl ₂)	t.oC	MWHC %	DT50 (d)	DT90 (d)	DT50 (d) 20°C pF2/10kPa	Chi2 (%)	Kinetic model	Evaluated on EU level y/n/ Reference
Sandy loam	7.2	20	Flooded	477.4	-	-	0.7	DFOP	Y/Germany, 2002; Boscalid RAR 2018
Sandy loam	7.5	20	Flooded	594.5	-	-	0.9	DFOP	
Geom. mean							Not calculated		
pH-dependency: y/n							-		

8.3.2.2 Prothioconazole and its metabolites

Studies on anaerobic degradation in soil with the formulation were not performed, since it is possible to extrapolate from data obtained with the active substance.

No data was provided during the Annex Review of Prothioconazole as it was not required.

8.4 Field studies (KCP 9.1.1.2)

8.4.1 Soil dissipation testing on a range of representative soils (KCP 9.1.1.2.1)

8.4.1.1 Boscalid

Triggering endpoints

Table 8.4-1: Summary of aerobic degradation rates for Boscalid - field studies: Triggering endpoints

Boscalid, Field studies – Triggering endpoints									
Soil type	Location	pH (CaCl ₂)	Depth (cm)	DissT50 (d) actual	DT90 (d) actual	Kinetic parameters	St. (x ²)	Method of calculation	Evaluated on EU level y/n/ Reference
Silty loam	Germany, Stetten	7.5	-	90 49 28	-	-	-	-	Y/Germany, 2002; Review Report, 2008
Silty sand	Germany, Schifferstadt	5.4	-	208 175 147	-	-	-	-	
Sandy loam	Spain,	7.4	-	27	-	-	-	-	

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Boscalid, Field studies – Triggering endpoints									
Soil type	Location	pH (CaCl ₂)	Depth (cm)	DissT50 (d) actual	DT90 (d) actual	Kinetic parameters	St. (x ²)	Method of calculation	Evaluated on EU level y/n/ Reference
	Manzanilla								
Sandy loam	Spain, Alcala del Rio	7.7	-	78	-	-	-	-	
Loamy sand	Germany, Grossharrie	6.1	-	144	-	-	-	-	
Loamy sand	Sweden, Bjärred	5.5	-	-	-	-	-	-	
Maximum (n=9)				208	-				

Modelling endpoints

Table 8.4-2: Summary of aerobic degradation rates for Boscalid - field studies: Modelling endpoints

Boscalid, Field studies – Modelling endpoints						
Soil type	Location	pH (x)	Depth (cm)	DT50 (d) 20°C	Fit, Kinetic	Evaluated on EU level y/n/ Reference
Silty loam	Germany, Stetten	7.5	-	106	-	Y/Germany, 2002; Review Report, 2008
Silty sand	Germany, Schifferstadt	5.4	-	212	-	
Sandy loam	Spain, Manzanilla	7.4	-	-	-	
Sandy loam	Spain, Alcala del Rio	7.7	-	-	-	
Loamy sand	Germany, Grossharrie	6.1	-	98	-	
Arithmetic mean / Geometric mean (n=3)				139 / 130.1 107		
pH-dependency y/n				n		

8.4.1.2 Prothioconazole and its metabolites

The field dissipation of Prothioconazole has been evaluated during the Annex I inclusion and summarised in the EFSA conclusion (EFSA, 2007). No additional study was provided.

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Triggering endpoints

Table 8.4-1: Summary of aerobic degradation rates for Prothioconazole - field studies: Triggering endpoints

Prothioconazole, Field studies – Triggering endpoints									
Soil type	Location	pH	Depth (cm)	DissT50 (d) actual	DT90 (d) actual	DT50 (d) 20°C pF2/10kPa	R ²	Method of calculation	Evaluated on EU level y/n/ Reference
Loamy silt/ Silt loam	Germany	6.25	-	1.9	6.4	1.2	1.0	SFO	Y/EFSA 2006
Sandy clay loam	Great Britain	7.56	-	1.6	5.5	0.8	0.8	SFO	
Weak loamy silt/ Silt	France, North	6.42	-	1.3	4.4	1.6	1.6	SFO	
Sandy clay loam	Great Britain	7.56	-	2.8	9.3	1.4	1.4	SFO	
Weak loamy silt/ Silt	France, North	6.42	-	1.4	4.5	1.6	1.6	SFO	
Sandy loamy silt/ Silt loam	France, South	7.61	-	1.7	5.6	1.1	1.1	SFO	
Weak loamy sand/ Sandy loam	Italy	7.56	-	1.6	5.4	1.5	1.5	SFO	
Loamy sand/ Sandy loam	Germany	6.32	-	1.5	5.1	0.6	0.6	SFO	
Geomean (n = 8)				1.7	5.8	1.2			

Table 8.4-2: Summary of aerobic degradation rates for Prothioconazole-desthio - field studies: Triggering endpoints

Prothioconazole-desthio, Field studies – Triggering endpoints									
Soil type	Location	pH	Depth (cm)	DissT50 (d) actual	DT90 (d) actual	DT50 (d) 20°C pF2/10kPa	R ²	Method of calculation	Evaluated on EU level y/n/ Reference
Loamy silt/ Silt loam	Germany	6.25	-	16.3	54.1	10.3	0.994	SFO	Y/EFSA 2006
Sandy clay loam	Great Britain	7.56	-	54.7	182	27.0	0.978	SFO	
Weak loamy silt/ Silt	France, North	6.42	-	47.6	158	27.5	0.859	SFO	
Sandy clay loam	Great Britain	7.56	-	50.2	167	23.4	0.939	SFO	
Weak loamy	France, North	6.42	-	36.8	122	20.1	0.859	SFO	

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Prothioconazole-desthio, Field studies – Triggering endpoints									
Soil type	Location	pH	Depth (cm)	DissT50 (d) actual	DT90 (d) actual	DT50 (d) 20°C pF2/10kPa	R ²	Method of calculation	Evaluated on EU level y/n/ Reference
silt/ Silt									
Sandy loamy silt/ Silt loam	France, South	7.61	-	72.3	240	61.9	0.969	SFO	
Weak loamy sand/ Sandy loam	Italy	7.56	-	30.5	101	20.7	0.951	SFO	
Loamy sand/ Sandy loam	Germany	6.32	-	27.9	92.6	15.2	0.996	SFO	
Geomean (n = 8)				42.0	140	22.7			

Modelling endpoints

Table 8.4-3: Summary of aerobic degradation rates for Prothioconazole - field studies: Modelling endpoints

Prothioconazole, Field studies – Modelling endpoints							
Soil type	Location	pH	Depth (cm)	DT50 (d) 20°C pF2/10kPa	R ²	Method of calculation	Evaluated on EU level y/n/ Reference
Loamy silt/ Silt loam	Germany	6.25	-	1.2	1.0	SFO	Y/EFSA 2006
Sandy clay loam	Great Britain	7.56	-	0.8	0.8	SFO	
Weak loamy silt/ Silt	France, North	6.42	-	1.6	1.6	SFO	
Sandy clay loam	Great Britain	7.56	-	1.4	1.4	SFO	
Weak loamy silt/ Silt	France, North	6.42	-	1.6	1.6	SFO	
Sandy loamy silt/ Silt loam	France, South	7.61	-	1.1	1.1	SFO	
Weak loamy sand/ Sandy loam	Italy	7.56	-	1.5	1.5	SFO	
Loamy sand/ Sandy loam	Germany	6.32	-	0.6	0.6	SFO	
Geomean (n = 8)				1.2			

Table 8.4-4: Summary of aerobic degradation rates for Prothioconazole-desthio - field studies: Modelling endpoints

Prothioconazole-desthio, Field studies – Modelling endpoints							
Soil type	Location	pH	Depth (cm)	DT50 (d) 20°C pF2/10kPa	R ²	Method of calculation	Evaluated on EU level y/n/ Reference
Loamy silt/ Silt loam	Germany	6.25	-	10.3	0.994	SFO	Y/EFSA 2006
Sandy clay loam	Great Britain	7.56	-	27.0	0.978	SFO	
Weak loamy silt/ Silt	France, North	6.42	-	27.5	0.859	SFO	
Sandy clay loam	Great Britain	7.56	-	23.4	0.939	SFO	
Weak loamy silt/ Silt	France, North	6.42	-	20.1	0.859	SFO	
Sandy loamy silt/ Silt loam	France, South	7.61	-	61.9	0.969	SFO	
Weak loamy sand/ Sandy loam	Italy	7.56	-	20.7	0.951	SFO	
Loamy sand/ Sandy loam	Germany	6.32	-	15.2	0.996	SFO	
Geomean (n = 8)				22.7			

8.4.2 Soil accumulation testing (KCP 9.1.1.2.2)

8.4.2.1 Boscalid

Two soil accumulation studies were peer reviewed (Review Report 2008):

1. Germany, 1999-2003, loamy sand/sandy loam, application to vines (3 x 700 g as/ha = 2100 g as/ha); measured maximum plateau: mean 2900 g as/ha (138% of applied rate)
2. Germany, sandy loam, 1998-2004 and ongoing, 3-year rotation with vegetables (2100 g as/ha), vegetables (1700 g as/ha) and cereals (no application); measured maximum: 2545 g as/ha (150% of applied rate in the preceding year).

8.4.2.2 Prothioconazole and its metabolites

Soil accumulation studies were not necessary because the DT₉₀ field values of Prothioconazole and relevant metabolites were shown to be less than one year in the field dissipation studies.

8.5 Mobility in soil (KCP 9.1.2)

Studies on mobility in soil with the formulation were not performed, since it is possible to extrapolate from

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data obtained with the active substance.

Evaluation by zRMS	Mobility in soil (KCP 9.1.2)
Comments	No new data. Information in Section 8.5 is available in dossiers of active substances: boscalid and prothioconazole and can be extrapolated to formulation. Therefore no studies have been conducted. EU agreed data were correctly reported.

8.5.1 Boscalid

Table 8.5-1: Summary of soil adsorption/desorption for Boscalid

Boscalid							
Soil name	Soil type	OC (%)	pH (-)	Kf (mL/g)	Kfoc (mL/g)	1/n (-)	Evaluated on EU level y/n/ Reference
LUFA 2.2	Sand / loamy sand	2.5	5.8	27.8	1110	0.875	Y/Germany, 2002; Review Report, 2008; RAR Boscalid 2018
Bruch West	Loamy sand	1.5	7.5	7.6	507	0.870	
Li 35b	Loamy sand	1.1	6.5	6.5	594	0.839	
USA 538-30-5	Loamy sand	0.4	5.8	3.9	987	0.887	
USA 538-31-2	Silty loamy sand	0.5	5.2	3.3	655	0.860	
Canada 95024	Sandy loam	3.4	7.5	26.4	776	0.851	
Geometric mean					743		
Arithmetic mean (n=6)					771.5	0.864	
pH-dependency y/n					n		

8.5.2 Column leaching (KCP 9.1.2.1)

Table 8.5-2: Summary of soil column leaching for Boscalid

Boscalid					
Soil name	Soil type	OC (%)	pH (CaCl ₂)	Leachate (Total)	Evaluated on EU level y/n/ Reference
Lufa 2.1, Speyer,	Sand	0.6	6.0	0.04% AR	Y/Germany,

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Boscalid					
Soil name	Soil type	OC (%)	pH (CaCl ₂)	Leachate (Total)	Evaluated on EU level y/n/ Reference
Germany					2002; Review Report, 2008

8.5.3 Prothioconazole and its metabolites

The soil adsorption/desorption of Prothioconazole has been evaluated, full details are provided in the respective DAR and related documents and summarised in the EFSA conclusion (EFSA, 2007). No additional studies have been performed. Geometric mean values have been added in the tables below.

K_d and K_{OC} values for Prothioconazole could not be determined in batch equilibrium studies due to the instability of the compound in these systems. Instead, a column leaching test and an aged residue column leaching study were conducted to get more information concerning the leaching potential of Prothioconazole (reference is made to 8.5.2 for further details on these column leaching studies) Batch equilibrium studies were carried out on the metabolites Prothioconazole-S-methyl (M01) and Prothioconazole-desthio (M04).

Table 8.5-3: Summary of soil adsorption/desorption for Prothioconazole

Prothioconazole							
Soil name	Soil type	OC (%)	pH (-)	K _d (mL/g)	K _{OC} (mL/g)	1/n (-)	Evaluated on EU level y/n/ Reference
Data determined in aged column leaching studies due to the instability of the compound in batch equilibrium studies				15.2	1765	-	Y / EFSA, 2007
Maximum (n=1)					1765	-	
pH-dependency y/n					No information		

Table 8.5-4: Summary of soil adsorption/desorption for Prothioconazole-S-methyl (M01)

Prothioconazole-S-methyl (M01)							
Soil Name	Soil Type	OC (%)	pH (-)	K _f (mL/g)	K _{foc} (mL/g)	1/n (-)	Evaluated on EU level y/n/ Reference
Laacher Hof AXXa	Sandy loam	2.02	7.2	56.0	2772.4	0.87	Y/EFSA 2007
Höfchen	Loamy Silt	2.14	7.1	64.1	2995.0	0.88	
Stanley	Silty clay loam	1.66	5.9	41.2	2484.0	0.91	
Byromville	Loamy sand	0.79	6.8	15.6	1973.6	0.85	
Arithmetic mean (n=4)				44.3	2556.3	0.88	

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Prothioconazole-S-methyl (M01)							
Soil Name	Soil Type	OC (%)	pH (-)	Kf (mL/g)	Kfoc (mL/g)	1/n (-)	Evaluated on EU level y/n/ Reference
Geomean (n=4)				39.0	2526	-	
pH-dependency y/n					n		

Table 8.5-5: Summary of soil adsorption/desorption for Prothioconazole-desthio (M04)

Prothioconazole-desthio							
Soil Name	Soil Type	OC (%)	pH (-)	Kf (mL/g)	Kfoc (mL/g)	1/n (-)	Evaluated on EU level y/n/ Reference
Laacher Hof AXXa	Sandy loam	2.02	7.2	12.46	616.8	0.79	Y/EFSA 2007
Höfchen	Loamy Silt	2.14	7.1	13.38	625.3	0.83	
Stanley	Silty clay loam	1.66	5.9	8.90	536.4	0.83	
Byromville	Loamy sand	0.79	6.8	4.13	523.0	0.80	
Mean (n=4)				9.7	575.4	0.81	
Geomean (n=4)				8.85	573.5	-	
pH-dependency y/n					n		

8.5.4 Column leaching (KCP 9.1.2.1)

8.5.4.1 Boscalid

Table 8.5-6: Summary of soil column leaching for Boscalid

Boscalid					
Soil name	Soil type	OC (%)	pH (CaCl ₂)	Leachate (Total)	Evaluated on EU level y/n/ Reference
Lufa 2.1, Speyer, Germany	Sand	0.6	6.0	0.04% AR	Y/Germany, 2002; Review Report, 2008

8.5.4.2 Prothioconazole and its metabolites

The column leaching of Prothioconazole has been evaluated during the Annex I inclusion and summarised in the EFSA conclusion (EFSA 106 (2007), 1-98). No additional studies have been performed.

The leaching behaviour of phenyl-UL-14C labelled Prothioconazole was investigated in a non-aged soil

column leaching study on four soils. Radioactivity detected in the leachates was < 1% AR in all samples, therefore the leachate fractions were not investigated by analytical methods. The amount of radioactivity measured in the total leachate was 0.13% for the Byromville soil and <0.03% for the other soils. Residues of the active substance and the metabolite Prothioconazole-S-methyl were only detected in the 0 to 6 cm segment (14.6 to 40.7% AR and 5.5 to 11.2% AR respectively). Residues of the metabolite Prothioconazole-desthio ranged from 15.4 to 28.0% AR in the 0 to 6 cm segment and it was also present in the 6 to 12 cm segment of one soil (Byromville, 7.5% AR).

An aged column leaching study was carried out in a loamy sand soil using phenyl-UL-14C labelled Prothioconazole. Following a 30-hour incubation period, Prothioconazole had degraded to 22.7% AR and the metabolites Prothioconazole-S-methyl (8.1% AR), Prothioconazole-desthio (31.8% AR) and Prothioconazole-sulfonic acid (1.5% AR) had formed. There was a very small amount of volatile components (0.3% AR) and 32.8% AR unextracted. Following leaching of the aged soil, the radioactivity in the leachate accounted for only 1.1% AR, and in no individual leachate fraction was radioactivity greater than 0.2% AR. The K_{OC} of Prothioconazole could not be estimated via a standard batch adsorption/desorption study, and therefore the distribution of Prothioconazole in the aged column leaching study was used to estimate K_d and K_{OC} . The resulting values for Prothioconazole were $K_d = 15.2 \text{ mL/g}$ and $K_{OC} = 1765 \text{ mL/g}$. This is described as 'low mobility' according to the descriptions assigned by McCall.

8.5.5 Lysimeter studies (KCP 9.1.2.2)

8.5.5.1 Boscalid

No lysimeter study was provided during the EU Review of Boscalid.

8.5.5.2 Prothioconazole and its metabolites

No lysimeter study was provided or required for Prothioconazole since PECgw modelling reveal that leaching of the a.s. at level > 0.1 µg a.s./L is not expected.

8.5.6 Field leaching studies (KCP 9.1.2.3)

8.5.6.1 Boscalid

No field leaching study was provided during the EU Review of Boscalid.

8.5.6.2 Prothioconazole and its metabolites

No field leaching study was provided or required for Prothioconazole. Sufficient information can be derived from the existing studies.

8.6 Degradation in the water/sediment systems (KCP 9.2, KCP 9.2.1, KCP 9.2.2, KCP 9.2.3)

Studies on degradation in water/sediment systems with the formulation were not performed, since it is

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possible to extrapolate from data obtained with the active substance.

Evaluation by zRMS	Degradation in the water/sediment systems (KCP 9.2)
Comments	No new data. Information in Section 8.6 is available in dossiers of active substances: boscalid and prothioconazole and can be extrapolated to formulation. Therefore no studies have been conducted. EU agreed data were correctly reported.

8.6.1 Boscalid

Table 8.6-1: Summary of degradation in water/sediment of Boscalid

Boscalid Distribution (max. water/sediment x % after x days)										
Water/sedi- ment system	pH wa- ter/ sed.	DegT50 whole syst. (d)	DegT90 whole syst. (d)	Ki- netic, Fit	DissT50 water (d)	DissT90 water (d)	Ki- netic, Fit	DissT50 sed. (d)	Ki- netic, Fit	Evaluated on EU level y/n/ Refer- ence
Pond system	8.5	>100	-	-	9	133	-	-	-	Y/Germany, 2002; Review Report, 2008
River system	8.1	>100	-	-	3	43	-	-	-	
Geometric mean (n=2)		>100	-		5.2	75.62		-		-

8.6.2 Prothioconazole and its metabolites

The degradation of Prothioconazole in water/sediment systems has been evaluated; full details of these studies are provided in the respective DAR and related documents and summarised in the EFSA conclusion (EFSA, 2007). No additional studies have been performed.

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Table 8.6-1: Summary of degradation in water/sediment of Prothioconazole

Prothioconazole Distribution (max. sediment 21.0-23.4%AR after 1 day (phenyl-label, n=2)) (max. sediment 18.3-22.6%AR after 1 day (triazole-label, n=2))										
Water/sediment system ^{a)}	pH (H ₂ O) sed.	DegT ₅₀ whole syst. (d)	DegT ₉₀ whole syst. (d)	Kinetic, Fit	DissT ₅₀ water (d)	DissT ₉₀ water (d)	Kinetic, Fit	DissT ₅₀ sed. (d)	Kinetic, Fit	Evaluated on EU level y/n/ Reference
Hönniger Weiher	6.6	2.8 (31.5)	76.4	Hockey stick	0.8	2.7	1 st order	NS	NS	Y/ EFSA, 2007
Angler Weiher	8.5	1.6 (49.5)	23.6	Hockey stick	1.0	3.4	1 st order	NS	NS	
Geometric mean (n=2)		NS	NS		NS	NS		NS		
NS – Not stated Value in brackets corresponds to slow phase from HS										

Table 8.6-2: Summary of observed Prothioconazole metabolites

Prothioconazole-S-methyl (M01) Water/sediment system	< 10% in water & sediment compartments Max. in total system 12.7% AR, 7 d ^{a)} Max. DT ₅₀ in total system: 40.2 days (Addendum to the DAR, 2005)	Y/ EFSA, 2007
Prothioconazole-desthio (M04) Water/sediment system	Max. in water 32.3% AR, 7 d Max. in sediment 26.9% AR, 59 d Max. in total system 54.64%, 7d Max. DT50 in total system: 49.9 days (Addendum to the DAR, 2005)	
Photolysis	Max. in water 55.7% after 11 d	
1,2,4-triazole (M13) Water/sediment system	Max. in water 37.2%, 121 d	
Photolysis	Max. 11.9% after 18 d	
M12 Photolysis	Max. 14.1% after 5 d Not expected to be formed in amounts triggering a risk assessment in natural aquatic environments according to EFSA Report	

8.7 Predicted Environmental Concentrations in soil (PEC_{soil}) (KCP 9.1.3)

8.7.1 Justification for new endpoints

There is no deviation from the EU agreed endpoints.

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8.7.2 Active substances and relevant metabolites

Table 8.7-1: Input parameters related to application for PEC_{soil} calculations

Use No.	1	
Crop	Oilseed Rape	Cereals
Application rate (g as/ha)	Boscalid: 125 g/ha Prothioconazole: 125 g/ha	Boscalid: 125 g/ha Prothioconazole: 125 g/ha
Number of applications/interval	2/21	2/21
Crop interception (%)	1 st appl.: 40% 2 nd appl: 80% Covers following scenario's: Spring OSR: 1st appl. at BBCH 14-18 (application in autumn) 2nd appl. at BBCH 61 (against Sclerotinia and Alternaria) Winter OSR: 1st appl. at BBCH 14 (only 1 application in autumn) 2nd appl. at BBCH 21 Winter OSR: 1st appl. at BBCH 21 2nd appl. 21d later Winter OSR: 1st appl. at BBCH 61 (against Sclerotinia and Alternaria) 2nd appl. 15d later	1 st appl.: 20% 80% 2 nd appl: 80%
Depth of soil layer (relevant for plateau concentration) (cm)	5cm (no tillage) 20 cm (tillage)	5cm (no tillage) 20 cm (tillage)

Table 8.7-2: Input parameter for active substances and relevant metabolites for PEC_{soil} calculation

Compound	Molecular weight (g/mol)	Max. occurrence (%)	DT50 (days)	Value in accordance to EU end-point y/n/ Reference
Boscalid	343.21	-	212 (Maximum normalized, field studies)	EFSA 2008
Prothioconazole	344.3	-	2.8*	EFSA (2007)
Prothioconazole-desthio	312.2	57.1	72.3*	EFSA (2007)

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Compound	Molecular weight (g/mol)	Max. occurrence (%)	DT50 (days)	Value in accordance to EU end-point y/n/ Reference
Prothioconazole-S-methyl	358.3	14.6	46*	EFSA (2007)

* The longest DT₅₀ (non-normalized) in soil from the field studies was used for Prothioconazole and Prothioconazole-desthio, while the longest DT₅₀ in soil from lab studies (normalized to 20°C and pF2) was used for Prothioconazole-S-methyl.

8.7.2.1 Boscalid

Table 8.7-3: PEC_{soil} for boscalid on oilseed rape

PEC _{soil} (mg/kg)		Oilseed rape			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		0.1000	-	0.1285 0.1267	-
Short term	24h	0.0997	0.0998	0.1281 0.1263	0.1283 0.1267
	2d	0.0993	0.0997	0.1277 0.1259	0.1281 0.1263
	4d	0.0987	0.0993	0.1269 0.1251	0.1277 0.1259
Long term	7d	0.0977	0.0989	0.1256 0.1238	0.1271 0.1253
	14d	0.0955	0.0977	0.1228 0.1210	0.1256 0.1238
	21d	0.0934	0.0966	0.1200 0.1183	0.1242 0.1224
	28d	0.0913	0.0956	0.1173 0.1156	0.1228 0.1211
	50d	0.0849	0.0923	0.1092 0.1076	0.1186 0.1169
	100d	0.0721	0.0853	0.0927 0.0914	0.1096 0.1087
Plateau concentration (20 ± 5 cm) after year 10 ± 3		0.0435 0.0109	-	0.0559 0.0138	-
PEC _{accumulation} (PEC _{act} + PEC _{soil plateau})		0.1435 0.1109	-	0.1844 0.1405	-

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Table 8.7-4: PEC_{soil} for boscalid on cereals

PEC _{soil} (mg/kg)		Cereals			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		0.0333 0.1333	-	0.0651 0.1580	-
Short term	24h	0.0332 0.1329	0.0333 0.1331	0.0649 0.1570	0.0650 0.1580
	2d	0.0331 0.1325	0.0332 0.1329	0.0646 0.1570	0.0649 0.1570
	4d	0.0329 0.1316	0.0331 0.1325	0.0642 0.1560	0.0646 0.1570
Long term	7d	0.0326 0.1303	0.0330 0.1318	0.0636 0.1540	0.0643 0.1560
	14d	0.0318 0.1274	0.0326 0.1303	0.0622 0.1510	0.0636 0.1540
	21d	0.0311 0.1245	0.0322 0.1289	0.0608 0.1470	0.0629 0.1530
	28d	0.0304 0.1217	0.0319 0.1274	0.0594 0.1440	0.0622 0.1510
	50d	0.0283 0.1132	0.0308 0.1230	0.0553 0.1340	0.0600 0.1460
	100d	0.0240 0.0961	0.0284 0.1137	0.0469 0.1140	0.0555 0.1350
Plateau concentration (20 ± 5 cm) after year 10 ± 3		0.0145	-	0.0283 0.0740 0.0172	-
PEC _{accumulation} (PEC _{act} + PEC _{soil plateau})		0.0478 0.1478	-	0.0934 0.2320 0.1752	-

8.7.2.2 Prothioconazole and its metabolites

Table 8.7-5: PEC_{soil} for prothioconazole on oilseed rape

PEC _{soil} (mg/kg)		Oilseed rape			
		Single application		Multiple applications*	
		Actual	TWA	Actual	TWA
Initial		0.1000	-	0.2000 0.0340 0.1000	-
Short term	24h	0.0680 0.0781	0.0830 0.0890	0.1361 0.0026	0.1660 0.0300

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				0.0781	0.0890
	2d	0.0463 0.0610	0.0697 0.0793	0.0926 0.0210 0.0610	0.1395 0.0270 0.0793
	4d	0.0241 0.0371	0.0510 0.0638	0.0429 0.0130 0.0371	0.1020 0.0220 0.0638
Long term	7d	0.0068 0.0177	0.0346 0.0477	0.0135 0.0060 0.0177	0.0692 0.0160 0.0477
	14d	0.0005 0.0031	0.0185 0.0281	0.0009 0.0010 0.0031	0.0369 0.0090 0.0281
	21d	0.0000 0.0006	0.0124 0.0192	0.0001 0.0000 0.0266	0.0247 0.0060 0.0214
	28d	0.0000 0.0001	0.0093 0.0145	0.0000 0.0047	0.0185 0.0050 0.0192
	50d	0.0000 <0.0001	0.0052 0.0081	0.0000 <0.0001	0.0104 0.0030 0.0112
	100d	0.0000 <0.0001	0.0026 0.0041	0.0000 <0.0001	0.0052 0.0010 0.0056
Plateau concentration (20 5 cm) after year 10		0.0000	-	0.0000	-
PEC _{accumulation} (PEC _{act} + PEC _{soil plateau})		0.1000	-	0.2000 0.0340 0.1000	-

* The DT₅₀ of Prothioconazole is only 2.8-1.8 days which is significantly shorter than the application interval of 21 days in sugar and fodder beets, cereals and oilseed rapes. As worst case scenario, the PEC_{soil} of Prothioconazole for multiple applications is therefore calculated using only 1 application of twice the application rate.

Table 8.7-6: PEC_{soil} for prothioconazole on cereals

PEC _{soil} (mg/kg)		cereals			
		Single application		Multiple applications [*]	
		Actual	TWA	Actual	TWA
Initial		0.1333	-	0.2667 0.0340 0.1333	-
Short term	24h	0.0907 0.1041	0.1107 0.1187	0.1814 0.0270 0.1041	0.2213 0.0298 0.1187
	2d	0.0617 0.0813	0.0930 0.1057	0.1234 0.0210	0.1860 0.0270

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				0.0813	0.1057
	4d	0.0286 0.0495	0.0680 0.0851	0.0571 0.0125 0.0495	0.1360 0.0221 0.0851
Long term	7d	0.0090 0.0236	0.0461 0.0637	0.0180 0.0059 0.0236	0.0922 0.0160 0.0637
	14d	0.0006 0.0042	0.0246 0.0375	0.0012 0.0010 0.0042	0.0492 0.0105 0.0375
	21d	0.0000 0.0007	0.0165 0.0256	0.0001 0.0002 0.0268	0.0330 0.0072 0.0278
	28d	0.0000 0.0001	0.0124 0.0193	0.0000 0.0001 0.0047	0.0247 0.0050 0.0241
	50d	0.0000 <0.0001	0.0069 0.0108	0.0000 <0.0001	0.0138 0.0030 0.0139
	100d	0.0000 <0.0001	0.0035 0.0054	0.0000 <0.0001	0.0069 0.0010 0.0069
Plateau concentration (20 μ cm) after year 10		0.0000	-	0.0000	-
PEC _{accumulation} (PEC _{act} + PEC _{soil plateau})		0.1333	-	0.2667 0.0340 0.1333	-

* The DT₅₀ of Prothioconazole is only 1.8 days which is significantly shorter than the application interval of 21 days in sugar and fodder beets, cereals and oilseed rapes. As worst case scenario, the PEC_{soil} of Prothioconazole for multiple applications is therefore calculated using only 1 application of twice the application rate.

Table 8.7-7: PEC_{soil} for prothioconazole-desthio on oilseed rape

PEC _{soil} (mg/kg)		Prothioconazole-desthio*			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		0.0152 0.0520	-	0.0203 0.0603	
Short term	24h	0.0150 0.0515	0.0151 0.0518	0.0200 0.0597	0.0201 0.0600
	2d	0.0147 0.0510	0.0150 0.0515	0.0197 0.0591	0.0200 0.0597
	4d	0.0143 0.0500	0.0147 0.0510	0.0191 0.0580	0.0197 0.0591
Long term	7d	0.0137 0.0486	0.0144 0.0503	0.0182 0.0563	0.0192 0.0583
	14d	0.0123 0.0455	0.0137 0.0487	0.0164 0.0527	0.0183 0.0564

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	21d	0.0111 0.0425	0.0130 0.0471	0.0148 0.0493	0.0174 0.0547
	28d	0.0100 0.0398	0.0124 0.0456	0.0133 0.0461	0.0165 0.0530
	50d	0.0072 0.0322	0.0107 0.0413	0.0095 0.0373	0.0142 0.0505
	100d	0.0034 0.0199	0.0078 0.0334	0.0045 0.0231	0.0105 0.0432
Plateau concentration (20 $\pm$ cm) after year 10		0.0001 0.0004		0.0001 0.0005	-
PEC _{accumulation} (PEC _{act} + PEC _{soil plateau})		0.0153 0.0524		0.0203 0.0608	

* The DT₅₀ of Prothioconazole-desthio is 72.3 46 days which is longer than the DT₅₀ of the parent Prothioconazole (2.8 1.8 days). As a conservative approach, the application rate (instead of the PEC_{soil}) is corrected for molar ratio and maximum occurrence after which the PEC_{soil} of the metabolite is calculated according to the equations described for the parent substance.

Table 8.7-8: PEC_{soil} for prothioconazole-desthio on cereals

PEC _{soil} (mg/kg)		Prothioconazole-desthio*			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		0.0203 0.0693	-	0.0198 0.0746	
Short term	24h	0.0200 0.0687	0.0201 0.0690	0.0195 0.0739	0.0197 0.0742
	2d	0.0197 0.0680	0.0200 0.0687	0.0192 0.0732	0.0195 0.0739
	4d	0.0191 0.0667	0.0197 0.0680	0.0187 0.0718	0.0192 0.0732
Long term	7d	0.0182 0.0648	0.0192 0.0671	0.0178 0.0697	0.0188 0.0721
	14d	0.0164 0.0606	0.0183 0.0649	0.0161 0.0652	0.0179 0.0698
	21d	0.0148 0.0567	0.0174 0.0628	0.0144 0.0610	0.0170 0.0678
	28d	0.0133 0.0530	0.0165 0.0608	0.0130 0.0570	0.0162 0.0659
	50d	0.0095 0.0429	0.0142 0.0551	0.0093 0.0462	0.0139 0.0643
	100d	0.0045 0.0266	0.0105 0.0446	0.0044 0.0289	0.0102 0.0554
Plateau concentration (20 $\pm$ cm) after year 10		0.0001 0.0005	-	0.0001 0.0006	-
PEC _{accumulation} (PEC _{act} + PEC _{soil plateau})		0.0203 0.0698		0.0199 0.0752	

* The DT₅₀ of Prothioconazole-desthio is 72.3 46 days which is longer than the DT₅₀ of the parent Prothioconazole

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(1.8 2.8 days). As a conservative approach, the application rate (instead of the PEC_{soil}) is corrected for molar ratio and maximum occurrence after which the PEC_{soil} of the metabolite is calculated according to the equations described for the parent substance.

Table 8.7-9: PEC_{soil} for prothioconazole-S-methyl on oilseed rape

PEC _{soil} (mg/kg)		Prothioconazole-S-methyl*			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		0.0518 0.0152	-	0.0690 0.0163	
Short term	24h	0.0513 0.0150	0.0515 0.0151	0.0684 0.0161	0.0687 0.0162
	2d	0.0508 0.0147	0.0513 0.0150	0.0677 0.0158	0.0684 0.0161
	4d	0.0498 0.0143	0.0508 0.0148	0.0664 0.0153	0.0677 0.0158
Long term	7d	0.0484 0.0137	0.0501 0.0144	0.0646 0.0147	0.0668 0.0155
	14d	0.0453 0.0123	0.0485 0.0137	0.0604 0.0132	0.0646 0.0147
	21d	0.0423 0.0111	0.0469 0.0130	0.0564 0.0119	0.0625 0.0141
	28d	0.0396 0.0100	0.0454 0.0124	0.0528 0.0107	0.0605 0.0138
	50d	0.0321 0.0072	0.0411 0.0107	0.0427 0.0077	0.0548 0.0132
	100d	0.0199 0.0034	0.0333 0.0079	0.0265 0.0036	0.0444 0.0102
Plateau concentration (5 20 cm) after year 10		0.0016 <0.0001	-	0.0022 <0.0001	-
PEC _{accumulation} (PEC _{act} + PEC _{soil plateau})		0.0534 0.0152		0.0712 0.0163	

* The DT₅₀ of Prothioconazole-S-methyl is 46 72.3 days which is longer than the DT₅₀ of the parent Prothioconazole (1.8 2.8 days). As a conservative approach, the application rate (instead of the PEC_{soil}) is corrected for molar ratio and maximum occurrence after which the PEC_{soil} of the metabolite is calculated according to the equations described for the parent substance.

Table 8.7-10: PEC_{soil} for prothioconazole-S-methyl on cereals

PEC _{soil} (mg/kg)		Prothioconazole-S-methyl*			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		0.0690 0.0203	-	0.0737 0.0203	-
Short term	24h	0.0684 0.0200	0.0687 0.0201	0.0730 0.0200	0.0734 0.0201

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	2d	0.0677 0.0197	0.0684 0.0200	0.0723 0.0197	0.0730 0.0200
	4d	0.0664 0.0191	0.0677 0.0197	0.0709 0.0191	0.0723 0.0197
Long term	7d	0.0646 0.0182	0.0668 0.0192	0.0689 0.0182	0.0713 0.0192
	14d	0.0604 0.0164	0.0646 0.0183	0.0644 0.0164	0.0690 0.0183
	21d	0.0564 0.0148	0.0625 0.0174	0.0603 0.0198	0.0668 0.0177
	28d	0.0528 0.0133	0.0605 0.0165	0.0564 0.0178	0.0646 0.0180
	50d	0.0427 0.0095	0.0548 0.0142	0.0456 0.0128	0.0586 0.0167
	100d	0.0265 0.0045	0.0444 0.0105	0.0283 0.0060	0.0474 0.0128
Plateau concentration (5 20 cm) after year 10		0.0022 <0.0001	-	0.0023 <0.0001	-
PEC _{accumulation} (PEC _{act} + PEC _{soil plateau})		0.0712 0.0203		0.0760 0.0203	

* The DT₅₀ of Prothioconazole-S-methyl is 72.3 46 days which is longer than the DT₅₀ of the parent Prothioconazole (1.8 2.8 days). As a conservative approach, the application rate (instead of the PEC_{soil}) is corrected for molar ratio and maximum occurrence after which the PEC_{soil} of the metabolite is calculated according to the equations described for the parent substance.

8.7.2.3 PEC_{soil} of GLOB2021dF

Table 8.7-11: PEC_{soil} for GLOB2021dF

Active substance/ reparation	Application rate (g/ha)*	PEC _{act} (mg/kg)	Tillage depth (cm)
GLOB2021dF - Oilseed rape Application rate: 0.8l/ha	893.44	0.7148	5
GLOB2021dF – Cereals Application rate: 0.8l/ha	893.44	0.2383 0.953	5
GLOB2021dF - Oilseed rape Application rate: 1.6l/ha (40/80% interception)	1786.88	1.4295 0.953	
GLOB2021dF – Cereals Application rate: 1.6l/ha (20/80% interception)	1786.88	0.4765 1.191	

* Based on a density of 1.1168 g/mL

Evaluation by zRMS PL	PECsoil (KCP 9.1.3)
Modelling	The assumptions of calculations are acceptable. The predicted environmental concentrations in soil (PECsoil) of boscalid and prothioconazole and its metabolites: M01, M04 were calculated according to recommendations of the FOCUS workgroup on degradation kinetics using: - maximum application rate for 1.6l Pirlanko (GLOB2021dF)/ha/per season but divided in two applications of 0.8l Pirlanko (GLOB2021dF) i.e. 125 g boscalid/ha and 125 g prothioconazole/ha with the interval between applications 21 days, considering: • 40% interception for the first application and 80% interception for the second application on oilseed rape • 20% interception for the first application and 80% interception for the second application on cereals. It was assumed that the active substances were distributed in the top 5 cm soil layer with a soil bulk density of 1.5 g/mL. Applicant has assumed the distribution of plateau concentration through either plough layer 5 cm. However this approach is not correct for annual crops because for the determination of the long term background concentration a mixing depth of 20 cm should be used for normal tillage practices. Thus, zRMS has recalculated PECs values for both active substances and metabolites of prothioconazole. The results of the calculation zRMS has presented in Tables from 8.7-3 to 8.7-10. No PECsoil calculations were performed for metabolites of boscalid because metabolites no were found in amounts greater than 10% of the applied parent (DAR 2002). The applicant correctly calculated the PECsoil for the formulation Pirlanko (GLOB2021dF) only for oilseed rape. The calculations for cereals were corrected by zRMS. The results are shown in the Table 8.7-11. The PECsoil value for 1.6L Pirlanko (GLOB2021dF)/ha for oilseed rape and cereals was calculated by RMS as the worst case. Taking into account the above information, the calculated PECsoil values for Pirlanko (GLOB2021dF), boscalid and prothioconazole and its metabolites: prothioconazole-S-methyl, prothioconazole-desthio are appropriate to be used in the subsequent risk assessment for soil organisms.
Agreed Endpoints	Boscalid: • Oilseed rape <u>Application rate : 1x0.8l Pirlanko (GLOB2021dF)/ha</u> Initial PEC_{soil}: 0.1000 mg/kg PEC_{accumulation} = 0.1109 mg/kg <u>Application rate : 2x0.8l Pirlanko (GLOB2021dF)/ha</u> Initial PEC_{soil}: 0.1267 mg/kg PEC_{accumulation} = 0.1405 mg/kg

	• Cereals <u>Application rate : 1x0.8l Pirlanko (GLOB2021dF)/ha</u> Initial PEC_{soil}: 0.1333 mg/kg PEC_{accumulation} = 0.1478 mg/kg <u>Application rate : 2x0.8l Pirlanko (GLOB2021dF)/ha</u> Initial PEC_{soil}: 0.1580 mg/kg PEC_{accumulation} = 0.2320 0.1752 mg/kg Prothioconazole: • Oilseed rape <u>Application rate : 1x0.8l Pirlanko (GLOB2021dF)/ha</u> Initial PEC_{soil}: 0.1000 mg/kg PEC_{accumulation} = 0.1000 mg/kg <u>Application rate : 2x0.8l Pirlanko (GLOB2021dF)/ha</u> Initial PEC_{soil}: 0.0340 0.100 mg/kg PEC_{accumulation} = 0.0340 0.100 mg/kg • Cereals <u>Application rate : 1x0.8l Pirlanko (GLOB2021dF)/ha</u> Initial PEC_{soil}: 0.1333 mg/kg PEC_{accumulation} = 0.1333 mg/kg <u>Application rate : 2x0.8l Pirlanko (GLOB2021dF)/ha</u> Initial PEC_{soil}: 0.0340 0.1333 mg/kg PEC_{accumulation} = 0.0340 0.1333 mg/kg Metabolites of prothioconazole: Prothioconazole-desthio (M04) • Oilseed rape <u>Application rate : 1x0.8l Pirlanko (GLOB2021dF)/ha</u> Initial PEC_{soil}: 0.0520 mg/kg PEC_{accumulation} = 0.0524 mg/kg <u>Application rate : 2x0.8l Pirlanko (GLOB2021dF)/ha</u> Initial PEC_{soil}: 0.0603 mg/kg PEC_{accumulation} = 0.0608 mg/kg • Cereals <u>Application rate : 1x0.8l Pirlanko (GLOB2021dF)/ha</u> Initial PEC_{soil}: 0.0693 mg/kg PEC_{accumulation} = 0.0698mg/kg <u>Application rate : 2x0.8l Pirlanko (GLOB2021dF)/ha</u>
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	Initial PEC_{soil}: 0.0746 mg/kg PEC_{accumulation} = 0.0752 mg/kg Prothioconazole-S-methyl (M01) Oilseed rape <u>Application rate : 1x0.8l Pirlanko (GLOB2021dF)/ha</u> <u>Initial PEC_{soil}: 0.0152 mg/kg</u> <u>PEC_{accumulation} = 0.0152 mg/kg</u> <u>Application rate : 2x0.8l Pirlanko (GLOB2021dF)/ha</u> <u>Initial PEC_{soil}: 0.0163 mg/kg</u> <u>PEC_{accumulation} = 0.0163 mg/kg</u> Cereals <u>Application rate : 1x0.8l Pirlanko (GLOB2021dF)/ha</u> <u>Initial PEC_{soil}: 0.0203 mg/kg</u> <u>PEC_{accumulation} = 0.0203 mg/kg</u> <u>Application rate : 2x0.8l Pirlanko (GLOB2021dF)/ha</u> <u>Initial PEC_{soil}: 0.0203 mg/kg</u> <u>PEC_{accumulation} = 0.0203 mg/kg</u> Formulation: Pirlanko (GLOB2021dF) Oilseed rape <u>Application rate : 1x0.8l Pirlanko (GLOB2021dF)/ha</u> PEC_{act} = 0.7148 mg/kg <u>Application rate : 2x0.8l Pirlanko (GLOB2021dF)/ha</u> PEC_{act} = 1.4295 0.953 mg/kg Cereals <u>Application rate : 1x0.8l Pirlanko (GLOB2021dF)/ha</u> PEC_{act} = 0.2383 0.953 mg/kg <u>Application rate : 2x0.8l Pirlanko (GLOB2021dF)/ha</u> PEC_{act} = 0.4765 1.191mg/kg
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The change in the BBCH range for oilseed rape is covered by the existing PEC_{soil} calculations since the crop interception does not change within this change.

8.8 Predicted Environmental Concentrations in groundwater (PEC_{gw}) (KCP 9.2.4)

8.8.1 Justification for new endpoints

No deviations from the EU agreed endpoints.

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8.8.2 Active substances and relevant metabolites (KCP 9.2.4.1)

Table 8.8-1: Input parameters related to application for PEC_{gw} calculations

Use No.	1-	2		1- 3-16	
Crop	Winter oilseed rape	Winter and spring oilseed rape	Winter and spring oilseed rape	Winter and spring cereals	
Application rate (g as/ha)	Boscalid: 125 g/ha Prothioconazole: 125 g as/ha				
Number of applications/interval (d)	2/21				
Timing	BBCH 14-18	BBCH 21-59	BBCH 21-61	BBCH 60-69	BBCH 25-69
	1 application in autumn and 1 application not in autumn		2 applications in spring		
Absolute application date	See table 8.8-2 for absolute application dates which will be used in the modelling.				
Crop interception (%)	1st appl.: 40 2nd appl.: 80	1st appl.: 80 2nd appl.: 80	1st appl.: 80 2nd appl.: 80	1st appl.: 20 2nd appl.: 80	
Frequency of application	annual				
Models used for calculation	FOCUS PEARL v5.5.5, FOCUS PELMO v6.6.4				

Table 8.8-2: Application dates used for groundwater risk assessment

Crop	Scenario	Application dates (absolute)*
Oilseed rape, winter (1st at BBCH 14, 2nd at BBCH 21; 1st appl. in autumn, 2nd appl. not in autumn)	Châteaudun	14/09 – 2/03
	Hamburg	9/09 – 9/04
	Jokioinen	-
	Kremsmünster	9/09 – 6/04
	Okehampton	21/08 – 31/03
	Piacenza	12/10 – 26/02
	Porto	30/09 - 29/12**
	Sevilla	-
	Thiva	-
Oilseed rape, winter (1st at BBCH 21;	Châteaudun	2/03
	Hamburg	9/04

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Crop	Scenario	Application dates (absolute)*
no application in autumn)	Jokioinen	-
	Kremsmünster	6/04
	Okehampton	31/04-03
	Piacenza	26/02
	Porto	29/12**
	Sevilla	-
	Thiva	-
Oilseed rape, winter (1st application date when last is at BBCH 59)	Châteaudun	3/04
	Hamburg	19/04
	Jokioinen	-
	Kremsmünster	19/04
	Okehampton	14/04
	Piacenza	29/03
	Porto	30/03
	Sevilla	-
	Thiva	-
Oilseed rape, winter (at BBCH 60)	Châteaudun	20/04
	Hamburg	5/05
	Jokioinen	-
	Kremsmünster	5/05
	Okehampton	30/04
	Piacenza	15/04
	Porto	20/04
	Sevilla	-
	Thiva	-
Oilseed rape, spring Surrogate crop for scenarios: Châteaudun, Hamburg, Kremsmünster: spring cereals (at BBCH 21)	Châteaudun	- 31/03
	Hamburg	- 16/04
	Jokioinen	2/06
	Kremsmünster	- 16/04
	Okehampton	12/04
	Piacenza	-
	Porto	11/04
	Sevilla	-
	Thiva	-
Oilseed rape, spring	Châteaudun	- 24/05

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Crop	Scenario	Application dates (absolute)*
Surrogate crop for scenarios: Châteaudun, Hamburg, Kremsmünster: spring cereals (1st application date when last is at BBCH 59)	Hamburg	- 20/05
	Jokioinen	19/06
	Kremsmünster	- 20/05
	Okehampton	29/04
	Piacenza	-
	Porto	14/05
	Sevilla	-
	Thiva	-
Cereals, winter (at BBCH 25)	Châteaudun	10/04
	Hamburg	29/04
	Jokioinen	9/05
	Kremsmünster	19/04
	Okehampton	16/04
	Piacenza	14/03
	Porto	15/01
	Sevilla	28/12
Cereals, winter (at BBCH 30)	Thiva	6/01
	Châteaudun	15/04
	Hamburg	4/05
	Jokioinen	14/05
	Kremsmünster	24/04
	Okehampton	21/04
	Piacenza	19/03
	Porto	30/01
Cereals, winter (1st application date when last is at BBCH 69)	Sevilla	6/01
	Thiva	18/01
	Châteaudun	30/05
	Hamburg	7/06
	Jokioinen	25/06
	Kremsmünster	10/06
	Okehampton	23/05
	Piacenza	11/05
	Porto	3/05
	Sevilla	13/03
	Thiva	12/04

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Crop	Scenario	Application dates (absolute)*
Cereals, spring (at BBCH 25)	Châteaudun	7/04
	Hamburg	21/04
	Jokioinen	1/06
	Kremsmünster	21/04
	Okehampton	17/04
	Piacenza	-
	Porto	7/04
	Sevilla	-
	Thiva	-
Cereals, spring (at BBCH 30)	Châteaudun	16/04
	Hamburg	28/04
	Jokioinen	5/06
	Kremsmünster	27/04
	Okehampton	22/04
	Piacenza	-
	Porto	16/04
	Sevilla	-
	Thiva	-
Cereals, spring (1st application date when last is at BBCH 69)	Châteaudun	7/06
	Hamburg	13/06
	Jokioinen	2/07
	Kremsmünster	13/06
	Okehampton	3/06
	Piacenza	-
	Porto	7/06
	Sevilla	-
	Thiva	-

* Only the first absolute application dates are given and the second absolute application dates are 15 days later, unless otherwise stated as for crop winter oilseed rape with 1st at BBCH 14, 2nd at BBCH 21 where both dates are given for clarity.

** BBCH 30 as second application date instead of BBCH 21 since BBCH 30 is the first BBCH stage in the Porto scenario which doesn't fall in autumn.

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8.8.2.1 Boscalid

Table 8.8-3: Input parameters related to active substance boscalid for PEC_{gw} calculations

Compound	Boscalid	Value in accordance with EU endpoint y/n/ Reference
Molecular weight (g/mol)	343.2	Review Report, 2008
Water solubility (mg/L): (20°C)	4.6	Review Report, 2008
Saturated vapour pressure (Pa):	7.2×10^{-7} at 20°C	Review Report, 2008
DT ₅₀ in soil (d)	212	Review Report, 2008
Temperature correction function Reference temperature [°C] PRZM: Q ₁₀ [-]	20 2.58	Review Report, 2008
Moisture correction function Reference moisture [-] PRZM/MACRO: moisture exponent [-]	pF 2 0.7	Review Report, 2008
Transformation rate	-	Review Report, 2008
K _{foc} (mL/g) K _{om} (L/kg)	771.5 (n=6) 447.5 742.6* 430.7* (geometric mean, n=6)	Review Report, 2008 * the appropriate value of K _{foc} /K _{om} for modelling in accordance with Review Report, 2008 and EFSA Guidance Document Journal 2014;12(5):3662
1/n	0.864 (n=6)	Review Report, 2008
Plant uptake factor	0	FOCUS recommendation
Formation fraction (conservative estimate based on max. occurrence in soil)	-	Review Report, 2008

Table 8.8-4: PEC_{gw} boscalid (with FOCUS PEARL 5.5.5 and PELMO 6.6.4)

Crop	Scenario	80 th Percentile PEC _{gw} at 1 m Soil Depth (µg/L)	
		Boscalid	
		PEARL	PELMO
wOSR 2 x 125 g a.s./ha BBCH 14 (1 st) BBCH 21 (2 nd) (only 1 application in autumn, 2 nd application not in autumn)	Châteaudun	0.0000	0.000
	Hamburg	0.0000	0.000
	Jokioinen	-	-
	Kremsmünster	0.0000	0.000
	Okehampton	0.0000	0.000
	Piacenza	0.0000	0.000
	Porto	0.0000	0.000
	Sevilla	-	-

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	Thiva	-	-
Oilseed rape, winter (1st at BBCH 21; no application in autumn)	Châteaudun	0.0000	0.000
	Hamburg	0.0000	0.000
	Jokioinen	-	-
	Kremsmünster	0.0000	0.000
	Okehampton	0.0000	0.001
	Piacenza	0.0000	0.000
	Porto	0.0000	0.000
	Sevilla	-	-
	Thiva	-	-
Oilseed rape, winter (1st application date when last is at BBCH 59)	Châteaudun	0.0000	0.000
	Hamburg	0.0000	0.000
	Jokioinen	-	-
	Kremsmünster	0.0000	0.000
	Okehampton	0.0000	0.001
	Piacenza	0.0000	0.000
	Porto	0.0000	0.000
	Sevilla	-	-
	Thiva	-	-
Oilseed rape, winter (at BBCH 60)	Châteaudun	0.0000	0.000
	Hamburg	0.0000	0.000
	Jokioinen	-	-
	Kremsmünster	0.0000	0.000
	Okehampton	0.0000	0.001
	Piacenza	0.0000	0.000
	Porto	0.0000	0.000
	Sevilla	-	-
	Thiva	-	-
Oilseed rape, spring * Surrogate crop for scenarios: Châteaudun, Hamburg, Kremsmünster: spring cereals (at BBCH 21)	Châteaudun	- 0.0000*	- 0.0000*
	Hamburg	- 0.0000*	- 0.0000*
	Jokioinen	0.0000	0.000
	Kremsmünster	- 0.0000*	- 0.0000*
	Okehampton	0.0000	0.000
	Piacenza	-	-
	Porto	0.0000	0.000

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	Sevilla	-	-
	Thiva	-	-
Oilseed rape, spring * Surrogate crop for scenarios: Châteaudun, Hamburg, Kremsmünster: spring cereals (1st application date when last is at BBCH 59)	Châteaudun	- 0.0000*	- 0.0000*
	Hamburg	- 0.0000*	- 0.0000*
	Jokioinen	0.0000	0.000
	Kremsmünster	- 0.0000*	- 0.0000*
	Okehampton	0.0000	0.000
	Piacenza	-	-
	Porto	0.0000	0.000
	Sevilla	-	-
	Thiva	-	-
Cereals, winter (at BBCH 25)	Châteaudun	0.0000	0.000
	Hamburg	0.0001	0.000
	Jokioinen	0.0000	0.000
	Kremsmünster	0.0000	0.000
	Okehampton	0.0001	0.000
	Piacenza	0.0001	0.000
	Porto	0.0000	0.000
	Sevilla	0.0000	0.000
	Thiva	0.0000	0.000
Cereals, winter (at BBCH 30)	Châteaudun	0.0000	0.000
	Hamburg	0.0000	0.000
	Jokioinen	0.0000	0.000
	Kremsmünster	0.0000	0.000
	Okehampton	0.0000	0.001
	Piacenza	0.0000	0.000
	Porto	0.0000	0.000
	Sevilla	0.0000	0.000
	Thiva	0.0000	0.000
Cereals, winter (1st application date when last is at BBCH 69)	Châteaudun	0.0000	0.000
	Hamburg	0.0000	0.000
	Jokioinen	0.0000	0.000
	Kremsmünster	0.0000	0.000
	Okehampton	0.0000	0.000
	Piacenza	0.0000	0.000

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	Porto	0.0000	0.000
	Sevilla	0.0000	0.000
	Thiva	0.0000	0.000
Cereals, spring (at BBCH 25)	Châteaudun	0.0000	0.000
	Hamburg	0.0001	0.000
	Jokioinen	0.0000	0.000
	Kremsmünster	0.0000	0.000
	Okehampton	0.0000	0.000
	Piacenza	-	-
	Porto	0.0000	0.000
	Sevilla	-	-
	Thiva	-	-
Cereals, spring (at BBCH 30)	Châteaudun	0.0000	0.000
	Hamburg	0.0000	0.000
	Jokioinen	0.0000	0.000
	Kremsmünster	0.0000	0.000
	Okehampton	0.0000	0.000
	Piacenza	-	-
	Porto	0.0000	0.000
	Sevilla	-	-
	Thiva	-	-
Cereals, spring (1st application date when last is at BBCH 69)	Châteaudun	0.0000	0.000
	Hamburg	0.0000	0.000
	Jokioinen	0.0000	0.000
	Kremsmünster	0.0000	0.000
	Okehampton	0.0000	0.000
	Piacenza	-	-
	Porto	0.0000	0.000
	Sevilla	-	-
	Thiva	-	-

8.8.2.2 Prothioconazole and its metabolites

Table 8.8-5: Input parameters related to active substance Prothioconazole and its metabolites for PEC_{gw} calculations

Compound	Prothioconazole	Prothioconazole-S-methyl (M01)	Prothioconazole-desthio (M04)	Value in accordance with EU endpoint y/n/ Reference*
Molecular weight (g/mol)	344.3	358.3	312.2	y/EFSA 2007
Water solubility (mg/L): (temperature: 20°C)	300 (pH 8)	300 (parent value as surrogate)	300 (parent value as surrogate)	y/EFSA 2007
Water solubility (mg/L): (temperature: 30°C)	600 (value at 20°C x 2)	Not requested	Not requested	Calculation
Saturated vapour pressure (Pa): (temperature: 20°C)	4x10 ⁻⁷	4x10 ⁻⁷ (parent value as surrogate)	4x10 ⁻⁷ (parent value as surrogate)	EFSA, 2007
Saturated vapour pressure (Pa): (temperature: 30°C)	16.0 x 10 ⁻⁷ (value at 20°C x 4)	Not requested	Not requested	Calculation
DT ₅₀ in soil (d)	0.94 (geomean of field data normalised to pF2, 20°C with Q10 of 2.58, n=8) 1.2* (field, geomean, n=8)	15.7 (geomean of normalised lab values)	21.8 (geomean of field data normalised to pF2, 20°C with Q10 of 2.58, n=8) 22.7* (field, geomean, n=8)	n/ updated kinetic analysis of EU field data of prothioconazole and its metabolite prothioconazole-desthio * Yes, EFSA (2007)
K _{foc} (mL/g)	1765 (n = 1) (pH independent; worst-case based on EFSA conclusions)	2525.9 (n = 5) (pH independent; geomean based on lab studies from EU dataset)	573.5 (n = 4) (pH independent; geomean based on lab studies from EU dataset)	y/EFSA 2007 and DAR Prothioconazole 2005
K _{fom} (mL/g)	1024	1465	333	y/calculated from K _{foc} x 0.58
1/n	1.0 (default value)	0.88 (arithmetic mean based on aged soil column leaching study)	0.81 (arithmetic mean based on aged soil column leaching study)	y/EFSA 2007
Plant uptake factor	0	0	0	Default
Formation fraction	Not applicable	0.14	Prothio → Desthio: 0.6 S-methyl → desthio: 1.0	n/ Prothioconazole-desthio: default worst case S-methyl: More worst case

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Compound	Prothioconazole	Prothioconazole-S-methyl (M01)	Prothioconazole-desthio (M04)	Value in accordance with EU end-point y/n/ Reference*
				value

Table 8.8-6: PEC_{gw} prothioconazole (with FOCUS PEARL 5.5.5 and PELMO 6.6.4)

Crop	Scenario	80 th Percentile PEC _{gw} at 1 m Soil Depth (µg/L)					
		Prothioconazole		Prothio-Desthio (M04)		S-methyl	
		PEARL	PELMO	PEARL	PELMO	PEARL	PELMO
wOSR 2 x 125 g a.s./ha BBCH 14 (1 st) BBCH 21 (2 nd) (only 1 application in autumn, 2 nd application not in autumn)	Châteaudun	0.0000	0.000	0.0000	0.000	0.0000	0.000
	Hamburg	0.0000	0.000	0.0000	0.000	0.0000	0.000
	Jokioinen	-	-	-	-	-	-
	Kremsmünster	0.0000	0.000	0.0000	0.000	0.0000	0.000
	Okchampton	0.0000	0.001	0.0000	0.000	0.0000	0.000
	Piacenza	0.0000	0.000	0.0000	0.000	0.0000	0.000
	Porto	0.0000	0.005	0.0000	0.000	0.0000	0.000
	Sevilla	-	-	-	-	-	-
	Thiva	-	-	-	-	-	-
Oilseed rape, winter (1st at BBCH 21; no application in autumn)	Châteaudun	0.0000	0.000	0.0000	0.000	0.0000	0.000
	Hamburg	0.0000	0.002	0.0000	0.000	0.0000	0.000
	Jokioinen	-	-	-	-	-	-
	Kremsmünster	0.0000	0.002	0.0000	0.000	0.0000	0.000
	Okchampton	0.0000	0.006	0.0000	0.000	0.0000	0.000
	Piacenza	0.0000	0.000	0.0000	0.000	0.0000	0.000
	Porto	0.0000	0.000	0.0000	0.000	0.0000	0.000
	Sevilla	-	-	-	-	-	-
	Thiva	-	-	-	-	-	-
Oilseed rape, winter (1st application date when last is at BBCH 59)	Châteaudun	0.0000	0.000	0.0000	0.000	0.0000	0.000
	Hamburg	0.0000	0.000	0.0000	0.000	0.0000	0.000
	Jokioinen	-	-	-	-	-	-
	Kremsmünster	0.0000	0.002	0.0000	0.000	0.0000	0.000
	Okchampton	0.0000	0.006	0.0000	0.000	0.0000	0.000
	Piacenza	0.0000	0.002	0.0000	0.000	0.0000	0.000
	Porto	0.0000	0.002	0.0000	0.000	0.0000	0.000
	Sevilla	-	-	-	-	-	-

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	Thiva	-	-	-	-	-	-
Oilseed rape, winter (at BBCH 60)	Châteaudun	0.0000	0.000	0.0000	0.000	0.0000	0.000
	Hamburg	0.0000	0.008	0.0000	0.000	0.0000	0.000
	Jokioinen	-	-	-	-	-	-
	Kremsmünster	0.0000	0.007	0.0000	0.000	0.0000	0.000
	Okehampton	0.0000	0.024	0.0000	0.000	0.0000	0.000
	Piacenza	0.0000	0.006	0.0000	0.000	0.0000	0.000
	Porto	0.0000	0.008	0.0000	0.000	0.0000	0.000
	Sevilla	-	-	-	-	-	-
	Thiva	-	-	-	-	-	-
Oilseed rape, spring * Surrogate crop for scenarios: Châteaudun, Hamburg, Kremsmünster: spring cereals (at BBCH 21)	Châteaudun	- 0.0000*	- 0.0000*	- 0.0000*	- 0.0000*	- 0.0000*	- 0.0000*
	Hamburg	- 0.0000*	- 0.0000*	- 0.0000*	- 0.0000*	- 0.0000*	- 0.0000*
	Jokioinen	0.0000	0.000	0.0000	0.000	0.0000	0.000
	Kremsmünster	- 0.0000*	- 0.0000*	- 0.0000*	- 0.0000*	- 0.0000*	- 0.0000*
	Okehampton	0.0000	0.005	0.0000	0.000	0.0000	0.000
	Piacenza	-	-	-	-	-	-
	Porto	0.0000	0.002	0.0000	0.000	0.0000	0.000
	Sevilla	-	-	-	-	-	-
	Thiva	-	-	-	-	-	-
Oilseed rape, spring * Surrogate crop for scenarios: Châteaudun, Hamburg, Kremsmünster: spring cereals (1st application date when last is at BBCH 59)	Châteaudun	- 0.0000*	- 0.0000*	- 0.0000*	- 0.0000*	- 0.0000*	- 0.0000*
	Hamburg	- 0.0000*	- 0.0000*	- 0.0000*	- 0.0000*	- 0.0000*	- 0.0000*
	Jokioinen	0.0000	0.000	0.0000	0.000	0.0000	0.000
	Kremsmünster	- 0.0000*	- 0.0000*	- 0.0000*	- 0.0000*	- 0.0000*	- 0.0000*
	Okehampton	0.0000	0.005	0.0000	0.000	0.0000	0.000
	Piacenza	-	-	-	-	-	-
	Porto	0.0000	0.002	0.0000	0.000	0.0000	0.000
	Sevilla	-	-	-	-	-	-
	Thiva	-	-	-	-	-	-
Cereals, winter (at BBCH 25)	Châteaudun	0.0000	0.000	0.0000	0.000	-	0.000
	Hamburg	0.0000	0.000	0.0000	0.000	-	0.000
	Jokioinen	0.0000	0.000	0.0000	0.000	-	0.000
	Kremsmünster	0.0000	0.000	0.0000	0.000	-	0.000
	Okehampton	0.0000	0.000	0.0000	0.000	-	0.000

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	Piacenza	0.0000	0.000	0.0000	0.000	-	0.000
	Porto	0.0000	0.000	0.0000	0.000	-	0.000
	Sevilla	0.0000	0.000	0.0000	0.000	-	0.000
	Thiva	0.0000	0.000	0.0000	0.000	-	0.000
Cereals, winter (at BBCH 30)	Châteaudun	0.0000	0.000	0.0000	0.000	0.0000	0.000
	Hamburg	0.0000	0.007	0.0000	0.000	0.0000	0.000
	Jokioinen	0.0000	0.000	0.0000	0.000	0.0000	0.000
	Kremsmünster	0.0000	0.006	0.0000	0.000	0.0000	0.000
	Okhampton	0.0000	0.021	0.0000	0.000	0.0000	0.000
	Piacenza	0.0000	0.009	0.0000	0.000	0.0000	0.000
	Porto	0.0000	0.007	0.0000	0.000	0.0000	0.000
	Sevilla	0.0000	0.000	0.0000	0.000	0.0000	0.000
	Thiva	0.0000	0.000	0.0000	0.000	0.0000	0.000
Cereals, winter (1st application date when last is at BBCH 69)	Châteaudun	0.0000	0.000	0.0000	0.000	0.0000	0.000
	Hamburg	0.0000	0.002	0.0000	0.000	0.0000	0.000
	Jokioinen	0.0000	0.000	0.0000	0.000	0.0000	0.000
	Kremsmünster	0.0000	0.001	0.0000	0.000	0.0000	0.000
	Okhampton	0.0000	0.005	0.0000	0.000	0.0000	0.000
	Piacenza	0.0000	0.002	0.0000	0.000	0.0000	0.000
	Porto	0.0000	0.002	0.0000	0.000	0.0000	0.000
	Sevilla	0.0000	0.000	0.0000	0.000	0.0000	0.000
	Thiva	0.0000	0.000	0.0000	0.000	0.0000	0.000
Cereals, spring (at BBCH 25)	Châteaudun	0.0000	0.000	0.0000	0.000	-	0.000
	Hamburg	0.0000	0.000	0.0000	0.000	-	0.000
	Jokioinen	0.0000	0.000	0.0000	0.000	-	0.000
	Kremsmünster	0.0000	0.000	0.0000	0.000	-	0.000
	Okhampton	0.0000	0.000	0.0000	0.000	-	0.000
	Piacenza	-	-	-	-	-	-
	Porto	0.0000	0.000	0.0000	0.000	-	0.000
	Sevilla	-	-	-	-	-	-
	Thiva	-	-	-	-	-	-
Cereals, spring (at BBCH 30)	Châteaudun	0.0000	0.000	0.0000	0.000	0.0000	0.000
	Hamburg	0.0000	0.000	0.0000	0.000	0.0000	0.000
	Jokioinen	0.0000	0.000	0.0000	0.000	0.0000	0.000
	Kremsmünster	0.0000	0.000	0.0000	0.000	0.0000	0.000
	Okhampton	0.0000	0.000	0.0000	0.000	0.0000	0.000
	Piacenza	-	-	-	-	-	-

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	Porto	0.0000	0.000	0.0000	0.000	0.0000	0.000
	Sevilla	-	-	-	-	-	-
	Thiva	-	-	-	-	-	-
Cereals, spring (1st application date when last is at BBCH 69)	Châteaudun	0.0000	0.000	0.0000	0.000	0.0000	0.000
	Hamburg	0.0000	0.002	0.0000	0.0000	0.0000	0.0000
	Jokioinen	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
	Kremsmünster	0.0000	0.001	0.0000	0.0000	0.0000	0.0000
	Okchampton	0.0000	0.005	0.0000	0.0000	0.0000	0.0000
	Piacenza	-	-	-	-	-	-
	Porto	0.0000	0.001	0.0000	0.0000	0.0000	0.0000
	Sevilla	-	-	-	-	-	-
	Thiva	-	-	-	-	-	-

Evaluation by zRMS	PECgw (KCP 9.2.4)
Modelling	The applicant has used appropriate models for groundwater FOCUS-PEARL 5.5.5 and FOCUS-PELMO 6.6.4. The interval between first and second application is 21 d. The footnote under Table 8.8-2 states that the application date of the second application is 15 d after the first. It is a deviation of the calculations from the GAP. However, due to the fact that the calculated PECgw values are very low there is no need to recalculate these values as this will not affect the risk assessment. Boscalid For the active substance boscalid the calculations presented here are accepted. PECgw values were calculated for two application of 125 g boscalid /ha to winter and spring oilseed rape and winter and spring cereals. Input parameters used in FOCUS ground water modeling for boscalid are correct except Kfoc (mL/g) values. The applicant used arithmetic mean instead of geometric mean. According to <i>EFSA Guidance Document for evaluating laboratory and field dissipation studies to obtain DegT50 values of active substances of plant protection products and transformation products of these active substances in soil</i> (EFSA Journal 2014;12(5):3662) there is the recommendation to use the geometric mean Kom or Koc. These endpoints are agreed at the UE level. Therefore for calculations should be applied Koc = 742.6 mL/g or Kom = 430.7 mL/g. The applicant used arithmetic means of Koc = 771.5 mL/g or Kom = 447.51 mL/g. Therefore the evaluator recalculated the results for all scenarios. The recalculated PECgw values were the same to those calculated by the applicant. Thus the results of predicted environmental concentration in groundwater for boscalid submitted by applicant are acceptable. Due to the fact that for the oilseed rape spring crop there are no scenarios specific to the central zone in the FOCUS model, the evaluator counted the PECgw values for the Châteaudun, Hamburg, Kremsmünster scenarios using surrogate crop: spring cereals. The results zRMS provided in Table 8.8-4. As the applicant provided PECgw calculations for spring and winter cereals for

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	BBCH 25 (in accordance with the GAP table) the PECgw calculation results for BBCH30 are not applicable and have been deleted as unnecessary. According to DAR in field studies no metabolite was found in amounts greater than 10% of the applied parent. Therefore no PECgw calculations are performed for metabolites of boscalid. Prothioconazole and its metabolites: M01 and M04 The calculations PECgw has been accepted for the active substance prothioconazole and its metabolites M01 and M04. The input parameters used in calculations were taken from the endpoints available in the EFSA conclusion on Scientific Report (2007) 106, 1-98 except DT₅₀ (d) values for prothioconazole and metabolite M04. The applicant for modelling used DT₅₀ values after updating the kinetic analysis of EU field data for prothioconazole and its metabolite prothioconazole-desthio instead of values given in the EFSA Scientific Report (2007) 106, 1-98 (i.e 1.2d for prothioconazole and 22.7d for metabolite M04). The values used for calculating are slightly lower than the DT50 values given in the EFSA Scientific Report (2007) 106, 1-98, however they do not affect the risk assessment. Due to the fact that for the oilseed rape spring crop there are no scenarios specific to the central zone in the FOCUS model, the evaluator counted the PECgw values for the Châteaudun, Hamburg, Kremsmünster scenarios using surrogate crop: spring cereals. The results zRMS provided in Table 8.8-6. As the applicant provided PEC w calculations for spring and winter cereals for BBCH 25 (in accordance with the GAP table) the PECgw calculation results for BBCH30 are not applicable and have been deleted as unnecessary.
PECgw	Based on the results of performed simulations no unacceptable leaching of boscalid, prothioconazole and its metabolites is expected following the intended Central Zone uses of Pirlanko (GLOB2021dF) on winter and spring cereals and spring and winter oilseed rape. PECgw values of both active substances and two metabolites of prothioconazole: M01, M04 are well below the trigger value of 0.1 µg/L for the FOCUS crops: winter and spring cereals and spring and winter oilseed rape in all available FOCUS scenarios.
Conclusion	A Safe use The results indicate safely uses for the recommended use in GAP.

The results calculated for BBCH 60 will cover the range up to 69 as well, as this falls within the window used by the model for this calculation.

8.9 Predicted Environmental Concentrations in surface water (PEC_{sw}) (KCP 9.2.5)

8.9.1 Justification for new endpoints

Not relevant as there is no deviation to the EU agreed endpoints.

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8.9.2 Active substances, relevant metabolites and the formulation (KCP 9.2.5)

Table 8.9-1: Input parameters related to application for PEC_{SW/SED} calculations

Plant protection product	GLOB2021dF			
Use No.	1	1	2	3-12
Crop	Winter oilseed rape	Winter and spring oilseed rape	Winter and spring oilseed rape	Winter and spring cereals
Application rate (kg as/ha)	Boscalid: 125 g/ha Prothioconazole: 125 g as/ha			
Number of applications/interval (d)	2/21			
Application period (Step 2)	Oct-Feb March-May	Oct-Feb March-May June-Sept	March-May June-Sept	Oct-Feb March-May June-Sept
Crop interception (Step 2)	Intermediate crop cover			
Application window (Step 3)	Absolute application dates are used (see below)			
Application method (Step 3)	DW spraying			
CAM (Chemical application method) (Step 3)	2			
Soil depth (cm) (Step 3)	4			
Models used for calculation	FOCUS STEP 1-2 v3.2 FOCUS SWASH v5.3, FOCUS PRZM v4.3.1, FOCUS MACRO v5.5.4, FOCUS TOXSWA v5.5.3, SWAN v5.0.1			

Table 8.9-2: FOCUS Step 3 Scenario related input parameters for PEC_{sw/sed} calculations for the application of GLOB2021dF

Crop	Scenario	Application window used in modelling*	
		Multiple applications	Single application
Spring cereals (BBCH 25)	D1 Ditch/Stream	22/05 – 12/07	22/05 – 21/06
	D2 Ditch/Stream	-	-
	D3 Ditch	21/04 – 11/06	21/04 – 21/05
	D4 Pond/Stream	13/05 – 03/07	13/05 – 12/06
	D5 Pond/Stream	03/04 – 24/05	3/04 – 3/05
	D6 Ditch	-	-
	R1 Pond/Stream	-	-
	R2 Stream	-	-

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Crop	Scenario	Application window used in modelling*	
		Multiple applications	Single application
	R3 Stream	-	-
	R4 Stream	03/04 – 24/05	3/04 – 3/05
Spring cereals (up to BBCH 69)	D1 Ditch/Stream	28/05 – 18/07	18/06 – 18/07
	D2 Ditch/Stream	-	-
	D3 Ditch	8/05 – 28/06	29/05 – 28/06
	D4 Pond/Stream	19/05 – 9/07	9/06 – 9/07
	D5 Pond/Stream	14/04 – 4/06	5/05 – 4/06
	D6 Ditch	-	-
	R1 Pond/Stream	-	-
	R2 Stream	-	-
	R3 Stream	-	-
	R4 Stream	14/04 – 4/06	5/05 – 4/06
Winter cereals (BBCH 25)	D1 Ditch/Stream	20/03 – 10/05	20/03 – 19/04
	D2 Ditch/Stream	30/03 – 20/05	30/03 – 29/04
	D3 Ditch	11/04 – 01/06	11/04 – 11/05
	D4 Pond/Stream	13/03 – 03/05	13/03 – 12/04
	D5 Pond/Stream	10/03 – 30/04	10/03 – 9/04
	D6 Ditch	16/01 – 08/03	16/01 – 15/02
	R1 Pond/Stream	19/04 – 09/06	19/04 – 19/05
	R2 Stream	-	-
	R3 Stream	14/03 – 04/05	14/03 – 13/03
	R4 Stream	06/01 – 26/02	6/01 – 5/02
Winter cereals (up to BBCH 69)	D1 Ditch/Stream	22/05 – 12/07	12/06 – 12/07
	D2 Ditch/Stream	21/05 – 11/07	11/06 – 11/07
	D3 Ditch	10/06 – 31/07	1/07 – 31/07
	D4 Pond/Stream	19/05 – 9/07	9/06 – 9/07
	D5 Pond/Stream	12/04 – 2/06	3/05 – 2/06
	D6 Ditch	7/03 – 27/04	28/03 – 27/04
	R1 Pond/Stream	5/05 – 25/06	26/05 – 25/06
	R2 Stream	5/04 – 26/05	26/04 – 26/05
	R3 Stream	5/04 – 26/05	26/04 – 26/05
	R4 Stream	12/04 – 2/06	3/05 – 2/06
Spring oilseed rape (BBCH 14)	D1 Ditch/Stream	25/05 – 15/07	25/05 – 24/06
	D2 Ditch/Stream	-	-

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Crop	Scenario	Application window used in modelling*	
		Multiple applications	Single application
	D3 Ditch	18/04 – 08/06	18/04 – 18/05
	D4 Pond/Stream	07/05 – 27/06	7/05 – 6/06
	D5 Pond/Stream	23/03 – 13/05	23/03 – 22/04
	D6 Ditch	-	-
	R1 Pond/Stream	17/04 – 07/06	17/04 – 17/05
	R2 Stream	-	-
	R3 Stream	-	-
	R4 Stream	-	-
Spring oilseed rape (BBCH 61)	D1 Ditch/Stream	6/07 – 26/08	6/07 – 5/08
	D2 Ditch/Stream	-	-
	D3 Ditch	17/06 – 7/08	17/06 – 17/07
	D4 Pond/Stream	20/06 – 10/08	20/06 – 20/07
	D5 Pond/Stream	27/05 – 17/07	27/05 – 26/0506
	D6 Ditch	-	-
	R1 Pond/Stream	9/06 – 30/07	9/06 – 9/07
	R2 Stream	-	-
	R3 Stream	-	-
	R4 Stream	-	-
Winter oilseed rape (BBCH 14 – 1 st applica- tion in autumn, 2 nd appli- cation not in autumn)	D1 Ditch/Stream	-	-
	D2 Ditch/Stream	22/09 – 17/03	22/09 – 22/10
	D3 Ditch	09/09 – 17/03	9/09 – 9/10
	D4 Pond/Stream	10/09 – 17/03	10/09 – 10/10
	D5 Pond/Stream	27/09 – 17/03	27/09 – 27/10
	D6 Ditch	-	-
	R1 Pond/Stream	11/09 – 17/03	11/09 – 11/10
	R2 Stream	-	-
	R3 Stream	12/10 – 17/03	12/10 – 11/11
	R4 Stream	-	-
Winter oilseed rape (BBCH 21 – no applica- tion in autumn)	D1 Ditch/Stream	-	-
	D2 Ditch/Stream	01/03 – 21/04	1/03 – 31/03
	D3 Ditch	12/02 – 04/04	12/02 – 14/03
	D4 Pond/Stream	20/02 – 12/04	20/02 – 22/03
	D5 Pond/Stream	20/02 – 12/04	20/02 – 22/03
	D6 Ditch	-	-

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Crop	Scenario	Application window used in modelling*	
		Multiple applications	Single application
	R1 Pond/Stream	06/04 – 27/05	6/04 – 6/05
	R2 Stream	-	-
	R3 Stream	26/02 – 18/04	26/02 – 28/03
	R4 Stream	-	-

* As recommended in FOCUS [30 + (application number-1)*interval] days]

For the surface water modelling of both boscalid, prothioconazole and prothioconazole-desthio, at least FOCUS Step 3 data is necessary to achieve an accepted risk in the Ecotox section B9. Therefor only the results of STEP 3 and STEP 4 are summarized here. For completeness, the modelling files are included in this submission. For the other metabolites of prothioconazole, STEP 1&2 data is included in this section.

8.9.2.1 Boscalid

Table 8.9-3: Input parameters related to active substance boscalid for PEC_{sw/sed} calculations STEP 1/2 and 3(4)

Compound	Boscalid	Value in accordance to EU endpoint y/n/ Reference
Molecular weight (g/mol)	343.2	EFSA, 2008
Saturated vapour pressure (Pa)	7.2×10^{-7} at 20°C	EFSA, 2008
Water solubility (mg/L)	4.6	EFSA, 2008
Diffusion coefficient in water (m ² /d)	not required for Step 1+2/ 4.3×10^{-5}	EFSA, 2008
Diffusion coefficient in air (m ² /d)	not required for Step 1+2/0.43	EFSA, 2008
K _{foc} (mL/g)	742.6 (Geomean, n = 6)	EFSA, 2008
Freundlich Exponent 1/n	0.864 (n = 6)	EFSA, 2008
Plant Uptake	0	FOCUS recommendation
Wash-Off factor from Crop (1/mm)	not required for Step 1+2/ 0.05 (MACRO) 0.50 (PRZM)	-
DT _{50,soil} (d)	212 (geomean, n=8) (maximum of field studies, n=3)	EFSA, 2008
Temperature correction function Reference temperature [°C] PRZM: Q ₁₀ [-]	20 2.58	EFSA, 2008

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Compound	Boscalid	Value in accordance to EU endpoint y/n/ Reference
Moisture correction function Reference moisture [-] PRZM/MACRO: moisture exponent [-]	pF 2 0.7	EFSA, 2008
DT _{50,water} (d)	1000	EFSA, 2008
DT _{50,sed} (d)	1000	EFSA, 2008
DT _{50,whole system} (d)	1000	EFSA, 2008
Maximum occurrence observed (% molar basis with respect to the parent)	79.9	EFSA, 2008
Formation fraction in soil:	-	EFSA, 2008

PEC_{sw/sed}

Multiple applications

Table 8.9-4: FOCUS Step 3 PEC_{sw} and PEC_{sed} for boscalid following multiple application of GLOB2021dF to winter oilseed rape

Scenario FOCUS	Water-body	Dominant entry route	Max PEC _{sw} (µg/L)	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)*	Max PEC _{sed, accu} (µg/kg)
Step 3						
BBCH 14 (only one application in autumn = first application in autumn, second application not in autumn)						
D2	ditch	Drainage	5.374	2.161	28.820	72.577
D2	stream	Drainage	3.356	1.174	16.730	42.131
D3	ditch	Drift	0.694	0.062	0.590	1.346
D4	pond	Drainage	0.372	0.358	3.646	9.605
D4	stream	Drainage	0.787	0.230	1.169	3.080
D5	pond	Drainage	0.230	0.215	3.159	6.776
D5	stream	Drift	0.638	0.093	0.601	1.290
R1	pond	Run-off	0.104	0.092	1.412	3.223
R1	stream	Run-off	0.905	0.025	0.476	1.087
R3	stream	Run-off	1.154	0.078	1.134	2.042
BBCH 21 (no applications in autumn)						
D2	ditch	Drainage	6.207	2.694	40.840	102.847
D2	stream	Drainage	3.884	1.570	24.330	61.270
D3	ditch	Drift	0.691	0.034	0.473	1.079

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Scenario FOCUS	Water-body	Dominant entry route	Max PEC _{sw} (µg/L)	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)*	Max PEC _{sed, accu} (µg/kg)
D4	pond	Drainage	0.587	0.566	5.511	14.519
D4	stream	Drainage	1.037	0.369	1.818	4.790
D5	pond	Drainage	0.464	0.433	5.266	11.296
D5	stream	Drainage	0.653	0.148	1.104	2.368
R1	pond	Run-off	0.250	0.220	2.250	5.136
R1	stream	Run-off	1.753	0.129	1.394	3.182
R3	stream	Run-off	1.565	0.121	1.948	3.508
<i>BBCH 61 (against Alternaria and Sclerotinia)</i>						
D2	ditch	Drainage	6.322	2.757	40.750	102.620
D2	stream	Drainage	3.942	1.600	24.030	60.514
D3	ditch	Drift	0.693	0.043	0.552	1.260
D4	pond	Drainage	0.388	0.374	3.772	9.937
D4	stream	Drainage	0.722	0.242	1.204	3.172
D5	pond	Drainage	0.443	0.414	4.943	10.603
D5	stream	Drift	0.638	0.142	1.050	2.252
R1	pond	Run-off	0.246	0.217	2.268	5.177
R1	stream	Run-off	1.634	0.120	1.435	3.276
R3	stream	Run-off	1.563	0.121	1.945	3.503

Table 8.9-5: FOCUS Step 3 PEC_{sw} and PEC_{sed} for boscalid following multiple application of GLOB2021dF to spring oilseed rape

Scenario FOCUS	Waterbody	Dominant entry route	Max PEC _{sw} (µg/L)	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)*	Max PEC _{sed, accu} (µg/kg)
Step 3						
BBCH 14 (early application)						
D1	ditch	Drainage	4.311	4.054	39.130	110.572
D1	stream	Drainage	2.778	2.524	22.130	62.534
D3	ditch	Drift	0.692	0.042	0.547	1.248
D4	pond	Drainage	0.538	0.520	5.056	13.320
D4	stream	Drainage	0.874	0.337	1.671	4.402
D5	pond	Drainage	0.515	0.481	5.382	11.545
D5	stream	Drainage	0.646	0.182	1.181	2.533
R1	pond	Run-off	0.215	0.201	2.768	6.318

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Scenario FOCUS	Waterbody	Dominant entry route	Max PEC _{sw} (µg/L)	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)*	Max PEC _{sed, accu} (µg/kg)
R1	stream	Run-off	1.507	0.069	1.853	4.230
BBCH 61 (against <i>Alternaria</i> and <i>Sclerotinia</i>)						
D1	ditch	Drainage	4.151	3.889	37.330	105.486
D1	stream	Drainage	2.664	2.421	21.120	59.680
D3	ditch	Drift	0.695	0.077	0.794	1.812
D4	pond	Drainage	0.504	0.487	4.749	12.511
D4	stream	Drainage	0.953	0.310	1.511	3.981
D5	pond	Drainage	0.353	0.324	3.471	7.445
D5	stream	Drift	0.638	0.117	0.811	1.739
R1	pond	Run-off	0.278	0.245	3.200	7.304
R1	stream	Run-off	1.595	0.092	2.847	6.499

Table 8.9-6: FOCUS Step 3 PEC_{sw} and PEC_{sed} for boscalid following multiple application of GLOB2021dF to winter cereals

Scenario FOCUS	Waterbody	Dominant entry route	Max PEC _{sw} (µg/L)	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)*	Max PEC _{sed, accu} (µg/kg)
Step 3						
BBCH 25						
D1	ditch	Drainage	5.211	4.844	44.620	126.085
D1	stream	Drainage	3.303	3.055	25.450	71.916
D2	ditch	Drainage	6.936	3.042	44.660	112.466
D2	stream	Drainage	4.329	1.794	26.430	66.558
D3	ditch	Drift	0.692	0.039	0.526	1.200
D4	pond	Drainage	0.636	0.614	5.840	15.385
D4	stream	Drainage	1.057	0.393	1.908	5.027
D5	pond	Drainage	0.505	0.472	5.684	12.192
D5	stream	Drainage	0.705	0.168	1.225	2.628
D6	ditch	Drainage	1.596	0.399	2.316	3.656
R1	pond	Run-off	0.252	0.228	2.754	6.286
R1	stream	Run-off	1.652	0.073	2.848	6.501
R3	stream	Run-off	1.797	0.141	1.502	2.705
R4	stream	Run-off	3.347	0.169	2.187	4.004
BBCH69						
D1	ditch	Drainage	3.302	3.125	28.9	81.664

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Scenario FOCUS	Waterbody	Dominant entry route	Max PEC _{sw} (µg/L)	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)*	Max PEC _{sed, accu} (µg/kg)
D1	stream	Drainage	2.067	1.957	15.79	44.619
D2	ditch	Drainage	4.192	2.015	30.26	76.203
D2	stream	Drainage	2.615	1.161	17.78	44.775
D3	ditch	Drift	0.694	0.05694	0.6634	1.514
D4	pond	Drainage	0.4182	0.4038	4.021	10.593
D4	stream	Drainage	0.7408	0.2546	1.273	3.354
D5	pond	Drainage	0.4505	0.4202	4.868	10.442
D5	stream	Drift	0.6384	0.1532	1.076	2.308
D6	ditch	Drainage	1.123	0.2421	1.797	2.837
R1	pond	Run-off	0.2691	0.2403	2.901	6.622
R1	stream	Run-off	1.724	0.07574	3.065	6.996
R3	stream	Run-off	1.978	0.1297	2.097	3.776
R4	stream	Run-off	1.782	0.2063	2.132	3.904

Table 8.9-7: FOCUS Step 3 PEC_{sw} and PEC_{sed} for boscalid following multiple application of GLOB2021dF to spring cereals

Scenario FOCUS	Waterbody	Dominant entry route	Max PEC _{sw} (µg/L)	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)*	Max PEC _{sed, accu} (µg/kg)
Step 3						
BBCH 25						
D1	ditch	Drainage	3.995	3.545	35.750	101.021
D1	stream	Drainage	2.527	2.198	20.200	57.080
D3	ditch	Drift	0.692	0.039	0.529	1.208
D4	pond	Drainage	0.743	0.718	6.780	17.862
D4	stream	Drainage	1.139	0.465	2.307	6.078
D5	pond	Drainage	0.448	0.418	4.923	10.560
D5	stream	Drift	0.598	0.143	1.040	2.231
R4	stream	Run-off	2.895	0.295	2.858	5.233
BBCH69						
D1	ditch	Drainage	3.992	3.542	35.71	100.908
D1	stream	Drainage	2.525	2.196	20.19	57.052
D3	ditch	Drift	0.6933	0.049	0.6027	1.518
D4	pond	Drainage	0.5993	0.5796	5.574	14.037
D4	stream	Drainage	0.9376	0.3735	1.874	4.278

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Scenario FOCUS	Waterbody	Dominant entry route	Max PEC _{sw} (µg/L)	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)*	Max PEC _{sed, accu} (µg/kg)
D5	pond	Drainage	0.4343	0.4055	4.742	12.493
D5	stream	Drift	0.5981	0.1393	1.003	2.642
R4	stream	Run-off	1.787	0.2067	2.147	4.605

Single applications

Table 8.9-8: FOCUS Step 3 PEC_{sw} and PEC_{sed} for boscalid following single application of GLOB2021dF to winter oilseed rape

Scenario FOCUS	Water-body	Dominant entry route	Max PEC _{sw} (µg/L)	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)*	Max PEC _{sed, accu} (µg/kg)
Step 3						
BBCH 14 (only one application in autumn = first application in autumn, second application not in autumn)						
D2	ditch	Drainage	5.374	2.161	28.550	71.897
D2	stream	Drainage	3.356	1.209	16.750	42.181
D3	ditch	Drift	0.794	0.071	0.671	1.532
D4	pond	Drainage	0.373	0.360	3.556	9.368
D4	stream	Drainage	0.787	0.230	1.170	3.082
D5	pond	Drainage	0.299	0.275	3.521	7.553
D5	stream	Drift	0.738	0.094	0.743	1.593
R1	pond	Run-off	0.078	0.067	0.765	1.746
R1	stream	Run-off	0.638	0.024	0.385	0.878
R3	stream	Run-off	1.129	0.075	1.352	2.435
BBCH 21 (no applications in autumn)						
D2	ditch	Drainage	2.871	1.284	20.600	51.877
D2	stream	Drainage	1.786	0.784	12.230	30.799
D3	ditch	Drift	0.789	0.031	0.378	0.864
D4	pond	Drainage	0.241	0.232	2.416	6.365
D4	stream	Drift	0.614	0.151	0.780	2.055
D5	pond	Drainage	0.202	0.186	2.293	4.919
D5	stream	Drift	0.534	0.063	0.489	1.049
R1	pond	Run-off	0.129	0.113	1.221	2.787
R1	stream	Run-off	0.860	0.064	0.805	1.838
R3	stream	Run-off	0.952	0.052	0.859	1.547
BBCH 61 (against <i>Alternaria</i> and <i>Sclerotinia</i>)						
D2	ditch	Drainage	2.882	1.383	19.620	49.409

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Scenario FOCUS	Water-body	Dominant entry route	Max PEC _{sw} (µg/L)	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)*	Max PEC _{sed, accu} (µg/kg)
D2	stream	Drainage	1.793	0.783	11.470	28.885
D3	ditch	Drift	0.792	0.049	0.525	1.198
D4	pond	Drainage	0.122	0.117	1.310	3.451
D4	stream	Drift	0.667	0.074	0.396	1.044
D5	pond	Drainage	0.211	0.196	2.357	5.056
D5	stream	Drift	0.676	0.067	0.506	1.086
R1	pond	Run-off	0.129	0.113	1.221	2.787
R1	stream	Run-off	0.860	0.064	0.805	1.838
R3	stream	Run-off	1.029	0.054	1.144	2.060

Table 8.9-9: FOCUS Step 3 PEC_{sw} and PEC_{sed} for boscalid following single application of GLOB2021dF to spring oilseed rape

Scenario FOCUS	Waterbody	Dominant entry route	Max PEC _{sw} (µg/L)	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)*	Max PEC _{sed, accu} (µg/kg)
Step 3						
BBCH 14 (early application)						
D1	ditch	Drainage	2.536	2.404	25.160	71.096
D1	stream	Drainage	1.603	1.497	14.320	40.465
D3	ditch	Drift	0.791	0.042	0.471	1.075
D4	pond	Drainage	0.278	0.268	2.732	7.197
D4	stream	Drift	0.648	0.173	0.873	2.299
D5	pond	Drainage	0.233	0.215	2.516	5.397
D5	stream	Drift	0.630	0.077	0.551	1.182
R1	pond	Run-off	0.110	0.097	1.301	2.970
R1	stream	Run-off	0.852	0.057	0.667	1.523
BBCH 61 (against <i>Alternaria</i> and <i>Sclerotinia</i>)						
D1	ditch	Drainage	1.608	1.506	16.190	45.749
D1	stream	Drainage	1.004	0.936	9.021	25.491
D3	ditch	Drift	0.794	0.063	0.621	1.418
D4	pond	Drainage	0.128	0.121	1.303	3.433
D4	stream	Drift	0.684	0.074	0.395	1.041
D5	pond	Drainage	0.244	0.222	2.276	4.882
D5	stream	Drift	0.738	0.079	0.557	1.194
R1	pond	Run-off	0.219	0.200	1.923	4.390

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Scenario FOCUS	Waterbody	Dominant entry route	Max PEC _{sw} (µg/L)	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)*	Max PEC _{sed, accu} (µg/kg)
R1	stream	Run-off	1.020	0.073	2.188	4.994

Table 8.9-10: FOCUS Step 3 PEC_{sw} and PEC_{sed} for boscalid following single application of GLOB2021dF to winter cereals

Scenario FOCUS	Waterbody	Dominant entry route	Max PEC _{sw} (µg/L)	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)*	Max PEC _{sed, accu} (µg/kg)
Step 3						
BBCH 25						
D1	ditch	Drainage	2.479	2.350	23.080	65.219
D2	ditch	Drainage	3.197	1.473	22.180	55.855
D2	stream	Drainage	1.996	0.855	13.020	32.788
D3	ditch	Drift	0.791	0.039	0.446	1.019
D4	pond	Drainage	0.253	0.244	2.493	6.568
D4	stream	Drift	0.585	0.155	0.781	2.058
D5	pond	Drainage	0.225	0.208	2.567	5.506
D5	stream	Drift	0.634	0.073	0.556	1.192
D6	ditch	Drainage	1.015	0.255	1.294	2.043
R1	pond	Run-off	0.122	0.108	1.296	2.958
R1	stream	Run-off	0.863	0.063	0.777	1.774
R3	stream	Run-off	1.025	0.056	1.166	2.100
R4	stream	Run-off	1.461	0.072	1.036	1.897
BBCH69						
D1	ditch	Drainage	1.306	1.206	13.42	37.922
D1	stream	Drainage	0.8168	0.7506	7.211	20.377
D2	ditch	Drainage	1.623	1.05	12.19	30.698
D2	stream	Drift	1.017	0.7793	7.275	18.321
D3	ditch	Drift	0.7931	0.05659	0.5783	1.320
D4	pond	Drainage	0.1237	0.1168	1.268	3.341
D4	stream	Drift	0.6841	0.07058	0.3791	0.999
D5	pond	Drainage	0.1612	0.1475	1.725	3.700
D5	stream	Drift	0.7381	0.05067	0.3949	0.847
D6	ditch	Drift	0.7954	0.1354	1.014	1.601
R1	pond	Run-off	0.1425	0.133	1.583	3.613
R1	stream	Run-off	1.059	0.04945	2.093	4.778

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Scenario FOCUS	Waterbody	Dominant entry route	Max PEC _{sw} (µg/L)	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)*	Max PEC _{sed, accu} (µg/kg)
R3	stream	Run-off	0.9803	0.07787	0.5955	1.072
R4	stream	Run-off	1.78	0.2016	2.039	3.733

Table 8.9-11: FOCUS Step 3 PEC_{sw} and PEC_{sed} for boscalid following single application of GLOB2021dF to spring cereals

Scenario FOCUS	Waterbody	Dominant entry route	Max PEC _{sw} (µg/L)	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)*	Max PEC _{sed, accu} (µg/kg)
Step 3						
BBCH 25						
D1	ditch	Drainage	2.311	2.009	22.850	64.569
D1	stream	Drainage	1.470	1.250	13.030	36.820
D3	ditch	Drift	0.791	0.039	0.451	1.029
D4	pond	Drainage	0.349	0.338	3.362	8.857
D4	stream	Drift	0.606	0.219	1.108	2.919
D5	pond	Drainage	0.233	0.216	2.607	5.592
D5	stream	Drift	0.631	0.073	0.554	1.188
R4	stream	Run-off	1.692	0.192	1.869	3.422
BBCH69						
D1	ditch	1.227	Drainage	1.149	14.1	39.843
D1	stream	0.7658	Drainage	0.714	7.792	22.018
D3	ditch	0.7923	Drift	0.0489	0.5246	1.321
D4	pond	0.1759	Drainage	0.1697	1.782	4.488
D4	stream	0.6821	Drift	0.1071	0.5615	1.282
R4	stream	1.789	Run-off	0.2072	2.045	5.388

8.9.2.2 Prothioconazole and its metabolites

Table 8.9-12: Input parameters related to active substance Prothioconazole and metabolites for $PEC_{sw/sed}$ calculations STEP 1/2 and 3(/4) (if necessary)

Compound	Prothioconazole	Prothioconazole- S-methyl (M01)	Prothioconazole-desthio (M04)	1,2,4-triazole (M013)	Value in accordance to EU endpoint y/n/ Reference
Molecular weight (g/mol)	344.3	358.3	312.2	69.1	y/EFSA, 2007
Saturated vapour pressure (Pa)	4×10^{-7}	4×10^{-7} (parent value as surrogate)	4×10^{-7} (parent value as surrogate)	0.34	y/EFSA, 2007
Water solubility (mg/L)	300 (20°C, pH 8)	300 (parent value as surrogate)	300 (parent value as surrogate)	730000	y/EFSA, 2007
Diffusion coefficient in water (m ² /d)	not required for Step 1+2/ 4.3×10^{-5}				default
Diffusion coefficient in air (m ² /d)	not required for Step 1+2/ 0.43				default
K _{foc} (mL/g)	1765 (n=1) Worst case assumption based on EFSA conclusion	2525.9 (n=4) Geometric mean based on laboratory studies	573.5 (n=4) Geometric mean based on laboratory studies	83 Geometric mean based on laboratory studies	y/EFSA, 2007
Freundlich Exponent 1/n	1 (default)	0.88	0.81	0.91	y/EFSA, 2007
Plant Uptake	0	0	0	0	Worst-case

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Compound	Prothioconazole	Prothioconazole- S-methyl (M01)	Prothioconazole-desthio (M04)	1,2,4-triazole (M013)	Value in accordance to EU endpoint y/n/ Reference
	(worst case)	(worst case)	(worst case)	(worst case)	
Wash-Off factor from Crop (1/mm)	0.05 (MACRO) 0.50 (PRZM)	0.05 (MACRO) 0.50 (PRZM)	0.05 (MACRO) 0.50 (PRZM)	0.05 (MACRO) 0.50 (PRZM)	Default
DT _{50,soil} (d)	0.94 days (kinetic refit with Q10 of 2.58) geometric mean field values normalized to 20°C	15.7 days geometric mean lab values normalized to 20°C and pF2	21.8 days (kinetic refit with Q10 of 2.58) geometric mean field values normalized to 20°C and pF2	60.5 (not a relevant soil metabolite) geometric mean lab values normalized to 20°C and pF2 Worst-case of the slow phase degradation DT50 of 60.5 days is derived from the amendment of DT50 endpoints for 1,2,4-triazole as noted by CRD (UK) to SCFAH in December 2013 (Briefing note for the 13 December 2013 SCFAH, Agenda Item Pt. A 06.01- Amended DT50 values for the 1,2,4-triazole).	y/EFSA, 2007
DT _{50,water} (d)	Set 1: 39.5 * Set 2: 1000	1000	Set 1: 49.9 * Set 2: 1000	1000	y/EFSA, 2007
DT _{50,sed} (d)	Set 1: 1000 * Set 2: 39.5	1000 (worst case)	Set 1: 1000 * Set 2: 49.9	1000 (worst case)	y/EFSA, 2007
DT _{50,whole system} (d)	Set 1: 39.5 * Set 2: 39.5	1000 (worst case)	Set 1: 49.9 * Set 2: 49.9	1000 (worst case)	y/EFSA, 2007

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Compound	Prothioconazole	Prothioconazole- S-methyl (M01)	Prothioconazole-desthio (M04)	1,2,4-triazole (M013)	Value in accordance to EU endpoint y/n/ Reference
Maximum occurrence observed (% molar basis with respect to the parent)	100	0.01% Soil: 14.6 Total system: 12.7	57.1 in soil 32.3 in water 26.9 in sediment 54.5 in water/sediment	Soil: 0.01 Water: 37.2 Water/sediment: 41.8%	y/EFSA, 2007
Formation fraction in soil:	-	14.6% Soil: 0.146	57.1 in soil Soil: 0.6	Not used	y/EFSA, 2007

*For Prothioconazole and its metabolite desthio (M04) with K_{foc} between 100 and 2000, 2 sets of simulations should be conducted:

- 1) Ascribing the whole system DT50 volume (39.5d for parent / 49.9d for metabolite) to the water compartment and a default value (1000d) to the sediment compartment
- 2) Ascribing the whole system DT50 volume (39.5d for parent / 49.9d for metabolite) to the sediment compartment and a default value (1000d) to the water compartment

The results that give the highest concentrations should be used in the risk assessment.

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PEC_{sw/sed}

Prothioconazole

Series 1: whole system DT₅₀ value (39.5d for parent / 49.9d for metabolite) to the water compartment and a default value (1000d) to the sediment compartment.

Multiple applications

Table 8.9-13: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for Prothioconazole following multiple applications of GLOB2021dF to winter oilseed rape

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	27.1501	---	21.3982	442.8795
Step 2					
Northern Europe	Oct – Feb	1.2894	---	0.6258	11.6708
	Mar - May	1.2894	---	0.5410	9.6397
	June - Sept	1.2894	---	0.5410	9.6397
Southern Europe	Oct – Feb	1.2894	---	0.5975	10.9938
	Mar - May	1.2894	---	0.5975	10.9938
	June - Sept	1.2894	---	0.5693	10.3167
Step 3					
BBCH 14 (only one application in autumn = first application in autumn, second application not in autumn)					
D2	ditch	0.7004	Drift	0.2583	1.4870
D2	stream	0.6166	Drift	0.2217	1.3070
D3	ditch	0.6944	Drift	0.0615	0.5239
D4	pond	0.0245	Drift	0.0206	0.1594
D4	stream	0.5918	Drift	0.0082	0.1142
D5	pond	0.0253	Drift	0.0199	0.1499
D5	stream	0.6385	Drift	0.0117	0.1563
R1	pond	0.0251	Drift	0.0208	0.1541
R1	stream	0.4525	Drift	0.0045	0.0655
R3	stream	0.6377	Drift	0.0152	0.1585
BBCH 21 (no applications in autumn)					
D2	ditch	0.7035	Drift	0.2026	1.3970
D2	stream	0.6166	Drift	0.1426	1.0810
D3	ditch	0.6913	Drift	0.0341	0.4112
D4	pond	0.0375	Drift	0.0311	0.1818

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Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
D4	stream	0.5315	Drift	0.0013	0.0212
D5	pond	0.0328	Drift	0.0274	0.1751
D5	stream	0.5545	Drift	0.0011	0.0179
R1	pond	0.0372	Drift	0.0303	0.1670
R1	stream	0.4499	Drift	0.0061	0.0656
R3	stream	0.6377	Drift	0.0188	0.1793
BBCH 61 (against <i>Alternaria</i> and <i>Sclerotinia</i>)					
D2	ditch	0.7062	Drift	0.1989	1.5390
D2	stream	0.6167	Drift	0.1642	1.1500
D3	ditch	0.6927	Drift	0.0427	0.4766
D4	pond	0.0347	Drift	0.0283	0.1666
D4	stream	0.5767	Drift	0.0041	0.0634
D5	pond	0.0375	Drift	0.0309	0.1745
D5	stream	0.6377	Drift	0.0112	0.1525
R1	pond	0.0434	Drift	0.0357	0.2153
R1	stream	0.4523	Drift	0.0155	0.2748
R3	stream	0.6377	Drift	0.0152	0.1660

Table 8.9-14: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for Prothioconazole following multiple applications of GLOB2021dF to spring oilseed rape

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	27.1501	---	21.3982	442.8795
Step 2					
Northern Europe	Mar - May	1.2894	---	0.5410	9.6397
	June - Sept	1.2894	---	0.5410	9.6397
Southern Europe	Mar - May	1.2894	---	0.5975	10.9938
	June - Sept	1.2894	---	0.5693	10.3167
Step 3					
BBCH 14 (early application)					
D1	ditch	1.0190	Drift	0.6663	3.3600
D1	stream	0.6057	Drift	0.0262	0.3520
D3	ditch	0.6925	Drift	0.0418	0.4717
D4	pond	0.0366	Drift	0.0295	0.1574

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Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
D4	stream	0.5823	Drift	0.0051	0.0799
D5	pond	0.0351	Drift	0.0287	0.1691
D5	stream	0.5979	Drift	0.0024	0.0392
R1	pond	0.0337	Drift	0.0265	0.1575
R1	stream	0.4507	Drift	0.0050	0.0753
BBCH 61 (against <i>Alternaria</i> and <i>Sclerotinia</i>)					
D1	ditch	0.9983	Drift	0.6687	3.4020
D1	stream	0.6057	Drift	0.0262	0.3506
D3	ditch	0.6954	Drift	0.0756	0.6747
D4	pond	0.0360	Drift	0.0285	0.1539
D4	stream	0.5918	Drift	0.0082	0.1319
D5	pond	0.0365	Drift	0.0295	0.1586
D5	stream	0.6385	Drift	0.0117	0.1809
R1	pond	0.0473	Drift	0.0410	0.2682
R1	stream	0.4527	Drift	0.0138	0.8128

Table 8.9-15: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for Prothioconazole following multiple applications of GLOB2021dF to Winter cereals

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	27.1501	---	21.3982	442.8795
Step 2					
Northern Europe	Oct – Feb	1.2894		0.7200	13.9276
	Mar - May	1.2894	---	0.5787	10.5424
	June - Sept	1.2894	---	0.5787	10.5424
Southern Europe	Oct – Feb	1.2894		0.6729	12.7992
	Mar - May	1.2894	---	0.6729	12.7992
	June - Sept	1.2894	---	0.6258	11.6708
Step 3					
BBCH 25					
D1	ditch	0.6995	Drift	0.2892	1.5560
D1	stream	0.5898	Drift	0.0073	0.1052
D2	ditch	0.7037	Drift	0.1940	1.5060
D2	stream	0.6121	Drift	0.1585	1.1140

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Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
D3	ditch	0.6920	Drift	0.0375	0.4434
D4	pond	0.0354	Drift	0.0297	0.1753
D4	stream	0.5228	Drift	0.0012	0.0202
D5	pond	0.0376	Drift	0.0310	0.1740
D5	stream	0.6089	Drift	0.0033	0.0523
D6	ditch	0.6975	Drift	0.1873	1.1430
R1	pond	0.0340	Drift	0.0268	0.1605
R1	stream	0.4507	Drift	0.0053	0.0955
R3	stream	0.6370	Drift	0.0120	0.2029
R4	stream	0.4526	Drift	0.0045	0.0720
BBCH69					
D1	ditch	1.019	Drift	0.666	3.360
D1	stream	0.106	Drainage	0.103	0.982
D2	ditch	0.606	Drift	0.026	0.352
D2	stream	0.013	Drift	0.004	0.059
D3	ditch	0.727	Drift	0.483	2.346
D4	pond	0.080	Drainage	0.079	0.895
D4	stream	0.617	Drift	0.397	1.573
D5	pond	0.059	Drainage	0.057	0.557
D5	stream	0.694	Drift	0.056	0.568
D6	ditch	0.008	Drainage	0.001	0.016
R1	pond	0.034	Drift	0.027	0.154
R1	stream	0.008	Drainage	0.008	0.147
R3	stream	0.592	Drift	0.008	0.120
R4	stream	0.007	Drainage	0.000	0.007

Table 8.9-16: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for Prothioconazole following multiple applications of GLOB2021dF to Spring cereals

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	27.1501	---	21.3982	442.8795
Step 2					
Northern Europe	Mar - May	1.2894	---	0.5787	10.5424
	June - Sept	1.2894	---	0.5787	10.5424

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Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Southern Europe	Mar - May	1.2894	---	0.6729	12.7992
	June - Sept	1.2894	---	0.6258	11.6708
Step 3					
BBCH 25					
D1	ditch	1.0190	Drift	0.6663	3.3600
D1	stream	0.6057	Drift	0.0262	0.3520
D3	ditch	0.6922	Drift	0.0386	0.4564
D4	pond	0.0366	Drift	0.0294	0.1573
D4	stream	0.5809	Drift	0.0048	0.0762
D5	pond	0.0351	Drift	0.0287	0.1691
D5	stream	0.5972	Drift	0.0024	0.0386
R4	stream	0.4980	Run-off	0.0385	0.4839
BBCH69					
D1	ditch	1.019	Drift	0.666	3.360
D1	stream	0.106	Drainage	0.103	0.961
D3	ditch	0.606	Drift	0.026	0.352
D4	pond	0.013	Drift	0.003	0.062
D4	stream	0.693	Drift	0.049	0.518
D5	pond	0.006	Drainage	0.001	0.011
D5	stream	0.034	Drift	0.027	0.154
R4	stream	0.008	Drainage	0.008	0.140

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Single application

Table 8.9-17: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for Prothioconazole following single application of GLOB2021dF to winter oilseed rape

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	27.1501	---	21.3982	442.8795
Step 2					
Northern Europe	Oct – Feb	1.2894	---	0.6258	11.6708
	Mar - May	1.1496	---	0.3915	6.8965
	June - Sept	1.1496	---	0.3915	6.8965
Southern Europe	Oct – Feb	1.1496	---	0.4480	8.2506
	Mar - May	1.1496	---	0.4480	8.2506
	June - Sept	1.2894	---	0.5693	10.3167
Step 3					
BBCH 14 (only one application in autumn = first application in autumn, second application not in autumn)					
D2	ditch	0.8015	Drift	0.2956	1.7020
D2	stream	0.7130	Drift	0.2564	1.5110
D3	ditch	0.7946	Drift	0.0703	0.5995
D4	pond	0.0273	Drift	0.0218	0.1126
D4	stream	0.6843	Drift	0.0094	0.1320
D5	pond	0.0273	Drift	0.0218	0.1147
D5	stream	0.7383	Drift	0.0135	0.1806
R1	pond	0.0273	Drift	0.0210	0.1011
R1	stream	0.5232	Drift	0.0052	0.0757
R3	stream	0.7315	Drift	0.0166	0.2174
BBCH 21 (no applications in autumn)					
D2	ditch	0.8015	Drift	0.2318	1.4300
D2	stream	0.7130	Drift	0.1649	1.2500
D3	ditch	0.7893	Drift	0.0312	0.3469
D4	pond	0.0273	Drift	0.0224	0.1137
D4	stream	0.6146	Drift	0.0016	0.0245
D5	pond	0.0273	Drift	0.0214	0.1072
D5	stream	0.5126	Drift	0.0004	0.0064
R1	pond	0.0273	Drift	0.0216	0.1014
R1	stream	0.5203	Drift	0.0062	0.0650
R3	stream	0.7374	Drift	0.0206	0.1737

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Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
BBCH 61 (against <i>Alternaria</i> and <i>Sclerotinia</i>)					
D2	ditch	0.8015	Drift	0.2247	1.4920
D2	stream	0.7130	Drift	0.1899	1.3230
D3	ditch	0.7925	Drift	0.0487	0.4732
D4	pond	0.0273	Drift	0.0215	0.0993
D4	stream	0.6668	Drift	0.0047	0.0701
D5	pond	0.0273	Drift	0.0223	0.1098
D5	stream	0.6748	Drift	0.0021	0.0324
R1	pond	0.0273	Drift	0.0216	0.1014
R1	stream	0.5203	Drift	0.0062	0.0650
R3	stream	0.7312	Drift	0.0095	0.1324

Table 8.9-18: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for Prothioconazole following single application of GLOB2021dF to spring oilseed rape

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	27.1501	---	21.3982	442.8795
Step 2					
Northern Europe	Mar - May	1.2894	---	0.5410	9.6397
	June - Sept	1.1496	---	0.3915	6.8965
Southern Europe	Mar - May	1.2894	---	0.5975	10.9938
	June - Sept	1.1496	---	0.4198	7.5736
Step 3					
BBCH 14 (early application)					
D1	ditch	0.8007	Drift	0.5207	2.0390
D1	stream	0.7003	Drift	0.0303	0.3418
D3	ditch	0.7915	Drift	0.0420	0.4283
D4	pond	0.0273	Drift	0.0214	0.0983
D4	stream	0.6480	Drift	0.0028	0.0438
D5	pond	0.0273	Drift	0.0220	0.1077
D5	stream	0.6281	Drift	0.0011	0.0173
R1	pond	0.0273	Drift	0.0215	0.0988
R1	stream	0.5211	Drift	0.0046	0.0680
BBCH 61 (against <i>Alternaria</i> and <i>Sclerotinia</i>)					

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Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
D1	ditch	0.8007	Drift	0.5075	1.9810
D1	stream	0.7003	Drift	0.0302	0.3411
D3	ditch	0.7939	Drift	0.0625	0.5555
D4	pond	0.0273	Drift	0.0209	0.0939
D4	stream	0.6843	Drift	0.0094	0.1319
D5	pond	0.0273	Drift	0.0216	0.0996
D5	stream	0.7379	Drift	0.0134	0.1788
R1	pond	0.0486	Run-off	0.0382	0.1930
R1	stream	0.5235	Drift	0.0145	0.8154

Table 8.9-19: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for Prothioconazole following single application of GLOB2021dF to Winter cereals

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	27.1501	---	21.3982	442.8795
Step 2					
Northern Europe	Oct – Feb	1.1496	---	0.5705	11.1844
	Mar - May	1.1496	---	0.4292	7.7992
	June - Sept	1.1496	---	0.4292	7.7992
Southern Europe	Oct – Feb	1.1496	---	0.5234	10.0560
	Mar - May	1.1496	---	0.5234	10.0560
	June - Sept	1.2894	---	0.6258	11.6708
Step 3					
BBCH 25					
D1	ditch	0.7937	Drift	0.0704	0.5751
D1	stream	0.6168	Drift	0.0016	0.0252
D2	ditch	0.7972	Drift	0.1432	1.0390
D2	stream	0.6595	Drift	0.0039	0.0584
D3	ditch	0.7904	Drift	0.0361	0.3852
D4	pond	0.0273	Drift	0.0218	0.1082
D4	stream	0.5842	Drift	0.0011	0.0169
D5	pond	0.0273	Drift	0.0221	0.1094
D5	stream	0.6314	Drift	0.0011	0.0180
D6	ditch	0.7982	Drift	0.2144	1.3090

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Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
R1	pond	0.0273	Drift	0.0216	0.1005
R1	stream	0.5211	Drift	0.0056	0.0679
R3	stream	0.7320	Drift	0.0098	0.1364
R4	stream	0.5161	Drift	0.0035	0.0537
BBCH69					
D1	ditch	0.801	Drift	0.521	2.039
D1	stream	0.700	Drift	0.030	0.330
D2	ditch	0.802	Drift	0.522	2.225
D2	stream	0.713	Drainage	0.458	1.810
D3	ditch	0.793	Drift	0.056	0.510
D4	pond	0.027	Drift	0.021	0.094
D4	stream	0.684	Drift	0.009	0.120
D5	pond	0.027	Run-off	0.022	0.103
D5	stream	0.738	Drift	0.014	0.167
D6	ditch	0.795	Drainage	0.133	0.765
R1	pond	0.027	Drift	0.021	0.090
R1	stream	0.523	Drift	0.005	0.065
R3	stream	0.736	Drift	0.012	0.152
R4	stream	0.523	Drainage	0.007	0.068

Table 8.9-20: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for Prothioconazole single application of GLOB2021dF to Spring cereals

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	27.1501	---	21.3982	442.8795
Step 2					
Northern Europe	Mar - May	1.1496	---	0.4292	7.7992
	June - Sept	1.1496	---	0.4292	7.7992
Southern Europe	Mar - May	1.1496	---	0.5234	10.0560
	June - Sept	1.2894	---	0.6258	11.6708
Step 3					
D1	ditch	0.8007	Drift	0.5207	2.0390
D1	stream	0.7003	Drift	0.0303	0.3418
D3	ditch	0.7910	Drift	0.0395	0.4103

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Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
D4	pond	0.0273	Drift	0.0214	0.0982
D4	stream	0.6473	Drift	0.0028	0.0431
D5	pond	0.0273	Drift	0.0220	0.1076
D5	stream	0.6285	Drift	0.0011	0.0174
R4	stream	0.5225	Drift	0.0156	0.1874
BBCH69					
D1	ditch	0.801	Drift	0.514	2.000
D1	stream	0.700	Drainage	0.030	0.330
D3	ditch	0.793	Drift	0.049	0.464
D4	pond	0.027	Drift	0.021	0.094
D4	stream	0.682	Drift	0.008	0.109
D5	pond	0.027	Drainage	0.022	0.102
D5	stream	0.691	Drift	0.003	0.037
R4	stream	0.523	Drainage	0.008	0.068

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Series 2: whole system DT50 value (39.5d for parent / 49.9d for metabolite) to the sediment compartment and a default value (1000d) to the water compartment.

Multiple applications

Table 8.9-21: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for Prothioconazole following multiple applications of GLOB2021dF to winter oilseed rape

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	27.1501	---	21.3982	442.8795
Step 2					
Northern Europe	Oct – Feb	1.2894	---	0.6258	11.6708
	Mar - May	1.2894	---	0.5410	9.6397
	June - Sept	1.2894	---	0.5410	9.6397
Southern Europe	Oct – Feb	1.2894	---	0.5975	10.9938
	Mar - May	1.2894	---	0.5975	10.9938
	June - Sept	1.2894	---	0.5693	10.3167
Step 3					
BBCH 14 (only one application in autumn = first application in autumn, second application not in autumn)					
D2	ditch	0.7004	Drift	0.2657	1.4990
D2	stream	0.6166	Drift	0.2281	1.3170
D3	ditch	0.6944	Drift	0.0621	0.5230
D4	pond	0.0261	Drift	0.0227	0.1571
D4	stream	0.5918	Drift	0.0082	0.1140
D5	pond	0.0270	Drift	0.0223	0.1421
D5	stream	0.6385	Drift	0.0117	0.1561
R1	pond	0.0269	Drift	0.0232	0.1527
R1	stream	0.4525	Drift	0.0045	0.0654
R3	stream	0.6377	Drift	0.0153	0.1546
BBCH 21 (no applications in autumn)					
D2	ditch	0.7032	Drift	0.2051	1.3650
D2	stream	0.6166	Drift	0.1441	1.0840
D3	ditch	0.6913	Drift	0.0342	0.4045
D4	pond	0.0387	Drift	0.0332	0.1833
D4	stream	0.5315	Drift	0.0013	0.0212
D5	pond	0.0352	Drift	0.0311	0.1775
D5	stream	0.5545	Drift	0.0011	0.0178
R1	pond	0.0388	Drift	0.0337	0.1713

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Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
R1	stream	0.4499	Drift	0.0061	0.0645
R3	stream	0.6377	Drift	0.0188	0.1736
BBCH 61 (against <i>Alternaria</i> and <i>Sclerotinia</i>)					
D2	ditch	0.7057	Drift	0.2026	1.5040
D2	stream	0.6167	Drift	0.1677	1.1550
D3	ditch	0.6927	Drift	0.0429	0.4640
D4	pond	0.0374	Drift	0.0331	0.1720
D4	stream	0.5767	Drift	0.0041	0.0628
D5	pond	0.0394	Drift	0.0354	0.1832
D5	stream	0.6377	Drift	0.0112	0.1520
R1	pond	0.0463	Drift	0.0404	0.2199
R1	stream	0.4523	Drift	0.0155	0.2740
R3	stream	0.6377	Drift	0.0153	0.1614

Table 8.9-22: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for Prothioconazole following multiple applications of GLOB2021dF to spring oilseed rape

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	27.1501	---	21.3982	442.8795
Step 2					
Northern Europe	Mar - May	1.2894	---	0.5410	9.6397
	June - Sept	1.2894	---	0.5410	9.6397
Southern Europe	Mar - May	1.2894	---	0.5975	10.9938
	June - Sept	1.2894	---	0.5693	10.3167
Step 3					
BBCH 14 (early application)					
D1	ditch	1.0650	Drift	0.7525	3.2640
D1	stream	0.6057	Drift	0.0263	0.3405
D3	ditch	0.6925	Drift	0.0421	0.4535
D4	pond	0.0394	Drift	0.0349	0.1692
D4	stream	0.5823	Drift	0.0051	0.0789
D5	pond	0.0379	Drift	0.0337	0.1771
D5	stream	0.5979	Drift	0.0024	0.0389
R1	pond	0.0364	Drift	0.0315	0.1621

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Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
R1	stream	0.4507	Drift	0.0050	0.0701
BBCH 61 (against <i>Alternaria</i> and <i>Sclerotinia</i>)					
D1	ditch	1.0520	Drift	0.7463	3.3890
D1	stream	0.6057	Drift	0.0263	0.3374
D3	ditch	0.6953	Drift	0.0768	0.6363
D4	pond	0.0396	Drift	0.0351	0.1780
D4	stream	0.5918	Drift	0.0082	0.1276
D5	pond	0.0399	Drift	0.0357	0.1734
D5	stream	0.6385	Drift	0.0117	0.1754
R1	pond	0.0572	Run-off	0.0526	0.2774
R1	stream	0.4527	Drift	0.0138	0.8069

Table 8.9-23: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for Prothioconazole following multiple applications of GLOB2021dF to Winter cereals

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	27.1501	---	21.3982	442.8795
Step 2					
Northern Europe	Oct – Feb	1.2894	---	0.7200	13.9276
	Mar - May	1.2894	---	0.5787	10.5424
	June - Sept	1.2894	---	0.5787	10.5424
Southern Europe	Oct – Feb	1.2894	---	0.6729	12.7992
	Mar - May	1.2894	---	0.6729	12.7992
	June - Sept	1.2894	---	0.6258	11.6708
Step 3					
BBCH 25					
D1	ditch	0.6994	Drift	0.2948	1.5410
D1	stream	0.5898	Drift	0.0073	0.1049
D2	ditch	0.7034	Drift	0.1977	1.4750
D2	stream	0.6121	Drift	0.1618	1.1190
D3	ditch	0.6920	Drift	0.0377	0.4326
D4	pond	0.0368	Drift	0.0320	0.1760
D4	stream	0.5228	Drift	0.0012	0.0200
D5	pond	0.0394	Drift	0.0353	0.1825

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Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
D5	stream	0.6089	Drift	0.0033	0.0520
D6	ditch	0.6975	Drift	0.1911	1.1460
R1	pond	0.0368	Drift	0.0319	0.1649
R1	stream	0.4507	Drift	0.0053	0.0882
R3	stream	0.6370	Drift	0.0120	0.1994
R4	stream	0.4526	Drift	0.0045	0.0712
BBCH69					
D1	ditch	1.065	Drift	0.753	3.264
D1	stream	0.606	Drainage	0.026	0.329
D2	ditch	0.728	Drift	0.520	2.204
D2	stream	0.617	Drainage	0.428	1.567
D3	ditch	0.694	Drift	0.057	0.531
D4	pond	0.038	Drainage	0.033	0.168
D4	stream	0.592	Drift	0.008	0.107
D5	pond	0.039	Drainage	0.035	0.182
D5	stream	0.639	Drift	0.012	0.147
D6	ditch	0.695	Drainage	0.119	0.783
R1	pond	0.037	Drift	0.032	0.156
R1	stream	0.452	Drainage	0.006	0.073
R3	stream	0.637	Drift	0.011	0.138
R4	stream	0.453	Drainage	0.006	0.079

Table 8.9-24: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for Prothioconazole following multiple applications of GLOB2021dF to Spring cereals

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	27.1501	---	21.3982	442.8795
Step 2					
Northern Europe	Mar - May	1.2894	---	0.5787	10.5424
	June - Sept	1.2894	---	0.5787	10.5424
Southern Europe	Mar - May	1.2894	---	0.6729	12.7992
	June - Sept	1.2894	---	0.6258	11.6708
Step 3					
BBCH25					

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Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
D1	ditch	1.0650	Drift	0.7525	3.2640
D1	stream	0.6057	Drift	0.0263	0.3405
D3	ditch	0.6921	Drift	0.0388	0.4415
D4	pond	0.0394	Drift	0.0349	0.1690
D4	stream	0.5809	Drift	0.0048	0.0751
D5	pond	0.0379	Drift	0.0337	0.1771
D5	stream	0.5972	Drift	0.0024	0.0382
R4	stream	0.4981	Run-off	0.0385	0.4709
BBCH69					
D1	ditch	1.065	Drift	0.753	3.264
D1	stream	0.606	Drainage	0.026	0.329
D3	ditch	0.693	Drift	0.049	0.488
D4	pond	0.038	Drainage	0.033	0.167
D4	stream	0.590	Drift	0.007	0.096
D5	pond	0.039	Drainage	0.034	0.179
D5	stream	0.597	Drift	0.002	0.034
R4	stream	0.453	Run-off	0.006	0.080

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Single application

Table 8.9-25: **Table 8.9-26: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for Prothioconazole following single application of GLOB2021dF to Winter cereals**

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	27.1501	---	21.3982	442.8795
Step 2					
Northern Europe	Oct – Feb	1.1496	---	0.5705	11.1844
	Mar - May	1.1496	---	0.4292	7.7992
	June - Sept	1.1496	---	0.4292	7.7992
Southern Europe	Oct – Feb	1.1496	---	0.5234	10.0560
	Mar - May	1.1496	---	0.5234	10.0560
	June - Sept	1.2894	---	0.6258	11.6708
Step 3					
BBCH 25					
D1	ditch	0.7937	Drift	0.0707	0.5747
D1	stream	0.6168	Drift	0.0016	0.0252
D2	ditch	0.7972	Drift	0.1444	1.0400
D2	stream	0.6595	Drift	0.0039	0.0584
D3	ditch	0.7904	Drift	0.0362	0.3848
D4	pond	0.0273	Drift	0.0226	0.1083
D4	stream	0.5842	Drift	0.0011	0.0169
D5	pond	0.0273	Drift	0.0233	0.1129
D5	stream	0.6314	Drift	0.0011	0.0180
D6	ditch	0.7982	Drift	0.2187	1.3110
R1	pond	0.0273	Drift	0.0229	0.1029
R1	stream	0.5211	Drift	0.0056	0.0678
R3	stream	0.7320	Drift	0.0098	0.1363
R4	stream	0.5161	Drift	0.0035	0.0537
BBCH69					
D1	ditch	0.801	Drift	0.554	2.006
D1	stream	0.700	Drainage	0.030	0.329
D2	ditch	0.802	Drift	0.563	2.186
D2	stream	0.713	Drainage	0.494	1.806
D3	ditch	0.793	Drift	0.057	0.508
D4	pond	0.027	Drainage	0.023	0.107

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Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
D4	stream	0.684	Drift	0.009	0.119
D5	pond	0.027	Drainage	0.024	0.111
D5	stream	0.738	Drift	0.014	0.167
D6	ditch	0.795	Drainage	0.136	0.764
R1	pond	0.027	Drift	0.023	0.096
R1	stream	0.523	Drainage	0.005	0.065
R3	stream	0.736	Drift	0.012	0.151
R4	stream	0.523	Drainage	0.007	0.068

Table 8.9-26: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for Prothioconazole single application of GLOB2021dF to Spring cereals

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	27.1501	---	21.3982	442.8795
Step 2					
Northern Europe	Mar - May	1.1496	---	0.4292	7.7992
	June - Sept	1.1496	---	0.4292	7.7992
Southern Europe	Mar - May	1.1496	---	0.5234	10.0560
	June - Sept	1.2894	---	0.6258	11.6708
Step 3					
BBCH25					
D1	ditch	0.8007	Drift	0.5538	2.0060
D1	stream	0.7003	Drift	0.0304	0.3413
D3	ditch	0.7910	Drift	0.0396	0.4099
D4	pond	0.0273	Drift	0.0233	0.1043
D4	stream	0.6473	Drift	0.0028	0.0431
D5	pond	0.0273	Drift	0.0232	0.1108
D5	stream	0.6285	Drift	0.0011	0.0174
R4	stream	0.5225	Drift	0.0156	0.1829
BBCH69					
D1	ditch	0.801	Drift	0.552	1.975
D1	stream	0.700	Drainage	0.030	0.329
D3	ditch	0.793	Drift	0.049	0.463
D4	pond	0.027	Drift	0.023	0.105

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Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
D4	stream	0.682	Drift	0.009	0.108
D5	pond	0.027	Drainage	0.024	0.110
D5	stream	0.691	Drift	0.003	0.037
R4	stream	0.523	Run-off	0.008	0.068

Table 8.9-27: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for Prothioconazole following single application of GLOB2021dF to winter oilseed rape

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	27.1501	---	21.3982	442.8795
Step 2					
Northern Europe	Oct – Feb	1.2894	---	0.6258	11.6708
	Mar - May	1.1496	---	0.3915	6.8965
	June - Sept	1.1496	---	0.3915	6.8965
Southern Europe	Oct – Feb	1.1496	---	0.4480	8.2506
	Mar - May	1.1496	---	0.4480	8.2506
	June - Sept	1.2894	---	0.5693	10.3167
Step 3					
BBCH 14 (only one application in autumn = first application in autumn, second application not in autumn)					
D2	ditch	0.8015	Drift	0.3041	1.7160
D2	stream	0.7130	Drift	0.2638	1.5230
D3	ditch	0.7946	Drift	0.0711	0.5985
D4	pond	0.0273	Drift	0.0235	0.1269
D4	stream	0.6843	Drift	0.0095	0.1319
D5	pond	0.0273	Drift	0.0238	0.1312
D5	stream	0.7383	Drift	0.0136	0.1803
R1	pond	0.0273	Drift	0.0229	0.1118
R1	stream	0.5232	Drift	0.0052	0.0757
R3	stream	0.7315	Drift	0.0166	0.2143
BBCH 21 (no applications in autumn)					
D2	ditch	0.8015	Drift	0.2347	1.4340
D2	stream	0.7130	Drift	0.1667	1.2530
D3	ditch	0.7893	Drift	0.0313	0.3465

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Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
D4	pond	0.0273	Drift	0.0231	0.1160
D4	stream	0.6146	Drift	0.0016	0.0245
D5	pond	0.0273	Drift	0.0224	0.1114
D5	stream	0.5126	Drift	0.0004	0.0064
R1	pond	0.0273	Drift	0.0230	0.1038
R1	stream	0.5203	Drift	0.0062	0.0650
R3	stream	0.7374	Drift	0.0206	0.1736
BBCH 61 (against <i>Alternaria</i> and <i>Sclerotinia</i>)					
D2	ditch	0.8015	Drift	0.2291	1.5010
D2	stream	0.7130	Drift	0.1938	1.3310
D3	ditch	0.7925	Drift	0.0491	0.4722
D4	pond	0.0273	Drift	0.0235	0.1056
D4	stream	0.6668	Drift	0.0047	0.0701
D5	pond	0.0273	Drift	0.0236	0.1138
D5	stream	0.6748	Drift	0.0021	0.0324
R1	pond	0.0273	Drift	0.0230	0.1038
R1	stream	0.5203	Drift	0.0062	0.0650
R3	stream	0.7312	Drift	0.0095	0.1323

Table 8.9-8: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for Prothioconazole following single application of GLOB2021dF to spring oilseed rape

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	27.1501	---	21.3982	442.8795
Step 2					
Northern Europe	Mar - May	1.2894	---	0.5410	9.6397
	June - Sept	1.1496	---	0.3915	6.8965
Southern Europe	Mar - May	1.2894	---	0.5975	10.9938
	June - Sept	1.1496	---	0.4198	7.5736
Step 3					
BBCH 14 (early application)					
D1	ditch	0.8007	Drift	0.5538	2.0060

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Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
D1	stream	0.7003	Drift	0.0304	0.3413
D3	ditch	0.7915	Drift	0.0421	0.4278
D4	pond	0.0273	Drift	0.0233	0.1044
D4	stream	0.6480	Drift	0.0028	0.0438
D5	pond	0.0273	Drift	0.0232	0.1108
D5	stream	0.6281	Drift	0.0011	0.0173
R1	pond	0.0273	Drift	0.0229	0.1013
R1	stream	0.5211	Drift	0.0046	0.0679
BBCH 61 (against <i>Alternaria</i> and <i>Sclerotinia</i>)					
D1	ditch	0.8007	Drift	0.5513	1.9890
D1	stream	0.7003	Drift	0.0304	0.3405
D3	ditch	0.7939	Drift	0.0632	0.5543
D4	pond	0.0273	Drift	0.0235	0.1068
D4	stream	0.6843	Drift	0.0095	0.1317
D5	pond	0.0273	Drift	0.0238	0.1077
D5	stream	0.7379	Drift	0.0134	0.1786
R1	pond	0.0506	Run-off	0.0438	0.1978
R1	stream	0.5235	Drift	0.0145	0.8093

Metabolites of Prothioconazole

Prothioconazole-desthio (M04)

Series 1: whole system DT₅₀ value (39.5d for parent / 49.9d for metabolite) to the water compartment and a default value (1000d) to the sediment compartment.

Multiple applications

Table 8.9-29: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for Prothioconazole-desthio following multiple applications of GLOB2021dF to winter oilseed rape

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	48.9059	---	42.0032	274.1978
Step 2					
Northern Europe	Oct – Feb	5.6167	---	4.8047	31.3456
	Mar - May	2.5763	---	2.1676	14.1344

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Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
	June - Sept	2.5763	---	2.1676	14.1344
Southern Europe	Oct – Feb	4.6033	---	3.9257	25.6085
	Mar - May	4.6033	---	3.9257	25.6085
	June - Sept	3.5898	---	3.0467	19.8714
Step 3					
BBCH 14 (only one application in autumn = first application in autumn, second application not in autumn)					
D2	ditch	0.3316	Drainage	0.0237	0.4527
D2	stream	0.2088	Drainage	0.0226	0.2302
D3	ditch	0.0060	Drainage	0.0008	0.0097
D4	pond	0.0077	Drainage	0.0061	0.0960
D4	stream	0.0357	Drainage	0.0016	0.0211
D5	pond	0.0039	Drainage	0.0037	0.0798
D5	stream	0.0175	Drainage	0.0003	0.0048
R1	pond	0.0214	Run-off	0.0181	0.3218
R1	stream	0.1931	Run-off	0.0065	0.1429
R3	stream	0.4159	Run-off	0.0299	0.3599
BBCH 21 (no applications in autumn)					
D2	ditch	0.0258	Drainage	0.0037	0.0804
D2	stream	0.0318	Drift	0.0088	0.1007
D3	ditch	0.0016	Drainage	0.0001	0.0055
D4	pond	0.0052	Drainage	0.0052	0.1144
D4	stream	0.0040	Drainage	0.0002	0.0032
D5	pond	0.0069	Drainage	0.0069	0.1414
D5	stream	0.0057	Drift	0.0000	0.0002
R1	pond	0.0424	Run-off	0.0354	0.3930
R1	stream	0.4226	Run-off	0.0294	0.4044
R3	stream	0.1628	Run-off	0.0063	0.1224
BBCH 61 (against <i>Alternaria</i> and <i>Sclerotinia</i>)					
D2	ditch	0.0269	Drainage	0.0065	0.1263
D2	stream	0.0377	Drainage	0.0119	0.1339
D3	ditch	0.0044	Drainage	0.0004	0.0076
D4	pond	0.0076	Drainage	0.0075	0.1416
D4	stream	0.0036	Drainage	0.0002	0.0028
D5	pond	0.0083	Drainage	0.0082	0.1571

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Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
D5	stream	0.0071	Drift	0.0001	0.0023
R1	pond	0.0434	Run-off	0.0364	0.4147
R1	stream	0.4109	Run-off	0.0286	0.3988
R3	stream	0.1469	Run-off	0.0055	0.1116

Table 8.9-30: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for Prothioconazole-desthio following multiple applications of GLOB2021dF to spring oilseed rape

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	38.9059	---	42.0032	274.1978
Step 2					
Northern Europe	Mar - May	2.5763	---	2.1676	14.1344
	June - Sept	2.5763	---	2.1676	14.1344
Southern Europe	Mar - May	4.6033	---	3.9257	25.6085
	June - Sept	3.5898	---	3.0467	19.8714
Step 3					
BBCH 14					
D1	ditch	0.1060	Drainage	0.1027	0.9621
D1	stream	0.0125	Drift	0.0023	0.0535
D3	ditch	0.0044	Drainage	0.0004	0.0076
D4	pond	0.0081	Drainage	0.0081	0.1430
D4	stream	0.0047	Drainage	0.0003	0.0041
D5	pond	0.0081	Drainage	0.0081	0.1544
D5	stream	0.0061	Drift	0.0000	0.0005
R1	pond	0.0490	Run-off	0.0401	0.3945
R1	stream	0.3549	Run-off	0.0181	0.5881
BBCH 61 (against <i>Alternaria</i> and <i>Sclerotinia</i>)					
D1	ditch	0.0871	Drainage	0.0853	0.8195
D1	stream	0.0122	Drift	0.0044	0.0867
D3	ditch	0.0099	Drainage	0.0016	0.0241
D4	pond	0.0086	Drainage	0.0080	0.1508
D4	stream	0.0189	Drainage	0.0013	0.0172
D5	pond	0.0090	Drainage	0.0089	0.1649
D5	stream	0.0073	Drift	0.0001	0.0036

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Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
R1	pond	0.0481	Run-off	0.0422	0.4824
R1	stream	0.2712	Run-off	0.0181	0.6882

Table 8.9-31: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for Prothioconazole-dethio following multiple applications of GLOB2021dF to Winter cereals

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	48.9059	---	42.0032	274.1978
Step 2					
Northern Europe	Oct – Feb	8.9950	---	7.7349	50.5791
	Mar - May	3.9276	---	3.3397	21.7838
	June - Sept	3.9276	---	3.3397	21.7838
Southern Europe	Oct – Feb	7.3059	---	6.2698	40.9073
	Mar - May	7.3059	---	6.2698	40.9073
	June - Sept	5.6167	---	4.8047	31.3456
Step 3					
BBCH 25					
D1	ditch	0.0181	Drainage	0.0073	0.1036
D1	stream	0.0109	Drift	0.0012	0.0228
D2	ditch	0.0435	Drainage	0.0068	0.1149
D2	stream	0.0357	Drainage	0.0118	0.1353
D3	ditch	0.0039	Drainage	0.0003	0.0066
D4	pond	0.0060	Drainage	0.0060	0.1227
D4	stream	0.0037	Drainage	0.0002	0.0032
D5	pond	0.0082	Drainage	0.0082	0.1563
D5	stream	0.0063	Drift	0.0000	0.0007
D6	ditch	0.5052	Drainage	0.0130	0.1651
R1	pond	0.0473	Run-off	0.0386	0.3821
R1	stream	0.3203	Run-off	0.0148	0.6176
R3	stream	0.3393	Run-off	0.0243	0.3920
R4	stream	0.6908	Run-off	0.0338	0.4161
BBCH69					
D1	ditch	0.106	Drainage	0.103	0.982

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Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
D1	stream	0.013	Drift	0.004	0.059
D2	ditch	0.080	Drainage	0.079	0.895
D2	stream	0.059	Drainage	0.057	0.557
D3	ditch	0.008	Drainage	0.001	0.016
D4	pond	0.008	Drainage	0.008	0.147
D4	stream	0.007	Drainage	0.000	0.007
D5	pond	0.008	Drainage	0.008	0.159
D5	stream	0.007	Drift	0.000	0.002
D6	ditch	0.008	Drainage	0.003	0.031
R1	pond	0.088	Run-off	0.071	0.636
R1	stream	0.639	Run-off	0.028	1.378
R3	stream	0.711	Run-off	0.038	0.884
R4	stream	0.798	Run-off	0.087	0.984

Table 8.9-32: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for Prothioconazole-desthio following multiple applications of GLOB2021dF to Spring cereals

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	48.9059	---	42.0032	274.1978
Step 2					
Northern Europe	Mar - May	3.9276	---	3.3397	21.7838
	June - Sept	3.9276	---	3.3397	21.7838
Southern Europe	Mar - May	7.3059	---	6.2698	40.9073
	June - Sept	5.6167	---	4.8047	31.3456
Step 3					
BBCH25					
D1	ditch	0.1059	Drainage	0.1025	0.9563
D1	stream	0.0125	Drift	0.0020	0.0400
D3	ditch	0.0040	Drainage	0.0003	0.0070
D4	pond	0.0081	Drainage	0.0080	0.1377
D4	stream	0.0050	Drainage	0.0003	0.0046
D5	pond	0.0081	Drainage	0.0081	0.1543
D5	stream	0.0061	Drift	0.0000	0.0005

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Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
R4	stream	0.5743	Run-off	0.0637	0.7411
BBCH69					
D1	ditch	0.106	Drainage	0.103	0.961
D1	stream	0.013	Drift	0.003	0.062
D3	ditch	0.006	Drainage	0.001	0.011
D4	pond	0.008	Drainage	0.008	0.140
D4	stream	0.009	Drainage	0.001	0.008
D5	pond	0.008	Drainage	0.008	0.156
D5	stream	0.006	Drift	0.000	0.001
R4	stream	0.799	Run-off	0.087	0.985

Single applications

Table 8.9-33: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for Prothioconazole-desthio following single application of GLOB2021dF to Winter cereals

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	48.9059	---	42.0032	274.1978
Step 2					
Northern Europe	Oct – Feb	6.0419	---	5.1971	33.9985
	Mar - May	2.6303	---	2.2380	14.5982
	June - Sept	2.6303	---	2.2380	14.5982
Southern Europe	Oct – Feb	4.9047	---	4.2107	27.4730
	Mar - May	4.9047	---	4.2107	27.4730
	June - Sept	3.7675	---	3.2244	21.0356
Step 3					
BBCH 25					
D1	ditch	0.0024	Drainage	0.0006	0.0142
D1	stream	0.0108	Drift	0.0002	0.0046
D2	ditch	0.0075	Drainage	0.0018	0.0250
D2	stream	0.0340	Drift	0.0004	0.0059
D3	ditch	0.0020	Drainage	0.0001	0.0034
D4	pond	0.0032	Drainage	0.0032	0.0718
D4	stream	0.0033	Drift	0.0001	0.0012

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Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
D5	pond	0.0047	Drainage	0.0047	0.0960
D5	stream	0.0065	Drift	0.0000	0.0002
D6	ditch	0.5047	Drainage	0.0135	0.1679
R1	pond	0.0206	Run-off	0.0174	0.2069
R1	stream	0.2012	Run-off	0.0141	0.2292
R3	stream	0.2452	Run-off	0.0114	0.3362
R4	stream	0.3173	Run-off	0.0156	0.2190
BBCH69					
D1	ditch	0.057	Drainage	0.055	0.527
D1	stream	0.013	Drift	0.001	0.009
D2	ditch	0.084	Drainage	0.083	0.891
D2	stream	0.067	Drainage	0.066	0.620
D3	ditch	0.008	Drainage	0.001	0.010
D4	pond	0.005	Drainage	0.005	0.092
D4	stream	0.005	Drift	0.000	0.003
D5	pond	0.005	Drainage	0.005	0.103
D5	stream	0.008	Drift	0.000	0.003
D6	ditch	0.009	Drainage	0.003	0.028
R1	pond	0.045	Run-off	0.035	0.328
R1	stream	0.444	Run-off	0.018	0.937
R3	stream	0.330	Run-off	0.023	0.195
R4	stream	0.798	Run-off	0.087	0.984

Table 8.9-34: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for Prothioconazole-desthio following single application of GLOB2021dF to Spring cereals

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	48.9059	---	42.0032	274.1978
Step 2					
Northern Europe	Mar - May	2.6303	---	2.2380	14.5982
	June - Sept	2.6303	---	2.2380	14.5982
Southern Europe	Mar - May	4.9047	---	4.2107	27.4730
	June - Sept	3.7675	---	3.2244	21.0356
Step 3					

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Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
D1	ditch	0.0576	Drainage	0.0559	0.5450
D1	stream	0.0133	Drift	0.0009	0.0245
D3	ditch	0.0022	Drainage	0.0002	0.0037
D4	pond	0.0048	Drainage	0.0048	0.0865
D4	stream	0.0038	Drift	0.0001	0.0017
D5	pond	0.0046	Drainage	0.0046	0.0939
D5	stream	0.0064	Drift	0.0000	0.0002
R4	stream	0.3497	Run-off	0.0478	0.5641
BBCH69					
D1	ditch	0.062	Drainage	0.060	0.568
D1	stream	0.013	Drift	0.001	0.024
D3	ditch	0.005	Drainage	0.000	0.006
D4	pond	0.005	Drainage	0.005	0.087
D4	stream	0.005	Drift	0.000	0.004
D5	pond	0.005	Drainage	0.005	0.101
D5	stream	0.007	Drift	0.000	0.000
R4	stream	0.799	Run-off	0.088	0.996

Table 8.9-35: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for Prothioconazole-desthio following single application of GLOB2021dF to winter oilseed rape

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	48.9059	---	42.0032	274.1978
Step 2					
Northern Europe	Oct – Feb	3.7675	---	3.2244	21.0356
	Mar - May	1.7206	---	1.4489	9.4482
	June - Sept	1.7206	---	1.4489	9.4482
Southern Europe	Oct – Feb	3.0852	---	2.6325	17.1731
	Mar - May	3.0852	---	2.6325	17.1731
	June - Sept	2.4029	---	2.0407	13.3107
Step 3					
BBCH 14 (only one application in autumn = first application in autumn, second application not in autumn)					
D2	ditch	0.3316	Drainage	0.0246	0.4418
D2	stream	0.2088	Drainage	0.0253	0.2534

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Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
D3	ditch	0.0068	Drainage	0.0009	0.0110
D4	pond	0.0083	Drainage	0.0066	0.0912
D4	stream	0.0357	Drainage	0.0016	0.0212
D5	pond	0.0042	Drainage	0.0042	0.0728
D5	stream	0.0085	Drift	0.0002	0.0027
R1	pond	0.0203	Run-off	0.0166	0.2151
R1	stream	0.1919	Run-off	0.0064	0.1226
R3	stream	0.4196	Run-off	0.0258	0.6174
BBCH 21 (no applications in autumn)					
D2	ditch	0.0119	Drainage	0.0033	0.0360
D2	stream	0.0367	Drift	0.0099	0.1110
D3	ditch	0.0013	Drainage	0.0001	0.0028
D4	pond	0.0029	Drainage	0.0029	0.0702
D4	stream	0.0035	Drift	0.0001	0.0013
D5	pond	0.0036	Drainage	0.0036	0.0821
D5	stream	0.0053	Drift	0.0000	0.0001
R1	pond	0.0203	Run-off	0.0171	0.2052
R1	stream	0.1853	Run-off	0.0131	0.2192
R3	stream	0.1238	Run-off	0.0030	0.0602
BBCH 61 (against <i>Alternaria</i> and <i>Sclerotinia</i>)					
D2	ditch	0.0227	Drainage	0.0061	0.1015
D2	stream	0.0433	Drainage	0.0133	0.1413
D3	ditch	0.0051	Drainage	0.0004	0.0061
D4	pond	0.0049	Drainage	0.0049	0.0926
D4	stream	0.0040	Drift	0.0000	0.0010
D5	pond	0.0049	Drainage	0.0049	0.0987
D5	stream	0.0069	Drift	0.0000	0.0004
R1	pond	0.0203	Run-off	0.0171	0.2052
R1	stream	0.1853	Run-off	0.0131	0.2192
R3	stream	0.2294	Run-off	0.0106	0.3097

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Table 8.9-36: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for Prothioconazole-desthio following single application of GLOB2021dF to spring oilseed rape

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	38.9059	---	42.0032	274.1978
Step 2					
Northern Europe	Mar - May	1.7206	---	1.4489	9.4482
	June - Sept	1.7206	---	1.4489	9.4482
Southern Europe	Mar - May	3.0852	---	2.6325	17.1731
	June - Sept	2.4029	---	2.0407	13.3107
Step 3					
BBCH 14					
D1	ditch	0.0577	Drainage	0.0560	0.5484
D1	stream	0.0133	Drift	0.0011	0.0277
D3	ditch	0.0023	Drainage	0.0002	0.0040
D4	pond	0.0048	Drainage	0.0048	0.0898
D4	stream	0.0038	Drift	0.0001	0.0015
D5	pond	0.0046	Drainage	0.0046	0.0939
D5	stream	0.0064	Drift	0.0000	0.0002
R1	pond	0.0245	Run-off	0.0203	0.2331
R1	stream	0.2777	Run-off	0.0173	0.2521
BBCH 61 (against <i>Alternaria</i> and <i>Sclerotinia</i>)					
D1	ditch	0.0618	Drainage	0.0591	0.5212
D1	stream	0.0141	Drift	0.0007	0.0151
D3	ditch	0.0073	Drainage	0.0008	0.0106
D4	pond	0.0051	Drainage	0.0050	0.0903
D4	stream	0.0048	Drift	0.0002	0.0035
D5	pond	0.0054	Drainage	0.0054	0.1040
D5	stream	0.0083	Drift	0.0002	0.0026
R1	pond	0.0428	Run-off	0.0372	0.3639
R1	stream	0.1709	Run-off	0.0139	0.5631

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Series 2: whole system DT50 volume (39.5d for parent / 49.9d for metabolite) to the sediment compartment and a default value (1000d) to the water compartment.

Multiple applications

Table 8.9-37: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for Prothioconazole-desthio following multiple applications of GLOB2021dF to Winter cereals

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	48.9059	---	42.0032	274.1978
Step 2					
Northern Europe	Oct – Feb	8.9950	---	7.7349	50.5791
	Mar - May	3.9276	---	3.3397	21.7838
	June - Sept	3.9276	---	3.3397	21.7838
Southern Europe	Oct – Feb	7.3059	---	6.2698	40.9073
	Mar - May	7.3059	---	6.2698	40.9073
	June - Sept	5.6167	---	4.8047	31.3456
Step 3					
BBCH 25					
D1	ditch	0.0032	Drainage	0.0032	0.2479
D1	stream	0.0014	Drainage	0.0012	0.0192
D2	ditch	0.0435	Drainage	0.0037	0.2116
D2	stream	0.0281	Drainage	0.0016	0.1071
D3	ditch	0.0002	Drainage	0.0001	0.0421
D4	pond	0.0019	Drainage	0.0017	0.1049
D4	stream	0.0037	Drainage	0.0002	0.0036
D5	pond	0.0024	Drainage	0.0024	0.1258
D5	stream	0.0004	Drainage	0.0000	0.0027
D6	ditch	0.5053	Drainage	0.0096	0.2077
R1	pond	0.0444	Run-off	0.0374	0.3563
R1	stream	0.3197	Run-off	0.0148	0.5926
R3	stream	0.3386	Run-off	0.0242	0.3690
R4	stream	0.6905	Run-off	0.0338	0.4042
BBCH69					
D1	ditch	0.037	Drainage	0.037	1.265
D1	stream	0.005	Drainage	0.004	0.053
D2	ditch	0.047	Drainage	0.035	1.013
D2	stream	0.029	Drainage	0.016	0.590

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Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
D3	ditch	0.000	Drainage	0.000	0.070
D4	pond	0.003	Drainage	0.002	0.115
D4	stream	0.007	Drainage	0.000	0.011
D5	pond	0.002	Drainage	0.002	0.127
D5	stream	0.001	Drainage	0.000	0.008
D6	ditch	0.001	Drainage	0.001	0.125
R1	pond	0.089	Run-off	0.075	0.606
R1	stream	0.638	Run-off	0.028	1.317
R3	stream	0.709	Run-off	0.038	0.788
R4	stream	0.797	Run-off	0.087	0.973

Table 8.9-38: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for Prothioconazole-desthio following multiple applications of GLOB2021dF to Spring cereals

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	48.9059	---	42.0032	274.1978
Step 2					
Northern Europe	Mar - May	3.9276	---	3.3397	21.7838
	June - Sept	3.9276	---	3.3397	21.7838
Southern Europe	Mar - May	7.3059	---	6.2698	40.9073
	June - Sept	5.6167	---	4.8047	31.3456
Step 3					
BBCH25					
D1	ditch	0.0371	Drainage	0.0367	1.2570
D1	stream	0.0047	Drainage	0.0020	0.0426
D3	ditch	0.0002	Drainage	0.0001	0.0457
D4	pond	0.0023	Drainage	0.0020	0.1095
D4	stream	0.0050	Drainage	0.0003	0.0071
D5	pond	0.0023	Drainage	0.0023	0.1238
D5	stream	0.0004	Drainage	0.0000	0.0021
R4	stream	0.5588	Run-off	0.0624	0.7205
BBCH69					
D1	ditch	0.037	Drainage	0.037	1.259
D1	stream	0.007	Drainage	0.003	0.057

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Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
D3	ditch	0.000	Drainage	0.000	0.058
D4	pond	0.003	Drainage	0.003	0.112
D4	stream	0.009	Drainage	0.001	0.012
D5	pond	0.002	Drainage	0.002	0.125
D5	stream	0.001	Drainage	0.000	0.002
R4	stream	0.798	Run-off	0.087	0.974

Table 8.9-39: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for Prothioconazole-desthio following multiple applications of GLOB2021dF to winter oilseed rape

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	48.9059	---	42.0032	274.1978
Step 2					
Northern Europe	Oct – Feb	5.6167	---	4.8047	31.3456
	Mar - May	2.5763	---	2.1676	14.1344
	June - Sept	2.5763	---	2.1676	14.1344
Southern Europe	Oct – Feb	4.6033	---	3.9257	25.6085
	Mar - May	4.6033	---	3.9257	25.6085
	June - Sept	3.5898	---	3.0467	19.8714
Step 3					
BBCH 14 (only one application in autumn = first application in autumn, second application not in autumn)					
D2	ditch	0.3317	Drainage	0.0237	0.4269
D2	stream	0.2088	Drainage	0.0104	0.2312
D3	ditch	0.0003	Drainage	0.0001	0.0374
D4	pond	0.0056	Drainage	0.0043	0.0819
D4	stream	0.0357	Drainage	0.0016	0.0248
D5	pond	0.0022	Drainage	0.0017	0.0676
D5	stream	0.0175	Drainage	0.0003	0.0092
R1	pond	0.0202	Run-off	0.0174	0.2836
R1	stream	0.1932	Run-off	0.0065	0.1241
R3	stream	0.4153	Run-off	0.0298	0.3559
BBCH 21 (no applications in autumn)					
D2	ditch	0.0258	Drainage	0.0021	0.1750
D2	stream	0.0168	Drainage	0.0010	0.0736

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Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
D3	ditch	0.0001	Drainage	0.0000	0.0308
D4	pond	0.0018	Drainage	0.0015	0.1002
D4	stream	0.0040	Drainage	0.0002	0.0036
D5	pond	0.0021	Drainage	0.0021	0.1152
D5	stream	0.0003	Drainage	0.0000	0.0008
R1	pond	0.0417	Run-off	0.0364	0.3778
R1	stream	0.4222	Run-off	0.0294	0.3947
R3	stream	0.1627	Run-off	0.0063	0.1312
BBCH 61 (against <i>Alternaria</i> and <i>Sclerotinia</i>)					
D2	ditch	0.0269	Drainage	0.0045	0.2533
D2	stream	0.0176	Drainage	0.0017	0.1229
D3	ditch	0.0002	Drainage	0.0001	0.0468
D4	pond	0.0021	Drainage	0.0019	0.1142
D4	stream	0.0036	Drainage	0.0002	0.0045
D5	pond	0.0024	Drainage	0.0024	0.1264
D5	stream	0.0003	Drift	0.0000	0.0076
R1	pond	0.0415	Run-off	0.0363	0.3998
R1	stream	0.4106	Run-off	0.0286	0.4041
R3	stream	0.1413	Run-off	0.0055	0.1180

Table 8.9-40: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for Prothioconazole-dethio following multiple applications of GLOB2021dF to spring oilseed rape

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	38.9059	---	42.0032	274.1978
Step 2					
Northern Europe	Mar - May	2.5763	---	2.1676	14.1344
	June - Sept	2.5763	---	2.1676	14.1344
Southern Europe	Mar - May	4.6033	---	3.9257	25.6085
	June - Sept	3.5898	---	3.0467	19.8714
Step 3					
BBCH 14 (early application)					
D1	ditch	0.0372	Drainage	0.0368	1.2600
D1	stream	0.0061	Drainage	0.0023	0.0490

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Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
D3	ditch	0.0002	Drainage	0.0001	0.0492
D4	pond	0.0023	Drainage	0.0020	0.1120
D4	stream	0.0047	Drainage	0.0003	0.0067
D5	pond	0.0023	Drainage	0.0023	0.1239
D5	stream	0.0004	Drainage	0.0000	0.0021
R1	pond	0.0466	Run-off	0.0394	0.3689
R1	stream	0.3543	Run-off	0.0181	0.5617
BBCH 61 (against <i>Alternaria</i> and <i>Sclerotinia</i>)					
D1	ditch	0.0284	Drainage	0.0279	0.9589
D1	stream	0.0093	Drainage	0.0044	0.0826
D3	ditch	0.0005	Drainage	0.0004	0.0912
D4	pond	0.0053	Drainage	0.0043	0.1218
D4	stream	0.0189	Drainage	0.0013	0.0239
D5	pond	0.0024	Drainage	0.0024	0.1286
D5	stream	0.0012	Drainage	0.0000	0.0155
R1	pond	0.0440	Run-off	0.0383	0.4354
R1	stream	0.2663	Run-off	0.0180	0.7292

Single application

Table 8.9-41: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for Prothioconazole-desthio following single application of GLOB2021dF to Winter cereals

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	48.9059	---	42.0032	274.1978
Step 2					
Northern Europe	Oct – Feb	6.0419	---	5.1971	33.9985
	Mar - May	2.6303	---	2.2380	14.5982
	June - Sept	2.6303	---	2.2380	14.5982
Southern Europe	Oct – Feb	4.9047	---	4.2107	27.4730
	Mar - May	4.9047	---	4.2107	27.4730
	June - Sept	3.7675	---	3.2244	21.0356
Step 3					
BBCH 25					

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Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
D1	ditch	0.0004	Drainage	0.0003	0.0391
D1	stream	0.0006	Drift	0.0002	0.0044
D2	ditch	0.0075	Drainage	0.0006	0.0766
D2	stream	0.0048	Drainage	0.0002	0.0055
D3	ditch	0.0001	Drainage	0.0000	0.0206
D4	pond	0.0009	Drainage	0.0008	0.0615
D4	stream	0.0015	Drainage	0.0001	0.0014
D5	pond	0.0013	Drainage	0.0013	0.0762
D5	stream	0.0003	Drift	0.0000	0.0007
D6	ditch	0.5048	Drainage	0.0097	0.2166
R1	pond	0.0194	Run-off	0.0169	0.1945
R1	stream	0.2009	Run-off	0.0140	0.2241
R3	stream	0.2429	Run-off	0.0113	0.3368
R4	stream	0.3173	Run-off	0.0156	0.2098
BBCH69					
D1	ditch	0.020	Drainage	0.020	0.753
D1	stream	0.001	Drainage	0.001	0.024
D2	ditch	0.037	Drainage	0.034	0.941
D2	stream	0.019	Drainage	0.019	0.668
D3	ditch	0.000	Drainage	0.000	0.042
D4	pond	0.002	Drainage	0.001	0.068
D4	stream	0.004	Drainage	0.000	0.007
D5	pond	0.001	Drainage	0.001	0.080
D5	stream	0.000	Drift	0.000	0.009
D6	ditch	0.001	Drainage	0.001	0.093
R1	pond	0.043	Run-off	0.035	0.301
R1	stream	0.444	Run-off	0.018	0.935
R3	stream	0.330	Run-off	0.023	0.195
R4	stream	0.797	Run-off	0.087	0.974

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Table 8.9-42: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for Prothioconazole-desthio following single application of GLOB2021dF to Spring cereals

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	48.9059	---	42.0032	274.1978
Step 2					
Northern Europe	Mar - May	2.6303	---	2.2380	14.5982
	June - Sept	2.6303	---	2.2380	14.5982
Southern Europe	Mar - May	4.9047	---	4.2107	27.4730
	June - Sept	3.7675	---	3.2244	21.0356
Step 3					
BBCH25					
D1	ditch	0.0200	Drainage	0.0198	0.7533
D1	stream	0.0011	Drainage	0.0010	0.0246
D3	ditch	0.0001	Drainage	0.0000	0.0238
D4	pond	0.0012	Drainage	0.0010	0.0681
D4	stream	0.0020	Drainage	0.0001	0.0026
D5	pond	0.0013	Drainage	0.0013	0.0744
D5	stream	0.0003	Drift	0.0000	0.0006
R4	stream	0.3464	Run-off	0.0474	0.5583
BBCH69					
D1	ditch	0.021	Drainage	0.021	0.749
D1	stream	0.001	Drainage	0.001	0.025
D3	ditch	0.000	Drainage	0.000	0.034
D4	pond	0.002	Drainage	0.001	0.066
D4	stream	0.004	Drainage	0.000	0.008
D5	pond	0.001	Drainage	0.001	0.079
D5	stream	0.000	Drift	0.000	0.002
R4	stream	0.797	Run-off	0.088	0.985

Table 8.9-43: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for Prothioconazole-desthio following single application of GLOB2021dF to winter oilseed rape

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	48.9059	---	42.0032	274.1978
Step 2					

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Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Northern Europe	Oct – Feb	3.7675	---	3.2244	21.0356
	Mar - May	1.7206	---	1.4489	9.4482
	June - Sept	1.7206	---	1.4489	9.4482
Southern Europe	Oct – Feb	3.0852	---	2.6325	17.1731
	Mar - May	3.0852	---	2.6325	17.1731
	June - Sept	2.4029	---	2.0407	13.3107
Step 3					
BBCH 14 (only one application in autumn = first application in autumn, second application not in autumn)					
D2	ditch	0.0067	Drainage	0.0012	0.1560
D2	stream	0.0045	Drainage	0.0010	0.0973
D3	ditch	0.0001	Drainage	0.0000	0.0152
D4	pond	0.0009	Drainage	0.0008	0.0616
D4	stream	0.0017	Drainage	0.0001	0.0016
D5	pond	0.0011	Drainage	0.0011	0.0673
D5	stream	0.0002	Drift	0.0000	0.0002
R1	pond	0.0108	Run-off	0.0087	0.1135
R1	stream	0.1363	Run-off	0.0040	0.0826
R3	stream	0.1340	Run-off	0.0031	0.0529
BBCH 21 (no applications in autumn)					
D2	ditch	0.0072	Drainage	0.0009	0.1167
D2	stream	0.0045	Drainage	0.0007	0.0782
D3	ditch	0.0001	Drainage	0.0000	0.0152
D4	pond	0.0009	Drainage	0.0008	0.0616
D4	stream	0.0017	Drainage	0.0001	0.0016
D5	pond	0.0011	Drainage	0.0011	0.0673
D5	stream	0.0002	Drift	0.0000	0.0002
R1	pond	0.0190	Run-off	0.0165	0.1927
R1	stream	0.1850	Run-off	0.0131	0.2147
R3	stream	0.0997	Run-off	0.0029	0.0657
BBCH 61 (against <i>Alternaria</i> and <i>Sclerotinia</i>)					
D2	ditch	0.0050	Drainage	0.0039	0.1983
D2	stream	0.0032	Drainage	0.0018	0.1349
D3	ditch	0.0002	Drainage	0.0001	0.0321
D4	pond	0.0011	Drainage	0.0011	0.0708

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Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
D4	stream	0.0011	Drainage	0.0000	0.0031
D5	pond	0.0014	Drainage	0.0014	0.0782
D5	stream	0.0003	Drift	0.0000	0.0012
R1	pond	0.0190	Run-off	0.0165	0.1927
R1	stream	0.1850	Run-off	0.0131	0.2147
R3	stream	0.2265	Run-off	0.0105	0.3098

Table 8.9-44: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for Prothioconazole-desthio following single application of GLOB2021dF to spring oilseed rape

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	38.9059	---	42.0032	274.1978
Step 2					
Northern Europe	Mar - May	1.7206	---	1.4489	9.4482
	June - Sept	1.7206	---	1.4489	9.4482
Southern Europe	Mar - May	3.0852	---	2.6325	17.1731
	June - Sept	2.4029	---	2.0407	13.3107
Step 3					
BBCH 14					
D1	ditch	0.0201	Drainage	0.0199	0.7547
D1	stream	0.0013	Drainage	0.0011	0.0258
D3	ditch	0.0001	Drainage	0.0000	0.0253
D4	pond	0.0012	Drainage	0.0011	0.0697
D4	stream	0.0019	Drainage	0.0001	0.0024
D5	pond	0.0013	Drainage	0.0013	0.0745
D5	stream	0.0003	Drift	0.0000	0.0006
R1	pond	0.0234	Run-off	0.0204	0.2210
R1	stream	0.2776	Run-off	0.0173	0.2469
BBCH 61 (against <i>Alternaria</i> and <i>Sclerotinia</i>)					
D1	ditch	0.0178	Drainage	0.0177	0.6306
D1	stream	0.0010	Drainage	0.0004	0.0208
D3	ditch	0.0003	Drainage	0.0002	0.0457
D4	pond	0.0015	Drainage	0.0012	0.0675
D4	stream	0.0036	Drainage	0.0002	0.0073

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Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
D5	pond	0.0014	Drainage	0.0014	0.0805
D5	stream	0.0009	Drainage	0.0000	0.0089
R1	pond	0.0382	Run-off	0.0340	0.3440
R1	stream	0.1709	Run-off	0.0139	0.6116

Prothioconazole-S-methyl (M01)

Multiple applications

Table 8.9-45: FOCUS Step 1,2 PEC_{sw} and PEC_{sed} for Prothioconazole-S-methyl following multiple applications of GLOB2021dF to Winter cereals

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	2.8215 2.9009	---	2.8009 2.8797	71.2645 73.2706
Step 2					
Northern Europe	Oct – Feb	0.8245 0.8478	---	0.8186 0.8416	20.8274 21.4141
	Mar - May	0.3299 0.3389	---	0.3275 0.3364	8.3316 8.5591
	June - Sept	0.3299 0.3389	---	0.3275 0.3364	8.3316 8.5591
Southern Europe	Oct – Feb	0.6596 0.6782	---	0.6549 0.6733	16.6622 17.1315
	Mar - May	0.6596 0.6782	---	0.6549 0.6733	16.6622 17.1315
	June - Sept	0.4948 0.5087	---	0.4912 0.5050	12.4969 12.8489

Table 8.9-46: FOCUS Step 1,2 PEC_{sw} and PEC_{sed} for Prothioconazole-S-methyl following multiple applications of GLOB2021dF to Spring cereals

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	2.8215 2.9009	---	2.8009 2.8797	71.2645 73.2706
Step 2					

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Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw,twa} (µg/L)	Max PEC _{sed} (µg/kg)
Northern Europe	Mar - May	0.3299 0.3389	---	0.3275 0.3364	8.3316 8.5591
	June - Sept	0.3299 0.3389	---	0.3275 0.3364	8.3316 8.5591
Southern Europe	Mar - May	0.6596 0.6782	---	0.6549 0.6733	16.6622 17.1315
	June - Sept	0.4948 0.5087	---	0.4912 0.5050	12.4969 12.8489

Table 8.9-47: FOCUS Step 1,2 PEC_{sw} and PEC_{sed} for Prothioconazole-S-methyl following multiple applications of GLOB2021dF to winter oilseed rape

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw,twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	2.8215 2.9009	---	2.8009 2.8727	71.2645 73.2706
Step 2					
Northern Europe	Oct – Feb	0.4948 0.5087	---	0.4912 0.5050	12.4969 12.8489
	Mar - May	0.1979 0.2035	---	0.1965 0.2020	4.9994 5.1402
	June - Sept	0.1979 0.2035	---	0.1965 0.2020	4.9994 5.1402
Southern Europe	Oct – Feb	0.3958 0.4070	---	0.3929 0.4040	9.9977 10.2793
	Mar - May	0.3958 0.4070	---	0.3929 0.4040	9.9977 10.2793
	June - Sept	0.2969 0.3052	---	0.2947 0.3030	7.4986 7.7098

Table 8.9-48: FOCUS Step 1,2 PEC_{sw} and PEC_{sed} for Prothioconazole-S-methyl following multiple applications of GLOB2021dF to spring oilseed rape

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw,twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	2.8215 2.9009	---	2.8009 2.8797	71.2645 73.2706
Step 2					

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Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Northern Europe	Mar - May	0.1979 0.2035	---	0.1965 0.2020	4.9994 5.1402
	June - Sept	0.1979 0.2035	---	0.1965 0.2020	4.9994 5.1402
Southern Europe	Mar - May	0.3958 0.4070	---	0.3929 0.4040	9.9977 10.2793
	June - Sept	0.2969 0.3052	---	0.2947 0.3030	7.4986 7.7098

Single applications

Table 8.9-49: FOCUS Step 1,2 PEC_{sw} and PEC_{sed} for Prothioconazole-S-methyl following single application of GLOB2021dF to Winter cereals

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	2.8215 2.9009	---	2.8009 2.8797	71.2645 73.2706
Step 2					
Northern Europe	Oct – Feb	0.5908 0.6074	---	0.5865 0.6030	14.9228 15.3431
	Mar - May	0.2363 0.2428	---	0.2346 0.2410	5.9695 6.1325
	June - Sept	0.2363 0.2428	---	0.2346 0.2410	5.9695 6.1325
Southern Europe	Oct – Feb	0.4726 0.4859	---	0.4692 0.4824	11.9383 12.2746
	Mar - May	0.4726 0.4859	---	0.4692 0.4824	11.9383 12.2746
	June - Sept	0.3545 0.3645	---	0.3519 0.3618	8.9539 9.2061

Table 8.9-50: FOCUS Step 1,2 PEC_{sw} and PEC_{sed} for Prothioconazole-S-methyl following single application of GLOB2021dF to Spring cereals

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	2.8215 2.9009	---	2.8009 2.8797	71.2645 73.2706

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Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 2					
Northern Europe	Mar - May	0.2363 0.2428	---	0.2346 0.2410	5.9695 6.1325
	June - Sept	0.2363 0.2428	---	0.2346 0.2410	5.9695 6.1325
Southern Europe	Mar - May	0.4726 0.4859	---	0.4692 0.4824	11.9383 12.2746
	June - Sept	0.3545 0.3645	---	0.3519 0.3618	8.9539 9.2061

Table 8.9-51: FOCUS Step 1,2 PEC_{sw} and PEC_{sed} for Prothioconazole-S-methyl single application of GLOB2021dF to winter oilseed rape

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	2.8215 2.9009	---	2.8009 2.8797	71.2645 73.2706
Step 2					
Northern Europe	Oct – Feb	0.3545 0.3645	---	0.3519 0.3618	8.9539 9.2061
	Mar - May	0.1418 0.1458	---	0.1408 0.1447	3.5819 3.6828
	June - Sept	0.1418 0.1458	---	0.1408 0.1447	3.5819 3.6828
Southern Europe	Oct – Feb	0.2836 0.2916	---	0.2815 0.2895	7.1632 7.3650
	Mar - May	0.2836 0.2916	---	0.2815 0.2895	7.1632 7.3650
	June - Sept	0.2127 0.2187	---	0.2112 0.2171	5.3726 5.5239

Table 8.9-52: FOCUS Step 1,2 PEC_{sw} and PEC_{sed} for Prothioconazole-S-methyl following single application of GLOB2021dF to spring oilseed rape

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	2.8215 2.9009	---	2.8009 2.8797	71.2645 73.2706

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Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 2					
Northern Europe	Mar - May	0.1418 0.1458	---	0.1408 0.1447	3.5819 3.6828
	June - Sept	0.1418 0.1458	---	0.1408 0.1447	3.5819 3.6828
Southern Europe	Mar - May	0.2836 0.2916	---	0.2815 0.2895	7.1632 7.3650
	June - Sept	0.2127 0.2187	---	0.2112 0.2171	5.3726 5.5239

1,2,4-triazole

Multiple applications

Table 8.9-53: **Table 8.9-60:** **FOCUS Step 1,2 PEC_{sw} and PEC_{sed} for 1,2,4-triazole following multiple applications of GLOB2021dF to Winter cereals**

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	6.4888	---	6.4231	5.3660
Step 2					
Northern Europe	Oct – Feb	0.1723	---	0.1682	0.1405
	Mar - May	0.1227	---	0.1189	0.0993
	June - Sept	0.1227	---	0.1189	0.0993
Southern Europe	Oct – Feb	0.1558	---	0.1518	0.1267
	Mar - May	0.2236	---	0.2169	0.1811
	June - Sept	0.1392	---	0.1353	0.1130

Table 8.9-54: **FOCUS Step 1,2 PEC_{sw} and PEC_{sed} for 1,2,4-triazole following multiple applications of GLOB2021dF to Spring cereals**

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	6.4888	---	6.4231	5.3660
Step 2					
Northern Europe	Mar - May	0.1227	---	0.1189	0.0993
	June - Sept	0.1227	---	0.1189	0.0993

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Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Southern Europe	Mar - May	0.2236	---	0.2169	0.1811
	June - Sept	0.1392	---	0.1353	0.1130

Table 8.9-55: FOCUS Step 1,2 PEC_{sw} and PEC_{sed} for 1,2,4-triazole following multiple applications of GLOB2021dF to winter oilseed rape

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	6.4888	---	6.4231	5.2256
Step 2					
Northern Europe	Oct – Feb	0.2070	---	0.2004	0.1673
	Mar - May	0.1771	---	0.1707	0.1425
	June - Sept	0.1771	---	0.1707	0.1425
Southern Europe	Oct – Feb	0.1970	---	0.1905	0.1591
	Mar - May	0.1970	---	0.1905	0.1591
	June - Sept	0.1870	---	0.1805	0.1508

Table 8.9-56: FOCUS Step 1,2 PEC_{sw} and PEC_{sed} for 1,2,4-triazole following multiple applications of GLOB2021dF to spring oilseed rape

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	6.4888	---	6.4231	5.3660
Step 2					
Northern Europe	Mar - May	0.1771	---	0.1707	0.1425
	June - Sept	0.1771	---	0.1707	0.1425
Southern Europe	Mar - May	0.1970	---	0.1905	0.1591
	June - Sept	0.1870	---	0.1806	0.1508

Single applications

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Table 8.9-57: FOCUS Step 1,2 PEC_{sw} and PEC_{sed} for 1,2,4-triazole following single application of GLOB2021dF to Winter cereals

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	6.4888	---	6.4231	5.3660
Step 2					
Northern Europe	Oct – Feb	0.1723	---	0.1682	0.1405
	Mar - May	0.1227	---	0.1189	0.0993
	June - Sept	0.1227	---	0.1189	0.0993
Southern Europe	Oct – Feb	0.1558	---	0.1518	0.1267
	Mar - May	0.1558	---	0.1518	0.1267
	June - Sept	0.1392	---	0.1353	0.1130

Table 8.9-58: FOCUS Step 1,2 PEC_{sw} and PEC_{sed} for 1,2,4-triazole following single application of GLOB2021dF to Spring cereals

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	6.4888	---	6.4231	5.3660
Step 2					
Northern Europe	Mar - May	0.1227	---	0.1189	0.0993
	June - Sept	0.1227	---	0.1189	0.0993
Southern Europe	Mar - May	0.1558	---	0.1518	0.1267
	June - Sept	0.1392	---	0.1353	0.1130

Table 8.9-59: FOCUS Step 1,2 PEC_{sw} and PEC_{sed} for 1,2,4-triazole following single application of GLOB2021dF to winter oilseed rape

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	6.4888	---	6.4231	5.2256
Step 2					
Northern Europe	Oct – Feb	0.1392	---	0.1353	0.1130
	Mar - May	0.1094	---	0.1058	0.0883
	June - Sept	0.1094	---	0.1058	0.0883
Southern Europe	Oct – Feb	0.1293	---	0.1255	0.1048
	Mar - May	0.1293	---	0.1255	0.1048

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Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
	June - Sept	0.1194	---	0.1156	0.0965

Table 8.9-60: FOCUS Step 1,2 PEC_{sw} and PEC_{sed} for 1,2,4-triazole following single application of GLOB2021dF to spring oilseed rape

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	6.4888	---	6.4231	5.3660
Step 2					
Northern Europe	Mar - May	0.1094	---	0.1058	0.0883
	June - Sept	0.1094	---	0.1058	0.0883
Southern Europe	Mar - May	0.1293	---	0.1255	0.1048
	June - Sept	0.1194	---	0.1156	0.0965

FOCUS Step 4

Serie 1 (whole system DT50 to the water compartment)

Table 8.9-61: Global maximum PEC_{sw} values for Prothioconazole-desthio, following multiple applications of GLOB2021dF to winter Cereals

PEC _{sw} (µg/L)	Scenario	Step 4: Prothioconazole-desthio			
Nozzle	Vegetative strip (m)	None	5	10	20
reduction	No spray buffer (m)	1	5	10	20
BBCH 25					
None	D6 ditch	-	-	-	-
75%		0.5052	-	-	-
90%		0.5052	-	-	-
None	R3 stream	-	0.2198	0.1525	0.07956
75%		0.3393	-	0.1525	-
90%		0.3393	-	0.1525	-
None	R4 stream	-	0.4507	0.3141	0.1645
75%		0.6908	-	0.3141	-
90%		0.6908	-	0.3141	-
BBCH69					
None	R1 stream	-	0.4167	0.2903	-
75%		-	-	0.2903	-
90%		-	-	0.2903	-

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Table 8.9-62: Global maximum PEC_{sw} values for Prothioconazole-desthio, following single applications of GLOB2021dF to winter Cereals

PEC _{sw} (µg/L)	Scenario	Step 4: Prothioconazole-desthio			
Nozzle	Vegetative strip (m)	None	5	10	20
reduction	No spray buffer (m)	1	5	10	20
BBCH 25					
None	D6 ditch	-	-	-	-
75%		0.5047	-	-	-
90%		0.5047	-	-	-
BBCH69					
None	R1 stream	-	0.2895	0.2018	-
75%		-	-	0.2018	-
90%		-	-	0.2018	-

Table 8.9-63: Global maximum PEC_{sw} values for Prothioconazole-desthio, following multiple applications of GLOB2021dF to spring cereals

PEC _{sw} (µg/L)	Scenario	<u>Step 4: Prothioconazole-desthio</u>			
Nozzle	Vegetative strip (m)	None	5	10	20
reduction	No spray buffer (m)	1	5	10	20
None	R4 R3 stream	-	0.3717	0.2580	0.1345
75%		0.5743	-	0.2580	-
90%		0.5743	-	0.2580	-

Table 8.9-64: Global maximum PEC_{sw} values for Prothioconazole-desthio, following single applications of GLOB2021dF to spring cereals

PEC _{sw} (µg/L)	Scenario	<u>Step 4: Prothioconazole-desthio</u>			
Nozzle	Vegetative strip (m)	None	5	10	20
reduction	No spray buffer (m)	1	5	10	20
None	R4 R3 stream	-	0.2282	0.1590	0.0833
75%		0.3497	-	0.1590	-
90%		0.3497	-	0.1590	-

Table 8.9-65: Global maximum PEC_{sw} values for Prothioconazole-desthio, following multiple applications of GLOB2021dF to winter oilseed rape

PEC _{sw} (µg/L)	Scenario	<u>Step 4: Prothioconazole-desthio</u>			
Nozzle	Vegetative strip (m)	None	5	10	20
reduction	No spray buffer (m)	1	5	10	20
BBCH 14 (only one application in autumn = first application in autumn, second application not in autumn)					

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None	R3 stream	-	0.2198	0.1896	0.0993
75%		0.4159	-	0.1896	-
90%		0.4159	-	0.1896	-
BBCH 21 (no applications in autumn)					
None	R1 stream	-	0.2090	0.1917	0.1004
75%		0.4226	-	0.1917	-
90%		0.4226	-	0.1917	-
BBCH 61 (against <i>Alternaria</i> and <i>Sclerotinia</i>)					
None	R1 stream	-	0.2090	0.1864	0.0976
75%		0.4109	-	0.1864	-
90%		0.4109	-	0.1864	-

Table 8.9-66: Global maximum PEC_{sw} values for Prothioconazole-desthio, following single applications of GLOB2021dF to winter oilseed rape

PEC _{sw} (µg/L)	Scenario	<u>Step 4: Prothioconazole-desthio</u>			
Nozzle	Vegetative strip (m)	None	5	10	20
reduction	No spray buffer (m)	1	5	10	20
BBCH 14 (early application)					
None	R3 stream	-	0.0940	0.0649	0.0336
75%		0.1469	-	0.0649	-
90%		0.1469	-	0.0649	-

Table 8.9-67: Global maximum PEC_{sw} values for Prothioconazole-desthio, following multiple applications of GLOB2021dF to spring oilseed rape

PEC _{sw} (µg/L)	Scenario	<u>Step 4: Prothioconazole-desthio</u>			
Nozzle	Vegetative strip (m)	None	5	10	20
reduction	No spray buffer (m)	1	5	10	20
BBCH 14 (early application)					
None	R1 stream	-	0.2090	0.1613	0.0845
75%		0.3549	-	0.1613	-
90%		0.3549	-	0.1613	-

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Serie 2 (whole system DT50 to the sediment compartment)

Table 8.9-68: Global maximum PEC_{sw} values for Prothioconazole-desthio, following multiple applications of GLOB2021dF to winter Cereals

PEC _{sw} (µg/L)	Scenario	Step 4: Prothioconazole-desthio			
Nozzle	Vegetative strip (m)	None	5	10	20
reduction	No spray buffer (m)	1	5	10	20
BBCH 25					
None	D6 ditch	-	0.5053	0.5053	0.5053
75%		0.5053	-	0.5053	-
90%		0.5053	-	0.5053	-
None	R3 stream	-	0.2194	0.1523	0.0794
75%		0.3386	-	0.1523	-
90%		0.3386	-	0.1523	-
None	R4 stream	-	0.4505	0.3140	0.1645
75%		0.6905	-	0.3140	-
90%		0.6905	-	0.3140	-
BBCH69					
None	R1 stream	-	0.4166	0.2902	-
75%		-	-	0.2902	-
90%		-	-	0.2902	-
None	R1 stream	-	0.4166	0.2902	-

Table 8.9-69: Global maximum PEC_{sw} values for Prothioconazole-desthio, following single applications of GLOB2021dF to winter Cereals

PEC _{sw} (µg/L)	Scenario	Step 4: Prothioconazole-desthio			
Nozzle	Vegetative strip (m)	None	5	10	20
reduction	No spray buffer (m)	1	5	10	20
BBCH 25					
None	D6 ditch	-	0.5048	0.5048	0.5048
75%		0.5048	-	0.5048	-
90%		0.5048	-	0.5048	-
BBCH69					
None	R1 stream	-	0.4166	0.2902	-
75%		-	-	0.2902	-
90%		-	-	0.2902	-
None	R1 stream	-	0.4166	0.2902	-

Table 8.9-70: Global maximum PEC_{sw} values for Prothioconazole-desthio, following multiple applications of GLOB2021dF to spring cereals

PEC _{sw} (µg/L)	Scenario	Step 4: Prothioconazole-desthio			
Nozzle	Vegetative strip (m)	None	5	10	20
reduction	No spray buffer (m)	1	5	10	20

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None	R4 R3 stream	-	0.3717 0.3616	0.2580 0.2510	0.1345 0.1309
75%		0.5743 0.5588	-	0.2580 0.2510	-
90%		0.5743 0.5588	-	0.2580 0.2510	-

Table 8.9-71: Global maximum PEC_{sw} values for Prothioconazole-desthio, following single applications of GLOB2021dF to spring cereals

PEC _{sw} (µg/L)	Scenario	<u>Step 4: Prothioconazole-desthio</u>			
Nozzle	Vegetative strip (m)	None	5	10	20
reduction	No spray buffer (m)	1	5	10	20
None	R4 R3 stream	-	0.3616 0.2243	0.2510 0.1575	0.0821
75%		0.5588 0.3464	-	0.2510 0.1575	-
90%		0.5588 0.3464	-	0.2510 0.1575	-

Table 8.9-72: Global maximum PEC_{sw} values for Prothioconazole-desthio, following multiple applications of GLOB2021dF to winter oilseed rape

PEC _{sw} (µg/L)	Scenario	Step 4: Prothioconazole-desthio			
Nozzle	Vegetative strip (m)	None	5	10	20
reduction	No spray buffer (m)	1	5	10	20
BBCH 14 (only one application in autumn = first application in autumn, second application not in autumn)					
None	R3 stream	-	0.2713	0.1893	0.0992
75%		0.4153	-	0.1893	-
90%		0.4153	-	0.1893	-
BBCH 21 (no applications in autumn)					
None	R1 stream	-	0.2750	0.1915	0.1003
75%		0.4222	-	0.1915	-
90%		0.4222	-	0.1915	-
BBCH 61 (against <i>Alternaria</i> and <i>Sclerotinia</i>)					
None	R1 stream	-	0.2674	0.1862	0.0975
75%		0.4106	-	0.1862	-
90%		0.4106	-	0.1862	-

Table 8.9-73: Global maximum PEC_{sw} values for Prothioconazole-desthio, following multiple applications of GLOB2021dF to spring oilseed rape

PEC _{sw} (µg/L)	Scenario	<u>Step 4: Prothioconazole-desthio</u>			
Nozzle	Vegetative strip (m)	None	5	10	20
reduction	No spray buffer (m)	1	5	10	20
BBCH 14 (early application)					

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None	R1 stream	-	0.2310	0.1610	0.0844
75%		0.3543	-	0.1610	-
90%		0.3543	-	0.1610	-

8.9.2.3 PEC_{sw/sed} of GLOB2021dF

The PEC_{sw} of the formulation GLOB2021dF was also calculated for all crops , based on two applications at a rate of 0.8 L f.p./ha (~~873~~ 893.44 g f.p./ha) for oilseed rape and cereals. The calculator tool from the FOCUS SWASH model was used for this purpose. These PEC_{sw} were calculated for the ditch, pond and stream scenarios. On top, to allow for the 20% spray drift contribution from the upstream catchment in the case of streams, the drift values of the calculator have been multiplied with a factor 1.2 for the stream scenario. The ditch scenario remains the worst-case in any case. The results of these calculations are provided below in table 8.9-73 below.

Table 8.9-74: Maximum PEC_{sw} for GLOB2021dF

Cropping scenario	FOCUS scenario	FOCUS values	
		Max. PEC _{sw} (µg/L)	
Oilseed rape, winter	Ditch	4.8998	5.0120
	Pond	0.1565	0.1600
	Stream	3.5996	3.6821
		4.3195*	4.4185*
Oilseed rape, spring	Ditch	4.8998	5.0120
	Pond	0.1565	0.1600
	Stream	3.5996	3.6821
		4.3195*	4.4185*
Cereals, winter	Ditch	4.8998	5.0120
	Pond	0.1565	0.1600
	Stream	3.5996	3.6821
		4.3195*	4.4185*
Cereals, spring	Ditch	4.8998	5.0120
	Pond	0.1565	0.1600
	Stream	3.5996	3.6821
		4.3195*	4.4185*

*taking into account the 20% contribution from the upstream catchment

Evaluation by zRMS	PEC _{sw} (KCP 9.2.5)
Inputs for Modelling	Predicted environmental concentrations in surface water (PEC_{sw}) and sediment (PEC_{sed}) have been calculated for boscalid, prothioconazole and its metabolites after the application of the product Pirlanko (GLOB2021dF) on winter and spring cereals and spring and winter oilseed rape: - 2x 0.8l product Pirlanko (GLOB2021dF) /ha; considering the pathways spray drift, drainage and runoff.

The PEC_{sw} and PEC_{sed} were calculated in compliance with relevant FOCUS scenarios in stepwise procedure (Steps 1, 2, 3 and 4). Modelling was made for boscalid, prothioconazole and its metabolites M01, M04, M013. Input parameters for both active substances and metabolites of prothioconazole are considered acceptable and in line with the proposed GAP.

Boscalid

The calculations were conducted according to the respective EFSA conclusions and are considered acceptable by the RMS. The Table 8.9-4 did not include STEP 1 and 2 calculations of PEC_{sw}/sed for Northern Europe/Southern Europe. zRMS calculated these values and the complete results are presented below:

FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for boscalid following single/multiple applications of PIRLANKO to **winter oilseed rape**

Sce- nario FOCUS	Wa- ter- body	Max PEC _{sw} (µg/L)	Domi- nant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	44.1724/22.0862	-	42.7441/21.3721	319.3084/159.6542
Step 2					
Northern Europe	Oct- Feb	21.1909/11.0232	-	20.8424/10.8321	155.7612/80.9492
Southern Europe	Oct- Feb	17.1951/8.9567	-	16.8756/8.7806	126.1090/65.6143
Northern Europe	March- May	9.2035/4.8238	-	8.9419/4.6776	66.8046/34.9445
Southern Europe	March- May	17.1951/8.9567	-	16.8756/8.7806	126.1090/65.6143
Northern Europe	June- Sept	9.2035/4.8238	-	8.9419/4.6776	66.8046/34.9445
Southern Europe	June- Sept	13.1993/6.8903	-	12.9087/6.7291	96.4568/50.2794

FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for boscalid following single/multiple applications of PIRLANKO to **spring oilseed rape**

Sce- nario FOCUS	Wa- ter- body	Max PEC _{sw} (µg/L)	Domi- nant entry route	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)
Step 1	---	44.1724/22.0862	-	42.7441/21.3721	319.3084/159.6542
Step 2					
Northern Europe	Oct- Feb	21.1909/11.0232	-	20.8424/10.8321	155.7612/80.9492
Southern	Oct-	17.1951/8.9567	-	16.8756/8.7806	126.1090/65.6143

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	Europe	Feb				
	Northern Europe	March-May	9.2035/4.8238	-	8.9419/4.6776	66.8046/34.9445
	Southern Europe	March-May	17.1951/8.9567	-	16.8756/8.7806	126.1090/65.6143
	Northern Europe	June-Sept	9.2035/4.8238	-	8.9419/4.6776	66.8046/34.9445
	Southern Europe	June-Sept	13.1993/6.8903	-	12.9087/6.7291	96.4568/50.2794
	FOCUS Step 1, 2 PEC _{sw} and PEC _{sed} for boscalid following <u>single/multiple</u> applications of PIRLANKO to winter cereals					
	Scenario	Water-body	Max PEC_{sw} (µg/L)	Dominant entry route	21 d- PEC_{sw, twa} (µg/L)	Max PEC_{sed} (µg/kg)
	FOCUS					
	Step 1	---	44.1724/22.0862	-	42.7441/21.3721	319.3084/159.6542
	Step 2					
	Northern Europe	Oct-Feb	21.1909/11.0232	-	20.8424/10.8321	155.7612/80.9492
	Southern Europe	Oct-Feb	17.1951/8.9567	-	16.8756/8.7806	126.1090/65.6143
	Northern Europe	March-May	9.2035/4.8238	-	8.9419/4.6776	66.8046/34.9445
	Southern Europe	March-May	17.1951/8.9567	-	16.8756/8.7806	126.1090/65.6143
	Northern Europe	June-Sept	9.2035/4.8238	-	8.9419/4.6776	66.8046/34.9445
	Southern Europe	June-Sept	13.1993/6.8903	-	12.9087/6.7291	96.4568/50.2794
	FOCUS Step 1, 2 PEC _{sw} and PEC _{sed} for boscalid following <u>single/multiple</u> applications of PIRLANKO to spring cereals					
	Scenario	Water-body	Max PEC_{sw} (µg/L)	Dominant entry route	21 d- PEC_{sw, twa} (µg/L)	Max PEC_{sed} (µg/kg)
	FOCUS					
	Step 1	---	44.1724/22.0862	-	42.7441/21.3721	319.3084/159.6542
	Step 2					
	Northern Europe	Oct-Feb	21.1909/11.0232	-	20.8424/10.8321	155.7612/80.9492

	Southern Europe	Oct-Feb	17.1951/8.9567	-	16.8756/8.7806	126.1090/65.6143
	Northern Europe	March-May	9.2035/4.8238	-	8.9419/4.6776	66.8046/34.9445
	Southern Europe	March-May	17.1951/8.9567	-	16.8756/8.7806	126.1090/65.6143
	Northern Europe	June-Sept	9.2035/4.8238	-	8.9419/4.6776	66.8046/34.9445
	Southern Europe	June-Sept	13.1993/6.8903	-	12.9087/6.7291	96.4568/50.2794
Additionally, it should be noted that in Table 8.9-11 for BBCH69 Step 3 the PEC_{sw/sed} values for boscalid for the D5 pond and D5 stream scenarios following single application to spring cereals have been omitted. However, the results of calculations for these scenarios (in Step 3, BBCH69) have provided after multiple application of GLOB2021dF to spring cereals in Table 8.9-7. Calculations of PEC_{sw/sed} values for boscalid provided by the applicant are appropriate and accepted by zRMS. <u>Prothioconazole and metabolites</u> The calculations PEC_{sw/sed} has been accepted for the active substance prothioconazole and its metabolites M04 and M013. The input parameters used in calculations were taken from the endpoints available in the EFSA conclusion on Scientific Report (2007) 106, 1-98. The STEP 1 and 2 calculations for Prothioconazole-S-methyl (M01) were incorrect as a lower value of formation fraction in soil (14.2 % instead of 14.6%) was used in the FOCUS modelling as input value. zRMS recalculated PEC_{sw/sed} provided by the Applicant and presented these new values from Tables 8.9-45 to Tables 8.9-52. Due to the absence of some scenarios for spring cereal crop (e.g. R1) in this case, the reference should be made to the results of the PEC_{sw/sed} the calculations for spring oilseed rape. In this case, spring oilseed rape should be considered as a surrogate crop for spring cereals. Nevertheless, additional simulations may be required by the CMS that can have differently defined surrogate crop. Pirlanko (GLOB2021dF) Calculations of PEC_{sw} values for formulation were not accepted by zRMS because the applicant used the inappropriate application rate of formulation. zRMS recalculated these values and presented them in Table 8.9-74. Presented calculations of PEC_{sw/sed} may be used for risk assessment.						
Agreed endpoints	Please refer to Tables from 8.9-4 to 8.9-11 and Tables from 8.9-13 to 8.9-74.					
Implication for risk assessment	Please refer to Part B, Section 9 of this dRR.					

The results calculated for BBCH 61 will cover the range up to 69 as well, as this falls within the window used by the model for this calculation.

8.10 Fate and behaviour in air (KCP 9.3, KCP 9.3.1)

8.10.1 Boscalid

Table 8.10-1 Boscalid summary of atmospheric degradation and behaviour

Compound	Boscalid
Direct photolysis in air	Photolytically stable in water. Photolysis in air not expected. Not stable under influence of radicals.
Quantum yield of direct phototransformation	$<2.45 \times 10^{-4}$
Photochemical oxidative degradation in air	DT ₅₀ : < 1.1d AOPWIN Version 1.88, [OH radicals] = $8 \times 10^5 \text{ cm}^{-3}$
Volatilisation	Vapour pressure (Pa): 7.2×10^{-7} (20°C) Henry's Law Constant (Pa.m ³ /mol): 5.178×10^{-5}
Metabolites	-

The vapour pressure at 20 °C of Boscalid is $< 10^{-5}$ Pa. Hence Boscalid is regarded as non-volatile. Therefore exposure of adjacent surface waters and terrestrial ecosystems by Boscalid due to volatilization with subsequent deposition should not be considered.

8.10.2 Prothioconazole and its metabolites

Reference is made to the EFSA 2007, Conclusion on the peer review of the pesticide risk assessment of the active substance Prothioconazole, where the following is given for the fate and behaviour in air.

Table 8.10-1 Summary of atmospheric degradation and behaviour

Compound	Prothioconazole	Prothioconazole-Desthio
Direct photolysis in air	No data provided, not required	
Photochemical oxidative degradation in air	Half-life: 1.1 hours Chemical lifetime: 1.6 hours Calculated according to Atkinson (AOPWIN v. 1.87, 12 hour day, 1.5×10^6 OH radicals/cm ³)	Half-life: 14.2 hours Chemical lifetime: 20.5 hours Calculated according to Atkinson (AOPWIN v. 1.87, 12 hour day, 1.5×10^6 OH radicals/cm ³)
Volatilisation	Laboratory route and rate soil studies indicated that volatilization of prothioconazole and prothioconazole-desthio (M04) is unlikely to take place because no volatiles were detected at levels above 0.1% AR.	

The fate and behaviour in air of prothioconazole was evaluated during the Annex I Inclusion. No additional studies have been performed. The data on the active substance are summarised below.

The vapour pressure at 20 °C of the active substance Prothioconazole is $\ll 4 \cdot 10^{-7}$ Pa. Hence the active substance Prothioconazole is regarded as non-volatile. Therefore exposure of adjacent surface waters and terrestrial ecosystems by the active substance Prothioconazole due to volatilization with subsequent deposition should not be considered.

Evaluation by zRMS	Fate and behaviour in air (KCP 9.3)
Comments	The data on the atmospheric degradation and behaviour for the active substances follows the EU assessment and is therefore agreed by the zRMS.
Conclusion for exposure assessment	The vapour pressure at 20 °C of the active substances of Pirlanko (GLOB2021dF) are $< 10^{-5}$ Pa. Hence the active substances: boscalid and prothioconazole are regarded as non-volatile and the environmental concentrations in air and the transport through air are considered negligible.

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
-	-	-	-	-	-

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

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

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The following tables are to be completed by MS

List of data submitted by the applicant and not relied on

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

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

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

Appendix 2 Detailed evaluation of the new Annex II studies

Appendix 3 Additional information provided by the applicant (e.g. detailed modelling data)