REGISTRATION REPORT

Part B

Section 8

Environmental Fate

Detailed summary of the risk assessment

Product code: A23282A

Product name: **KAYAK ERA**

Chemical active substances:

Cyprodinil, 225 g/L
Prothioconazole, 75 g/L

Central Zone

Zonal Rapporteur Member State: Poland

CORE ASSESSMENT

(New product authorization)

Applicant: XXXX

Submission date: July 2022

Evaluation date: March 2023

MS Finalisation date: December 2023

Version history

When	What
March 2023	Version evaluated by PL zRMS
July 2023	Table 8.7.2 was updated with EFSA 2005 input parameters. Tables 8.8-3 and 8.9-3 were updated to clarify the source of the Kfoc values. Table 8.8-3: compound 1/n: the segment ”Kfom = Kfoc / 1.724“ was moved to the correct line. Bold formatting was removed from STEP 4 results in tables 8.9-12 and 8.9-36. Surface water STEP 4 PECs were updated for both Cyprodinil and Prothioconazole
December 2023	Final zRMS version

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8 Fate and behaviour in the environment (KCP 9)

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	11a	11b	12	13	14	15
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**	**Conclusion**
					Method / Kind	**Timing / Growth stage of crop & season**	**Max. number a) per use b) per crop/ season**	**Min. interval between applications (days)**	**L product/ha a) max. rate per appl. b) max. total rate per crop/season**	**g cyprodinil/ha a) max. rate per appl. b) max. total rate per crop/season**	**g prothioconazole/ha a) max. rate per appl. b) max. total rate per crop/season**	**Water L/ha min/max**			**Groundwater**
Zonal uses (field or outdoor uses, certain types of protected crops)															
AT1****	Austria	spring wheat; TRZAS	F	Zymoseptoria tritici; SEPTTR	foliar spray	BBCH30-69	a) 1 b) 1	N/A	a) 2 b) 2	a) 450 b) 450	a) 150 b) 150	100-400	N/A***		
AT5****	Austria	winter wheat; TRZAW	F	Zymoseptoria tritici; SEPTTR	foliar spray	BBCH30-69	a) 1 b) 1	N/A	a) 2 b) 2	a) 450 b) 450	a) 150 b) 150	100-400	N/A***		

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

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

*** N/A stands for 'Not Applicable'; The PHI is covered by the conditions of use and/or the vegetation period remaining between the application of the plant protection product and the use of the commodity (e.g. harvest) and/or the setting of a PHI in days is not required

**** critical GAP covering all intended GAPs in Part B, Section 0, including all minor uses

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 cyprodinil 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**	**kg a.s./ha a) max. rate per appl. b) max. total rate per crop/season**	**Water L/ha min/max**		
-	EU	Wheat, winter	F	*Pseudocercosporella herpotrichoides, Erysiphe graminis*	Foliar spray	BBCH 32	a) 1 b) 1	-	-	a) 0.75 b) 0.75	200 / 400	45	-
-	EU	Apple	F	*Venturia inaequalis*	Foliar spray		a) 1 b) 4	6-10	-	a) 0.225 b) 0.9	500	60	-

* 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

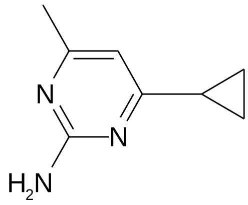
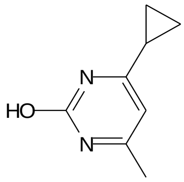
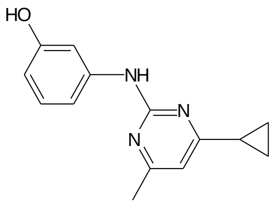
Table 8.1-3: Assessed (critical) uses during approval of prothioconazole concerning the Section Environmental Fate

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Use-No.	**Member state(s)**	**Crop and/or 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**	**kg as/ha a) max. rate per appl. b) max. total rate per crop/season**	**Water L/ha min/max**		
	EU North South	Wheat, rye, triticale	F	Rusts, Eyespot, *Fusarium spp.,* Powd. Mildew, *Rhynchospor., Septoria,*	overall spray	start 26-29 up to BBCH69 (interval 14 - 21 d)#	a) 1 b) 3#	Ref. to growth stage	a) 0.8 b) 2.6	a) 0.2 b) 0.6	200-400	35	# timing , no. of applic. depends on national conditions
	EU North South	Barley, oat	F	Rusts, Eyespot, *Pyren. teres,* Powd. Mildew, *Fusarium spp., Rhynchospor.*	overall spray	start 30 up to BBCH 61 (interval 14 - 21 d)#	a) 1 b) 2#	Ref. to growth stage	a) 0.8 b) 1.6	a) 0.2 b) 0.4	200-400	35	# timing , no. of applic. depends on national conditions
	EU North	Rape	F	*Sclerotinia, Botrytis, Alternaria, Leptosphaeria*	overall spray	start BBCH 53 (interval 14 - 21 d)#	a) 1 b) 2#	Ref. to growth stage	a) 0.7 b) 1.4	a) 0.175 b) 0.350	200-400	56	# timing , no. of applic. depends on national conditions

* 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

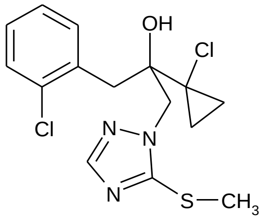
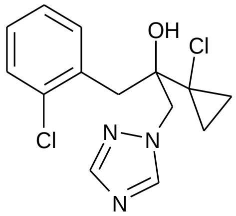
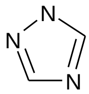
8.2 Metabolites considered in the assessment

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

Metabolite	Molar mass (g/mol)	Chemical structure	Maximum observed occurrence in compartments (%)	Exposure assessment required due to
CGA249287	149.2		Soil: >10 % (14.3 %) Surface water: 6.9 % Sediment: >10 % (14.2 %) Whole system: >10 % (21.1 %)	PEC_S: not covered by EU assessment PEC_{GW}: not covered by EU assessment $PEC_{SW/SED}$: not covered by EU assessment
CGA321915	150.2		Soil: > 5 % of a.s. and maximum of formation not yet reached at the end of the study (5.1 %) Surface water: metabolite not formed in aquatic system Sediment: metabolite not formed in aquatic system Whole system: metabolite not formed in aquatic system	PEC_S: not covered by EU assessment PEC_{GW}: not covered by EU assessment $PEC_{SW/SED:}$ not covered by EU assessment
CGA275535	241.3		Soil: > 10 % (21.3 %) Surface water: metabolite not formed in aquatic system Sediment: metabolite not formed in aquatic system Whole system: metabolite not formed in aquatic system	PEC_S: not covered by EU assessment PEC_{GW}: not covered by EU assessment $PEC_{SW/SED}$: not covered by EU assessment

CGA321915 is considered according to Regulation (EC) No. 283/2013

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

Metabolite	Molar mass (g/mol)	Chemical structure	Maximum observed occurrence in compartments (%)	Exposure assessment required due to
JAU 6476-S-methyl (M01)	358.3		Soil: >10 % (14.2%) Water: <10 % (3.1 %) Sediment: <10 % (9.6 %) Whole system: >10 % (12.7 %)	PEC_S: not covered by EU assessment PEC_{GW}: not covered by EU assessment $PEC_{SW/SED}$: not covered by EU assessment
JAU 6476-desthio (M04)	312.2		Soil: > 10 % (57.1 %) Water: >10 % (32.3 %) Sediment: >10 % (26.9 %) Whole system: >10 % (55.7 %)	PEC_S: not covered by EU assessment PEC_{GW}: not covered by EU assessment $PEC_{SW/SED}$: not covered by EU assessment
1,2,4-triazole (M13)	69.1		Soil: Metabolite not formed in soil Water: >10 % (41.8 %) Sediment: < 10 % (6.1 %)	$PEC_{SW/SED}$: not covered by EU assessment

8.3 Rate of degradation in soil (KCP 9.1.1)

Cyprodinil

As illustrated in Table 8.2-1, the major cyprodinil metabolites in soil are CGA275535, CGA249287 and CGA321915. All other metabolites shown in the degradation pathway of cyprodinil in soil (Figure 8.3-1) are considered to be minor metabolites.

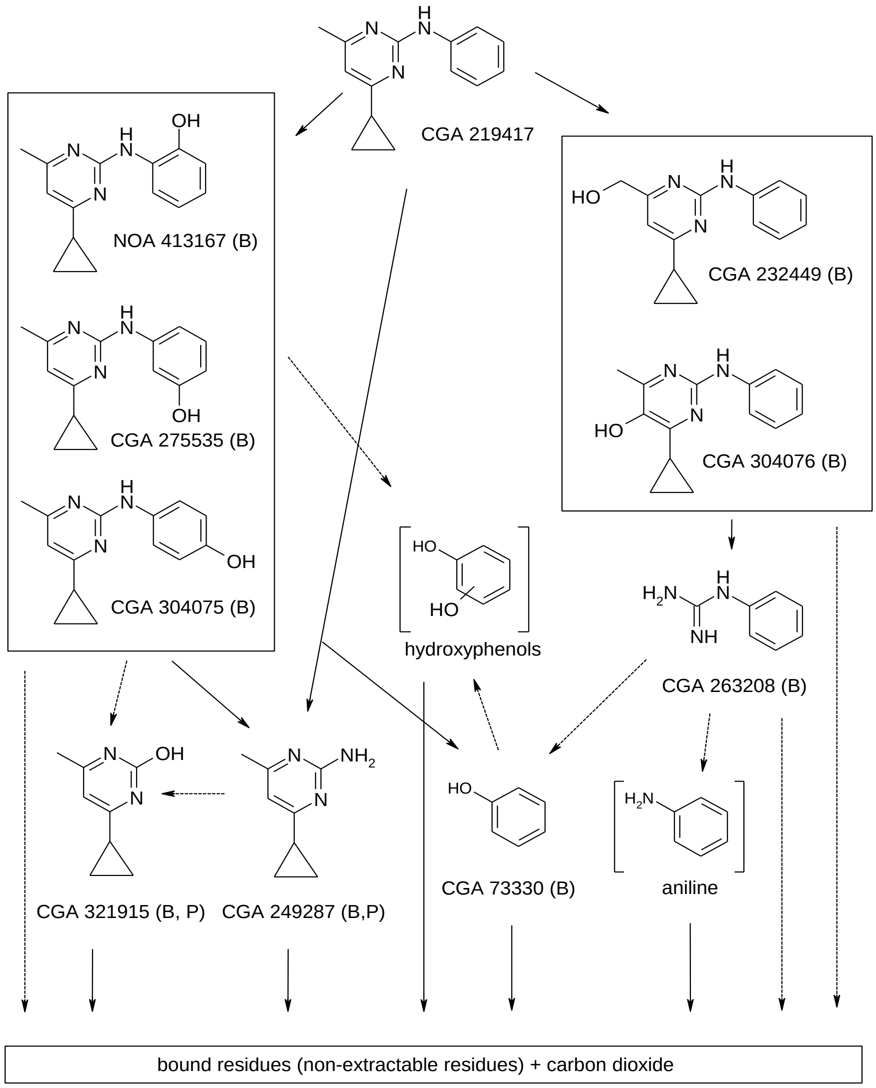
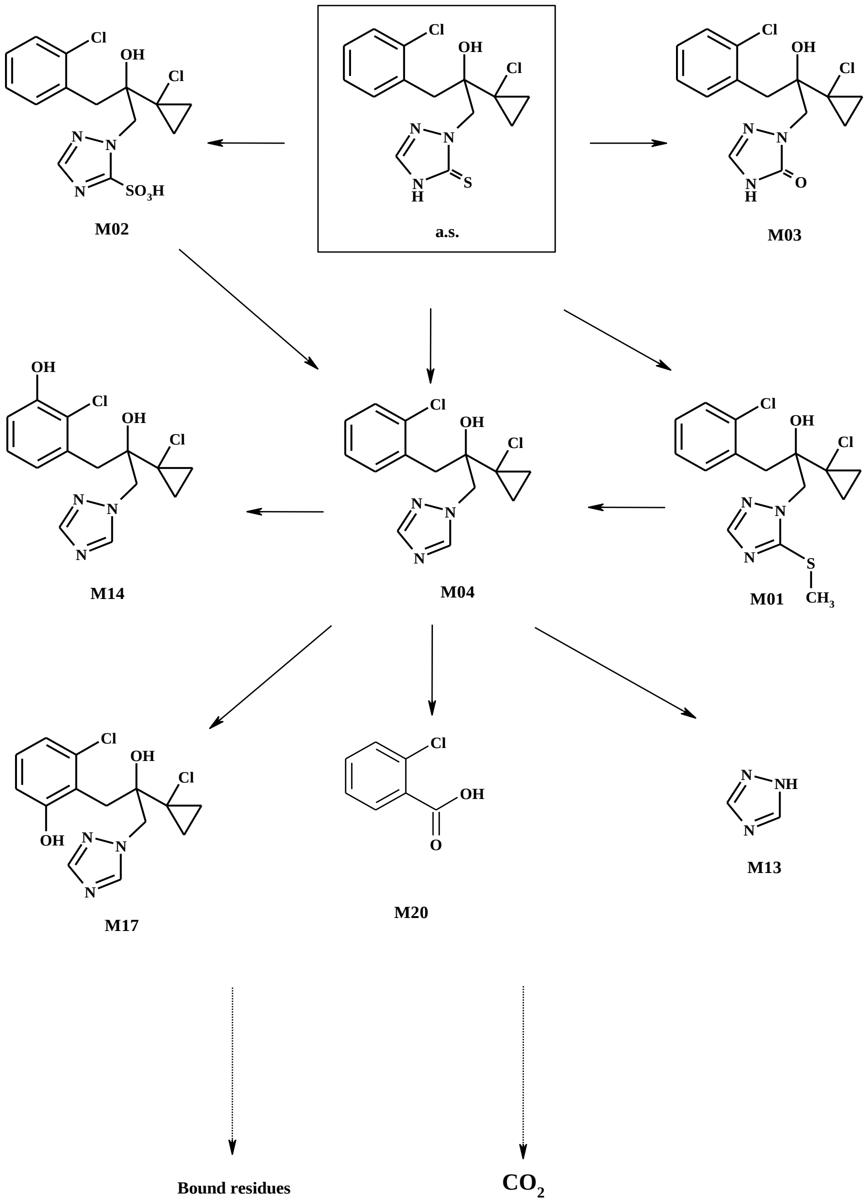


Figure 8.3-1: Proposed pathway of cyprodinil in soil

Prothioconazole

As illustrated in CGA321915 is considered according to Regulation (EC) No. 283/2013

Table 8.2-2, the major prothioconazole metabolites in soil are JAU 6476-S-methyl (M01) and JAU 6476-desthio (M04). All other metabolites shown in the degradation pathway of prothioconazole in soil (Figure 8.3-2) are considered to be minor metabolites.



a.s. = JAU 6476
M01 = JAU 6476-S-methyl
M02 = JAU 6476-sulfonic acid
M03 = JAU 6476-triazolinone
M04 = JAU 6476-desthio
M13 = 1,2,4-triazole
M14 = JAU 6476-desthio-3-hydroxy
M17 = JAU 6476-desthio-6-hydroxy
M20 = 2-chlorobenzoic acid

Figure 8.3-2: Proposed pathway of prothioconazole in soil

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

8.3.1 Aerobic degradation in soil (KCP 9.1.1.1)

8.3.1.1 Cyprodinil and its metabolites

Studies on the aerobic degradation rates of cyprodinil and its metabolites CGA249287, CGA321915 and CGA275535 are considered to be data provided in support of the active substance. All relevant detailed experimental information has been submitted for EU review for cyprodinil **(Cyprodinil, EFSA Scientific Report (2005) 51, 1-78)**. Although experimental data was previously submitted and reviewed in the EU review (2005), CGA321915 was not previously considered in the exposure and risk assessments.

For CGA321915 and CGA275535, kinetic analysis (Appendix A 2.1, *Harvey,B., 2016, VV-629897*) has been performed in accordance with FOCUS degradation kinetics guidance[1]. This study was not previously evaluated.

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

Cyprodinil, Laboratory studies, aerobic conditions						
	DT_{50} [a] [d]	**n**	**DT_{50} norm. [b] [d]**	**n**	**DT_{90}[a] [d]**	**n**
Silt loam Evouettes	40	3	29	5	131	3
Loamy sand Collombey	41	2	31	2	137	2
Loamy sand Neuhofen	36	1	28	1	120	1
Sandy loam Strassenacker	31	1	21	1	103	1
arithmetic mean	37	-	**27**	**-**	123	-
Geometric mean	37	-	**27[c]**	**-**	122	-

[a] Data from studies conducted at standard conditions
[b] Includes data from studies conducted at 10°C and 30 % FC
[c] Value of **27.1** used for FOCUS modelling

Table 8.3-2: Summary of aerobic degradation rates for CGA249287 - laboratory studies

CGA249287, Laboratory studies, aerobic conditions										
Soil name	**Soil type (USDA)**	**pH**	**t. (°C)**	**MWHC (%)**	**DT_{50} (d)**	**DT_{90} (d)**	**DT_{50} (d) 20°C pF2/10kPa**	**Chi[2] (%)**	**Kinetic model**	**Evaluated on EU level / Reference**
Les Evouettes	Silt loam	7.2	20	75 [a]	-	-	30	-	-	Yes / EFSA, 2005 (updated to geomean values)
Collombey	Loamy sand	7.2	20	40	-	-	37.9	-	-	
Neuhofen	Loamy sand	6.0	20	40	-	-	80.3	-	-	
Strassenacker	Sandy loam	7.4	20	40	-	-	59.7	-	-	
						Maximum	**1000 [b]**			

[1] FOCUS (2006) "Guidance Document on Estimating Persistence and Degradation Kinetics from Environmental Fate Studies on Pesticides in EU Registration" Report of the FOCUS Work Group on Degradation Kinetics, EC Document Reference Sanco/10058/2005 version 2.0, 434 pp

CGA249287, Laboratory studies, aerobic conditions										
Soil name	**Soil type (USDA)**	**pH**	**t. (ºC)**	**MWHC (%)**	**DT_{50} (d)**	**DT_{90} (d)**	**DT_{50} (d) 20°C pF2/10kPa**	**Chi^2 (%)**	**Kinetic model**	**Evaluated on EU level / Reference**
Geometric mean (n=4)							**48.4**			
pH-dependency:							No			

[a] % field capacity
[b] Conservative value used for PEC_{SOIL} assessment
Les Evouettes endpoint derived from Schaffer, 1992
Collombey endpoint derived from Schaffer, 1993a
Neuhofen and Strassenacker endpoits derived from Schaffer, 1994a
Kinetic analysis conducted by Reiling, 2000

Table 8.3-3: Summary of aerobic degradation rates for CGA321915 - laboratory studies

CGA321915 Laboratory studies, aerobic conditions										
Soil name	**Soil type (USDA)**	**pH (H_2O)**	**t. (ºC)**	**MWHC (%)**	**DT_{50} (d)**	**DT_{90} (d)**	**DT_{50} (d) 20°C pF2/10kPa**	**Chi^2 (%)**	**Kinetic model**	**Evaluated on EU level / Reference**
Les Evouettes	Silt loam	7.2	20	75 [a]		-	51.7	35.6	DFOP	No / Harvey, B., 2016 VV-629897
Neuhofen	Loamy sand	6.0	20	40		-	25.5	11.6	SFO	
Strassenacker	Sandy loam	7.4	20	40		-	32.8	13.1	SFO	
Maximum (non-normalised) (n=3)							**41.1** [b]			
Geometric mean (n=3)							**35.1**			
pH-dependency:							**No**			

[a] % field capacity
[b] Value used for PEC_{SOIL} assessment, as used in previous assessments (A9219B, June 2010)

zRMS Comments:	Metabolite CGA321915 was considered as a minor one (< 5.1%) in EFSA, 2005. No endpoints were derived for CGA321915.

Table 8.3-4: Summary of aerobic degradation rates for CGA275535 - laboratory studies

CGA275535, Laboratory studies, aerobic conditions										
Soil name	**Soil type (USDA)**	**pH (H_2O)**	**t. (ºC)**	**Soil mositure (%)**	**DT_{50}**	**DT_{90} [c]**	**Chi^2 (%)**	**Kinetic model**	**Evaluated on EU level / Reference**
Schanz	Sandy loam	7.4	20	45.7	<1	-	-	SFO	Yes / EFSA, 2005
Pappelacker	Sandy loam	7.5	20	47.6	<1	-	-	SFO	
Senozan	Silt loam	5.8	20	55.35	<1	-	-	SFO	

CGA275535, Laboratory studies, aerobic conditions									
Soil name	**Soil type (USDA)**	**pH (H_2O)**	**t. (ºC)**	**Soil mositure (%)**	**DT_{50}**	**DT_{90} [c]**	**Chi[2] (%)**	**Kinetic model**	**Evaluated on EU level / Reference**
				Maximum (n=3)	**1.75 [a]**				
				Geometric mean (n=3)	**1 [b]**				
				pH dependency	**No**				

[a] **1.75** d used for the PEC_{SOIL} assessment in the first instance (worst-case assumption assuming maximum, normalised lab values, n=3, from Harvey, 2016, VV-629897)
[b] **1.0** d used for FOCUS modelling as per EU assessment
[c] DT_{90} values ranged from 1.3 – 2.9 days but it is not clearly reported in the DAR (2003) which endpoint is attributed to each soil

zRMS Comments:	The new study considering deriving the new endpoints for active substance and its metabolites should be evaluated at EU level (active substance renewal). New endpoints were not accepted. All endpoints agreed at the EU level (EFSA, 2005) should be used in exposure assessment.

8.3.1.2 Prothioconazole and its metabolites

Studies on aerobic degradation of prothioconazole and its metabolites JAU 6476-S-methyl (M01) and JAU 6476-desthio (M04) are considered to be data provided in support of the active substance. All relevant detailed experimental information has been submitted for the EU review of prothioconazole **(Prothioconazole, EFSA Journal 2007;106 1-98)**.

Table 8.3-5: Summary of aerobic degradation rates for prothioconazole - laboratory studies

Prothioconazole, Laboratory studies, dark aerobic conditions										
Soil name	**Soil type (USDA)**	**pH (H_2O)**	**t. (°C)**	**MWHC (%)**	**DT_{50} (d)**	**DT_{90} (d)**	**DT_{50} (d) 20°C pF2/10kPa**	**Chi[2] (%)**	**Kinetic model**	**Evaluated on EU level / Reference**
Laacher Hof	Sandy loam	7.2	20	48	0.07	5.3	-	-	FOMC	Yes / EFSA, 2007
Stanley	Silty clay loam	5.9	20	48	0.7	78.2	-	-	FOMC	
Höfchen	Silt	7.1	20	Moisture corresponding to 1/3 bar of 75% max. water holding capacity	0.30	0.99	-	-	SFO	
Byromville	Loamy sand	6.8	20	Moisture corresponding to 1/3 bar of 75% max. water holding capacity	1.27	4.22	-	-	SFO	
				Maximum (n=4)	1.27					

Prothioconazole, Laboratory studies, dark aerobic conditions										
Soil name	**Soil type (USDA)**	**pH (H_2O)**	**t. (°C)**	**MWHC (%)**	**DT_{50} (d)**	**DT_{90} (d)**	**DT_{50} (d) 20°C pF2/10kPa**	**Chi^2 (%)**	**Kinetic model**	**Evaluated on EU level / Reference**
				Geomean (n=4)	0.37					
				pH-dependency:	No					

Table 8.3-6: Summary of aerobic degradation rates for JAU 6476-S-methyl (M01) - laboratory studies

JAU 6476-S-methyl, Laboratory studies, aerobic conditions										
Soil name	**Soil type (USDA)**	**pH (H_2O)**	**t. (°C)**	**MWHC (%)**	**DT_{50} (d)**	**DT_{90} (d)**	**DT_{50} (d) 20°C pF2/10kPa**	**Chi^2 (%)**	**Kinetic model**	**Evaluated on EU level / Reference**
Höfchen	Loamy silt	7.3	20	40	5.9	19.6	3.4	-	SFO	Yes / EFSA 2007; Hardy (2012) [a]
Laacher Hof III	Loamy silt	7.9	20	40	27.2	90.2	16.6	-	SFO	
Laacher Hof XXa	Sandy loam	7.2	20	40	8.2	27.2	5.5	-	SFO	
Stanley	Silty clay	6.3	20	40	46	153	25.9	-	SFO	
				Maximum (n=4)	**46**					
				Geomean (n=4)	**15.7**					
				pH-dependency:	No					

[a] normalisation to reference conditions was performed by Hardy (2012)

Table 8.3-7: Summary of aerobic degradation rates for JAU 6476-desthio (M04) - laboratory studies

JAU 6476-desthio, Laboratory studies, aerobic conditions										
Soil name [a]	**Soil type (USDA)**	**pH ($CaCl_2$)**	**t. (°C)**	**MWHC (%)**	**DT_{50} (d)**	**DT_{90} (d)**	**DT_{50} (d) 20°C pF2/10kPa**	**Chi^2 (%)**	**Kinetic model**	**Evaluated on EU level / Reference**
Höfchen	Loamy sand	7.3	20	40	34.0	113	-	-	SFO	Yes / EFSA, 2007
Laacher Hof III	Loamy silt	7.9	20	40	29.6	98.3	-	-	SFO	
Laacher Hof XXa	Sandy loam	7.2	20	40	7.0	23.2	-	-	SFO	
Stanley	Silty clay	6.3	20	40	18.6	61.9	-	-	SFO	
				Maximum (n=4)	34.0					
				Geomean (n=4)	19.0					
				pH-dependency:	No					

zRMS Comments:	All endpoints were agreed at the EU level (EFSA, 2007). The geometric means of DT50 were accepted and could be used in further assessment.

8.3.2 Anaerobic degradation in soil (KCP 9.1.1.1)

8.3.2.1 Cyprodinil and its metabolites

Studies on the anaerobic degradation rates of cyprodinil and its metabolite CGA249287 are considered to be data provided in support of the active substance. All relevant detailed experimental information has been submitted for EU review. **(Cyprodinil, EFSA scientific report (2005) 51, 1-78)**. The soil anaerobic studies and endpoints are deemed not relevant to current risk assessment.

8.3.2.2 Prothioconazole and its metabolites

Due to the proposed use pattern as a foliar fungicide prothioconazole will not be exposed to anaerobic conditions and was therefore not investigated **(Prothioconazole, EFSA Journal 2007;106, 1-98).**

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 Cyprodinil and its metabolites

The field dissipation rate of cyprodinil was investigated in an acidic soil (***Simon, P., 2009***). The derived trigger endpoints are described in the table below.

Trigger endpoints

Table 8.4-1: Summary of aerobic degradation rates for cyprodinil - field studies: trigger endpoints

Cyprodinil, Field studies								
Soil type (USDA or FAO)	**Location**	**pH (H_2O)**	**Depth (cm)**	**$DissT_{50}$ (d) Actual**	**DT_{90} (d) Actual**	**Chi^2 (%)**	**Kinetic model**	**Evaluated on EU level / Reference**
Clay loam	Osterhofen-Gergweis, Germany	4.7	0-30	284	945	15.2	SFO	No / Simon, P., 2009 [a] VV-383383
Maximum (n=1)				**284**	**945**			

[a] Kinetic evaluation performed by *Webb, J.,2010, VV-26061*

zRMS Comments:	The new study considering deriving the new endpoints for active substance should be evaluated at EU level (active substance renewal). New endpoints were not accepted. In accordance with EFSA, 2005, cyprodinil is persistent (DT_{50} = 245 d and DT_{90} =

	814 d) in an acidic German soil (pH 4.9).

8.4.1.2 Prothioconazole and its metabolites

Trigger endpoints

Table 8.4-2: Summary of aerobic degradation rates for prothioconazole - field studies: Trigger endpoints

Prothioconazole, Field studies – Trigger endpoints							
Soil type (USDA)	**Location**	**pH ($CaCl_2$)**	**Depth (cm)**	**$DissT_{50}$ (d) Actual**	**DT_{90} (d) Actual**	**Kinetic model**	**Evaluated on EU level / Reference**
Silt loam (bare soil)	Germany	6.25	0-10	1.9	-	-	Yes / EFSA 2007
Sandy clay loam (bare soil)	Great Britain	7.56	0-10	1.6	-	-	
Silt (bare soil)	France, North	6.42	0-10	1.3	-	-	
Sandy clay loam (cropped soil)	Great Britain	7.56	0-10	2.8	-	-	
Silt (cropped soil)	France, North	6.42	0-10	1.4	-	-	
Silt loam (cropped soil)	France, South	7.61	0-10	1.7	-	-	
Sandy loam (cropped soil)	Italy	7.56	0-10	1.6	-	-	
Sandy loam (bare soil)	Germany	6.32	0-10	1.5	-	-	
			Maximum (n=8)	~~2.4~~ **2.8**	**-**	-	-
			pH-dependency	No	-	-	-

Table 8.4-3: Summary of aerobic degradation rates for JAU 6476-desthio (M04) - field studies: Trigger endpoints

JAU 6476-desthio (M04), Field studies – Trigger endpoints							
Soil type (USDA)	**Location**	**pH ($CaCl_2$)**	**Depth (cm)**	**$DissT_{50}$ (d) Actual**	**DT_{90} (d) Actual**	**Kinetic model**	**Evaluated on EU level / Reference**
Silt loam (bare	Germany	6.25	0-10	16.3	-	-	Yes / Schramel

JAU 6476-desthio (M04), Field studies – Trigger endpoints							
Soil type (USDA)	**Location**	**pH ($CaCl_2$)**	**Depth (cm)**	**DissT$_{50}$ (d) Actual**	**DT$_{90}$ (d) Actual**	**Kinetic model**	**Evaluated on EU level / Reference**
soil)							(2001); Schad and Zerbe, (2008); Hardy (2012)
Sandy clay loam (bare soil)	Great Britain	7.56	0-10	54.7	-	-	
Silt (bare soil)	France, North	6.42	0-10	47.6	-	-	
Sandy clay loam (cropped soil)	Great Britain	7.56	0-10	50.2	-	-	
Silt (cropped soil)	France, North	6.42	0-10	36.8	-	-	
Silt loam (cropped soil)	France, South	7.61	0-10	72.3	-	-	
Sandy loam (cropped soil)	Italy	7.56	0-10	30.5	-	-	
Sandy loam (bare soil)	Germany	6.32	0-10	27.9	-	-	
			Maximum (n=8)	**72.3**	-	-	-
			pH-dependency	No	-		-

[a] orginal field dissipation study done by Schramel (2001); kinetic evaluation was performed by Schad & Zerbe (2008); normalisation to reference conditions was performed by Hardy (2012)

Modelling endpoints

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

Prothioconazole, Field studies – Modelling endpoints							
Soil type (USDA)	**Location**	**pH ($CaCl_2$)**	**Depth (cm)**	**DT$_{50}$ (d) 20°C, pF2**	**DT$_{90}$ (d) 20°C, pF2**	**Kinetic model**	**Evaluated on EU level / Reference**
Silt loam (bare soil)	Germany	6.25	0-10	1.32	-	-	Yes / Schramel (2001); Schad and Zerbe, (2008); Hardy (2012)[a]
Sandy clay loam (bare soil)	Great Britain	7.56	0-10	1.09	-	-	
Silt (bare soil)	France, North	6.42	0-10	0.75	-	-	
Sandy clay loam (cropped soil)	Great Britain	7.56	0-10	1.38	-	-	
Silt (cropped soil)	France, North	6.42	0-10	0.73	-	-	
Silt loam (cropped soil)	France, South	7.61	0-10	0.70	-	-	
Sandy loam (cropped soil)	Italy	7.56	0-10	0.97	-	-	
Sandy loam (bare soil)	Germany	6.32	0-10	0.82	-	-	

Prothioconazole, Field studies – Modelling endpoints							
Soil type (USDA)	**Location**	**pH ($CaCl_2$)**	**Depth (cm)**	**DT_{50} (d) 20°C, pF2**	**DT_{90} (d) 20°C, pF2**	**Kinetic model**	**Evaluated on EU level / Reference**
			Geometric mean (n=8)	**0.94**	**-**	-	-
			pH-dependency	No	-	-	-

[a] orginal field dissipation study done by Schramel (2001); kinetic evaluation was performed by Schad & Zerbe (2008); normalisation to reference conditions was performed by Hardy (2012)

Table 8.4-5: Summary of aerobic degradation rates for JAU 6476-desthio (M04) - field studies: Modelling endpoints

JAU 6476-desthio (M04), Field studies – Modelling endpoints							
Soil type (USDA)	**Location**	**pH ($CaCl_2$)**	**Depth (cm)**	**DT_{50} (d) 20°C, pF2**	**DT_{90} (d) 20°C, pF2**	**Kinetic model**	**Evaluated on EU level / Reference**
Silt loam (bare soil)	Germany	6.25	0-10	9.0	-	-	Yes / Schramel (2001); Schad and Zerbe, (2008); Hardy (2012)[a]
Sandy clay loam (bare soil)	Great Britain	7.56	0-10	23.5	-	-	
Silt (bare soil)	France, North	6.42	0-10	29.5	-	-	
Sandy clay loam (cropped soil)	Great Britain	7.56	0-10	19.8	-	-	
Silt (cropped soil)	France, North	6.42	0-10	24.0	-	-	
Silt loam (cropped soil)	France, South	7.61	0-10	36.4	-	-	
Sandy loam (cropped soil)	Italy	7.56	0-10	26.7	-	-	
Sandy loam (bare soil)	Germany	6.32	0-10	17.8	-	-	
			Geometric mean (n=8)	**21.8**	**-**	-	-
			pH-dependency	No	-	-	-

[a] orginal field dissipation study done by Schramel (2001); kinetic evaluation was performed by Schad & Zerbe (2008); normalisation to reference conditions was performed by Hardy (2012)

8.4.2 Soil accumulation testing (KCP 9.1.1.2.2)

Cyprodinil

The soil accumulation of cyprodinil was evaluated during the EU review (**Cyprodinil, EFSA scientific report (2005) 51, 1-78)**. The potential for accumulation has been assessed by calculation under Section 8.7.

Prothioconazole

Due to the degradation rates of prothioconazole no accumulation in soil would be expected.

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 data obtained with the active substance.

8.5.1 Cyprodinil and its metabolites

The mobility in soil of cyprodinil and its metabolites CGA249287 and CGA275535 are considered to be data provided in support of the active substance. All relevant detailed experimental information has been submitted for EU review **(Cyprodinil, EFSA Scientific Report (2005) 51, 1-78)**.

A study on the mobility of CGA321915 has been performed which was not previously reviewed at EU level. A detailed summary of the study is reported in Appendix A 2.2 (*Ye, M., 1995, VV-364154*).

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

Cyprodinil							
Soil name	**Soil type (USDA)**	**OC (%)**	**pH (H_2O)**	**K_F (mL/g)**	**K_{FOC} (mL/g)**	**1/n (-)**	**Evaluated on EU level/ Reference**
Collombey	Loamy sand	0.76	7	12.3	1618	0.88	Yes / EFSA 2005
SL-Ca	Sandy loam	0.81	5.6	16.3	2012	0.82	
LS-Ga	Sand	0.81	6.7	14.2	1753	0.79	
10B	Clay loam	2.03	7.3	31.2	1536	0.83	
19B	Loam	1.51	7.0	24.3	1609	0.87	
Arithmetic mean (n=5)					1705.6	**0.838**	
Geometric mean (n=5)					**1697.7 [a]**	**-**	
pH-dependency					**No**		

[a] K_{FOC} value used in modelling has been re-calculated from the list of endpoints (arithmetic mean K_{FOC} 1706, EFSA 2005), following the latest guideline (EFSA Journal 2013; 11(2):3114) recommending geometric mean instead of arithmetic mean. The individual K_{FOC} values from which the geometric mean is calculated, are those established in cyprodinil, EFSA Scientific Report (2005) 51, 1-78.

Table 8.5-2: Summary of soil adsorption/desorption for CGA249287

CGA249287							
Soil name	**Soil type (USDA)**	**OC (%)**	**pH (H_2O)**	**K_F (mL/g)**	**K_{FOC} (mL/g)**	**1/n (-)**	**Evaluated on EU level/ Reference**
Sl-Ga	Sandy loam	0.804	5.6	5.23	650.5	0.6975	Yes / EFSA 2005
Ls-Ga	Sand	0.804	6.7	6.957	865.3	0.7088	
10B	Clay loam	2.01	7.3	3.475	172.9	0.7604	
19B	Loam	1.49	7.0	3.582	240.4	0.7961	
Sediment	Loamy sand	0.172	8.6	0.31	180.2	0.8638	
Arithmetic mean (n=5)					421.8	0.765	

CGA249287							
Soil name	**Soil type (USDA)**	**OC (%)**	**pH (H_2O)**	**K_F (mL/g)**	**K_{FOC} (mL/g)**	**1/n (-)**	**Evaluated on EU level/ Reference**
Geometric mean (n=5)					334.95	-	
Worst case value, acidic conditions					**650.5**	0.7	
Worst case value, alkaline conditions					**173** [a]	**0.76**	
pH-dependency					**Yes**		

[a] Worst case alkaline value used for FOCUS modelling, as per EU review

Table 8.5-3: Summary of soil adsorption/desorption for CGA321915

CGA321915							
Soil name	**Soil type (USDA)**	**OC (%)**	**pH (H_2O)**	**K_F (mL/g)**	**K_{FOC} (mL/g)**	**1/n (-)**	**Evaluated on EU level/ Reference**
Sl-Ga	Sandy loam	0.804	5.6	2.513	312.6	0.6603	No / Ye, M., 1995, VV634154
Ls-Ga	Sand	0.804	6.7	1.482	184.3	0.7515	
10B	Clay loam	2.01	7.3	0.999	49.7	0.9038	
19B	Loam	1.49	7.0	1.223	82.1	0.8198	
Sediment	Loamy sand	0.172	8.6	0.309	179.9	0.8291	
Arithmetic mean (n=5)					161.7	**0.793**	
Geometric mean (n=5)					**133.4**	**-**	
pH-dependency					**No**		

Table 8.5-4: Summary of soil adsorption/desorption for CGA275535

CGA275535							
Soil name	**Soil type (USDA)**	**OC (%)**	**pH (H_2O)**	**K_F (mL/g)**	**K_{FOC} (mL/g)**	**1/n (-)**	**Evaluated on EU level/ Reference**
Sl-Ga	Sandy loam	*0.804*	*5.6*	*60.3*	*7500*	*0.9546*	Yes / EFSA 2005
Ls-Ga	Sand	*0.804*	*6.7*	*26.7*	*3320*	*0.7492*	
10B	Loam	*2.01*	*7.3*	*32.1*	*2070*	*0.7452*	
19B	Loam	*1.49*	*7.0*	*33.3*	*2900*	*0.7327*	
Sediment	Loamy sand	*0.172*	*8.6*	*4.39*	*2550*	*0.6984*	
SL-Ca II	Sandy loam	0.459	6.3	8.31	1810	0.8445	
Worst case value					**1810**[a]	**0.8445**	
pH-dependency					**No**		

[a] Only SL-Ca II acceptable and worst case value

zRMS Comments:	Metabolite CGA321915 was not considered in EFSA, 2005. No endpoint was derived for CGA321915. The only metabolites CGA249287 and CGA275535 are considered to be relevant in further assessment.

8.5.2 Prothioconazole and its metabolites

K_D and K_{OC} values of prothioconazole could not be determined in standard batch equilibrium studies due to the instability of the compound in these systems. Therefore, a parent column leaching and an aged residue column leaching study were performed (see section 8.5.3).

Table 8.5-5: Summary of soil adsorption for JAU 6476-S-methyl (M01)

JAU 6476-S-methyl							
Soil name	**Soil type (USDA)**	**OC (%)**	**pH (H_2O)**	**K_F (mL/g)**	**K_{FOC} (mL/g)**	**1/n (-)**	**Evaluated on EU level/ Reference**
Laacher Hof AXXa	Sandy loam	2.02	7.2	56.0	2772.4	0.87	Yes / EFSA, 2007
Höfchen	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	
				Geomean (n=4)	**2525.9**[a]	**-**	-
				Arithmetic mean(n=4)	2556.3	**0.88**	
				pH-dependency	No		

[a] K_{FOC} value used in modelling has been re-calculated from the list of endpoints (arithmetic mean K_{FOC} 2556.3, EFSA 2007), following the latest guideline (EFSA Journal 2013; 11(2):3114) recommending geometric mean instead of arithmetic mean. The individual K_{FOC} values from which the geometric mean is calculated, are those established in prothioconazole, EFSA Scientific Report (2007) 106, 1-98

Table 8.5-6: Summary of soil adsorption for JAU 6476-desthio (M04)

JAU 6476-S- desthio							
Soil name	**Soil type (USDA)**	**OC (%)**	**pH (H_2O)**	**K_F (mL/g)**	**K_{FOC} (mL/g)**	**1/n (-)**	**Evaluated on EU level/ Reference**
Laacher Hof AXXa	Sandy loam	2.02	7.2	12.46	616.8	0.79	Yes / EFSA, 2007
Höfchen	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	
				Geomean (n=4)	**573.5** [a]	**-**	
				Arithmetic mean (n=4)	575.4	**0.81**	-
				pH-dependency	No		

[a] K_{FOC} value used in modelling has been re-calculated from the list of endpoints (arithmetic mean K_{FOC} 575.4, EFSA 2007), following the latest guideline (EFSA Journal 2013; 11(2):3114) recommending geometric mean instead of arithmetic mean. The individual K_{FOC} values from which the geometric mean is calculated, are those established in prothioconazole, EFSA Scientific

Report (2007) 106, 1-98

Table 8.5-7: Summary of soil adsorption/desorption for CGA71019

CGA71019							
Soil Name	**Soil Type (USDA)**	**OC (%)**	**pH ($CaCl_2$)**	**K_F (mL/g)**	**K_{FOC} (mL/g)**	**1/n (-)**	**Evaluated on EU level / Reference**
Alpaugh	Silty clay	0.70	8.8	0.83	120	0.897	Yes / EFSA, 2007
Hollister	Clay loam	1.74	6.9	0.75	43	0.827	
Lawrenceville	Silty clay loam	0.70	7.0	0.72	104	0.922	
Pachappa	Sandy loam	0.81	6.9	0.72	89	1.016	
				Arithmetic mean (n=5)	**89**	**0.91**	
				pH-dependency	No		

Values agreed following the discussion on triazole derivative metabolites during the experts meeting PRAPeR 12 on fate and behaviour in January 2007.

8.5.3 Column leaching (KCP 9.1.2.1)

Cyprodinil

Column and aged residues leaching studies of cyprodinil were evaluated during the Annex I Inclusion. No additional studies have been performed. All relevant detailed experimental information has been submitted for EU review **(Cyprodinil, EFSA Scientific Report (2005) 51, 1-78**).

Prothioconazole

K_D and K_{OC} values of prothioconazole could not be determined in batch equilibrium studies due to the instability of the compound in these systems. Therefore, a parent column leaching and an aged residue column leaching study were performed. Prothioconazole and its metabolites showed a very low potential for leaching in the parent column leaching test. Due to the short half-life of prothioconazole, the very low total radioactive residues detected in the leachates (0.01 – 0.13% of the applied radioactivity) and the fact that no unchanged parent compound was found in the 2nd soil segment, prothioconazole is to be classified as being immobile in soil.

This result was confirmed by the aged residue column leaching study. Since the parent compound migrated out from the aged soil segment into the segment below only to a very limited extent, it has to be classified as immobile. In addition, the aged leaching study offered the possibility to estimate a K_D value from the leaching behaviour of prothioconazole in a soil column. The calculated K_D value of 15.2 mL/g resulted in a calculated K_{OC} value of **1765 mL/g** of prothioconazole in loamy sandy soil.

8.5.4 Lysimeter studies (KCP 9.1.2.2)

Based on the properties of cyprodinil and prothioconazole and the results of the ground water modelling (Section 8.8) lysimeter studies are not required.

8.5.5 Field leaching studies (KCP 9.1.2.3)

Based on the properties of cyprodinil and prothioconazole and the results of the groundwater modelling (Section 8.8) lysimeter studies are not required.

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 possible to extrapolate from data obtained with the active substance.

8.6.1 Cyprodinil and its metabolites

Studies on the aerobic degradation of cyprodinil are considered to be data provided in support of the active substance. All relevant detailed experimental information has been submitted for EU review **(Cyprodinil, EFSA Scientific Report (2005) 51, 1-78)**.

New kinetic analysis has been performed in accordance with current FOCUS degradation kinetics guidance. This study was not previously evaluated but is included for review in Appendix A 2.3 (*Partsch, S., 2015, VV-629383*).

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

Cyprodinil Distribution (max. sediment 87.3% after 21 days, Rhine pyrimidyl)								
Water/sediment system	**pH water/ sed.**	**DegT$_{50}$ whole syst. (d)**	**DegT$_{90}$ whole syst. (d)**	**Kinetic model**	**DissT$_{50}$ water (d)**	**DissT$_{90}$ water (d)**	**Kinetic model**	**Evaluated on EU level / Reference**
Phenyl label Rhine (river system)	8.2 / 7.0	129	429	SFO	4.1	13.6	FOMC	Yes / EFSA, 2005 [a]
Phenyl label Froschteich (pond system)	7.7 / 6.5	165	547	SFO	8.5	28.2	DFOP	
Pyrimidyl label Rhine (river system)	8.2 / 7.0	159	528	SFO	4.2	14.0	FOMC	
Pyrimidyl label Froschteich (pond system)	7.7 / 6.5	188	623	SFO	9.4	31.1	DFOP	
Geometric mean (n=4)	-	**158.8**	-	-	-	-	-	-
Maximum (n=4)	-	**-**	-	-	**9.4**	-	-	-

[a] Studies reviewed as part of the EU review. Kinetic data re-evaluated by Partsch, S., 2015, VV-629383.

Table 8.6-2: Summary of observed metabolites

Metabolite observed	**Maximum observed value in water/sediment system**	**Evaluated on EU level / Reference**
CGA249287	Pyrimidyl label Maximum observed in total system: 21.1% after 112d	Yes / EFSA, 2005

Metabolite observed	Maximum observed value in water/sediment system	Evaluated on EU level / Reference
	Water: 6.9% AR Sediment: 14.2% AR	

8.6.2 Prothioconazole and its metabolites

Studies on the mobility of prothioconazole and its aquatic metabolites JAU 6476-S-methyl (M01), JAU 6476-desthio (M04) and 1,2,4-triazole (M13) are considered to be data provided in support of the active substance. All relevant detailed experimental information has been submitted for EU review of prothioconazole, **(Prothioconazole, EFSA Journal 2007;106, 1-98)** or **(Prothioconazole, DAR, Volume 3 Annex B; B8, July 2007).**

Table 8.6-3: Summary of degradation in water/sediment of prothioconazole

Prothioconazole										
Water/sediment system	**pH water/ sed. (H_2O)**	**$DegT_{50}$ whole syst. (d)**	**$DegT_{90}$ whole syst. (d)**	**Kinetic model**	**$DissT_{50}$ water (d)**	**$DissT_{90}$ water (d)**	**Kinetic model**	**$DissT_{50}$ sed. (d)**	**Kinetic model**	**Evaluated on EU level / Reference**
Hönniger Weiher (Loam)	6.6	31.5	-	HS (slow phase)	0.8	2.7	SFO	-	-	Yes / EFSA, 2007 [a]
Angler Weiher (Loamy sand)	8.5	49.5	-	HS (slow phase)	1.0	3.4	SFO	-	-	
Geometric mean (n=2)		**39.5**								

[a] Prothioconazole – DAR, Volume 3, Annex B.8: Environmental fate and behaviour

Table 8.6-4: Summary of degradation in water/sediment of JAU 6476-S-methyl (M01) and JAU 6476-desthio (M04)

Water/sediment system	**DegT50 whole system**		**Kinetic model**	**Evaluated on EU level / Reference**
	JAU 6476-desthio	**JAU 6476-S-methyl**		
Hönniger Weiher	49.9	18.5	SFO	Yes / EFSA, 2007 [a]
Angler Weiher	39.2	40.2	SFO	
Maximum (n=2)	**49.9**	**40.2**	-	

[a] Prothioconazole – DAR, Volume 3, Annex B.8: Environmental fate and behaviour

Table 8.6-5: Summary of observed metabolites

Metabolite	Maximum observed value in water/sediment system	Evaluated on EU level / Reference
JAU 6476-S-methyl (M01) Water/sediment system	Max. in water: 3.1 % Max. in sediment: 9.6 % Max. in total system: 12.7 %	Yes / EFSA (2007); Brumhard & Oi (2002)
JAU 6476-desthio (M04) Water/sediment system	Max. in water: 32.3 % Max. in sediment: 26.9 % Max. in total sytem: 55.7 %	Yes / DAR (2007); Brumhard & Oi (2002)
1,2,4-triazole (M13) Water/sediment system	Max. in water: 37.2 %	Yes / EFSA (2007)

8.7 Predicted Environmental Concentrations in soil (PEC_S) (KCP 9.1.3)

zRMS Comments:

Calculations of PEC_S for active substances, their metabolites and formulation used for crops included in GAP table were submitted.

The endpoints used for PECs assessment were agreed at the EU level.

Cyprodinil. The DT_{50} values for active substance and metabolite CGA249287 used for PECs assessment were accepted as they represent the worst case. For metabolite CGA275535 the agreed endpoint was used. The metabolite CGA321915 was not considered in this assessment as it was not relevant in accordance with EFSA, 2005. It can be taken into consideration at cMS level.

The PECs values for active substance and its metabolites at single application is presented in the table below:

Crop	**Cyprodinil**	**CGA249287**	**CGA275535**
	DT_{50} [d]		
	1000	1000	1.75
	PECs [mg/kg soil]		
Cereals winter and spring	0.120 0.224*	0.015 0.028*	0.129

* - PECs accum

In accordance with EFSA, 2005, the PECs assessment for active substance and its metabolite was recalculated using the agreed endpoints and agreed Excel tool:

PEC_S (mg/kg)		**Cyprodinil**	
		Single application	
		Actual	**TWA**
$PEC_{S,ini}$		0.1200	-
Short term	24h	0.1192	0.1196

	2d	0.1183	0.1192
	4d	0.1167	0.1183
Long term	7d	0.1142	0.1171
	14d	0.1087	0.1143
	21d	0.1034	0.1115
	28d	0.0984	0.1089
	42d	0.0892	0.1038
	50d	0.0843	0.1011
	100d	0.0592	0.0860
$PEC_{S,plateau}$ (5 cm) with tillage after year 10		0.0025	-
$PEC_{S,accumulation}$ ($PEC_{S,accumulation}$ = $PEC_{S,ini}$ + $PEC_{S,plateau}$)		0.1225	-

PECs (mg/kg)		CGA249287		CGA275535	
		PECs (mg/kg)			
		Actual	TWA	Actual	TWA
$PEC_{S,ini}$		0.0113	-	0.0273	-
Short term	24h	0.0113	0.0184	0.0229	0.0229
	2d	0.0112	0.0124	0.0191	0.0191
	4d	0.0111	0.0056	0.0139	0.0139
Long term	7d	0.0110	0.0017	0.0094	0.0094
	14d	0.0106	0.0001	0.0050	0.0050
	21d	0.0103	<0.0001	0.0033	0.0033
	28d	0.0100	<0.0001	0.0025	0.0025
	42d	0.0094	<0.0001	0.0017	0.0017
	50d	0.0090	<0.0001	0.0014	0.0014
	100d	0.0072	<0.0001	0.0007	0.0007
$PEC_{S,plateau}$ (5 cm) with tillage after year 10		0.0007	-	<0.0001	-
$PEC_{S,accumulation}$ ($PEC_{S,accumulation}$ = $PEC_{S,ini}$ + $PEC_{S,plateau}$)		0.0120	-	0.0273	-

For metabolite CGA249287 the following input data were used: pseudo application rate based on MW correction (149.2 / 225.3), application rate (450 g a.s./ha) * crop interception (80 %) * Maximum occurence (14.3%)
For metabolite CGA275535 the following input data were used: Pseudo application rate based on MW correction (241.3 / 225.3), application rate (450 g a.s./ha) * crop interception (80 %) * Maximum occurence (21.3%).

The PECs assessment submitted by the Applicant represents a worse case and could be used in further risk assessment.

Prothioconazole. The Applicant has submitted PECs assessment using the recalculated endpoints from new studies (2018) and using the agreed endpoints (2007). The later one was accepted as the new endpoints are only proposed but not agreed. The PECs values for active substance and its metabolites at multiple application is presented in the table below:

	Prothioconazole	**Prothioconazole-desthio (M04)**	**Prothioconazole-S- methyl (M01)**
	DT_{50} [d]		
	2.8	72.3	46
Crop	**PECs [mg/kg soil]**		
Cereals winter and spring	0.040	0.027	0.006

In accordance with EFSA, 2007, the PECs assessment for active substance and its metabolite was recalculated using the agreed endpoints and agreed Excel tool:

PECs (mg/kg)		**Prothioconazole**	
		Single application	
		Actual	**TWA**
$PEC_{S,ini}$		0.040	-
Short term	24h	0.031	0.036
	2d	0.024	0.032
	4d	0.015	0.026
Long term	7d	0.007	0.019
	14d	0.001	0.011
	21d	<0.001	0.008
	28d	<0.001	0.006
	42d	<0.001	0.004
	50d	<0.001	0.003
	100d	<0.001	0.002
$PEC_{S,plateau}$ (5 cm) with tillage after year 10		-	-
$PEC_{S,accumulation}$ ($PEC_{S,accumulation} = PEC_{S,ini} + PEC_{S,plateau}$)		-	-

PECs (mg/kg)		JAU 6476-S-methyl		JAU 6476-S-desthio	
		PECs (mg/kg)			
		Actual	TWA	Actual	TWA
$PEC_{S,ini}$		<0.0001	-	<0.0001	-
Short term	24h	<0.0001	0.0058	<0.0001	-
	2d	<0.0001	0.0057	<0.0001	0.0206
	4d	<0.0001	0.0057	<0.0001	0.0205
Long term	7d	<0.0001	0.0055	<0.0001	0.0203
	14d	<0.0001	0.0053	<0.0001	0.0200
	21d	<0.0001	0.0050	<0.0001	0.0194
	28d	<0.0001	0.0048	<0.0001	0.0188
	42d	<0.0001	0.0043	<0.0001	0.0182
	50d	<0.0001	0.0041	<0.0001	0.0170
	100d	<0.0001	0.0030	<0.0001	0.0165
$PEC_{S,plateau}$ (5 cm) with tillage after year 10		-	-	-	-
$PEC_{S,accumulation}$ ($PEC_{S,accumulation} = PEC_{S,ini} + PEC_{S,plateau}$)		-	-	-	-

For metabolite JAU 6476-S-methyl the following input data were used: pseudo application rate based on MW correction (358.3 / 344.26), application rate (150 g a.s./ha) * crop interception (80 %) * Maximum occurence (14.2%)
For metabolite JAU 6476-S-desthio the following input data were used: Pseudo application rate of 20.5 g a.s./ha used based on MW correction (312.2 / 344.26), application rate (150 g a.s./ha) * crop interception (80 %) * Maximum occurence (57.1%).

The PECs assessment submitted by the Applicant represents a worse case and could be used in further risk assessment.

Formulation. The submitted by the Applicant PECs for formulation was accepted. In PECs assessment the maximum volume of formulation (2.0 L/ha) with relevant density of 0.993 g/mL was considered. PECs of 0.530 mg/kg for formulation was calculated.

These values will be used in further risk assessment.

Unless otherwise stated, EU agreed endpoints refer to those stated in the EU review of cyprodinil, **(Cyprodinil, EFSA Scientific Report (2005) 51, 1-78)** and prothioconazole, **(Prothioconazole, EFSA Journal 2007;106, 1-98)**.

8.7.1 Justification for new endpoints

Cyprodinil

Default worst-case conservative soil DegT50 values for cyprodinil and its metabolite CGA249287 have been used in this assessment (1000 d).

For metabolites CGA321915 and CGA275535, kinetic analysis (Appendix A 2.1, *Harvey, B., 2016, VV-629897*) of existing laboratory soil studies has been performed. The experimental studies were reviewed in **EFSA Scientific Report (2005) 51, 1-78**. Note that in the EFSA, 2005 review, CGA321915 was not previously considered in the risk assessment.

Prothioconazole

For prothiocoanzle and JAU 6476-desthio, the original field dissipation study conducted by Schramel (2001) (EU reviewed) was kinetically re-evaluation by Schad & Zerbe (2008); with normalisation to reference conditions performed by Hardy (2012).

EU agreed endpoints were used for PEC_S calculations of JAU 6476-s-methyl.

8.7.2 Active substance(s) and relevant metabolite(s)

The following PEC_S calculations for cyprodinil and its metabolites CGA249287, CGA321915 and CGA275535 and prothioconazole, JAU 6476-S-methyl and JAU 6476-desthio have not previously been reviewed and are provided in support of this assessment in Appendix 3 of this document.

Table 8.7-1: Input parameters related to application for PEC_S calculations

Use No.	AT1
Crop	Cereals
Application rate (g a.s./ha)	Cyprodinil: 450 Prothioconazole: 150
Number of applications/interval (d)	1 / -
Crop interception (%)	80
Depth of soil layer (relevant for $PEC_{S,plateau}$) (cm)	5 cm (with tillage)
Models used for calculation	ESCAPE v2.0

Table 8.7-2: Input parameter for active substance(s) and relevant metabolite(s) for PEC_S calculation

Compound	Molar mass (g/mol)	Max. occurrence (%) / Formation fraction	DT_{50} (d)	Value in accordance to EU endpoint / Reference
Cyprodinil	225.3 *	-	~~1000 **~~ 98* (field)	*Yes / EFSA, 2005 ~~**Default, worst-case conservative value~~
CGA249287	149.2*	14.3% ** / 0.192 from parent (arithmetic mean, n=5) ***	~~1000 ***~~ 153 **	*Calculated ** Yes / EFSA, 2005 ***No / Harvey, B., 2016, VV-629897 ~~***Default, worst-case conservative value~~

Compound	Molar mass (g/mol)	Max. occurrence (%) / Formation fraction	DT_{50} (d)	Value in accordance to EU endpoint / Reference
~~CGA321915~~	~~150.2*~~	~~0.890 from CGA249287 (arithmetic mean, n=3) **~~	~~41.1 ** (maximum, non-normalised lab value, n=3)~~	~~* Calculated~~ ~~**Value used for PEC_{SOIL} assessment, as used in previous assessments (A9219B, June 2010)~~
CGA275535	241.3 *	21.3% **/ 1.0 from parent (worst-case default)	1.75 *** (maximum normalised lab values, n=3)	* Calculated ** Yes / EFSA, 2005 ***No / Harvey, B., 2016, VV-629897
Prothioconazole	344.26	-	2.8* (SFO, maximum, n=8, field studies, un-normalised)	Yes / EFSA, 2007 *(evaluation by Hardy, 2012)
JAU 6476-S-methyl	358.3[a]	0.14 from parent	46 (SFO, maximum, n=4, laboratory studies, un-normalised)	Yes / EFSA, 2007
JAU 6476-desthio	312.2	57.1% / 0.74 (0.60 from parent; 1 from JAU 6476-S-methyl)[b]	72.3* (SFO, maximum, n=8, field studies, un-normalised)	Yes / EFSA, 2007 *(evaluation by Hardy, 2012)

[a] Consistent with molecular weight correct factor of 1.041 x parent molecular weight given in EFSA (2007)
[b] For the secondary metabolite pathway of JAU 6476-desthio the formation fraction was multiplied and summed up along the pathway; therefore ((0.14 × 1.0)+0.60)=0.74

8.7.2.1 Cyprodinil and its metabolites

Table 8.7-3: PEC_S for cyprodinil on cereals, 1 x 450 g .a.s/ha, BBCH 30 - 69

PEC_S (mg/kg)		Cereals	
		Single application	
		Actual	TWA
$PEC_{S,ini}$		0.120	-
Short term	24h	0.120	0.120
	2d	0.120	0.120
	4d	0.120	0.120
Long term	7d	0.119	0.120
	14d	0.119	0.119
	21d	0.118	0.119
	28d	0.118	0.119
	42d	0.117	0.118
	50d	0.116	0.118

PEC_S (mg/kg)		Cereals	
		Single application	
		Actual	TWA
	100d	0.112	0.116
$PEC_{S,plateau}$ (5 cm) with tillage after year 10		0.104	-
$PEC_{S,accumulation}$ ($PEC_{S,accumulation} = PEC_{S,ini} + PEC_{S,plateau}$)		0.224	-

PEC_S of metabolites

Table 8.7-4: PEC_S for CGA249287 on cereals, 1 x 450 g .a.s/ha [a], BBCH 30 - 69

PEC_S (mg/kg)		Cereals	
		Single application	
		Actual	TWA
$PEC_{S,ini}$		0.015	-
Short term	24h	0.015	0.015
	2d	0.015	0.015
	4d	0.015	0.015
Long term	7d	0.015	0.015
	14d	0.015	0.015
	21d	0.015	0.015
	28d	0.015	0.015
	42d	0.015	0.015
	50d	0.015	0.015
	100d	0.014	0.015
$PEC_{S,plateau}$ (5 cm) with tillage after year 10		0.013	-
$PEC_{S,accumulation}$ ($PEC_{S,accumulation} = PEC_{S,ini} + PEC_{S,plateau}$)		0.028	-

[a] Pseudo application rate of 11.4 g a.s./ha used based on MW correction (149.2 / 225.3) * (application rate (450 g a.s./ha) * crop interception (80 %)) * FFM (0.192)

Table 8.7-5: PEC_S for CGA321915 on cereals, 1 x 450 g .a.s/ha[a,b], BBCH 30 – 69

PEC_S (mg/kg)		Cereals	
		Single application	
		Actual	TWA
$PEC_{S,ini}$		0.014	-
Short term	24h	0.014	0.014
	2d	0.013	0.014
	4d	0.013	0.013
Long term	7d	0.012	0.013
	14d	0.011	0.012
	21d	0.010	0.012
	28d	0.009	0.011
	42d	0.007	0.010
	50d	0.006	0.009
	100d	0.003	0.007
$PEC_{S,plateau}$ (5 cm) with tillage after year 10		<0.001	-
$PEC_{S,accumulation}$ ($PEC_{S,accumulation}$ = $PEC_{S,ini}$ + $PEC_{S,plateau}$)		0.014	-

[a] Pseudo application rate of 10.3 g a.s./ha used based on MW correction (150.2 / 225.3) * (application rate (450 g a.s./ha) * crop interception (80 %)) * FFM (0.171 [b])
[b] formation fraction = 0.192 (parent to CGA249287) * 0.890 (CGA249287 to CGA321915) = 0.171

Table 8.7-6: PEC$_S$ for CGA275535 on cereals, 1 x 450 g .a.s/ha [a], BBCH 30 – 69

PEC$_S$ (mg/kg)		Cereals	
		Single application	
		Actual	TWA
PEC$_{S,ini}$		0.129	-
Short term	24h	0.087	0.108
	2d	0.058	0.090
	4d	0.026	0.065
Long term	7d	0.008	0.044
	14d	0.001	0.023
	21d	<0.001	0.016
	28d	<0.001	0.012
	42d	<0.001	0.008
	50d	<0.001	0.007
	100d	<0.001	0.003
PEC$_{S,plateau}$ (5 cm) with tillage after year 10		<0.001	-
PEC$_{S,accumulation}$ (PEC$_{S,accumulation}$ = PEC$_{S,ini}$ + PEC$_{S,plateau}$)		0.129	-

[a] Pseudo application rate of 96.4 g a.s./ha used based on MW correction (241.3 / 225.3) * (application rate (450 g a.s./ha) * crop interception (80 %)) * FFM (1.0)

8.7.2.2 Prothioconazole and its metabolites

Given the DT_{50} and DT_{90} of prothioconazole are < 100d and 365d respectively, as shown in Section 8.3, calculations to estimate potential accumulation of prothioconazole were not undertaken.

Table 8.7-7: PEC$_S$ for prothioconazole on cereals, 1 x 150 g .a.s/ha, BBCH 30 – 69

PEC$_S$ (mg/kg)		Cereals	
		Single application	
		Actual	TWA
PEC$_{S,ini}$		0.040	-
Short term	24h	0.031	0.036
	2d	0.024	0.032
	4d	0.015	0.026

PEC_S (mg/kg)		**Cereals**	
		Single application	
		Actual	**TWA**
Long term	7d	0.007	0.019
	14d	0.001	0.011
	21d	<0.001	0.008
	28d	<0.001	0.006
	42d	<0.001	0.004
	50d	<0.001	0.003
	100d	<0.001	0.002

PEC_S of metabolites

Table 8.7-8: PEC_S for JAU 6476-S-methyl (M01) on cereals, 1 x 150 g .a.s/ha, BBCH 30 – 69

PEC_S (mg/kg)		**Cereals**	
		Single application	
		Actual	**TWA**
$PEC_{S,ini}$		0.006	-
Short term	24h	0.006	0.006
	2d	0.006	0.006
	4d	0.006	0.006
Long term	7d	0.005	0.006
	14d	0.005	0.005
	21d	0.004	0.005
	28d	0.004	0.005
	42d	0.003	0.004
	50d	0.003	0.004
	100d	0.001	0.003
$PEC_{S,plateau}$ (5 cm) with tillage after year 10		<0.001	-
$PEC_{S,accumulation}$ ($PEC_{S,accumulation} = PEC_{S,ini} + PEC_{S,plateau}$)		0.006	-

Table 8.7-9: PEC_S for JAU 6476-desthio (M04) on cereals, 1 x 150 g .a.s/ha, BBCH 30 – 69

PEC_S (mg/kg)		Cereals	
		Single application	
		Actual	TWA
$PEC_{S,ini}$		0.027	-
Short term	24h	0.027	0.027
	2d	0.026	0.027
	4d	0.026	0.026
Long term	7d	0.025	0.026
	14d	0.024	0.025
	21d	0.022	0.024
	28d	0.021	0.024
	42d	0.018	0.022
	50d	0.017	0.021
	100d	0.010	0.017
$PEC_{S,plateau}$ (5 cm) with tillage after year 10		<0.001	-
$PEC_{S,accumulation}$ ($PEC_{S,accumulation} = PEC_{S,ini} + PEC_{S,plateau}$)		0.027	-

8.7.2.3 PEC_S of A23282A

Table 8.7-10: PEC_S for A23282A on cereals

Formulation	Application rate (g/ha)	Crop interception (%)	$PEC_{S,ini}$ (mg/kg)
A23282A	1986 [a]	80	0.530

[a] Based on the field application rate of the product (2 L/ha) * density (0.993 g/cm^3)

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

zRMS Comments:	The submitted PECgw assessment was accepted. The application dates were accepted. Calculations of PEC_{GW} for both active substances and their relevant metabolites were provided in Tier 1 with PUF = 0. The the newest version of recommended FOCUS models were used: FOCUS PEARL v5.5.5 and FOCUS PELMO v6.6.4. **Cyprodynil**. All used endpoints were agreed at the EU level. The maximum PECgw values for active substance and metabolites were below the trigger value of 0.1 µg/L. The metabolite CGA321915 was not considered in this assessment as it was not relevant in accordance with EFSA, 2005. It can be taken into consideration at cMS level. **Prothioconazole**. The used endpoints were agreed at the EU level or recalculated. The

	high water solubility for metabolites was accepted as it represents a worse case. The maximum PEC_{GW} values for active substance and metabolites were below the trigger value of 0.1 µg/L.

Unless otherwise stated, EU agreed endpoints refer to those stated in the EU review of cyprodinil, **(Cyprodinil, EFSA Scientific Report (2005) 51, 1-78)** and prothioconazole, **(Prothioconazole, EFSA Journal 2007;106, 1-98)**.

8.8.1 Justification for new endpoints

Endpoints for cyprodinil and its metabolites CGA249287 and CGA275535, used in the modelling assessment, were derived from experimental studies that were reviewed in **EFSA Scientific Report (2005) 51, 1-78.**

For metabolite CGA321915 kinetic analysis (Appendix A 2.1, *Harvey, B., 2016, VV-629897*) of existing laboratory soil studies has been performed. The experimental studies were reviewed in **EFSA Scientific Report (2005) 51, 1-78**. Note that in the EFSA, 2005 review, CGA321915 was not previously considered in the risk assessment.

A study on the mobility of CGA321915 has been performed and a detailed summary of the study is reported in Appendix A 2.2 (Appendix A 2.2, *Ye, M., 1995, VV-364154*).

EU agreed endpoints were used for PEC_S calculations of prothioconazole and its respective metabolites.

8.8.2 Active substance(s) and relevant metabolite(s) (KCP 9.2.4.1)

The following PEC_{GW} modelling for cyprodinil and its metabolites CGA249287, CGA321915 and CGA275535 and prothioconazole and its metabolites JAU 6476-S-methyl and JAU 6476-desthio has not previously been reviewed and is provided in support of this assessment in Appendix 3 of this document.

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

Use No.	AT5	AT1
Crop	Winter cereals	Spring cereals
Application rate (g a.s./ha)	Cyprodinil: 450 Prothioconazole: 150	
Number of applications / interval (d)	1 / -	
Relative application date / BBCH growth stage	30-69 [a]	
Crop interception (%)	BBCH 30 onwards: 80 BBCH 69 backwards: 90	
Frequency of application	Annual	
Models used for calculation	FOCUS PEARL v5.5.5, FOCUS PELMO v6.6.4	

[a] Applications were considered at the beginning of the use window (BBCH 30) and at the end of the use window (BBCH 69) to cover the use BBCH 30-69.

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

Crop	Scenario	Application dates (absolute)	
		BBCH 30	BBCH69
Winter cereals	Châteaudun	15 April (105)	14 June (165)
	Hamburg	04 May (124)	22 June (173)
	Jokioinen	14 May (134)	10 July (191)
	Kremsmünster	24 April (114)	25 June (176)
	Okehampton	21 April (111)	07 June (158)
	Piacenza	19 March (78)	26 May (146)
	Porto	30 January (30)	18 May (138)
	Sevilla	06 January (6)	28 March (87)
	Thiva	18 January (18)	27 April (117)
Spring cereals	Châteaudun	16 April (106)	22 June (173)
	Hamburg	28 April (118)	28 June (179)
	Jokioinen	05 June (156)	17 July (198)
	Kremsmünster	27 April (117)	28 June (179)
	Okehampton	22 April (112)	18 June (169)
	Porto	16 April (106)	22 June (173)

Values in parentheses are equivalent Julian days.

8.8.2.1 Cyprodinil and its metabolites

Table 8.8-3: Input parameters related to active substance cyprodinil and CGA249287, CGA321915 and CGA275535 for PEC_{GW} calculations

Compound	Cyprodinil	CGA249287	~~CGA321915~~	CGA275535	Value in accordance to EU endpoint Reference
Molar mass (g/mol)	225.3	149.2*	~~150.2*~~	241.3*	Yes / EFSA, 2005 *Calculated
Water solubility (mg/L @ 25°C):	20	6900	~~250~~	20	Yes / EFSA, 2005
Saturated vapour pressure (Pa):	5.1×10^{-4} (25°C)	-	~~-~~	-	Yes / EFSA, 2005
DT_{50} in soil (d) lab/field	27.1* (Geomean of lab values (n=4))	48.4* (Geomean of lab studies (n=4))	~~35.1**~~ ~~(Geomean of lab studies (n=3))~~	1.0 (Default, listed as <1 day in EFSA)	*Yes / EFSA, 2005 (updated to geomean) **No / Harvey, B., 2016, VV-629897
K_{FOC}/ K_{FOM} (mL/g)	1697.7 / 984.7* (Geomean, n=5)	173 / 100.3 (Lowest value from alkaline soils)	~~133.4 / 77.4**~~ ~~(Geomean, n=5)~~	1810 / 1049.9 (Only SL-Ca II acceptable and worst case value)	$K_{fom} = K_{foc} / 1.724$ Yes / EFSA, 2005

Compound	Cyprodinil	CGA249287	CGA321915	CGA275535	Value in accordance to EU endpoint Reference
1/n	0.84* (Arithmetic mean, n=5)	0.76* (Arithmetic mean, n=5)	0.793** (Arithmetic mean, n=5)	0.84* (Only SL-Ca II acceptable and worst case value)	* EFSA, 2005 updated to geomean **No / Ye, M., 1995, VV-634154
Plant uptake factor	0	0	0	0	Default
Formation fraction	-	0.22 from parent (Arithmetic mean, n=5) *	0.890 from CGA249287 (Arithmetic mean, n=3) **	1.0 from parent (Worst-case default) *	*Yes / EFSA, 2005 **No / Harvey, B., 2016, VV-629897
Transformation rate (PELMO)	0.0056270 to CGA249287 0.0199504 to sink **or;** 0.0255774 to CGA275535	0.0127459 to CGA321915 0.0015753 to sink	0.0197478 to sink	0.6931472 to sink	Calculated: $(\ln 2 / DT_{50}) * ffm$
Washoff Factor m^{-1} (PEARL/PELMO)	0.0001	0.0001	0.0001	0.0001	Default
Foliar DT_{50} (days)	10	10	10	10	Default

Table 8.8-4: **PEC_{gw} for cyprodinil and its metabolites CGA249287, CGA321915 and CGA275535 in winter and spring cereals with FOCUS PEARL v5.5.5 (Appendix A 3.3, Anderson, C., 2022, VV-943645)**

Crop	Scenario	80th Percentile PEC_{gw} at 1 m Soil Depth (µg/L)			
		Cyprodinil	CGA249287	CGA321915	CGA275535
Use 1 Winter cereal 450 g a.s./ha BBCH 30	Châteaudun	<0.001	<0.001	<0.001	<0.001
	Hamburg	<0.001	<0.001	<0.001	<0.001
	Jokioinen	<0.001	<0.001	<0.001	<0.001
	Kremsmünster	<0.001	<0.001	<0.001	<0.001
	Okehampton	<0.001	<0.001	<0.001	<0.001
	Piacenza	<0.001	<0.001	<0.001	<0.001
	Porto	<0.001	<0.001	<0.001	<0.001
	Sevilla	<0.001	<0.001	<0.001	<0.001
	Thiva	<0.001	<0.001	<0.001	<0.001
Use 2 Winter cereal 450 g a.s./ha BBCH 69	Châteaudun	<0.001	<0.001	<0.001	<0.001
	Hamburg	<0.001	<0.001	<0.001	<0.001
	Jokioinen	<0.001	<0.001	<0.001	<0.001
	Kremsmünster	<0.001	<0.001	<0.001	<0.001
	Okehampton	<0.001	<0.001	<0.001	<0.001
	Piacenza	<0.001	<0.001	<0.001	<0.001
	Porto	<0.001	<0.001	<0.001	<0.001
	Sevilla	<0.001	<0.001	<0.001	<0.001
	Thiva	<0.001	<0.001	<0.001	<0.001
Use 3	Châteaudun	<0.001	<0.001	<0.001	<0.001

Spring cereal 450 g a.s./ha BBCH 30	Hamburg	<0.001	<0.001	~~<0.001~~	<0.001
	Jokioinen	<0.001	<0.001	~~<0.001~~	<0.001
	Kremsmünster	<0.001	<0.001	~~<0.001~~	<0.001
	Okehampton	<0.001	<0.001	~~<0.001~~	<0.001
	Porto	<0.001	<0.001	~~<0.001~~	<0.001
Use 4 Spring cereal 450 g a.s./ha BBCH 69	Châteaudun	<0.001	<0.001	~~<0.001~~	<0.001
	Hamburg	<0.001	<0.001	~~<0.001~~	<0.001
	Jokioinen	<0.001	<0.001	~~<0.001~~	<0.001
	Kremsmünster	<0.001	<0.001	~~<0.001~~	<0.001
	Okehampton	<0.001	<0.001	~~<0.001~~	<0.001
	Porto	<0.001	<0.001	~~<0.001~~	<0.001

Table 8.8-5: PEC$_{gw}$ for cyprodinil and its metabolites CGA249287, CGA321915 and CGA275535 in winter and spring cereals with FOCUS PELMO v6.6.4 (Appendix A 3.3, Anderson, C., 2022, VV-943645)

Crop	Scenario	80th Percentile PEC$_{gw}$ at 1 m Soil Depth (µg/L)			
		Cyprodinil	CGA249287	~~CGA321915~~	CGA275535
Use 1 Winter cereal 450 g a.s./ha BBCH 30	Châteaudun	<0.001	<0.001	~~<0.001~~	<0.001
	Hamburg	<0.001	<0.001	~~<0.001~~	<0.001
	Jokioinen	<0.001	<0.001	~~<0.001~~	<0.001
	Kremsmünster	<0.001	<0.001	~~<0.001~~	<0.001
	Okehampton	<0.001	<0.001	~~<0.001~~	<0.001
	Piacenza	<0.001	<0.001	~~<0.001~~	<0.001
	Porto	<0.001	<0.001	~~<0.001~~	<0.001
	Sevilla	<0.001	<0.001	~~<0.001~~	<0.001
	Thiva	<0.001	<0.001	~~<0.001~~	<0.001
Use 2 Winter cereal 450 g a.s./ha BBCH 69	Châteaudun	<0.001	<0.001	~~<0.001~~	<0.001
	Hamburg	<0.001	<0.001	~~<0.001~~	<0.001
	Jokioinen	<0.001	<0.001	~~<0.001~~	<0.001
	Kremsmünster	<0.001	<0.001	~~<0.001~~	<0.001
	Okehampton	<0.001	<0.001	~~<0.001~~	<0.001
	Piacenza	<0.001	<0.001	~~<0.001~~	<0.001
	Porto	<0.001	<0.001	~~<0.001~~	<0.001
	Sevilla	<0.001	<0.001	~~<0.001~~	<0.001
	Thiva	<0.001	<0.001	~~<0.001~~	<0.001
Use 3 Spring cereal 450 g a.s./ha BBCH 30	Châteaudun	<0.001	<0.001	~~<0.001~~	<0.001
	Hamburg	<0.001	<0.001	~~<0.001~~	<0.001
	Jokioinen	<0.001	<0.001	~~<0.001~~	<0.001
	Kremsmünster	<0.001	<0.001	~~<0.001~~	<0.001
	Okehampton	<0.001	<0.001	~~<0.001~~	<0.001
	Porto	<0.001	<0.001	~~<0.001~~	<0.001
Use 4 Spring cereal 450 g a.s./ha BBCH 69	Châteaudun	<0.001	<0.001	~~<0.001~~	<0.001
	Hamburg	<0.001	<0.001	~~<0.001~~	<0.001
	Jokioinen	<0.001	<0.001	~~<0.001~~	<0.001
	Kremsmünster	<0.001	<0.001	~~<0.001~~	<0.001
	Okehampton	<0.001	<0.001	~~<0.001~~	<0.001
	Porto	<0.001	<0.001	~~<0.001~~	<0.001

Table 8.8-6: Summary of maximum PEC_{GW} across all models for cyprodinil CGA249287, CGA321915 and CGA275535 (Appendix A 3.3, Anderson, C., 2022, VV-943645)

Substance	80th Percentile PEC_{gw} (µg/L)	Crop	Application	Model and Version Number	Scenario
Cyprodinil	<0.001	Winter and spring cereals	450 g a.s./ha BBCH 30-69	All models tested	All scenarios tested
CGA249287	<0.001			All models tested	All scenarios tested
~~CGA321915~~	~~<0.001~~			~~All models tested~~	~~All scenarios tested~~
CGA275535	<0.001			All models tested	All scenarios tested

Both PEARL 5.5.5 and PELMO 6.6.4 models returned PEC_{GW} values <0.001µg/L for all substances and both crops, indicating a very low risk to groundwater.

8.8.2.2 Prothioconazole and its metabolites

Table 8.8-7: Input parameters related to active substance prothioconazole, JAU 6476-S-methy and JAU 6476-desthio for PEC_{GW} calculations

Compound	Prothioconazole	JAU 6476-S-methyl	JAU 6476-desthio	Value in accordance with EU endpoint / Reference
Molar mass (g/mol)	344.26	358.3	312.2	Yes / EFSA, 2007
Water solubility (mg/L)	300 (20 °C, pH = 8)	1000 (default)	1000 (default)	Yes / EFSA, 2007
Saturated vapour pressure (Pa)	<4.0 x 10^{-7}, 20°C	0 at 20°C (default)	0 at 20°C (default)	Yes / EFSA, 2007
DT_{50} in soil (d)	0.94 (geomean field study, normalized to 20 °C, n=8)	15.7 (geometric mean lab study, n=4)	21.8 (geomean field study, normalised to 20 °C, n=8)	Yes / EFSA, 2007 (updated to geomean)
Transformation rate	0.0103235 to JAU 6476-S-methyl 0.4424344 to JAU 6476-desthio	0.0441495 to JAU 6476-desthio	0.0317957 to sink	Calculated
K_{FOC} / K_{FOM} (mL/g)	1765 / 1024 (single data from aged leaching study)	2525.9 / 1465.1 (geomean mean value, n=4)	573.5 / 332.7 (geomean mean value, n=4)	Yes / EFSA, 2007 (K_{OC} updated to geomean)
1/n	1.0 (default)	0.88 (arithmetic mean value)	0.81 (arithmetic mean value)	Yes / EFSA, 2007
Plant uptake factor	0	0	0	Yes / EFSA, 2007
Formation fraction	-	0.14 (from parent)	0.60 (from parent) 1 (from JAU 6476-S-methyl)	Yes / EFSA, 2007
Washoff Factor (1/m) (PEARL)	0.0001	0.0001	0.0001	Default

Compound	Prothioconazole	JAU 6476-S-methyl	JAU 6476-desthio	Value in accordance with EU endpoint / Reference
Foliar DT_{50} (d)	10	10	10	Default

Table 8.8-8: PEC_{GW} for prothioconazole, JAU 6476-S-methy and JAU 6476-desthio on cereals with FOCUS PEARL 5.5.5 (Appendix A 3.4, Papasova, V., 2022, VV-943373)

Crop	Scenario	80th Percentile PEC_{gw} at 1 m Soil Depth (µg/L)		
		Prothioconazole	JAU 6476-S-methyl	JAU 6476-desthio
Use 1 Winter cereal 150 g a.s./ha BBCH 30	Châteaudun	< 0.001	< 0.001	< 0.001
	Hamburg	< 0.001	< 0.001	< 0.001
	Jokioinen	< 0.001	< 0.001	< 0.001
	Kremsmünster	< 0.001	< 0.001	< 0.001
	Okehampton	< 0.001	< 0.001	< 0.001
	Piacenza	< 0.001	< 0.001	< 0.001
	Porto	< 0.001	< 0.001	< 0.001
	Sevilla	< 0.001	< 0.001	< 0.001
	Thiva	< 0.001	< 0.001	< 0.001
Use 1 Winter cereal 150 g a.s./ha BBCH 69	Châteaudun	< 0.001	< 0.001	< 0.001
	Hamburg	< 0.001	< 0.001	< 0.001
	Jokioinen	< 0.001	< 0.001	< 0.001
	Kremsmünster	< 0.001	< 0.001	< 0.001
	Okehampton	< 0.001	< 0.001	< 0.001
	Piacenza	< 0.001	< 0.001	< 0.001
	Porto	< 0.001	< 0.001	< 0.001
	Sevilla	< 0.001	< 0.001	< 0.001
	Thiva	< 0.001	< 0.001	< 0.001
Use 1 Spring cereal 150 g a.s./ha BBCH 30	Châteaudun	< 0.001	< 0.001	< 0.001
	Hamburg	< 0.001	< 0.001	< 0.001
	Jokioinen	< 0.001	< 0.001	< 0.001
	Kremsmünster	< 0.001	< 0.001	< 0.001
	Okehampton	< 0.001	< 0.001	< 0.001
	Porto	< 0.001	< 0.001	< 0.001
Use 1 Spring cereal 150 g a.s./ha BBCH 69	Châteaudun	< 0.001	< 0.001	< 0.001
	Hamburg	< 0.001	< 0.001	< 0.001
	Jokioinen	< 0.001	< 0.001	< 0.001
	Kremsmünster	< 0.001	< 0.001	< 0.001
	Okehampton	< 0.001	< 0.001	< 0.001

Crop	Scenario	80th Percentile PEC_{gw} at 1 m Soil Depth (µg/L)		
		Prothioconazole	JAU 6476-S-methyl	JAU 6476-desthio
	Porto	< 0.001	< 0.001	< 0.001

Table 8.8-9: PEC_{GW} for prothioconazole, JAU 6476-S-methy and JAU 6476-desthio on cereals with FOCUS PELMO 6.6.4 (Appendix A 3.4, Papasova, V., 2022, VV-943373)

Crop	Scenario	80th Percentile PEC_{gw} at 1 m Soil Depth (µg/L)		
		Prothioconazole	JAU 6476-S-methyl	JAU 6476-desthio
Use 1 Winter cereal 150 g a.s./ha BBCH 30	Châteaudun	< 0.001	< 0.001	< 0.001
	Hamburg	< 0.001	< 0.001	< 0.001
	Jokioinen	< 0.001	< 0.001	< 0.001
	Kremsmünster	< 0.001	< 0.001	< 0.001
	Okehampton	< 0.001	< 0.001	< 0.001
	Piacenza	< 0.001	< 0.001	< 0.001
	Porto	< 0.001	< 0.001	< 0.001
	Sevilla	< 0.001	< 0.001	< 0.001
	Thiva	< 0.001	< 0.001	< 0.001
Use 1 Winter cereal 150 g a.s./ha BBCH 69	Châteaudun	< 0.001	< 0.001	< 0.001
	Hamburg	< 0.001	< 0.001	< 0.001
	Jokioinen	< 0.001	< 0.001	< 0.001
	Kremsmünster	< 0.001	< 0.001	< 0.001
	Okehampton	< 0.001	< 0.001	< 0.001
	Piacenza	< 0.001	< 0.001	< 0.001
	Porto	< 0.001	< 0.001	< 0.001
	Sevilla	< 0.001	< 0.001	< 0.001
	Thiva	< 0.001	< 0.001	< 0.001
Use 1 Spring cereal 150 g a.s./ha BBCH 30	Châteaudun	< 0.001	< 0.001	< 0.001
	Hamburg	< 0.001	< 0.001	< 0.001
	Jokioinen	< 0.001	< 0.001	< 0.001
	Kremsmünster	< 0.001	< 0.001	< 0.001
	Okehampton	< 0.001	< 0.001	< 0.001
	Porto	< 0.001	< 0.001	< 0.001
Use 1 Spring cereal 150 g a.s./ha BBCH 69	Châteaudun	< 0.001	< 0.001	< 0.001
	Hamburg	< 0.001	< 0.001	< 0.001
	Jokioinen	< 0.001	< 0.001	< 0.001
	Kremsmünster	< 0.001	< 0.001	< 0.001
	Okehampton	< 0.001	< 0.001	< 0.001

Crop	Scenario	80th Percentile PEC_{gw} at 1 m Soil Depth (µg/L)		
		Prothioconazole	JAU 6476-S-methyl	JAU 6476-desthio
	Porto	< 0.001	< 0.001	< 0.001

Table 8.8-10: Summary of maximum PEC_{GW} across all models for pothioconazole, JAU 6476-S-methyl and JAU 6476-desthio (Appendix A 3.4, Papasova, V., 2022, VV-943373)

Substance	80th Percentile PEC_{gw} (µg/L)	Crop	Application	Model and Version Number	Scenario
Prothioconazole	<0.001	Winter and spring cereal	150 g a.s./ha BBCH 30-69	All models tested	All scenarios tested
JAU 6476-S-methyl	<0.001			All models tested	All scenarios tested
JAU 6476-desthio	<0.001			All models tested	All scenarios tested

Both PEARL 5.5.5 and PELMO 6.6.4 models returned PEC_{GW} values <0.001µg/L for all substances and both crops, indicating a very low risk to groundwater.

8.9 Predicted Environmental Concentrations in surface water (PEC_{SW}) and sediment (PEC_{SED}) (KCP 9.2.5)

Evaluator's Comments:	The PECsw and PECsed calculations were submitted. The recommended FOCUS models were used: FOCUS Step 1 & 2, Step 3 and Step 4. D1 and D2 scenarios are not relevant for Central Zone and were not taken into consideration. The early (BBCH 30) and late (BBCH 69) applications were taken into consideration. Application dates were accepted. **Cyprodynil**. Two options in PECsw assessment were submitted: option 1 with $DegT_{50}$ of 158.8 days and option 2 with $DegT_{50}$ = 1000 days. In option 1 the recalculated $DegT_{50}$ was used: based on reviewed studies the kinetic reassessment was done. The option 2 is based on agreed at EU level endpoints. The obtained PECsw results in Step 3 for both options do not differ significantly. The option 2 was accepted. The option 1 can be considered at cMS level. The metabolite CGA321915 was not taken into consideration. All other endpoints for active substance and its metabolites were agreed at the EU level. The max PECsw for Central Zone with relevant mitigation measure are presented in the table below.

Crop	Application rate g a.s./ha	Vegetative strip (m)	No spray buffer (m)	Central Zone max PEC_{sw} (µg/l)
Winter cereals	450	10	10	0.736 R4 stream
Spring cereals	450	20	20	0.430 R4 stream

Prothioconazole. The endpoints for active substance and its metabolites were agreed at the EU level or recalculated in accordance with current guidance.

	The tiered approach was provided and accepted. The mitigation measures were proposed for prothioconazole metabolite JAU 6476-desthio. The max PECsw for Central Zone with relevant mitigation measure are presented in the table below. Prothioconazole metabolite JAU 6476-desthio

Crop	Application rate of active susbstance g a.s./ha	Vegetative strip (m)	No spray buffer (m)	Central Zone max PEC_{sw} (µg/l)
Winter cereals	150	10	10	0.217 R4 stream
Spring cereals	150	10	10	0.201 R4 stream

The drift exposure was assessed for formulation. The buffer strips of 1 m to 10 m with drift reduction nozzles use were taken into consideration. The relevant PECsw values are presented in Table 8.9-37.

ZRMS is of the opinion, that relevant mitigation measures will be proposed in Section 9.

Unless otherwise stated, EU agreed endpoints refer to those stated in the EU review of cyprodinil, **(Cyprodinil, EFSA Scientific Report (2005) 51, 1-78)** and prothioconazole, **(Prothioconazole, EFSA Journal 2007;106, 1-98)**.

8.9.1 Justification for new endpoints

Cyprodinil soil endpoints

Endpoints for cyprodinil and its metabolites CGA249287 and CGA275535, used in the modelling assessment, were derived from experimental studies that were reviewed in **EFSA Scientific Report (2005) 51, 1-78.**

For metabolite CGA321915 kinetic analysis (Appendix A 2.1, *Harvey, B., 2016, VV-629897*) of existing laboratory soil studies has been performed. The experimental studies were reviewed in **EFSA Scientific Report (2005) 51, 1-78**. Note that in the EFSA, 2005 review, CGA321915 was not previously considered in the risk assessment.

A study on the mobility of CGA321915 has been performed and a detailed summary of the study is reported in Appendix A 2.2 (Appendix A 2.2 ,*Ye, M., 1995, VV-364154*).

Cyprodinil aquatic endpoints

For cyprodinil, kinetic analysis (Appendix A 2.3, *Partsch, S., 2015, VV-629383*) of existing laboratory water sediment studies has been performed and endpoints updated for use in the subsequent risk assessment. The experimental studies were reviewed in **EFSA Scientific Report (2005) 51, 1-78**.

EU agreed endpoints were used for PEC_S calculations of prothioconazole and its respective metabolites.

8.9.2 Active substance(s), relevant metabolite(s) and the formulation (KCP

9.2.5)

The following PEC_{SW} and PEC_{SED} modelling for cyprodinil, CGA249287, CGA321915 and CGA275535 and prothioconazole, JAU 6476-S-methyl, JAU 6476-desthio and 1,2,4-triazole has not previously been reviewed and is provided in support of this assessment in Appendix 3 of this document.

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

Plant protection product	A23282A	
Use No.	AT5	AT1
Crop	Winter cereals	Spring cereals
Application rate (g a.s./ha)	Cyprodinil: 450 Prothioconazole: 150	
Number of applications/interval (d)	1 / -	
Application window (relevant for STEP 1 and 2 only)	Mar-May, Jun-Sep, Oct-Feb	
Application method	Foliar spray	
CAM (Chemical application method)	2	
Soil depth (cm)	4 (default)	
Models used for calculation	FOCUS STEPS 1-2 v3.2, FOCUS SWASH v5.3, FOCUS PRZM v4.3.1, FOCUS MACRO v5.5.4, FOCUS TOXWA v5.5.3, ECPA SWAN v5.0.1, EVA 3.0	

Table 8.9-2: FOCUS Step 3 Scenario related input parameters for $PEC_{SW/SED}$ calculations for the application of Kayak Era

Crop	Scenario	Window Start Date (Julian Days)	Window End Date (Julian Days)
Winter Cereals BBCH 30 [a]	D1	25 Mar (84)	24 Apr (114)
	D2	04 Apr (94)	04 May (124)
	D3	16 Apr (106)	16 May (136)
	D4	18 Mar (77)	17 Apr (107)
	D5	15 Mar (74)	14 Apr (104)
	D6	16 Feb (47)	18 Mar (77)
	R1	24 Apr (114)	24 May (144)
	R3	19 Mar (78)	18 Apr (108)
	R4	24 Jan (24)	23 Feb (54)
Winter Cereals BBCH 69 [b]	D1	12 Jun (163)	12 Jul (193)
	D2	11 Jun (162)	11 Jul (192)
	D3	01 Jul (182)	31 Jul (212)
	D4	09 Jun (160)	09 Jul (190)
	D5	03 May (123)	02 Jun (153)
	D6	28 Mar (87)	27 Apr (117)
	R1	26 May (146)	25 Jun (176)
	R3	26 Apr (116)	26 May (146)
	R4	03 May (123)	02 Jun (153)
Spring Cereals BBCH 30 [a]	D1	27 May (147)	26 Jun (177)
	D3	28 Apr (118)	28 May (148)
	D4	18 May (138)	17 Jun (168)
	D5	09 Apr (99)	09 May (129)
	R4	09 Apr (99)	09 May (129)
Spring Cereals BBCH 69 [b]	D1	18 Jun (169)	18 Jul (199)
	D3	29 May (149)	28 Jun (179)

Crop	Scenario	Window Start Date (Julian Days)	Window End Date (Julian Days)
	D4	09 Jun (160)	09 Jul (190)
	D5	05 May (125)	04 Jun (155)
	R4	05 May (125)	04 Jun (155)

[a] Timing cover the early phase of the application window BBCH 30 - 69.
[b] Timing covers the latter phase of the application window BBCH 30 -69.
Numbers in brackets are the corresponding 'Julian Day' numbers
Dates selected using the latest version of AppDate (v3.06)

8.9.2.1 Cyprodinil and its metabolites

Table 8.9-3: Input parameters related to active substance cyprodinil and CGA249287, ~~CGA321915~~ and CGA275535 for $PEC_{SW/SED}$ calculations STEP 1 & 2 and 3 & 4

Compound	Cyprodinil	CGA249287	~~CGA321915~~	CGA275535	Value in accordance to EU endpoint / Reference
Molar mass (g/mol)	225.3	149.2*	~~150.2*~~	241.3*	Yes / EFSA (2005) *Calculated
Water solubility (mg/L)	20 (25 °C)	6900	~~250~~	20 [a]	
Saturated vapour pressure (Pa)	5.1 x 10^{-4} (25° C)	- [a]	~~- [a]~~	- [a]	Yes / EFSA (2005)
Diffusion coefficient in water (m²/d)	4.3 x 10^{-5}	- [a]	~~- [a]~~	- [a]	FOCUS default
Diffusion coefficient in air (m²/d)	0.43	- [a]	~~- [a]~~	- [a]	FOCUS default
K_{FOC} / K_{FOM}(mL/g)	1697.7 / 984.7* (geomean, n=5)	173 / 100.3* (Lowest value from alkaline soils)	~~133 / 77.4** (geomean, n=5)~~	1810 / 1049.9* (Only SL-Ca II acceptable and worst case value)	Yes / EFSA (2005) * EFSA, 2005 updated to geomean ~~** No / Ye, M., 1995, VV-634154~~
Freundlich Exponent 1/n	0.84 (arithmetic mean, n=5)	- [a]	~~- [a]~~	- [a]	Yes / EFSA (2005)
Plant Uptake	0 (worst-case)	- [a]	~~- [a]~~	- [a]	FOCUS default
Wash-Off factor from Crop (1/mm)	0.05 (MACRO) 0.50 (PRZM)	- [a]	~~- [a]~~	- [a]	FOCUS default

Compound	Cyprodinil	CGA249287	~~CGA321915~~	CGA275535	Value in accordance to EU endpoint / Reference
$DT_{50,soil}$ (d)	27.1* (geomean lab study, normalized to 20 °C, n=4)	48.4* (geomean lab study, n=4)	~~35.1**~~ ~~(geomean lab study, n=3)~~	1.0* (default value, DT50 indicated as <1 day in EU review)	*Yes / EFSA (2005) (recalculated to geomean) ** No / Harvey, B., 2016, VV-629897
$DT_{50,water}$ (d)	Option 1: 158.8 (geomean, n=4) Option 2: 1000[c]	1000 (default)	~~1000~~ ~~(default)~~	1000 (default)	*Yes / EFSA (2005) / Partsch, S., 2015, VV-629383
$DT_{50,sed}$ (d)	Option 1: 1000[c] Option 2: 158.8 (geomean, n=4)	1000 (default)	~~1000~~ ~~(default)~~	1000 (default)	Yes / EFSA (2005)
$DT_{50,whole\ system}$ (d)	158.8 (geomean, n=4)	1000 (default)	~~1000~~ ~~(default)~~	1000 (default)	Yes / EFSA (2005)
Maximum occurrence observed (% molar basis with respect to the parent)	-	Soil: 14.3 Total system: 21.1	~~Soil: 5.1~~ ~~Total system: 0 [b]~~	Soil: 21.3 Total system: 0 [b]	Yes / EFSA (2005)

[a] Not required for Steps 1 & 2
[b] Not observed in water/sediment studies. Set to 0.001 in Step 1-2
[c] Parent Kfoc >100 and <2000 so use DT_{50} whole system in either water or sediment compartment and a default 1000d in the other compartment and take worst case results from either combination forwards for assessment (FOCUS 2001).

$PEC_{SW/SED}$

Table 8.9-4: FOCUS Step 1,2 and 3 $PEC_{SW}/_{SED}$ for cyprodinil following single application of Kayak Era to winter cereals at BBCH 30 (Option 1 – CDL SW $DegT_{50}$ = 158.8 days) (Appendix A 3.5 & A 3.6, Anderson, C., 2022, VV-942860 & VV-942867)

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	---	50.1	-	45.2	798
Step 2					
Northern Europe	March-May/June-Sept/Oct-Feb	18.2	-	17.1	302
Southern Europe	March-May/June-Sept/Oct-Feb	14.9	-	13.9	245
Step 3					
D3	ditch	2.84	Drift	0.138	1.85
D4	pond	0.098	Drift	0.074	0.838
D4	stream	2.10	Drift	0.004	0.062
D5	pond	0.098	Drift	0.075	0.924
D5	stream	2.27	Drift	0.004	0.066
R1	pond	0.125	Run-off	0.105	1.77
R1	stream	1.87	Drift	0.060	2.41
R3	stream	2.63	Drift	0.047	3.16
R4	stream	1.88	Drift	0.077	2.57

* twa-time as required by ecotox

Only scenarios relevant for Central Zone Member States are reported. Please refer to the modelling report in Appendix 3.6 for all scenarios.

Table 8.9-5: FOCUS Step 1,2 and 3 $PEC_{SW}/_{SED}$ for cyprodinil following single application of Kayak Era to winter cereals at BBCH 30 (Option 2 – CDL SW $DegT_{50}$ = 1000 days) (Appendix A 3.5 & A 3.6, Anderson, C., 2022, VV-942860 & VV-942867)

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	---	50.1	-	45.2	798
Step 2					
Northern Europe	March-May/June-Sept/Oct-Feb	18.2	-	17.1	302
Southern Europe	March-May/June-Sept/Oct-Feb	14.9	-	13.9	245
Step 3					
D3	ditch	2.84	Drift	0.138	1.85
D4	pond	0.098	Drift	0.074	0.812

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	2.10	Drift	0.004	0.062
D5	pond	0.098	Drift	0.076	0.891
D5	stream	2.27	Drift	0.004	0.066
R1	pond	0.128	Run-off	0.109	1.70
R1	stream	1.87	Drift	0.060	2.31
R3	stream	2.63	Drift	0.047	3.15
R4	stream	1.88	Drift	0.077	2.52

* twa-time as required by ecotox
Only scenarios relevant for Central Zone Member States are reported. Please refer to the modelling report in Appendix 3.6 for all scenarios.

Table 8.9-6: FOCUS Step 1,2 and 3 $PEC_{SW/SED}$ for cyprodinil following single application of Kayak Era to winter cereals at BBCH 69 (Option 1 – CDL SW $DegT_{50}$ = 158.8 days) (Appendix A 3.5 & A 3.6, Anderson, C., 2022, VV-942860 & VV-942867)

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	---	50.1	-	45.2	798
Step 2					
Northern Europe	March-May/June-Sept/Oct-Feb	18.2	-	17.1	302
Southern Europe	March-May/June-Sept/Oct-Feb	14.9	-	13.9	245
Step 3					
D3	ditch	2.85	Drift	0.200	2.47
D4	pond	0.098	Drift	0.075	0.890
D4	stream	2.46	Drift	0.034	0.526
D5	pond	0.098	Drift	0.077	0.925
D5	stream	2.65	Drift	0.048	0.736
R1	pond	0.146	Run-off	0.117	1.77
R1	stream	1.88	Drift	0.048	5.48
R3	stream	2.65	Drift	0.087	1.23
R4	stream	1.88	Drift	0.237	5.77

* twa-time as required by ecotox
Only scenarios relevant for Central Zone Member States are reported. Please refer to the modelling report in Appendix 3.6 for all scenarios.

Table 8.9-7: FOCUS Step 1,2 and 3 $PEC_{SW}/_{SED}$ for cyprodinil following single application of Kayak Era to winter cereals at BBCH 69 (Option 2 – CDL SW $DegT_{50}$ = 1000 days) (Appendix A 3.5 & A 3.6, Anderson, C., 2022, VV-942860 & VV-942867)

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	---	50.1	-	45.2	798
Step 2					
Northern Europe	March-May/June-Sept/Oct-Feb	18.2	-	17.1	302
Southern Europe	March-May/June-Sept/Oct-Feb	14.9	-	13.9	245
Step 3					
D3	ditch	2.85	Drift	0.200	2.47
D4	pond	0.098	Drift	0.077	0.886
D4	stream	2.46	Drift	0.034	0.525
D5	pond	0.098	Drift	0.078	0.895
D5	stream	2.65	Drift	0.048	0.736
R1	pond	0.148	Run-off	0.121	1.69
R1	stream	1.88	Drift	0.048	5.47
R3	stream	2.65	Drift	0.087	1.20
R4	stream	1.88	Drift	0.237	5.75

* twa-time as required by ecotox
Only scenarios relevant for Central Zone Member States are reported. Please refer to the modelling report in Appendix 3.6 for all scenarios.

Table 8.9-8: FOCUS Step 1,2 and 3 $PEC_{SW}/_{SED}$ for cyprodinil following single application of Kayak Era to spring cereals at BBCH 30 (Option 1 – CDL SW $DegT_{50}$ = 158.8 days) (Appendix A 3.5 & A 3.6, Anderson, C., 2022, VV-942860 & VV-942867)

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	---	50.1	-	45.2	798
Step 2					
Northern Europe	March-May/June-Sept/Oct-Feb	18.2	-	17.1	302
Southern Europe	March-May/June-Sept/Oct-Feb	14.9	-	13.9	245
Step 3					
D3	ditch	2.85	Drift	0.155	2.03
D4	pond	0.098	Drift	0.075	0.869
D4	stream	2.33	Drift	0.010	0.162

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	0.098	Drift	0.076	0.915
D5	stream	2.39	Drift	0.006	0.103
R4	stream	1.88	Drift	0.252	5.96

* twa-time as required by ecotox
Only scenarios relevant for Central Zone Member States are reported. Please refer to the modelling report in Appendix 3.6 for all scenarios.

Table 8.9-9: FOCUS Step 1,2 and 3 $PEC_{SW/SED}$ for cyprodinil following single application of Kayak Era to spring cereals at BBCH 30 (Option 2 – CDL SW $DegT_{50}$ = 1000 days) (Appendix A 3.5 & A 3.6, Anderson, C., 2022, VV-942860 & VV-942867)

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	---	50.1	-	45.2	798
Step 2					
Northern Europe	March-May/June-Sept/Oct-Feb	18.2	-	17.1	302
Southern Europe	March-May/June-Sept/Oct-Feb	14.9	-	13.9	245
Step 3					
D3	ditch	2.85	Drift	0.155	2.03
D4	pond	0.098	Drift	0.076	0.849
D4	stream	2.33	Drift	0.010	0.162
D5	pond	0.098	Drift	0.077	0.881
D5	stream	2.39	Drift	0.006	0.103
R4	stream	1.88	Drift	0.252	5.94

* twa-time as required by ecotox
Only scenarios relevant for Central Zone Member States are reported. Please refer to the modelling report in Appendix 3.6 for all scenarios.

Table 8.9-10: FOCUS Step 1,2 and 3 $PEC_{SW/SED}$ for cyprodinil following single application of Kayak Era to spring cereals at BBCH 69 (Option 1 – CDL SW $DegT_{50}$ = 158.8 days) (Appendix A 3.5 & A 3.6, Anderson, C., 2022, VV-942860 & VV-942867)

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	---	50.1	-	45.2	798
Step 2					
Northern Europe	March-May/June-Sept/Oct-Feb	18.2	-	17.1	302

Scenario FOCUS	Waterbody	Max PEC_{SW} (µg/L)	Dominant entry route	21 d- $PEC_{SW,twa}$ (µg/L)*	Max PEC_{SED} (µg/kg)
Southern Europe	March-May/June-Sept/Oct-Feb	14.9	-	13.9	245
Step 3					
D3	ditch	2.85	Drift	0.173	2.21
D4	pond	0.098	Drift	0.075	0.863
D4	stream	2.45	Drift	0.031	0.480
D5	pond	0.098	Drift	0.076	0.914
D5	stream	2.48	Drift	0.010	0.160
R4	stream	1.88	Drift	0.273	6.23

* twa-time as required by ecotox
Only scenarios relevant for Central Zone Member States are reported. Please refer to the modelling report in Appendix 3.6 for all scenarios.

Table 8.9-11: FOCUS Step 1,2 and 3 $PEC_{SW/SED}$ for cyprodinil following single application of Kayak Era to spring cereals at BBCH 69 (Option 2 – CDL SW $DegT_{50}$ = 1000 days) (Appendix A 3.5 & A 3.6, Anderson, C., 2022, VV-942860 & VV-942867)

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	---	50.1	-	45.2	798
Step 2					
Northern Europe	March-May/June-Sept/Oct-Feb	18.2	-	17.1	302
Southern Europe	March-May/June-Sept/Oct-Feb	14.9	-	13.9	245
Step 3					
D3	ditch	2.85	Drift	0.174	2.21
D4	pond	0.098	Drift	0.077	0.859
D4	stream	2.45	Drift	0.031	0.480
D5	pond	0.098	Drift	0.077	0.885
D5	stream	2.48	Drift	0.010	0.160
R4	stream	1.88	Drift	0.273	6.21

* twa-time as required by ecotox
Only scenarios relevant for Central Zone Member States are reported. Please refer to the modelling report in Appendix 3.6 for all scenarios.

FOCUS Step 4

Since cyprodinil is a volatile substance (vapour pressure at 20 °C between 10^{-5} and 10^{-4} Pa), the deposition calculation due to volatilisation was included in the modelling approach at STEP 4. Deposition rates were calculated using EVA 3.0.

Table 8.9-12: **STEP 4 Global maximum PEC_{SW} values for cyprodinil, following single application of Kayak Era to winter and spring cereals at a rate of 450 g a.s./ha at BBCH 30- 69 (SW DT_{50} = 158.8 days, Option 1 and SW DT_{50} = 1000 days, Option 2) according to the Central EU zone GAP ~~according to surface water Step 4~~ (Appendix A 3.6, Anderson, C., 2022, VV-942867, Report Amendment 1, 19th July 2023)**

~~fAll PEC's tabulated below are taken from the highest PEC values derived at STEP 3 (Option 2, BBCH 69)~~

Mitigation options				
Vegetative strip (m)		**0**	**10**	**20**
No spray buffer (m)		**10**	**10**	**20**
Nozzle reduction (%)		**0**	**0**	**0**
Crop	**Scenario**	**PEC_{SW} (µg/L)**	**PEC_{SW} (µg/L)**	**PEC_{SW} (µg/L)**
Winter cereals 450 g a.s./ha BBCH 30 (SW DT_{50} = 158.8 days, Option 1)	D3 ditch	0.436	-	-
	D4 pond	0.084	-	-
	D4 stream	0.421	-	-
	D5 pond	0.084	-	-
	D5 stream	0.454	-	-
	R1 pond	0.119	0.084	0.054
	R1 stream	0.800	0.402	0.212
	R3 stream	1.000	0.556	0.293
	R4 stream	1.52	0.692	0.363
Winter cereals 450 g a.s./ha BBCH 30 (SW DT_{50} = 1000 days, Option 2)	D3 ditch	0.436	-	-
	D4 pond	0.084	-	-
	D4 stream	0.421	-	-
	D5 pond	0.084	-	-
	D5 stream	0.454	-	-
	R1 pond	0.122	0.084	0.054
	R1 stream	0.800	0.402	0.212
	R3 stream	1.000	0.556	0.293
	R4 stream	1.52	0.692	0.363
Winter cereals 450 g a.s./ha BBCH 69 (SW DT_{50} = 158.8 days, Option 1)	D3 ditch	0.465	-	-
	D4 pond	0.086	-	-
	D4 stream	0.507	-	-
	D5 pond	0.086	-	-
	D5 stream	0.540	-	-
	R1 pond	0.140	0.097	0.058
	R1 stream	0.745	0.408	0.215
	R3 stream	0.922	0.560	0.295
	R4 stream	1.62	0.736	0.385
Winter cereals 450 g a.s./ha	D3 ditch	0.466	-	-
	D4 pond	0.086	-	-

Mitigation options				
Vegetative strip (m)		**0**	**10**	**20**
No spray buffer (m)		**10**	**10**	**20**
Nozzle reduction (%)		**0**	**0**	**0**
Crop	**Scenario**	**PECsw (µg/L)**	**PECsw (µg/L)**	**PECsw (µg/L)**
BBCH 69 (SW DT_{50} = 1000 days, Option 2)	D4 stream	0.507	-	-
	D5 pond	0.086	-	-
	D5 stream	0.540	-	-
	R1 pond	0.141	0.098	0.059
	R1 stream	0.745	0.409	0.215
	R3 stream	0.922	0.560	0.295
	R4 stream	1.62	0.736	0.386
Spring cereals 450 g a.s./ha BBCH 30 (SW DT_{50} = 158.8 days, Option 1)	D3 ditch	0.441	-	-
	D4 pond	0.084	-	-
	D4 stream	0.476	-	-
	D5 pond	0.084	-	-
	D5 stream	0.484	-	-
	R4 stream	1.720	0.780	0.408
Spring cereals 450 g a.s./ha BBCH 30 (SW DT_{50} = 1000 days, Option 2)	D3 ditch	0.441	-	-
	D4 pond	0.084	-	-
	D4 stream	0.476	-	-
	D5 pond	0.084	-	-
	D5 stream	0.484	-	-
	R4 stream	1.720	0.780	0.408
Spring cereals 450 g a.s./ha BBCH 69 (SW DT_{50} = 158.8 days, Option 1)	D3 ditch	0.457	-	-
	D4 pond	0.086	-	-
	D4 stream	0.504	-	-
	D5 pond	0.086	-	-
	D5 stream	0.510	-	-
	R4 stream	1.800	0.820	0.430
Spring cereals 450 g a.s./ha BBCH 69 (SW DT_{50} = 1000 days, Option 2)	D3 ditch	0.457	-	-
	D4 pond	0.086	-	-
	D4 stream	0.505	-	-
	D5 pond	0.086	-	-
	D5 stream	0.510	-	-
	R4 stream	1.800	0.820	0.430

Only scenarios relevant for Central Zone Member States are reported. Please refer to the modelling report in Appendix 3.6 for all scenarios.

~~u* the PECsw = 0.745 µg/L was obtained for 5 m to 20 m NSS (please refer to Appendix A 3.6 p. 188, Anderson, C., 2022, VV-942867).~~

Metabolite(s) of cyprodinil

Table 8.9-13: FOCUS Step 1 and 2 $PEC_{SW/SED}$ for CGA249287 following single application(s) to cereals (Appendix A 3.5, Anderson, C., 2022, VV-942860)

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	---	29.2	-	28.8	50.2
Step 2					
Northern Europe	March-May/June-Sept/Oct-Feb	11.0	-	10.9	19.0
Southern Europe	March-May/June-Sept/Oct-Feb	8.91	-	8.81	15.4

* twa-time as required by ecotox

Table 8.9-14: FOCUS Step 1 and 2 $PEC_{SW/SED}$ for CGA321915 following single application(s) to cereals (Appendix A 3.5, Anderson, C., 2022, VV-942860)

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	---	4.33	-	4.30	5.76
Step 2					
Northern Europe	March-May/June-Sept/Oct-Feb	1.60	-	1.59	2.13
Southern Europe	March-May/June-Sept/Oct-Feb	1.28	-	1.27	1.70

* twa-time as required by ecotox

Table 8.9-15: FOCUS Step 1 and 2 $PEC_{SW/SED}$ for CGA275535 following single application(s) to cereals (Appendix A 3.5, Anderson, C., 2022, VV-942860)

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	---	10.0	-	9.95	181
Step 2					
Northern Europe	March-May/June-Sept/Oct-Feb	0.251	-	0.249	4.54
Southern Europe	March-May/June-Sept/Oct-Feb	0.201	-	0.199	3.63

* twa-time as required by ecotox

8.9.2.2 Prothioconazole and its metabolites

Table 8.9-16: Input parameters related to active substance prothioconazole, JAU 6476-S-methyl, JAU 6476-desthio and 1,2,4-triazole for $PEC_{SW/SED}$ calculations STEP 1 & 2 and 3 & 4

Compound	Prothioconazole	JAU 6476-S-methyl	JAU 6476-desthio	1,2,4-triazole	Value in accordance to EU endpoint / Reference
Molar mass (g/mol)	344.26	358.3	312.2	69.1	Yes / EFSA, 2007
Water solubility (mg/L) at 20 °C	300	- [a]	300 (parent value)	- [a]	Yes / EFSA, 2007
Saturated vapour pressure (Pa) at 20 °C	<4.00 x 10^{-7} *	- [a]	<3.6 x 10^{-6} **	- [a]	* Yes / EFSA, 2007 **value previously accepted [b]
Diffusion coefficient in water (m²/d)	4.3 x 10^{-5}	- [a]	4.3 x 10^{-5}	- [a]	FOCUS default
Diffusion coefficient in air (m²/d)	0.43	- [a]	0.43	- [a]	FOCUS default
K_{FOC} / K_{FOM} (mL/g)	1765 / 1024 (aged residues column leaching study, n=1)	2525.9 (geomean, n=4)	573.5 (geomean, n=4)	83.1 (geomean, n=4)	Yes / EFSA, 2007 Geomean values calculated from EFSA endpoints
Freundlich Exponent 1/n	1.0 (default)	- [a]	0.81 (arithmetic mean, n=4)	- [a]	Yes / EFSA, 2007
Plant Uptake	0	- [a]	0	- [a]	Worst case
Wash-Off factor from Crop (1/mm)	0.05 (MACRO) 0.50 (PRZM)	- [a]	0.05 (MACRO) 0.50 (PRZM)	- [a]	FOCUS default
$DT_{50,soil}$ (d)	0.94 (field, geometric mean, normalisation to 10 kPa or pF2, 20 °C with Q_{10} of 2.58, n = 8)	15.7 (geomean of non-normalised laboratory values, n=4)	21.8 (field, geometric mean, normalisation to 10 kPa or pF2, 20 °C with Q_{10} of 2.58, n = 8)	1000 (default)	Yes / EFSA, 2007 Field normalisation values calculated by Hardy, 2012
$DT_{50,water}$ (d)	Option 1: 39.5* (geomean, n=2) Option 2: 1000* (default)	40.2 (maximum, n=2)	Option 1: 1000[c] (default) Option 2: 1000[c] (default)	1000 (default)	Yes / DAR, 2007

Compound	Prothioconazole	JAU 6476-S-methyl	JAU 6476-desthio	1,2,4-triazole	Value in accordance to EU endpoint / Reference
$DT_{50,sed}$ (d)	Option 1: 1000 (default) Option 2: 39.5 (geomean, n=2)	40.2 (maximum, n=2)	Option 1: 49.9 (maximum, n=2) Option 2: 49.9 (maximum, n=2)	1000 (default)	Yes / DAR, 2007
$DT_{50,whole\ system}$ (d)	39.5 (geomean, n=2)	40.2 (maximum, n=2)	49.9 (maximum, n=2)	1000 (default)	Yes / DAR, 2007
Maximum occurrence observed (% molar basis with respect to the parent)	-	Soil: 14.2 Total system: 12.7	Soil: 57.1 Total system: 55.7	Soil: 0.01 (not formed in soil) Total system: 41.8	Yes / EFSA, 2007
Formation fraction in:	-	- [a]	Soil: 0.60 from parent Water: 1 from parent Sediment: 1 from parent	- [a]	Yes / DAR, 2007

[a] not required for Steps 1 & 2
[b] Value accepted for surface water modelling for first registration of Elatus Era (A19020T in the Central Zone)
[c] Worst-case PEC_{SW} for JAU 6476-desthio will be generated with the longest DT_{50} in the surface water compartment of the metabolite.
* Parent Kfoc is >100 and <2000, so DT_{50} whole system in either water or sediment compartmen is used, with a default 1000d in the other compartment, and the worst-case results from either combination is taken forwards for assessment (FOCUS 2001).

$PEC_{SW/SED}$

Table 8.9-17: FOCUS Step 1,2 and 3 PEC_{SW}/$_{SED}$ for prothioconazole following single application of Kayak Era to winter cereals at BBCH 30 (Option 1 – PTZ SW DegT50 = 39.5 days) (Appendix A 3.7 & A 3.8, Papasova, V., 2022, VV-943357 & VV-943372)

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	---	16.3	-	12.8	266
Step 2					
Northern Europe	March-May/June-Sept/Oct-Feb	1.38	Drift	0.628	12.1
Southern Europe	March-May/June-Sept/Oct-Feb	1.38	Drift	0.583	11.0
Step 3					
D3	ditch	0.949	Drift	0.047	0.488
D4	pond	0.033	Drift	0.026	0.130
D4	stream	0.701	Drift	0.001	0.020
D5	pond	0.033	Drift	0.026	0.131

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	0.758	Drift	0.001	0.022
R1	pond	0.033	Drift	0.026	0.121
R1	stream	0.625	Drift	0.007	0.081
R3	stream	0.878	Drift	0.012	0.164
R4	stream	0.628	Drift	0.006	0.092

* twa-time as required by ecotox
Only scenarios relevant for Central Zone Member States are reported. Please refer to the modelling report in Appendix 3.8 for all scenarios.

Table 8.9-18: FOCUS Step 1,2 and 3 $PEC_{SW/SED}$ for prothioconazole following single application of Kayak Era to winter cereals at BBCH 30 (Option 2 – PTZ SW DegT50 = 1000 days) (Appendix A 3.7 & A 3.8, Papasova, V., 2022, VV-943357 & VV-943372)

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	---	16.3	-	12.8	266
Step 2					
Northern Europe	March-May/June-Sept/Oct-Feb	1.38	Drift	0.628	12.1
Southern Europe	March-May/June-Sept/Oct-Feb	1.38	Drift	0.583	11.0
Step 3					
D3	ditch	0.949	Drift	0.047	0.487
D4	pond	0.033	Drift	0.027	0.130
D4	stream	0.701	Drift	0.001	0.020
D5	pond	0.033	Drift	0.028	0.136
D5	stream	0.758	Drift	0.001	0.022
R1	pond	0.033	Drift	0.028	0.124
R1	stream	0.625	Drift	0.007	0.081
R3	stream	0.878	Drift	0.012	0.164
R4	stream	0.628	Drift	0.006	0.092

* twa-time as required by ecotox
Only scenarios relevant for Central Zone Member States are reported. Please refer to the modelling report in Appendix 3.8 for all scenarios.

Table 8.9-19: FOCUS Step 1,2 and 3 $PEC_{SW/SED}$ for prothioconazole following single application of Kayak Era to winter cereals at BBCH 69 (Option 1 – PTZ SW DegT50 = 39.5 days) (Appendix A 3.7 & A 3.8, Papasova, V., 2022, VV-943357 & VV-943372)

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	---	16.3	-	12.8	266
Step 2					
Northern Europe	March-May/June-Sept/Oct-Feb	1.38	Drift	0.628	12.1
Southern Europe	March-May/June-Sept/Oct-Feb	1.38	Drift	0.583	11.0
Step 3					
D3	ditch	0.952	Drift	0.067	0.621
D4	pond	0.033	Drift	0.025	0.113
D4	stream	0.821	Drift	0.011	0.158
D5	pond	0.033	Drift	0.026	0.124
D5	stream	0.886	Drift	0.016	0.217
R1	pond	0.047	Run-off	0.037	0.188
R1	stream	0.627	Drift	0.015	0.685
R3	stream	0.884	Drift	0.015	0.198
R4	stream	0.628	Drift	0.035	0.489

* twa-time as required by ecotox
Only scenarios relevant for Central Zone Member States are reported. Please refer to the modelling report in Appendix 3.8 for all scenarios.

Table 8.9-20: FOCUS Step 1,2 and 3 $PEC_{SW/SED}$ for prothioconazole following single application of Kayak Era to winter cereals at BBCH 69 (Option 2 – PTZ SW DegT50 = 1000 days) (Appendix A 3.7 & A 3.8, Papasova, V., 2022, VV-943357 & VV-943372)

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	---	16.3	-	12.8	266
Step 2					
Northern Europe	March-May/June-Sept/Oct-Feb	1.38	Drift	0.628	12.1
Southern Europe	March-May/June-Sept/Oct-Feb	1.38	Drift	0.583	11.0

Scenario FOCUS	Waterbody	Max PEC_{SW} (µg/L)	Dominant entry route	21 d- $PEC_{SW,twa}$ (µg/L)*	Max PEC_{SED} (µg/kg)
Step 3					
D3	ditch	0.952	Drift	0.068	0.620
D4	pond	0.033	Drift	0.028	0.128
D4	stream	0.821	Drift	0.011	0.158
D5	pond	0.033	Drift	0.029	0.133
D5	stream	0.886	Drift	0.016	0.217
R1	pond	0.049	Run-off	0.042	0.194
R1	stream	0.627	Drift	0.015	0.679
R3	stream	0.884	Drift	0.015	0.198
R4	stream	0.628	Drift	0.035	0.480

* twa-time as required by ecotox
Only scenarios relevant for Central Zone Member States are reported. Please refer to the modelling report in Appendix 3.8 for all scenarios.

Table 8.9-21: FOCUS Step 1,2 and 3 $PEC_{SW/SED}$ for prothioconazole following single application of Kayak Era to spring cereals at BBCH 30 (Option 1 – PTZ SW DegT50 = 39.5 days) (Appendix A 3.7 & A 3.8, Papasova, V., 2022, VV-943357 & VV-943372)

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	---	16.3	-	12.8	266
Step 2					
Northern Europe	March-May/June-Sept/Oct-Feb	1.38	Drift	0.628	12.1
Southern Europe	March-May/June-Sept/Oct-Feb	1.38	Drift	0.583	11.0
Step 3					
D3	ditch	0.950	Drift	0.052	0.527
D4	pond	0.033	Drift	0.026	0.118
D4	stream	0.777	Drift	0.003	0.052
D5	pond	0.033	Drift	0.027	0.129
D5	stream	0.798	Drift	0.002	0.033
R4	stream	0.628	Drift	0.033	0.446

* twa-time as required by ecotox
Only scenarios relevant for Central Zone Member States are reported. Please refer to the modelling report in Appendix 3.8 for all scenarios.

Table 8.9-22: FOCUS Step 1,2 and 3 $PEC_{SW/SED}$ for prothioconazole following single application of Kayak Era to spring cereals at BBCH 30 (Option 2 – PTZ SW DegT50 = 1000 days) (Appendix A 3.7 & A 3.8, Papasova, V., 2022, VV-943357 & VV-943372)

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	---	16.3	-	12.8	266
Step 2					
Northern Europe	March-May/June-Sept/Oct-Feb	1.38	Drift	0.628	12.1
Southern Europe	March-May/June-Sept/Oct-Feb	1.38	Drift	0.583	11.0
Step 3					
D3	ditch	0.950	Drift	0.053	0.526
D4	pond	0.033	Drift	0.028	0.125
D4	stream	0.777	Drift	0.003	0.052
D5	pond	0.033	Drift	0.028	0.133
D5	stream	0.798	Drift	0.002	0.033
R4	stream	0.628	Drift	0.033	0.437

* twa-time as required by ecotox

Only scenarios relevant for Central Zone Member States are reported. Please refer to the modelling report in Appendix 3.8 for all scenarios.

Table 8.9-23: FOCUS Step 1,2 and 3 $PEC_{SW/SED}$ for prothioconazole following single application of Kayak Era to spring cereals at BBCH 69 (Option 1 – PTZ SW DegT50 = 39.5 days) (Appendix A 3.7 & A 3.8, Papasova, V., 2022, VV-943357 & VV-943372)

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	---	16.3	-	12.8	266
Step 2					
Northern Europe	March-May/June-Sept/Oct-Feb	1.38	Drift	0.628	12.1
Southern Europe	March-May/June-Sept/Oct-Feb	1.38	Drift	0.583	11.0
Step 3					
D3	ditch	0.951	Drift	0.058	0.568
D4	pond	0.033	Drift	0.025	0.113
D4	stream	0.819	Drift	0.010	0.144
D5	pond	0.033	Drift	0.026	0.122
D5	stream	0.829	Drift	0.003	0.051
R4	stream	0.628	Drift	0.036	0.488

* twa-time as required by ecotox

Only scenarios relevant for Central Zone Member States are reported. Please refer to the modelling report in Appendix 3.8 for all scenarios.

Table 8.9-24: FOCUS Step 1,2 and 3 $PEC_{SW/SED}$ for prothioconazole following single application of Kayak Era to spring cereals at BBCH 69 (Option 2 – PTZ SW DegT50 = 1000 days) (Appendix A 3.7 & A 3.8, Papasova, V., 2022, VV-943357 & VV-943372)

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	---	16.3	-	12.8	266
Step 2					
Northern Europe	March-May/June-Sept/Oct-Feb	1.38	Drift	0.628	12.1
Southern Europe	March-May/June-Sept/Oct-Feb	1.38	Drift	0.583	11.0
Step 3					
D3	ditch	0.951	Drift	0.059	0.567
D4	pond	0.033	Drift	0.028	0.126
D4	stream	0.819	Drift	0.010	0.144
D5	pond	0.033	Drift	0.028	0.132
D5	stream	0.829	Drift	0.003	0.051
R4	stream	0.628	Drift	0.036	0.479

* twa-time as required by ecotox

Only scenarios relevant for Central Zone Member States are reported. Please refer to the modelling report in Appendix 3.8 for all scenarios.

FOCUS Step 4

Table 8.9-25: STEP 4 Global maximum PEC_{SW} values for prothioconazole, following single application(s) of Kayak Era to winter and spring cereals at a rate of 150 g a.s./ha at BBCH 30- 69 (SW DT_{50} = 158.8 days, Option 1 and SW DT_{50} = 1000 days, Option 2) according to the Central EU zone GAP (Appendix A 3.8, Papasova, V., 2022, VV-943372, Report Amendment 1, 19th July 2023)

Mitigation options				
Vegetative strip (m)		0	10	20
No spray buffer (m)		10	10	20
Nozzle reduction (%)		0	0	0
Crop	Scenario	PEC_{SW} (µg/L)	PEC_{SW} (µg/L)	PEC_{SW} (µg/L)
Winter cereals 150 g a.s./ha BBCH 30 (SW DT_{50} = 158.8 days, Option 1)	D3 ditch	0.137	-	-
	D4 pond	0.020	-	-
	D4 stream	0.147	-	-
	D5 pond	0.020	-	-
	D5 stream	0.172	-	-
	R1 pond	0.020	0.020	0.014

Mitigation options				
Vegetative strip (m)		**0**	**10**	**20**
No spray buffer (m)		**10**	**10**	**20**
Nozzle reduction (%)		**0**	**0**	**0**
Crop	**Scenario**	**PEC_{SW} (µg/L)**	**PEC_{SW} (µg/L)**	**PEC_{SW} (µg/L)**
	R1 stream	0.121	0.121	0.063
	R3 stream	0.170	0.170	0.088
	R4 stream	0.122	0.122	0.063
Winter cereals 150 g a.s./ha BBCH 30 (SW DT_{50} = 1000 days, Option 2)	D3 ditch	0.137	-	-
	D4 pond	0.020	-	-
	D4 stream	0.136	-	-
	D5 pond	0.020	-	-
	D5 stream	0.147	-	-
	R1 pond	0.020	0.020	0.014
	R1 stream	0.121	0.121	0.063
	R3 stream	0.170	0.170	0.088
	R4 stream	0.122	0.122	0.063
Winter cereals 150 g a.s./ha BBCH 69 (SW DT_{50} = 158.8 days, Option 1)	D3 ditch	0.137	-	-
	D4 pond	0.020	-	-
	D4 stream	0.159	-	-
	D5 pond	0.020	-	-
	D5 stream	0.172	-	-
	R1 pond	0.037	0.024	0.015
	R1 stream	0.221	0.122	0.063
	R3 stream	0.171	0.171	0.089
	R4 stream	0.415	0.187	0.098
Winter cereals 150 g a.s./ha BBCH 69 (SW DT_{50} = 1000 days, Option 2)	D3 ditch	0.137	-	-
	D4 pond	0.020	-	-
	D4 stream	0.159	-	-
	D5 pond	0.020	-	-
	D5 stream	0.172	-	-
	R1 pond	0.039	0.026	0.016
	R1 stream	0.221	0.122	0.063
	R3 stream	0.171	0.171	0.089
	R4 stream	0.415	0.187	0.098
Spring cereals 150 g a.s./ha BBCH 30	D3 ditch	0.137	-	-
	D4 pond	0.020	-	-
	D4 stream	0.151	-	-
	D5 pond	0.020	-	-

Mitigation options				
Vegetative strip (m)		**0**	**10**	**20**
No spray buffer (m)		**10**	**10**	**20**
Nozzle reduction (%)		**0**	**0**	**0**
Crop	**Scenario**	**PEC$_{SW}$ (µg/L)**	**PEC$_{SW}$ (µg/L)**	**PEC$_{SW}$ (µg/L)**
(SW DT$_{50}$ = 158.8 days, Option 1)	D5 stream	0.155	-	-
	R4 stream	0.379	0.171	0.089
Spring cereals 150 g a.s./ha BBCH 30 (SW DT$_{50}$ = 1000 days, Option 2)	D3 ditch	0.137	-	-
	D4 pond	0.020	-	-
	D4 stream	0.151	-	-
	D5 pond	0.020	-	-
	D5 stream	0.155	-	-
	R4 stream	0.379	0.171	0.089
Spring cereals 150 g a.s./ha BBCH 69 (SW DT$_{50}$ = 158.8 days, Option 1)	D3 ditch	0.137	-	-
	D4 pond	0.020	-	-
	D4 stream	0.159	-	-
	D5 pond	0.020	-	-
	D5 stream	0.161	-	-
	R4 stream	0.417	0.188	0.098
Spring cereals 150 g a.s./ha BBCH 69 (SW DT$_{50}$ = 1000 days, Option 2)	D3 ditch	0.137	-	-
	D4 pond	0.020	-	-
	D4 stream	0.159	-	-
	D5 pond	0.020	-	-
	D5 stream	0.161	-	-
	R4 stream	0.417	0.188	0.098

Only scenarios relevant for Central Zone Member States are reported. Please refer to the modelling report in Appendix 3.8 for all scenarios.

Metabolite(s) of prothioconazole

Table 8.9-26: FOCUS Step 1 and 2 $PEC_{SW/SED}$ for JAU 6476-S-methyl following single application(s) to winter and spring cereals (Appendix A 3.7, Papasova, V., 2022, VV-943357)

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	---	3.39	-	2.73	81.0
Step 2					
Northern Europe	March-May/June-Sept/Oct-Feb	0.652	-	0.536	16.0
Southern Europe	March-May/June-Sept/Oct-Feb	0.532	-	0.435	13.0

* twa-time as required by ecotox

Table 8.9-27: FOCUS Step 1, 2 and 3 $PEC_{SW/SED}$ for JAU 6476-desthio following single application(s) to winter cereals at BBCH 30 (Option 1 – PTZ SW DegT50 = 39.5 days) (Appendix A 3.7 & A 3.8, Papasova, V., 2022, VV-943357 & VV-943372)

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	---	29.7	-	25.5	166
Step 2					
Northern Europe	March-May/June-Sept/Oct-Feb	5.90	-	5.07	33.0
Southern Europe	March-May/June-Sept/Oct-Feb	4.81	-	4.12	26.9
Step 3					
D3	ditch	0.003	Drainage	<0.001	0.003
D4	pond	0.005	Drainage	0.005	0.076
D4	stream	0.004	Drift	<0.001	0.002
D5	pond	0.008	Drainage	0.008	0.104
D5	stream	0.008	Drift	<0.001	<0.001
D6	ditch	0.001	Drift	<0.001	0.001
R1	pond	0.030	Run-off	0.027	0.247
R1	stream	0.265	Run-off	0.018	0.275
R3	stream	0.323	Run-off	0.015	0.420
R4	stream	0.477	Run-off	0.023	0.311

* twa-time as required by ecotox
Only scenarios relevant for Central Zone Member States are reported. Please refer to the modelling report in Appendix 3.8 for all scenarios.

Table 8.9-28: FOCUS Step 1, 2 and 3 $PEC_{SW/SED}$ for JAU 6476-desthio following single application(s) to winter cereals at BBCH 30 (Option 2 – PTZ SW DegT50 = 1000 days) (Appendix A 3.7 & A 3.8, Papasova, V., 2022, VV-943357 & VV-943372)

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	---	29.7	-	25.5	166
Step 2					
Northern Europe	March-May/June-Sept/Oct-Feb	5.90	-	5.07	33.0
Southern Europe	March-May/June-Sept/Oct-Feb	4.81	-	4.12	26.9
Step 3					
D3	ditch	<0.001	Drainage	0.000	0.028
D4	pond	0.001	Drainage	0.001	0.073
D4	stream	0.002	Drainage	<0.001	0.002
D5	pond	0.002	Drainage	0.002	0.091
D5	stream	<0.001	Drift	<0.001	0.001
D6	ditch	<0.001	Drift	<0.001	0.012
R1	pond	0.025	Run-off	0.022	0.245
R1	stream	0.265	Run-off	0.018	0.278
R3	stream	0.321	Run-off	0.015	0.423
R4	stream	0.476	Run-off	0.023	0.314

* twa-time as required by ecotox
Only scenarios relevant for Central Zone Member States are reported. Please refer to the modelling report in Appendix 3.8 for all scenarios.

Table 8.9-29: FOCUS Step 1, 2 and 3 $PEC_{SW/SED}$ for JAU 6476-desthio following single application(s) to winter cereals at BBCH 69 (Option 1 – PTZ SW DegT50 = 39.5 days) (Appendix A 3.7 & A 3.8, Papasova, V., 2022, VV-943357 & VV-943372)

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	---	29.7	-	25.5	166
Step 2					
Northern Europe	March-May/June-Sept/Oct-Feb	5.90	-	5.07	33.0
Southern Europe	March-May/June-Sept/Oct-Feb	4.81	-	4.12	26.9
Step 3					
D3	ditch	0.009	Drainage	0.001	0.012
D4	pond	0.008	Drainage	0.008	0.111

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	0.006	Drift	<0.001	0.004
D5	pond	0.008	Drainage	0.008	0.117
D5	stream	0.010	Drift	<0.001	0.003
D6	ditch	0.011	Drainage	0.004	0.033
R1	pond	0.024	Run-off	0.022	0.256
R1	stream	0.169	Run-off	0.008	0.459
R3	stream	0.314	Run-off	0.023	0.198
R4	stream	0.383	Run-off	0.053	0.614

* twa-time as required by ecotox
Only scenarios relevant for Central Zone Member States are reported. Please refer to the modelling report in Appendix 3.8 for all scenarios.

Table 8.9-30: FOCUS Step 1, 2 and 3 $PEC_{SW}/_{SED}$ for JAU 6476-desthio following single application(s) to winter cereals at BBCH 69 (Option 2 – PTZ SW DegT50 = 1000 days) (Appendix A 3.7 & A 3.8, Papasova, V., 2022, VV-943357 & VV-943372)

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	---	29.7	-	25.5	166
Step 2					
Northern Europe	March-May/June-Sept/Oct-Feb	5.90	-	5.07	33.0
Southern Europe	March-May/June-Sept/Oct-Feb	4.81	-	4.12	26.9
Step 3					
D3	ditch	<0.001	Drainage	<0.001	0.050
D4	pond	0.002	Drainage	0.002	0.082
D4	stream	0.004	Drainage	<0.001	0.009
D5	pond	0.002	Drainage	0.002	0.096
D5	stream	<0.001	Drift	<0.001	0.010
D6	ditch	0.001	Drainage	0.001	0.111
R1	pond	0.016	Run-off	0.013	0.238
R1	stream	0.163	Run-off	0.008	0.462
R3	stream	0.313	Run-off	0.023	0.204
R4	stream	0.374	Run-off	0.051	0.613

* twa-time as required by ecotox
Only scenarios relevant for Central Zone Member States are reported. Please refer to the modelling report in Appendix 3.8 for all scenarios.

Table 8.9-31: FOCUS Step 1, 2 and 3 $PEC_{SW}/_{SED}$ for JAU 6476-desthio following single application(s) to spring cereals at BBCH 30 (Option 1 – PTZ SW DegT50 = 39.5 days) (Appendix A 3.7 & A 3.8, Papasova, V., 2022, VV-943357 & VV-943372)

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	---	29.7	-	25.5	166
Step 2					
Northern Europe	March-May/June-Sept/Oct-Feb	5.90	-	5.07	33.0
Southern Europe	March-May/June-Sept/Oct-Feb	4.81	-	4.12	26.9
Step 3					
D3	ditch	0.006	Drainage	<0.001	0.006
D4	pond	0.007	Drainage	0.007	0.100
D4	stream	0.005	Drainage	<0.001	0.002
D5	pond	0.008	Drainage	0.008	0.105
D5	stream	0.008	Drift	<0.001	<0.001
R4	stream	0.427	Run-off	0.058	0.675

* twa-time as required by ecotox
Only scenarios relevant for Central Zone Member States are reported. Please refer to the modelling report in Appendix 3.8 for all scenarios.

Table 8.9-32: FOCUS Step 1, 2 and 3 $PEC_{SW}/_{SED}$ for JAU 6476-desthio following single application(s) to spring cereals at BBCH 30 (Option 2 – PTZ SW DegT50 = 1000 days) (Appendix A 3.7 & A 3.8, Papasova, V., 2022, VV-943357 & VV-943372)

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	---	29.7	-	25.5	166
Step 2					
Northern Europe	March-May/June-Sept/Oct-Feb	5.90	-	5.07	33.0
Southern Europe	March-May/June-Sept/Oct-Feb	4.81	-	4.12	26.9
Step 3					
D3	ditch	0.000	Drainage	0.000	0.034
D4	pond	0.001	Drainage	0.001	0.082
D4	stream	0.003	Drainage	0.000	0.003
D5	pond	0.002	Drainage	0.002	0.091
D5	stream	0.000	Drift	0.000	0.001
R4	stream	0.419	Run-off	0.057	0.674

* twa-time as required by ecotox

Only scenarios relevant for Central Zone Member States are reported. Please refer to the modelling report in Appendix 3.8 for all scenarios.

Table 8.9-33: FOCUS Step 1, 2 and 3 $PEC_{SW/SED}$ for JAU 6476-desthio following single application(s) to spring cereals at BBCH 69 (Option 1 – PTZ SW DegT50 = 39.5 days) (Appendix A 3.7 & A 3.8, Papasova, V., 2022, VV-943357 & VV-943372)

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	---	29.7	-	25.5	166
Step 2					
Northern Europe	March-May/June-Sept/Oct-Feb	5.90	-	5.07	33.0
Southern Europe	March-May/June-Sept/Oct-Feb	4.81	-	4.12	26.9
Step 3					
D3	ditch	0.009	Drainage	0.001	0.012
D4	pond	0.008	Drainage	0.008	0.111
D4	stream	0.006	Drift	<0.001	0.004
D5	pond	0.008	Drainage	0.008	0.117
D5	stream	0.010	Drift	<0.001	-0.003
R4	stream	0.383	Run-off	0.053	0.614

* twa-time as required by ecotox

Only scenarios relevant for Central Zone Member States are reported. Please refer to the modelling report in Appendix 3.8 for all scenarios.

Table 8.9-34: FOCUS Step 1, 2 and 3 $PEC_{SW/SED}$ for JAU 6476-desthio following single application(s) to spring cereals at BBCH 69 (Option 2 – PTZ SW DegT50 = 1000 days) (Appendix A 3.7 & A 3.8, Papasova, V., 2022, VV-943357 & VV-943372)

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	---	29.7	-	25.5	166
Step 2					
Northern Europe	March-May/June-Sept/Oct-Feb	5.90	-	5.07	33.0
Southern Europe	March-May/June-Sept/Oct-Feb	4.81	-	4.12	26.9
Step 3					
D3	ditch	0.000	Drainage	0.000	0.040
D4	pond	0.002	Drainage	0.002	0.079
D4	stream	0.005	Drainage	0.000	0.009
D5	pond	0.002	Drainage	0.002	0.095
D5	stream	0.000	Drift	0.000	0.002

Scenario FOCUS	Waterbody	Max PEC_{SW} (µg/L)	Dominant entry route	21 d- $PEC_{SW,twa}$ (µg/L)*	Max PEC_{SED} (µg/kg)
R4	stream	0.434	Run-off	0.059	0.694

* twa-time as required by ecotox
Only scenarios relevant for Central Zone Member States are reported. Please refer to the modelling report in Appendix 3.8 for all scenarios.

Table 8.9-35: FOCUS Step 1 and 2 $PEC_{SW/SED}$ for 1,2,4-triazole following single application(s) to winter and spring cereals (Appendix A 3.7, Papasova, V., 2022, VV-943357)

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	---	3.89	-	3.85	3.22
Step 2					
Northern Europe	March-May/June-Sept/Oct-Feb	0.180	-	0.150	0.145
Southern Europe	March-May/June-Sept/Oct-Feb	0.164	-	0.136	0.132

* twa-time as required by ecotox

FOCUS Step 4

Table 8.9-36: STEP 4 Global maximum PEC_{SW} values for JAU 6476-desthio, following single application(s) of Kayak Era to winter and spring cereals at a rate of 150 g a.s./ha at BBCH 30- 69 (SW DT_{50} = 158.8 days, Option 1 and SW DT_{50} = 1000 days, Option 2) according to the Central EU zone GAP ~~according to surface water Step 4~~ (Appendix A 3.8, Papasova, V., 2022, VV-943372, Report Amendment 1, 26th July 2023)

Mitigation options				
Vegetative strip (m)		0	10	20
No spray buffer (m)		10	10	20
Nozzle reduction (%)		0	0	0
Crop	**Scenario**	**PEC_{SW} (µg/L)**	**PEC_{SW} (µg/L)**	**PEC_{SW} (µg/L)**
Winter cereals 150 g a.s./ha BBCH 30 (SW DT_{50} = 158.8 days, Option 1)	D3 ditch	0.000	-	-
	D4 pond	0.003	-	-
	D4 stream	0.002	-	-
	D5 pond	0.005	-	-
	D5 stream	0.002	-	-
	R1 pond	0.028	0.013	0.007
	R1 stream	0.265	0.121	0.063
	R3 stream	0.323	0.148	0.077
	R4 stream	0.477	0.217	0.114
Winter cereals 150 g a.s./ha	D3 ditch	0.000	-	-
	D4 pond	0.001	-	-

Mitigation options				
Vegetative strip (m)		**0**	**10**	**20**
No spray buffer (m)		**10**	**10**	**20**
Nozzle reduction (%)		**0**	**0**	**0**
Crop	**Scenario**	**PEC_{SW} (µg/L)**	**PEC_{SW} (µg/L)**	**PEC_{SW} (µg/L)**
BBCH 30 (SW DT_{50} = 1000 days, Option 2)	D4 stream	0.002	-	-
	D5 pond	0.001	-	-
	D5 stream	0.000	-	-
	R1 pond	0.025	0.010	0.005
	R1 stream	0.265	0.120	0.063
	R3 stream	0.321	0.146	0.077
	R4 stream	0.476	0.217	0.114
Winter cereals 150 g a.s./ha BBCH 69 (SW DT_{50} = 158.8 days, Option 1)	D3 ditch	0.001	-	-
	D4 pond	0.005	-	-
	D4 stream	0.004	-	-
	D5 pond	0.005	-	-
	D5 stream	0.002	-	-
	R1 pond	0.021	0.011	0.006
	R1 stream	0.169	0.077	0.040
	R3 stream	0.314	0.141	0.074
	R4 stream	0.383	0.174	0.091
Winter cereals 150 g a.s./ha BBCH 69 (SW DT_{50} = 1000 days, Option 2)	D3 ditch	0.000	-	-
	D4 pond	0.001	-	-
	D4 stream	0.004	-	-
	D5 pond	0.001	-	-
	D5 stream	0.000	-	-
	R1 pond	0.016	0.006	0.003
	R1 stream	0.163	0.074	0.039
	R3 stream	0.313	0.141	0.073
	R4 stream	0.374	0.170	0.089
Spring cereals 150 g a.s./ha BBCH 30 (SW DT_{50} = 158.8 days, Option 1)	D3 ditch	0.001	-	-
	D4 pond	0.005	-	-
	D4 stream	0.003	-	-
	D5 pond	0.005	-	-
	D5 stream	0.002	-	-
	R4 stream	0.427	0.194	0.102
Spring cereals 150 g a.s./ha BBCH 30 (SW DT50 =	D3 ditch	0.000	-	-
	D4 pond	0.001	-	-
	D4 stream	0.003	-	-

Mitigation options				
Vegetative strip (m)		0	10	20
No spray buffer (m)		10	10	20
Nozzle reduction (%)		0	0	0
Crop	**Scenario**	**PEC_{SW} (µg/L)**	**PEC_{SW} (µg/L)**	**PEC_{SW} (µg/L)**
1000 days, Option 2)	D5 pond	0.001	-	-
	D5 stream	0.000	-	-
	R4 stream	0.419	0.190	0.100
Spring cereals 150 g a.s./ha BBCH 69 (SW DT_{50} = 158.8 days, Option 1)	D3 ditch	0.001	-	-
	D4 pond	0.005	-	-
	D4 stream	0.005	-	-
	D5 pond	0.005	-	-
	D5 stream	0.002	-	-
	R4 stream	0.443	0.201	0.106
Spring cereals 150 g a.s./ha BBCH 69 (SW DT_{50} = 1000 days, Option 2)	D3 ditch	0.000	-	-
	D4 pond	0.002	-	-
	D4 stream	0.005	-	-
	D5 pond	0.001	-	-
	D5 stream	0.000	-	-
	R4 stream	0.434	0.197	0.103

Maximum PEC values from BBCH 30-69, Option 1 & 2 reported
Only scenarios relevant for Central Zone Member States are reported. Please refer to the modelling report in Appendix 3.8 for all scenarios.

8.9.2.3 PEC_{SW} of A23282A

Table 8.9-37: Initial PEC_{SW} for A23282A following single/multiple application(s) to cereals

PEC_{SW} for the formulation was calculated for drift only, based on the percentage drift data from Rautmann (2001)[2]. The formulation components are expected to dissipate rapidly after application, therefore only one application and drift entry are taken into consideration.

The initial PEC_{SW} for a single application is calculated as follows:

$$PEC_{SW}\ (\mu g/L) = \frac{\%\ drift \times application\ rate\ (g/ha)}{water\ depth\ (30\ cm) \times 10}$$

Formulation	No. of applications	Maximum use rate (g A23282A/ha[a]	Drift[b]	DRT (%)	PEC_{SW} (µg <formulation>/L)
A23282A	1	1986	1 m (2.77 %)	0	18.34
				50	9.17
				75	4.584
				90	1.834

Formulation	No. of applications	Maximum use rate (g A23282A/ha[a]	Drift[b]	DRT (%)	PEC_{SW} (µg <formulation>/L)
			3 m (0.95 %)	0	6.29
				50	3.145
				75	1.572
				90	0.629
			4 m (0.71 %)	0	4.700
				50	2.350
				75	1.175
				90	0.470
			5 m (0.57 %)	0	3.773
				50	1.887
				75	0.943
				90	0.377
			6 m (0.48 %)	0	3.178
				50	1.589
				75	0.794
				90	0.318
			7 m (0.41 %)	0	2.714
				50	1.357
				75	0.679
				90	0.271
			8 m (0.36 %)	0	2.383
				50	1.192
				75	0.596
				90	0.238
			9 m (0.32 %)	0	2.118
				50	1.059
				75	0.530
				90	0.212
			10 m (0.29 %)	0	1.920
				50	0.960
				75	0.480
				90	0.192

[a] the rate of formulation is based on a specific density of 0.993 g/mL
[b] drift value according to Rautmann at al. (2001)[2]

[2] D. Rautmann, M. Streloke, M. Winkler (2001). New basic drift values in the authorisation procedure for plant protection products. In: R. Forster, M. Streloke: Workshop on Risk Assessment and Risk Mitigation Measures in the Context of the Authorization of Plant Protection Products (WORMM). Mitt. Biol. Bundesanst. Land-Forstwirtsch, Berlin-Dahlem, Heft 381

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

8.10.1.1 Cyprodinil and its metabolites

The fate and behaviour of cyprodinil and its metabolites in air are considered to be data provided in support of the active substance. All relevant detailed experimental information has been submitted for EU review **(Cyprodinil, EFSA Scientific Report (2005) 51, 1-78)**.

Table 8.10-1: Summary of atmospheric degradation and behaviour

Compound	Cyprodinil
Direct photolysis in air	-
Quantum yield of direct phototransformation	-
Photochemical oxidative degradation in air	DT_{50} (h): 0.5 derived by the Atkinson model. OH (12h) concentration assumed = 1.5 10^6 radicals/cm^3.
Volatilisation	Vapour pressure (pa): $5.1x10^{-4}$ (25 °C)
Metabolites	-

The vapour pressure at 20 °C of the active substance cyprodinil is between 10^{-5} and 10^{-4} Pa. Hence the active substance cyprodinil is regarded as semi-volatile (volatilisation only from plant surfaces). Therefore exposure of adjacent surface waters and terrestrial ecosystems by the active cyprodinil due to volatilization with subsequent deposition should be considered.

8.10.1.2 Prothioconaole and its metabolites

The fate and behaviour of prothioconazole in air are considered to be data provided in support of the active substance. All relevant detailed experimental information has been submitted for EU review of prothioconazole **(Prothioconazole, EFSA Journal 2007;106, 1-98).**

Table 8.10-2 Summary of atmospheric degradation and behaviour

Compound	Prothioconazole
Direct photolysis in air	-
Quantum yield of direct phototransformation	Not available
Photochemical oxidative degradation in air	DT_{50} (h): 1.1 derived by the Atkinson model OH (12h) concentration assumed = 1.5 x 10^6
Volatilisation	Vapour pressure (Pa): < 4 x 10^{-7} Henry's Law Constant ($Pa.m^3/mol$): <3 x 10^{-5}

The vapour pressure at 20 °C of the active substance prothioconazole is < 10^{-5} 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.

Appendix 1 Lists of data considered in support of the evaluation

List of data submitted by the applicant and relied on (cyprodinil)

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
XXX	XXXX	XXX	XXXX	XX	XXXX

List of data submitted by the applicant and relied on (prothioconazole)

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
XXX	XXXX	XXX	XXXX	XX	XXXX

List of data submitted by the applicant and relied on (A23282A)

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
XXX	XXXX	XXX	XXXX	XX	XXXX

List of data submitted or referred to by the applicant and relied on, but already evaluated at EU peer review (A23282A)

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
None					

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
XXX	XXXX	XXX	XXXX	XX	XXXX

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

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

Appendix 2 Detailed evaluation of the new Annex II studies

Cyprodinil

A 2.1 KCA1 7.1.2.1, Harvey, B., 2016, VV-629897. Cyprodinil – Laboratory Degradation Kinetics for Persistence and Modelling Endpoints (with soil metabolites CGA249287, CGA321915 and CGA275535) Harsh Soil Extracts Included

Comments of zRMS:	The study was not used in this evaluation and it was not evaluated.

Reference:	KCA1 7.1.2.1
Report:	Cyprodinil – Laboratory Degradation Kinetics for Persistence and Modelling Endpoints (with soil metabolites CGA249287, CGA321915 and CGA275535) Harsh Soil Extracts Included, Harvey, B., 2016, XXXX, Jealott's Hill International Research Centre, Bracknell, Berkshire, RG42 6EY, UK. Report No. RAJ1145B, VV-629897
Guideline(s):	Yes / FOCUS (2006). Guidance document on estimating persistence and degradation kinetics from environmental fate studies on pesticides in EU registration. Report of the FOCUS Work Group on Degradation Kinetics, EC Document Reference Sanco/10058/2005, version 2.0, 434 pp.
Deviations:	No
GLP:	Not applicable
Acceptability:	Yes

Executive Summary

The route and rate of degradation of cyprodinil has been determined in laboratory in 7 studies; Yeomans (2015), Schaeffer (1994, 1993, 1992), Mamouni (1994), Kitschmann (1994 x2). The degradation rate of CGA275535 has been determined in 1 study; Volkel (2001). The original data from these studies was used to calculate the rate of degradation of cyprodinil and its metabolites in soil following the guidance in FOCUS Kinetics (2006).
This report presents the calculations of $DegT_{50}$ and $DegT_{90}$ values for cyprodinil and its soil metabolites CGA249287, CGA321915 and CGA275535 for both persistence and modelling endpoints.
The proposed degradation pathway for cyprodinil in soil is shown in Figure A 1. The degradation rate of the metabolite CGA275535 was determined from a separate study where the metabolite was applied alone as it is not usually observed in parent studies (due to very rapid degradation). The degradation rates of the metabolites CGA249287 and CGA321915 were determined directly by fitting kinetics to

the data from the parent studies. Due to the transitory nature of CGA275535 this was considered acceptable.

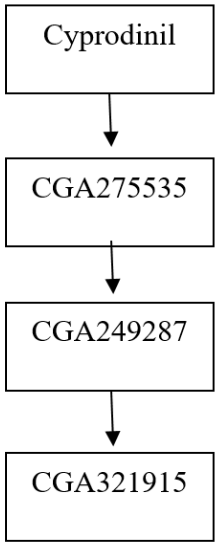


Figure A 1: Proposed degradation pathway for cyprodinil in soil

Kinetic modelling following the appropriate FOCUS Kinetics (2006) flowchart was carried out using CAKE v3.1 (2015).
Confidence in the degradation kinetic parameters has been assessed visually and from the confidence intervals for the α and β parameters of the first order multi compartment (FOMC) model or probability values for a t-test of the rate parameters for the single first order (SFO), dual first order in parallel (DFOP) and hockey stick (HS) models. Where the parameters for a particular model are not significantly different from zero at the 95th or 90th significance level, it has been concluded that the model is not appropriate to represent the degradation behaviour in that soil. The $\chi 2$ error% parameter has been used to determine goodness of fit and where two models are an appropriate fit to the data, the choice of best fit has been based on the lowest value of this parameter.
Where required, $DegT_{50}$ values have been corrected to the standard conditions of 20ºC and moisture at 10 kPa (pF2) according to FOCUS (2000), in order to produce values suitable for use in environmental models.

Results

Table A 1 to Table A 4 provide a summary of persistence endpoints for cyprodinil and its soil metabolites. Table A 5 toTable A 8 provide a summary of modelling endpoints for cyprodinil and its soil metabolites corrected to the standard conditions of 20ºC and moisture at 10 kPa according to FOCUS (2000), in order to produce values suitable for use in environmental models.
A summary of the model fit statistics and assessment decisions taken for persistence and modelling endpoints are in Table A 9 and Table A 29 (cyprodinil), Table A 22 and Table A 42 (CGA249287), Table A 25 and Table A 45 (CGA321915) and Table A 26 and Table A 46 (CGA275535).

Table A 1: Summary of selected cyprodinil persistence endpoints

Study	Soil name	pH[a] (H_2O)	$DegT_{50}$ [days]	Kinetic model
Yeomans 2015	18 Acres	5.8	934	FOMC
	Krone	6.7	40.2	SFO
	Sarpy	6.6	167	DFOP
	Hepler	5.9	506	DFOP
Schaeffer 1994	Neuhofen	6.0[b]	37.7	SFO
	Strassenacker	7.8	31.2	SFO
Schaeffer 1993	Collombey	7.6	25.1	DFOP
Schaeffer 1992	Les Evouettes	7.2[b]	23.0	DFOP
Mamouni 1994	Les Evouettes (20°C, 60%FC)	8.0	27.2	SFO
	Les Evouettes (20°C, 30%FC)	8.0	58.2	SFO
Kitschmann 1994	Les Evouettes	7.7	20.5	FOMC
Kitschmann 1994	Collombey	7.6	43.4	SFO

[a] Yeomans 2015: measured in H_2O, Schaeffer 1993, 1994, Kitschmann 1994 (x2) and Mamouni 1994 measured in KCl – where required values shown have been converted from the measured value to the equivalent pH (H_2O) using the German (Umweltbundesamt [UBA]) Input-Decision 3.3 Tool [revision 31.07.2012]
[b] It is not stated which solution was used for pH measurement, therefore no adjustment has been made

Table A 2: Summary of selected CGA249287 persistence endpoints

Study	Soil name	pH[a] (H_2O)	$DegT_{50}$ [days]	Formation fraction [from cyprodinil]
Yeomans 2015	18 Acres	5.8	1000	0.112
	Krone	6.7	41.0	0.271
	Sarpy	6.6	1000	0.126
	Hepler	5.9	1000	0.108
Schaeffer 1994	Neuhofen	6.0[b]	57.2	0.253
	Strassenacker	7.8	59.3	0.243
Schaeffer 1993	Collombey	7.6	46.2	0.211
Schaeffer 1992	Les Evouettes	7.2[b]	42.0	0.128
Mamouni 1994	Les Evouettes (20°C, 60%FC)	8.0	23.8	0.126
	Les Evouettes (20°C, 30%FC)	8.0	1000	0.051

[a] Yeomans 2015: measured in H_2O, Schaeffer 1993, 1994, Kitschmann 1994 (x2) and Mamouni 1994 measured in KCl – where required values shown have been converted from the measured value to the equivalent pH (H_2O) using the German (Umweltbundesamt [UBA]) Input-Decision 3.3 Tool [revision 31.07.2012]

[b] It is not stated which solution was used for pH measurement, therefore no adjustment has been made

Table A 3: Summary of selected CGA321915 persistence endpoints

Study	Soil name	pH[a] (H_2O)	$DegT_{50}$ [days]	Formation fraction [from CGA249287]
Yeomans 2015	Krone	6.7	1000	0.272
Schaeffer 1994	Neuhofen	6.0[b]	25.5	1.0
	Strassenacker	7.8	32.8	1.0
Schaeffer 1992	Les Evouettes	7.2[b]	51.7	0.667

[a] Yeomans 2015: measured in H_2O, Schaeffer 1994 Strassenacker measured in KCl – where required values shown have been converted from the measured value to the equivalent pH (H_2O) using the German (Umweltbundesamt [UBA]) Input-Decision 3.3 Tool [revision 31.07.2012]
[b] It is not stated which solution was used for pH measurement, therefore no adjustment has been made

Table A 4: Summary of selected CGA275535 persistence endpoints

Study	Soil name	pH[a]	$DegT_{50}$ [days]	Formation fraction [from cyprodinil]
Volkel 2001	Schanz	7.4	0.617	NA
	Pappelacker	7.5	0.131	NA
	Senozan	5.8	0.269	NA

[a] measured in $CaCl_2$ or KCl

Table A 5: Summary of selected cyprodinil modelling endpoints

Study	Soil name	pH[a] (H_2O)	$DegT_{50}$ [days]	Kinetic model
Yeomans 2015	18 Acres	5.8	226	SFO
	Krone	6.7	40.2	SFO
	Sarpy	6.6	161	SFO
	Hepler	5.9	214	SFO
Schaeffer 1994	Neuhofen	6.0[b]	37.7	SFO
	Strassenacker	7.8	31.2	SFO
Schaeffer 1993	Collombey	7.6	27.4	SFO
Schaeffer 1992	Les Evouettes	7.2	25.4	SFO
Mamouni 1994	Les Evouettes (20°C, 60%FC)	8.0	25.6	SFO
	Les Evouettes (20°C, 30%FC)	8.0	33.8	SFO
Kitschmann 1994a	Les Evouettes	7.7	36.3	FOMC
Kitschmann 1994b	Collombey	7.6	41.4	SFO

[a] Yeomans 2015: measured in H_2O, Schaeffer 1993, 1994 Kitschmann 1994 and Mamouni 1994 measured in KCl – where required values shown have been converted from the measured value to the equivalent pH (H_2O) using the German (Umweltbundesamt [UBA]) Input-Decision 3.3 Tool [revision 31.07.2012]
[b] It is not stated which solution was used for pH measurement, therefore no adjustment has been made

Table A 6: Summary of selected CGA249287 modelling endpoints

Study	Soil name	pH[a] (H_2O)	$DegT_{50}$ [days]	Formation fraction [from cyprodinil]
Yeomans 2015	18 Acres	5.8	1000	0.112
	Krone	6.7	41.0	0.271
	Sarpy	6.6	1000	0.126
	Hepler	5.9	1000	0.108
Schaeffer 1994	Neuhofen	6.0[b]	57.2	0.253
	Strassenacker	7.8	59.3	0.243
Schaeffer 1993	Collombey	7.6	46.2	0.211
Schaeffer 1992	Les Evouettes	7.2[b]	42.0	0.128
Mamouni 1994	Les Evouettes (20°C, 60%FC)	8.0	23.8	0.126
	Les Evouettes (20°C, 30%FC)	8.0	1000	0.051

[a] Yeomans 2015: measured in H_2O, Schaeffer 1993, 1994 Kitschmann 1994 (x2) and Mamouni 1994 measured in KCl – where required values shown have been converted from the measured value to the equivalent pH (H_2O) using the German (Umweltbundesamt [UBA]) Input-Decision 3.3 Tool [revision 31.07.2012]
[b] It is not stated which solution was used for pH measurement, therefore no adjustment has been made

Table A 7: Summary of selected CGA321915 modelling endpoints

Study	Soil name	pH[a] (H_2O)	$DegT_{50}$ [days]	Formation fraction [from CGA249287]
Yeomans 2015	Krone	6.7	1000	0.272
Schaeffer 1994	Neuhofen	6.0[b]	25.5	1.0
	Strassenacker	7.8	32.8	1.0
Schaeffer 1992	Les Evouettes	7.2[b]	51.7	0.677

[a] Yeomans 2015: measured in H_2O, Schaeffer 1994 Strassenacker measured in KCl – where required values shown have been converted from the measured value to the equivalent pH (H_2O) using the German (Umweltbundesamt [UBA]) Input-Decision 3.3 Tool [revision 31.07.2012]
[b] It is not stated which solution was used for pH measurement, therefore no adjustment has been made

Table A 8: Summary of selected CGA275535 modelling endpoints

Study	Soil name	pH[a]	$DegT_{50}$ [days]	Formation fraction [from cyprodinil]
Volkel 2001	Schanz	7.4	1.75	NA

Study	Soil name	pH[a]	$DegT_{50}$ [days]	Formation fraction [from cyprodinil]
	Pappelacker	7.5	0.711	NA
	Senozan	5.8	1.16	NA

[a] measured in $CaCl_2$ or KCl

Table A 9: Cyprodinil – Persistence end points - laboratory aerobic soil

Soil (ref)		18 Acres (Yeomans 2015)		
Model		SFO	FOMC	DFOP
Visual Fit		Acceptable	Good	Good
Residuals (visual)		Acceptable	Good	Good
χ2 error (%)		2.74	1.03	1.29
Initial value: estimate / standard error		Pini: 88.3 (91.8 - 95.4) σ: 0.9789	Pini: 92.6 (91.8 - 95.4) σ: 0.9829	Pini: 92.7 (91.8 - 95.4) σ: 1.052
Rate Parameters: estimate / standard error / probability (trigger:0.05)		kP: 0.003073 σ: 0.000212 $p < 0.01$	α: 0.167 σ: 0.02358 95th %ile CI does not contain 0	k1: 0.0737 σ: 0.02831 $p < 0.01$
			β: 14.96 σ: 5.027 95th %ile CI does not contain 0	k2: 0.002 σ: 0.000369 $p < 0.01$
				g: 0.1313 σ: 0.0296
DT_{50} (days)		226	934	276
DT_{90} (days)		749	>10,000	1080
FOCUS decision step		SFO fit acceptable compare to FOMC.	FOMC better fit than SFO try DFOP	FOMC better fit than DFOP **FOMC chosen.**
Selected persistence endpoints	**DT_{50}**	**934**		
	DT_{90}	**Not determined**		

Table A 10: Cyprodinil – Persistence end points - laboratory aerobic soil (continued)

Soil (ref)		Krone (Yeomans 2015)		
Model		SFO	FOMC	
Visual Fit		Good	Good	
Residuals (visual)		Good	Good	
χ2 error (%)		3.40	3.76	
Initial value: estimate / standard error		Pini: 92.7 (93.2 - 95.5) σ: 2.248	Pini: 93.1 (93.2 - 95.5) σ: 2.693	
Rate Parameters: estimate / standard error / probability (trigger:0.05)		kP: 0.01724 σ: 0.001066 $p < 0.01$	α: 18.04 σ: 66.39 90th %ile CI contains 0	
			β: 1010 σ: 3840 90th %ile CI does not contain 0	
DT_{50} (days)		40.2	39.4	
DT_{90} (days)		134	137	
FOCUS decision step		SFO fit good, compare to FOMC.	FOMC worse than SFO. **SFO chosen.**	
Selected persistence endpoints	**DT_{50}**	**40.2**		
	DT_{90}	**134**		

Table A 11: Cyprodinil – Persistence end points - laboratory aerobic soil (continued)

Soil (ref)		Sarpy (Yeomans 2015)		
Model		SFO	FOMC	DFOP
Visual Fit		Acceptable	Good	Good
Residuals (visual)		Acceptable	Good	Good
χ2 error (%)		4.49	1.30	1.26
Initial value: estimate / standard error		Pini: 86 (93.1 - 94.8) σ: 1.997	Pini: 93.4 (93.1 - 94.8) σ: 1.464	Pini: 93.8 (93.1 - 94.8) σ: 1.472
Rate Parameters: estimate / standard error / probability (trigger:0.05)		kP: 0.004317 σ: 0.000478 p < 0.01	α: 0.1906 σ: 0.02429 95th %ile CI does not contain 0	k1: 0.1303 σ: 0.04296 p < 0.01
			β: 8.635 σ: 2.934 95th %ile CI does not contain 0	k2: 0.003023 σ: 0.000392 p < 0.01
				g: 0.1725 σ: 0.02815
DT_{50} (days)		161	319	167
DT_{90} (days)		533	>10,000	699
FOCUS decision step		SFO fit acceptable compare to FOMC.	FOMC better fit than SFO try DFOP	DFOP better fit than FOMC. **DFOP chosen.**
Selected persistence endpoints	**DT_{50}**	**167**		
	DT_{90}	**699**		

Table A 12: Cyprodinil – Persistence end points - laboratory aerobic soil (continued)

Soil (ref)		Hepler (Yeomans 2015)		
Model		SFO	FOMC	DFOP
Visual Fit		Acceptable	Good	Good
Residuals (visual)		Acceptable	Good	Good
χ2 error (%)		4.43	1.44	1.42
Initial value: estimate / standard error		Pini: 87.2 (93.8 - 94.3) σ: 1.981	Pini: 94.3 (93.8 - 94.3) σ: 1.344	Pini: 93.6 (93.8 - 94.3) σ: 1.241
Rate Parameters: estimate / standard error / probability (trigger:0.05)		kP: 0.003239 σ: 0.000438 p < 0.01	α: 0.1383 σ: 0.01762 95th %ile CI does not contain 0	k1: 0.04779 σ: 0.01469 p < 0.01
			β: 6.612 σ: 2.446 95th %ile CI does not contain 0	k2: 0.00078 σ: 0.000715 p = 0.14*
				g: 0.258 σ: 0.0547
DT_{50} (days)		214	988	506
DT_{90} (days)		711	>10,000	2570
FOCUS decision step		SFO fit acceptable compare to FOMC.	FOMC better fit than SFO try DFOP	DFOP better fit than FOMC. **DFOP chosen.**
Selected persistence endpoints	**DT_{50}**	**506**		
	DT_{90}	**2570**		

Table A 13: Cyprodinil – Persistence end points - laboratory aerobic soil (continued)

Soil (ref)		Neuhofen (Schaeffer 1994)	
Model		SFO	FOMC
Visual Fit		Acceptable	Acceptable
Residuals (visual)		Acceptable	Acceptable
$\chi 2$ error (%)		9.84	10.40
Initial value: estimate / standard error		Pini: 101 (94.6 - 94.6) σ: 4.977	Pini: 101 (94.6 - 94.6) σ: 4.9
Rate Parameters: estimate / standard error / probability (trigger:0.05)		kP: 0.01839 σ: 0.002302 $p < 0.01$	α: 886.9 σ: 70.56 95th %ile CI does not contain 0
			β: 48300 σ: 0
DT_{50} (days)		37.7	37.7
DT_{90} (days)		125	125
FOCUS decision step		SFO fit good, compare to FOMC.	FOMC worse than SFO. **SFO chosen.**
Selected persistence endpoints	**DT_{50}**	**37.7**	
	DT_{90}	**125**	

Table A 14: Cyprodinil – Persistence end points - laboratory aerobic soil (continued)

Soil (ref)		Strassenacker (Schaeffer 1994)	
Model		SFO	FOMC
Visual Fit		Good	Good
Residuals (visual)		Good	Good
χ2 error (%)		3.82	4.02
Initial value: **estimate / standard error**		Pini: 97 (94.2 - 94.2) σ: 1.818	Pini: 97 (94.2 - 94.2) σ: 1.836
Rate Parameters: estimate / standard error / probability (trigger:0.05)		kP: 0.02223 σ: 0.001015 $p < 0.01$	α: 596.2 σ: 0
			β: 26800 σ: 0
DT_{50} (days)		31.2	31.2
DT_{90} (days)		104	104
FOCUS decision step		SFO fit good, compare to FOMC.	FOMC worse than SFO. **SFO chosen.**
Selected persistence endpoints	**DT_{50}**	**31.2**	
	DT_{90}	**104**	

Table A 15: Cyprodinil – Persistence end points - laboratory aerobic soil (continued)

Soil (ref)		Collombey (Schaeffer 1993)		
Model		SFO	FOMC	DFOP
Visual Fit		Acceptable	Good	Good
Residuals (visual)		Acceptable	Acceptable	Good
$\chi 2$ error (%)		6.82	5.27	4.62
Initial value: estimate / standard error		Pini: 91.7 (99.3 - 99.3) σ: 2.713	Pini: 95.9 (99.3 - 99.3) σ: 2.394	Pini: 96.5 (99.3 - 99.3) σ: 2.152
Rate Parameters: estimate / standard error / probability (trigger:0.05)		kP: 0.0253 σ: 0.001945 $p < 0.01$	α: 2.067 σ: 0.5125 95th %ile CI does not contain 0	k1: 0.2122 σ: 0.09858 $p = 0.02$
			β: 58.56 σ: 18.98 95th %ile CI does not contain 0	k2: 0.02187 σ: 0.001612 $p < 0.01$
				g: 0.1347 σ: 0.04204
DT_{50} (days)		27.4	23.3	25.1
DT_{90} (days)		91	120	98.7
FOCUS decision step		SFO fit acceptable compare to FOMC.	FOMC better fit than SFO try DFOP	DFOP better fit than FOMC. **DFOP chosen.**
Selected persistence endpoints	**DT_{50}**	**25.1**		
	DT_{90}	**98.7**		

Table A 16: Cyprodinil – Persistence end points - laboratory aerobic soil (continued)

Soil (ref)		Les Evouettes (Schaeffer 1992)		
Model		SFO	FOMC	DFOP
Visual Fit		Acceptable	Good	Good
Residuals (visual)		Poor	Acceptable	Good
χ2 error (%)		5.54	3.62	3.48
Initial value: estimate / standard error		Pini: 93.7 σ: 2.331	Pini: 97.1 σ: 1.816	Pini: 96 σ: 1.585
Rate Parameters: estimate / standard error / probability (trigger:0.05)		kP: 0.02728 σ: 0.001933 $p < 0.01$	α: 2.09 σ: 0.4925 CI does not contain 0	k1: 0.03688 σ: 0.004 $p < 0.01$
			β: 57.27 σ: 17.7 CI does not contain 0	k2: 0.004134 σ: 0.002622 $p = 0.06$
				g: 0.8513 σ: 0.06571
DT_{50} (days)		25.4	22.5	23.0
DT_{90} (days)		84.4	115	121
FOCUS decision step		SFO fit acceptable compare to FOMC.	FOMC better fit than SFO try DFOP	DFOP better fit than FOMC. **DFOP chosen.**
Selected persistence endpoints	**DT_{50}**	**23.0**		
	DT_{90}	**121**		

Table A 17: Cyprodinil – Persistence end points - laboratory aerobic soil (continued)

Soil (ref)		Les Evouettes 20°C/60%FC (Mamouni 1994)	
Model		SFO	FOMC
Visual Fit		Good	Good
Residuals (visual)		Good	Good
χ^2 error (%)		2.80	2.51
Initial value: estimate / standard error		Pini: 93.7 (94.9 - 94.9) σ: 1.516	Pini: 94.8 (94.9 - 94.9) σ: 1.569
Rate Parameters: estimate / standard error / probability (trigger:0.05)		kP: 0.02548 σ: 0.001195 $p < 0.01$	α: 6.412 σ: 4.622 90th %ile CI contains 0
			β: 227.6 σ: 180.9 90th %ile CI does not contain 0
DT_{50} (days)		27.2	26
DT_{90} (days)		90.4	98.3
FOCUS decision step		SFO fit good compare to FOMC.	FOMC not visually better than SFO and not statistically valid (CI contains 0). **SFO chosen**
Selected persistence endpoints	**DT_{50}**	**27.2**	
	DT_{90}	**90.4**	

Table A 18: Cyprodinil – Persistence end points - laboratory aerobic soil (continued)

Soil (ref)		Les Evouettes 20°C/30%FC (Mamouni 1994)	
Model		SFO	FOMC
Visual Fit		Good	Good
Residuals (visual)		Good	Good
χ2 error (%)		1.58	1.65
Initial value: estimate / standard error		Pini: 93.2 (95.4 - 95.4) σ: 0.9061	Pini: 93.5 (95.4 - 95.4) σ: 0.9422
Rate Parameters: estimate / standard error / probability (trigger:0.05)		kP: 0.01191 σ: 0.000396 $p < 0.01$	α: 12.3 σ: 3.421 95th %ile CI does not contain 0
			β: 993.1 σ: 285 95th %ile CI does not contain 0
DT_{50} (days)		58.2	57.6
DT_{90} (days)		193	204
FOCUS decision step		SFO fit good compare to FOMC.	SFO better fit than FOMC. **SFO chosen**
Selected persistence endpoints	**DT_{50}**	**58.2**	
	DT_{90}	**193**	

Table A 19: Cyprodinil – Persistence end points - laboratory aerobic soil (continued)

Soil (ref)		Les Evouettes 10°C/60%FC (Mamouni 1994)	
Model		SFO	FOMC
Visual Fit		Good	Good
Residuals (visual)		Good	Good
χ2 error (%)		2.01	2.25
Initial value: estimate / standard error		Pini: 96.3 (94.5 - 94.5) σ: 1.357	Pini: 96.5 (94.5 - 94.5) σ: 1.494
Rate Parameters: estimate / standard error / probability (trigger:0.05)		kP: 0.008062 σ: 0.00043 $p < 0.01$	α: 11.37 σ: 0
			β: 1370 σ: 0
DT_{50} (days)		86.0	86.0
DT_{90} (days)		286	307
FOCUS decision step		SFO fit good compare to FOMC.	SFO better fit than FOMC. **SFO chosen**
Selected persistence endpoints	**DT_{50}**	**86.0**	
	DT_{90}	**286**	

Table A 20: Cyprodinil – Persistence end points - laboratory aerobic soil (continued)

Soil (ref)		Les Evouettes (Kitschmann 1994)		
Model		SFO	FOMC	DFOP
Visual Fit		Acceptable	Good	Good
Residuals (visual)		Poor	Acceptable	Good
χ2 error (%)		9.91	6.41	6.93
Initial value: estimate / standard error		Pini: 90.7 (99.3 - 99.3) σ: 3.408	Pini: 96.1 (99.3 - 99.3) σ: 2.84	Pini: 93.9 (99.3 - 99.3) σ: 2.82
Rate Parameters: estimate / standard error / probability (trigger:0.05)		kP: 0.02759 σ: 0.002923 $p < 0.01$	α: 1.521 σ: 0.3518 95th %ile CI does not contain 0	k1: 0.03944 σ: 0.006831 $p < 0.01$
			β: 35.44 σ: 12.25 95th %ile CI does not contain 0	k2: 0.003821 σ: 0.003484 p = 0.15*
				g: 0.8472 σ: 0.09307
DT_{50} (days)		25.1	20.5	21.7
DT_{90} (days)		83.5	126	127
FOCUS decision step		SFO fit acceptable compare to FOMC.	FOMC better fit than SFO try DFOP	FOMC better fit than DFOP **FOMC chosen.**
Selected persistence endpoints	**DT_{50}**	**20.5**		
	DT_{90}	**126**		

Table A 21: Cyprodinil – Persistence end points - laboratory aerobic soil (continued)

Soil (ref)		Collombey (Kitschmann 1994)	
Model		SFO	FOMC
Visual Fit		Good	Good
Residuals (visual)		Good	Good
χ^2 error (%)		2.48	2.58
Initial value: estimate / standard error		Pini: 96.6 (99.2 - 99.2) σ: 1.002	Pini: 98.3 (99.2 - 99.2) σ: 1.419
Rate Parameters: estimate / standard error / probability (trigger:0.05)		kP: 0.01596 σ: 0.000458 $p < 0.01$	α: 169.7 σ: 0
			β: 9760 σ: 0
DT_{50} (days)		43.4	40
DT_{90} (days)		144	133
FOCUS decision step		SFO fit good compare to FOMC.	SFO better fit than FOMC. **SFO chosen**
Selected persistence endpoints	**DT_{50}**	**43.4**	
	DT_{90}	**144**	

Table A 22: CGA249287 – Persistence endpoints for metabolite – laboratory aerobic soil

Soil (ref)	18 Acres (Yeomans 2015)	Krone (Yeomans 2015)	Sarpy (Yeomans 2015)	Hepler (Yeomans 2015)
Parent Model	FOMC	SFO	DFOP	DFOP
Visual Fit	Acceptable	Acceptable	Acceptable	Acceptable
Residuals (visual)	Good	Acceptable	Acceptable	Acceptable
χ2 error (%)	14.6	15.7	11.2	17.3
Rate Parameters: estimate / standard error / probability (trigger:0.05)	k A1: 0.000631 σ: 0.003852 p = 0.44	k A1: 0.01692 σ: 0.003674 p < 0.01	k A1: 2.09E-15 σ: 0.002416 p = 0.5	k A1: 1.25E-16 σ: 0.002723 p = 0.5
FOCUS decision step	k A1 not significantly different to zero use default DT_{50}	Fit acceptable use DT_{50}	k A1 not significantly different to zero use default DT_{50}	k A1 not significantly different to zero use default DT_{50}
$DegT_{50}$ (days)	1000	41.0	1000	1000
$DegT_{90}$ (days)	NA	136	NA	NA
Formation fraction from Parent	0.112	0.271	0.126	0.108
Adjusted for 20°C and pF2 (days)[a]	**1000**	**41.0**	**1000**	**1000**

[a] $DegT_{50}$ was normalised to 20ºC using a Q_{10} value of 2.58 and to a moisture content of 10 kPa (pF2) according to the methods in FOCUS (2000)

Table A 23: CGA249287 – Persistence endpoints for metabolite – laboratory aerobic soil (continued)

Soil (ref)	Neuhofen (Schaeffer 1994)	Strassenacker (Schaeffer 1994)	Collombey (Schaeffer 1993)	Les Evouettes (Schaeffer 1992)
Parent Model	SFO	SFO	DFOP	FOMC
Visual Fit	Good	Good	Good	Acceptable
Residuals (visual)	Acceptable	Good	Good	Acceptable
χ^2 error (%)	13.9	7.35	4.41	15.8
Rate Parameters: estimate / standard error / probability (trigger:0.05)	k A1: 0.01212 σ: 0.003043 p < 0.01	k A1: 0.01169 σ: 0.001486 p < 0.01	k A1: 0.01502 σ: 0.001184 p < 0.01	k A1: 0.01784 σ: 0.003574 p < 0.01
FOCUS decision step	Fit acceptable use DT_{50}	Fit acceptable use DT_{50}	Fit acceptable use DT_{50}	Fit acceptable use DT_{50}
Modelling $DegT_{50}$ (days)	57.2	59.3	46.2	42.0
$DegT_{90}$ (days)	190	197	153	140
Formation fraction from Parent	0.253	0.243	0.211	0.128
$DegT_{50}$ adjusted for 20°C and pF2 (days)[a]	**57.2**	**59.3**	**46.2**	**42.0**

[a] $DegT_{50}$ was normalised to 20ºC using a Q_{10} value of 2.58 and to a moisture content of 10 kPa (pF2) according to the methods in FOCUS (2000)

Table A 24: CGA249287 – Persistence endpoints for metabolite – laboratory aerobic soil (continued)

Soil (ref)	Les Evouettes 20°C/60%FC (Mamouni 1994)	Les Evouettes 20°C/30%FC (Mamouni 1994)	Les Evouettes 10°C/60%FC (Mamouni 1994)
Parent Model	SFO	SFO	SFO
Visual Fit	Acceptable	Acceptable	Poor
Residuals (visual)	Acceptable	Acceptable	Poor
χ2 error (%)	23.3	28.0	56.4
Rate Parameters: estimate / standard error / probability (trigger:0.05)	k A1: 0.02738 σ: 0.008517 p < 0.01	k A1: 1.7E-14 σ: 0.005996 p = 0.5*	k A1: 3.52E-33 σ: 0.01287 p = 0.5*
FOCUS decision step	Fit acceptable use DT_{50}	k A1 not significantly different to zero use default DT_{50}	k A1 not significantly different to zero use default DT_{50}
Modelling $DegT_{50}$ (days)	25.3	1000	1000
$DegT_{90}$ (days)	84.2	NA	NA
Formation fraction from Parent	0.126	0.051	0.030
$DegT_{50}$ adjusted for 20°C and pF2 (days)[a]	**23.8**	**1000**	**1000**

[a] $DegT_{50}$ was normalised to 20ºC using a Q_{10} value of 2.58 and to a moisture content of 10 kPa (pF2) according to the methods in FOCUS (2000)

Table A 25: CGA321915 - Persistence endpoints for metabolite – laboratory aerobic soil

Soil (ref)	Krone (Yeomans 2015)	Neuhofen (Schaeffer 1994)	Strassenacker (Schaeffer 1994)	Les Evouettes (Schaeffer 1992)
Parent Model	SFO	SFO	SFO	DFOP
Visual Fit	Acceptable	Good	Good	Acceptable
Residuals (visual)	Acceptable	Good	Good	Acceptable
χ2 error (%)	57.5	11.6	13.1	35.6
Rate Parameters: estimate / standard error / probability (trigger:0.05)	k A2: 2.81E-23 σ: 0.01664 p = 0.5*	k A2: 0.02718 σ: 0.007074 p < 0.01	k A2: 0.02112 σ: 0.005082 p < 0.01	k A2: 0.01342 σ: 0.006629 p = 0.03
FOCUS decision step	k A1 not significantly different to zero use default DT_{50}	Fit acceptable use DT_{50}	Fit acceptable use DT_{50}	Fit acceptable use DT_{50}
Modelling $DegT_{50}$ (days)	1000	25.5	32.8	51.7
$DegT_{90}$ (days)	NA	84.7	109	172
Formation fraction from CGA249287	0.272	1.0	1.0	0.667
$DegT_{50}$ adjusted for 20°C and pF2 (days)[a]	**1000**	**25.5**	**32.8**	**51.7**

[a] $DegT_{50}$ was normalised to 20ºC using a Q_{10} value of 2.58 and to a moisture content of 10 kPa (pF2) according to the methods in FOCUS (2000)

Table A 26: CGA275535 - Persistence endpoints for metabolite – laboratory aerobic soil

Soil (ref)	Schanz (Volkel 2001)		
Model	SFO	FOMC	DFOP
Visual Fit	Acceptable	Good	Acceptable
Residuals (visual)	Poor	Good	Poor
χ2 error (%)	20.7	5.62	8.58
Initial value: estimate / standard error	Pini: 92.06 σ: 3.464	Pini: 93.65 σ: 0.9265	Pini: 93.51 σ: 1.381
Rate Parameters: estimate / standard error / probability (trigger:0.05)	kP: 0.7137 σ: 0.08088 $p < 0.01$	α: 0.9387 σ: 0.08578 CI does not contain 0	k1: 1.352 σ: 0.1565 $p < 0.01$
		β: 0.5643 σ: 0.1047 CI does not contain 0	k2: 0.09532 σ: 0.02811 $p < 0.01$
			g: 0.7968 σ: 0.03681
DT_{50} (days)	0.971	0.617	0.698
DT_{90} (days)	3.23	5.99	7.44
FOCUS decision step	SFO fit acceptable to 90% loss	FOMC fit better than SFO, fit DFOP	DFOP fit not better than FOMC **FOMC chosen**
Selected persistence endpoints — **DT_{50}**	**0.617**		
Selected persistence endpoints — **DT_{90}**	**5.99**		

Table A 27: CGA275535 - Persistence endpoints for metabolite – laboratory aerobic soil (continued)

Soil (ref)		Pappelacker (Volkel 2001)		
Model		SFO	FOMC	DFOP
Visual Fit		Acceptable	Good	Good
Residuals (visual)		Poor	Acceptable	Acceptable
χ2 error (%)		17.0	6.70	5.29
Initial value: estimate / standard error		Pini: 89.31 σ: 2.491	Pini: 89.4 σ: 0.9635	Pini: 89.4 σ: 0.7708
Rate Parameters: estimate / standard error / probability (trigger:0.05)		kP: 1.623 σ: 0.1992 $p < 0.01$	α: 0.6423 σ: 0.09287 CI does not contain 0	k1: 2.046 σ: 0.1184 $p < 0.01$
			β: 0.06741 σ: 0.03499 CI does not contain 0	k2: 0.02044 σ: 0.007063 $p = 0.01$
				g: 0.9365 σ: 0.008376
DT_{50} (days)		0.427	0.131	0.373
DT_{90} (days)		1.42	2.36	1.56
FOCUS decision step		SFO fit acceptable to 90% loss	FOMC fit better than SFO, fit DFOP	DFOP fit slightly better than FOMC, but very high ‘g’ value means FOMC more appropriate **FOMC chosen**
Selected persistence endpoints	**DT_{50}**	**0.131**		
	DT_{90}	**2.36**		

Table A 28: CGA275535 - Persistence endpoints for metabolite – laboratory aerobic soil (continued)

Soil (ref)		Senozan (Volkel 2001)		
Model		SFO	FOMC	DFOP
Visual Fit		Poor	Good	Acceptable
Residuals (visual)		Poor	Good	Acceptable
χ2 error (%)		22.5	7.55	8.36
Initial value: estimate / standard error		Pini: 92.87 σ: 3.635	Pini: 93.31 σ: 1.404	Pini: 93.30 σ: 1.438
Rate Parameters: estimate / standard error / probability (trigger:0.05)		kP: 1.166 σ: 0.1683 $p < 0.01$	α: 0.6798 σ: 0.1010 CI does not contain 0	k1: 1.755 σ: 0.1840 $p < 0.01$
			β: 0.1516 σ: 0.06635 CI does not contain 0	k2: 0.04842 σ: 0.01831 p = 0.02
				g: 0.8841 σ: 0.02147
DT_{50} (days)		0.594	0.269	0.473
DT_{90} (days)		1.97	4.33	3.77
FOCUS decision step		SFO fit poor	FOMC fit better than SFO	DFOP fit not better than FOMC **FOMC chosen**
Selected persistence endpoints	**DT_{50}**	**0.269**		
	DT_{90}	**4.33**		

Table A 29: Cyprodinil – Modelling Endpoints - laboratory aerobic soil

Soil (ref)	18 Acres (Yeomans 2015)
Model	SFO
Visual Fit	Acceptable
Residuals (visual)	Acceptable
χ2 error (%)	2.74
Initial value: **estimate / (range) / standard error**	Pini: 88.3 (91.8 - 95.4) σ: 0.9789
Rate Parameters: estimate / standard error / probability (trigger:0.05)	kP: 0.003073 σ: 0.000212 $p < 0.01$
DegT$_{50}$ (days)	226
DegT$_{90}$ (days)	749
Modelling DegT$_{50}$ (days)[a]	226
Adjusted for 20°C and pF2 (days)[b]	**226**
FOCUS decision step	SFO fit acceptable **SFO chosen**

[a] Modelling DT$_{50}$ depends on kinetics - SFO = DT$_{50}$, FOMC = DT$_{90}$/3.32, DFOP = ln(2)/k2
[b] Half-lives were normalised to 20ºC using a Q_{10} value of 2.58 and to a moisture content of 10 kPa (pF2) according to the methods in FOCUS (2000)

Table A 30: Cyprodinil – Modelling Endpoints - laboratory aerobic soil (continued)

Soil (ref)	Krone (Yeomans 2015)
Model	SFO
Visual Fit	Good
Residuals (visual)	Good
χ2 error (%)	3.40
Initial value: **estimate / (range) / standard error**	Pini: 92.7 (93.2 - 95.5) σ: 2.248
Rate Parameters: estimate / standard error / probability (trigger:0.05)	kP: 0.01724 σ: 0.001066 $p < 0.01$
$DegT_{50}$ (days)	40.2
$DegT_{90}$ (days)	134
Modelling $DegT_{50}$ (days)[a]	40.2
Adjusted for 20°C and pF2 (days)[b]	**40.2**
FOCUS decision step	SFO fit good. **SFO chosen.**

[a] Modelling DT_{50} depends on kinetics - SFO = DT_{50}, FOMC = $DT_{90}/3.32$, DFOP = ln(2)/k2
[b] Half-lives were normalised to 20ºC using a Q_{10} value of 2.58 and to a moisture content of 10 kPa (pF2) according to the methods in FOCUS (2000)

Table A 31: Cyprodinil – Modelling Endpoints - laboratory aerobic soil (continued)

Soil (ref)	Sarpy (Yeomans 2015)
Model	SFO
Visual Fit	Acceptable
Residuals (visual)	Acceptable
χ2 error (%)	4.49
Initial value: estimate / (range) / standard error	Pini: 86 (93.1 - 94.8) σ: 1.997
Rate Parameters: estimate / standard error / probability (trigger:0.05)	kP: 0.004317 σ: 0.000478 $p < 0.01$
$DegT_{50}$ (days)	161
$DegT_{90}$ (days)	533
Modelling $DegT_{50}$ (days)[a]	161
Adjusted for 20°C and pF2 (days)[b]	**161**
FOCUS decision step	SFO fit acceptable **SFO chosen**

[a] Modelling DT_{50} depends on kinetics - SFO = DT_{50}, FOMC = $DT_{90}/3.32$, DFOP = ln(2)/k2
[b] Half-lives were normalised to 20ºC using a Q_{10} value of 2.58 and to a moisture content of 10 kPa (pF2) according to the methods in FOCUS (2000)

Table A 32: Cyprodinil – Modelling Endpoints - laboratory aerobic soil (continued)

Soil (ref)	Hepler (Yeomans 2015)
Model	SFO
Visual Fit	Acceptable
Residuals (visual)	Acceptable
$\chi2$ error (%)	4.43
Initial value: estimate / (range) / standard error	Pini: 87.2 (93.8 - 94.3) σ: 1.981
Rate Parameters: estimate / standard error / probability (trigger:0.05)	kP: 0.003239 σ: 0.000438 p < 0.01
DegT$_{50}$ (days)	214
DegT$_{90}$ (days)	711
Modelling DegT$_{50}$ (days)[a]	214
Adjusted for 20°C and pF2 (days)[b]	**214**
FOCUS decision step	SFO fit acceptable **SFO chosen**

[a] Modelling DT$_{50}$ depends on kinetics - SFO = DT$_{50}$, FOMC = DT$_{90}$/3.32, DFOP = ln(2)/k2
[b] Half-lives were normalised to 20ºC using a Q_{10} value of 2.58 and to a moisture content of 10 kPa (pF2) according to the methods in FOCUS (2000)

Table A 33: Cyprodinil – Modelling Endpoints - laboratory aerobic soil (continued)

Soil (ref)	Neuhofen (Schaeffer 1994)
Model	SFO
Visual Fit	Acceptable
Residuals (visual)	Acceptable
χ2 error (%)	9.84
Initial value: estimate / (range) / standard error	Pini: 101 (94.6 - 94.6) σ: 4.977
Rate Parameters: estimate / standard error / probability (trigger:0.05)	kP: 0.01839 σ: 0.002302 $p < 0.01$
$DegT_{50}$ (days)	37.7
$DegT_{90}$ (days)	125
Modelling $DegT_{50}$ (days)[a]	37.7
Adjusted for 20°C and pF2 (days)[b]	**37.7**
FOCUS decision step	SFO fit acceptable. **SFO chosen.**

[a] Modelling DT_{50} depends on kinetics - SFO = DT_{50}, FOMC = $DT_{90}/3.32$, DFOP = ln(2)/k2
[b] Half-lives were normalised to 20ºC using a Q_{10} value of 2.58 and to a moisture content of 10 kPa (pF2) according to the methods in FOCUS (2000)

Table A 34: Cyprodinil – Modelling Endpoints - laboratory aerobic soil (continued)

Soil (ref)	Strassenacker (Schaeffer 1994)
Model	SFO
Visual Fit	Good
Residuals (visual)	Good
χ2 error (%)	3.82
Initial value: estimate / (range) / standard error	Pini: 97 (94.2 - 94.2) σ: 1.818
Rate Parameters: estimate / standard error / probability (trigger:0.05)	kP: 0.02223 σ: 0.001015 p < 0.01
DegT$_{50}$ (days)	31.2
DegT$_{90}$ (days)	104
Modelling DegT$_{50}$ (days)[a]	31.2
Adjusted for 20°C and pF2 (days)[b]	**31.2**
FOCUS decision step	SFO fit acceptable. **SFO chosen.**

[a] Modelling DT$_{50}$ depends on kinetics - SFO = DT$_{50}$, FOMC = DT$_{90}$/3.32, DFOP = ln(2)/k2
[b] Half-lives were normalised to 20ºC using a Q$_{10}$ value of 2.58 and to a moisture content of 10 kPa (pF2) according to the methods in FOCUS (2000)

Table A 35: Cyprodinil – Modelling Endpoints - laboratory aerobic soil (continued)

Soil (ref)	Collombey (Schaeffer 1993)
Model	SFO
Visual Fit	Acceptable
Residuals (visual)	Acceptable
χ2 error (%)	6.82
Initial value: estimate / (range) / standard error	Pini: 91.7 (99.3 - 99.3) σ: 2.713
Rate Parameters: estimate / standard error / probability (trigger:0.05)	kP: 0.0253 σ: 0.001945 $p < 0.01$
$DegT_{50}$ (days)	27.4
$DegT_{90}$ (days)	91
Modelling $DegT_{50}$ (days)[a]	27.4
Adjusted for 20°C and pF2 (days)[b]	**27.4**
FOCUS decision step	SFO fit acceptable. **SFO chosen.**

[a] Modelling DT_{50} depends on kinetics - SFO = DT_{50}, FOMC = $DT_{90}/3.32$, DFOP = ln(2)/k2
[b] Half-lives were normalised to 20ºC using a Q_{10} value of 2.58 and to a moisture content of 10 kPa (pF2) according to the methods in FOCUS (2000)

Table A 36: Cyprodinil – Modelling Endpoints - laboratory aerobic soil (continued)

Soil (ref)	Les Evouettes (Schaeffer 1992)
Model	SFO
Visual Fit	Acceptable
Residuals (visual)	Poor
χ2 error (%)	5.54
Initial value: **estimate / (range) / standard error**	Pini: 93.7 (99.3 - 99.3) σ: 2.423
Rate Parameters: estimate / standard error / probability (trigger:0.05)	kP: 0.02728 σ: 0.002009 $p < 0.01$
$DegT_{50}$ (days)	25.4
$DegT_{90}$ (days)	84.4
Modelling $DegT_{50}$ (days)[a]	25.4
Adjusted for 20°C and pF2 (days)[b]	**25.4**
FOCUS decision step	SFO fit acceptable. **SFO chosen.**

[a] Modelling DT_{50} depends on kinetics - SFO = DT_{50}, FOMC = DT_{90}/3.32, DFOP = ln(2)/k2
[b] Half-lives were normalised to 20ºC using a Q_{10} value of 2.58 and to a moisture content of 10 kPa (pF2) according to the methods in FOCUS (2000)

Table A 37: Cyprodinil – Modelling Endpoints - laboratory aerobic soil (continued)

Soil (ref)	Les Evouettes 20°C/60%FC (Mamouni 1994)
Model	SFO
Visual Fit	Good
Residuals (visual)	Good
χ2 error (%)	2.80
Initial value: **estimate / (range) / standard error**	Pini: 93.7 (94.9 - 94.9) σ: 1.516
Rate Parameters: estimate / standard error / probability (trigger:0.05)	kP: 0.02548 σ: 0.001195 $p < 0.01$
$DegT_{50}$ (days)	27.2
$DegT_{90}$ (days)	90.4
Modelling $DegT_{50}$ (days)[a]	27.2
Adjusted for 20°C and pF2 (days)[b]	**25.6**
FOCUS decision step	SFO fit acceptable. **SFO chosen.**

[a] Modelling DT_{50} depends on kinetics - SFO = DT_{50}, FOMC = $DT_{90}/3.32$, DFOP = ln(2)/k2
[b] Half-lives were normalised to 20ºC using a Q_{10} value of 2.58 and to a moisture content of 10 kPa (pF2) according to the methods in FOCUS (2000)

Table A 38: Cyprodinil – Modelling Endpoints - laboratory aerobic soil (continued)

Soil (ref)	Les Evouettes 20°C/30%FC (Mamouni 1994)
Model	SFO
Visual Fit	Good
Residuals (visual)	Good
χ2 error (%)	1.58
Initial value: **estimate / (range) / standard error**	Pini: 93.2 (95.4 - 95.4) σ: 0.9061
Rate Parameters: estimate / standard error / probability (trigger:0.05)	kP: 0.01191 σ: 0.000396 $p < 0.01$
$DegT_{50}$ (days)	58.2
$DegT_{90}$ (days)	193
Modelling $DegT_{50}$ (days)[a]	58.2
Adjusted for 20°C and pF2 (days)[b]	**33.8**
FOCUS decision step	SFO fit acceptable. **SFO chosen.**

[a] Modelling DT_{50} depends on kinetics - SFO = DT_{50}, FOMC = $DT_{90}/3.32$, DFOP = ln(2)/k2
[b] Half-lives were normalised to 20ºC using a Q_{10} value of 2.58 and to a moisture content of 10 kPa (pF2) according to the methods in FOCUS (2000)

Table A 39: Cyprodinil – Modelling Endpoints - laboratory aerobic soil (continued)

Soil (ref)	Les Evouettes 10°C/60%FC (Mamouni 1994)
Model	SFO
Visual Fit	Good
Residuals (visual)	Good
χ2 error (%)	2.01
Initial value: estimate / (range) / standard error	Pini: 96.3 (94.5 - 94.5) σ: 1.357
Rate Parameters: estimate / standard error / probability (trigger:0.05)	kP: 0.008062 σ: 0.00043 $p < 0.01$
$DegT_{50}$ (days)	86.0
$DegT_{90}$ (days)	286
Modelling $DegT_{50}$ (days)[a]	86.0
Adjusted for 20°C and pF2 (days)[b]	**46.4**
FOCUS decision step	SFO fit acceptable. **SFO chosen.**

[a] Modelling DT_{50} depends on kinetics - SFO = DT_{50}, FOMC = DT_{90}/3.32, DFOP = ln(2)/k2
[b] Half-lives were normalised to 20ºC using a Q_{10} value of 2.58 and to a moisture content of 10 kPa (pF2) according to the methods in FOCUS (2000)

Table A 40: Cyprodinil – Modelling Endpoints - laboratory aerobic soil (continued)

Soil (ref)	Les Evouettes (Kitschmann 1994)	
Model	SFO	FOMC
Visual Fit	Acceptable	Good
Residuals (visual)	Poor	Acceptable
χ2 error (%)	9.91	6.41
Initial value: estimate / (range) / standard error	Pini: 90.7 (99.3 - 99.3) σ: 3.408	Pini: 96.1 (99.3 - 99.3) σ: 2.84
Rate Parameters: estimate / standard error / probability (trigger:0.05)	kP: 0.02759 σ: 0.002923 $p < 0.01$	α: 1.521 σ: 0.3518 95th %ile CI does not contain 0
		β: 35.44 σ: 12.25 95th %ile CI does not contain 0
$DegT_{50}$ (days)	25.1	20.5
$DegT_{90}$ (days)	83.5	126
Modelling $DegT_{50}$ (days)[a]		38.0
Adjusted for 20°C and pF2 (days)[b]		**36.3**
FOCUS decision step	SFO fit good initially, but poor below ~15% AR. 10% AR reached, run FOMC.	FOMC fit good. **FOMC chosen.**

[a] Modelling DT_{50} depends on kinetics - SFO = DT_{50}, FOMC = $DT_{90}/3.32$, DFOP = ln(2)/k2
[b] Half-lives were normalised to 20ºC using a Q_{10} value of 2.58 and to a moisture content of 10 kPa (pF2) according to the methods in FOCUS (2000)

Table A 41: Cyprodinil – Modelling Endpoints - laboratory aerobic soil (continued)

Soil (ref)	Collombey (Kitschmann 1994)
Model	SFO
Visual Fit	Good
Residuals (visual)	Good
χ2 error (%)	2.48
Initial value: estimate / (range) / standard error	Pini: 96.6 (99.2 - 99.2) σ: 1.002
Rate Parameters: estimate / standard error / probability (trigger:0.05)	kP: 0.01596 σ: 0.000458 $p < 0.01$
$DegT_{50}$ (days)	43.4
$DegT_{90}$ (days)	144
Modelling $DegT_{50}$ (days)[a]	43.4
Adjusted for 20°C and pF2 (days)[b]	**41.4**
FOCUS decision step	SFO fit good. **SFO chosen.**

[a] Modelling DT_{50} depends on kinetics - SFO = DT_{50}, FOMC = $DT_{90}/3.32$, DFOP = ln(2)/k2
[b] Half-lives were normalised to 20ºC using a Q_{10} value of 2.58 and to a moisture content of 10 kPa (pF2) according to the methods in FOCUS (2000)

Table A 42: CGA249287 - Modelling Endpoints for metabolite – laboratory aerobic soil

Soil (ref)	18 Acres (Yeomans 2015)	Krone (Yeomans 2015)	Sarpy (Yeomans 2015)	Hepler (Yeomans 2015)
Parent Model	FOMC	SFO	DFOP	DFOP
Visual Fit	Acceptable	Acceptable	Acceptable	Acceptable
Residuals (visual)	Good	Acceptable	Acceptable	Acceptable
χ2 error (%)	14.6	15.7	11.2	17.3
Rate Parameters: estimate / standard error / probability (trigger:0.05)	k A1: 0.000631 σ: 0.003852 p = 0.44	k A1: 0.01692 σ: 0.003674 p < 0.01	k A1: 2.09E-15 σ: 0.002416 p = 0.5	k A1: 1.25E-16 σ: 0.002723 p = 0.5
FOCUS decision step	k A1 not significantly different to zero use default DT_{50}	Fit acceptable use DT_{50}	k A1 not significantly different to zero use default DT_{50}	k A1 not significantly different to zero use default DT_{50}
$DegT_{50}$ (days)	1000	41.0	1000	1000
$DegT_{90}$ (days)	NA	136	NA	NA
Formation fraction from Parent	0.112	0.271	0.126	0.108
Adjusted for 20°C and pF2 (days)[a]	**1000**	**41.0**	**1000**	**1000**

[a] $DegT_{50}$ was normalised to 20ºC using a Q_{10} value of 2.58 and to a moisture content of 10 kPa (pF2) according to the methods in FOCUS (2000)

Table A 43: CGA249287 - Modelling Endpoints for metabolite – laboratory aerobic soil (continued)

Soil (ref)	Neuhofen (Schaeffer 1994)	Strassenacker (Schaeffer 1994)	Collombey (Schaeffer 1993)	Les Evouettes (Schaeffer 1992)
Parent Model	SFO	SFO	DFOP	FOMC
Visual Fit	Good	Good	Good	Acceptable
Residuals (visual)	Acceptable	Good	Good	Acceptable
χ2 error (%)	13.9	7.35	4.41	15.8
Rate Parameters: estimate / standard error / probability (trigger:0.05)	k A1: 0.01212 σ: 0.003043 p < 0.01	k A1: 0.01169 σ: 0.001486 p < 0.01	k A1: 0.01502 σ: 0.001184 p < 0.01	k A1: 0.01784 σ: 0.003574 p < 0.01
FOCUS decision step	Fit acceptable use DT_{50}	Fit acceptable use DT_{50}	Fit acceptable use DT_{50}	Fit acceptable use DT_{50}
Modelling $DegT_{50}$ (days)	57.2	59.3	46.2	42.0
$DegT_{90}$ (days)	190	197	153	140
Formation fraction from Parent	0.253	0.243	0.211	0.128
$DegT_{50}$ adjusted for 20°C and pF2 (days)[a]	**57.2**	**59.3**	**46.2**	**42.0**

[a] $DegT_{50}$ was normalised to 20ºC using a Q_{10} value of 2.58 and to a moisture content of 10 kPa (pF2) according to the methods in FOCUS (2000)

Table A 44: CGA249287 - Modelling Endpoints for metabolite – laboratory aerobic soil (continued)

Soil (ref)	Les Evouettes 20°C/60%FC (Mamouni 1994)	Les Evouettes 20°C/30%FC (Mamouni 1994)
Parent Model	SFO	SFO
Visual Fit	Acceptable	Acceptable
Residuals (visual)	Acceptable	Acceptable
$\chi 2$ error (%)	23.3	28.0
Rate Parameters: estimate / standard error / probability (trigger:0.05)	k A1: 0.02738 σ: 0.008517 p < 0.01	k A1: 1.7E-14 σ: 0.005996 p = 0.5*
FOCUS decision step	Fit acceptable use DT_{50}	k A1 not significantly different to zero use default DT_{50}
Modelling $DegT_{50}$ (days)	25.3	1000
$DegT_{90}$ (days)	84.2	NA
Formation fraction from Parent	0.126	0.051
$DegT_{50}$ adjusted for 20°C and pF2 (days)[a]	**23.8**	**1000**

[a] $DegT_{50}$ was normalised to 20ºC using a Q_{10} value of 2.58 and to a moisture content of 10 kPa (pF2) according to the methods in FOCUS (2000)

Table A 45: CGA321915 - Modelling Endpoints for metabolite – laboratory aerobic soil

Soil (ref)	Krone (Yeomans 2015)	Neuhofen (Schaeffer 1994)	Strassenacker (Schaeffer 1994)	Les Evouettes (Schaeffer 1992)
Parent Model	SFO	SFO	SFO	DFOP
Visual Fit	Acceptable	Good	Good	Acceptable
Residuals (visual)	Acceptable	Good	Good	Acceptable
χ2 error (%)	57.5	11.6	13.1	35.6
Rate Parameters: estimate / standard error / probability (trigger:0.05)	k A2: 2.81E-23 σ: 0.01664 p = 0.5*	k A2: 0.02718 σ: 0.007074 p < 0.01	k A2: 0.02112 σ: 0.005082 p < 0.01	k A2: 0.01342 σ: 0.006629 p = 0.03
FOCUS decision step	k A1 not significantly different to zero use default DT_{50}	Fit acceptable use DT_{50}	Fit acceptable use DT_{50}	Fit acceptable use DT_{50}
Modelling $DegT_{50}$ (days)	1000	25.5	32.8	51.7
$DegT_{90}$ (days)	NA	84.7	109	172
Formation fraction from CGA249287	0.272	1.0	1.0	0.667
$DegT_{50}$ adjusted for 20°C and pF2 (days)[a]	**1000**	**25.5**	**32.8**	**51.7**

[a] $DegT_{50}$ was normalised to 20ºC using a Q_{10} value of 2.58 and to a moisture content of 10 kPa (pF2) according to the methods in FOCUS (2000)

Table A 46: CGA275535 - Modelling Endpoints for metabolite – laboratory aerobic soil

Soil (ref)	Schanz (Volkel 2001)	
Model	SFO	FOMC
Visual Fit	Acceptable	Good
Residuals (visual)	Poor	Good
χ2 error (%)	20.7	5.62
Initial value: estimate / (range) / standard error	Pini: 92.06 σ: 3.464	Pini: 93.65 σ: 0.9265
Rate Parameters: estimate / standard error / probability (trigger:0.05)	kP: 0.7137 σ: 0.08088 p < 0.01	α: 0.9387 σ: 0.08578 CI does not contain 0
		β: 0.5643 σ: 0.1047 CI does not contain 0
$DegT_{50}$ (days)	0.971	0.617
$DegT_{90}$ (days)	3.23	5.99
Modelling $DegT_{50}$ (days)[a]		1.80
$DegT_{50}$ adjusted for 20°C and pF2 (days)[a]		**1.75**
FOCUS decision step	SFO fit poor. 10% AR reached, run FOMC	FOMC fit acceptable. **FOMC chosen.**

[a] Modelling DT_{50} depends on kinetics - SFO = DT_{50}, FOMC = $DT_{90}/3.32$, DFOP = ln(2)/k2
[b] Half-lives were normalised to 20ºC using a Q_{10} value of 2.58 and to a moisture content of 10 kPa (pF2) according to the methods in FOCUS (2000)

Table A 47: CGA275535 - Modelling Endpoints for metabolite – laboratory aerobic soil (continued)

Soil (ref)	Pappelacker (Volkel 2001)	
Model	SFO	FOMC
Visual Fit	Acceptable	Good
Residuals (visual)	Poor	Acceptable
χ2 error (%)	17.0	6.70
Initial value: estimate / (range) / standard error	Pini: 89.31 σ: 2.491	Pini: 89.4 σ: 0.9635
Rate Parameters: estimate / standard error / probability (trigger:0.05)	kP: 1.623 σ: 0.1992 $p < 0.01$	α: 0.6423 σ: 0.09287 CI does not contain 0
		β: 0.06741 σ: 0.03499 CI does not contain 0
$DegT_{50}$ (days)	0.427	0.131
$DegT_{90}$ (days)	1.42	2.36
Modelling $DegT_{50}$ (days)[a]		0.711
$DegT_{50}$ adjusted for 20°C and pF2 (days)[a]		**0.711**
FOCUS decision step	SFO fit poor. 10% AR reached, run FOMC	FOMC fit acceptable. **FOMC chosen.**

[a] Modelling DT_{50} depends on kinetics - SFO = DT_{50}, FOMC = $DT_{90}/3.32$, DFOP = ln(2)/k2
[b] Half-lives were normalised to 20ºC using a Q_{10} value of 2.58 and to a moisture content of 10 kPa (pF2) according to the methods in FOCUS (2000)

Table A 48: CGA275535 - Modelling Endpoints for metabolite – laboratory aerobic soil (continued)

Soil (ref)	Senozan (Volkel 2001)	
Model	SFO	FOMC
Visual Fit	Poor	Good
Residuals (visual)	Poor	Good
χ2 error (%)	22.5	7.55
Initial value: estimate / (range) / standard error	Pini: 92.87 σ: 3.635	Pini: 93.31 σ: 1.404
Rate Parameters: estimate / standard error / probability (trigger:0.05)	kP: 1.166 σ: 0.1683 $p < 0.01$	α: 0.6798 σ: 0.1010 CI does not contain 0
		β: 0.1516 σ: 0.06635 CI does not contain 0
$DegT_{50}$ (days)	0.594	0.269
$DegT_{90}$ (days)	1.97	4.33
Modelling $DegT_{50}$ (days)[a]		1.30
$DegT_{50}$ adjusted for 20°C and pF2 (days)[a]		**1.16**
FOCUS decision step	SFO fit poor. 10% AR reached, run FOMC	FOMC fit acceptable. **FOMC chosen.**

[a] Modelling DT_{50} depends on kinetics - SFO = DT_{50}, FOMC = $DT_{90}/3.32$, DFOP = ln(2)/k2
[b] Half-lives were normalised to 20ºC using a Q_{10} value of 2.58 and to a moisture content of 10 kPa (pF2) according to the methods in FOCUS (2000)

Harvey, B., 2016

A 2.2 KCA1 7.1.3.1.2, Ye, M., 1995, VV-364154. Soil Adsorption/Desorption of Pyrimidinyl-14C-CGA321915 by the Batch Equilibrium Method

Comments of zRMS:	The study was not used in this evaluation and it was not evaluated.

Reference:	KCA1 7.1.3.1.2.
Report:	Soil Adsorption/Desorption of Pyrimidinyl-14C-CGA321915 by the Batch Equilibrium Method, Ye, M., 1995, Analytical Laboratories Inc, State College, PA 16801 United States, Report number: 003-21, VV-364154
Guideline(s):	Yes / Pesticide Assessment Guidelines, Subdivision N, Chemistry: Environmental Fate: 540/9-82-021, Series 163-1, Leaching and Adsorption/Desorption Studies. US Environmental Protection Agency, October 18, 1982.
Deviations:	No
GLP:	Yes
Acceptability:	Yes

Test System:
A study to measure the adsorption and desorption of CGA321915 using the batch equilibrium technique was performed. Aqueous test solutions of pyrimidinyl-14C labelled CGA321915 with a specific radioactivity of 41.1 µCi/mg (radiochemical purity 98.8%) in 0.01M calcium chloride were used at five concentrations ranging from 0.5 to 3.0 ppm. The study was conducted at room temperature by shaking 10.0 g soil and 20 ml test solution. Equilibration times for each soil were as follows: 6 hours for sandy loam; 18 hours for sand; 10 hours for clay loam and loam, and 4 hours for loamy sand. After centrifugation and decanting the supernatants, desorption was done with fresh calcium chloride solution. The equilibration time for desorption was determined as 18 hours for sandy loam and sand; 6 hours for clay loam and loam, and 3 hours for loamy sand. The characteristics of the five soils used are shown in Table A 49.

Table A 49: Soil characteristics of soils used for adsorption/desorption

	Soil				
Name / origin	**I**	**II**	**III**	**IV**	**V**
Classification	Sandy loam	Sand	Clay loam	Loam	Loamy sand
Particle size: sand [%] silt [%] clay [%]	73 19 9	91 4 5	31 38 31	41 42 17	80 12 8
pH	5.6	6.7	7.3	7.0	8.6
FMC (%) at 33 kPa	8.7	4.3	29.3	21.9	6
Organic carbon [%]	0.804	0.804	2.01	1.49	0.172
CEC [meq/ 100g soil]	6.0	4.4	15.4	8.9	23.4

Findings:
The average radiocarbon balance for each soil type ranged from 90 to 112 % of applied radioactivity. The five soils used varied in texture and represented a range of organic carbon content of 0.804% to 2.01% and a pH range of 5.6 to 8.6. Overall recoveries during the tests comprising adsorption and desorption steps ranged from 92.1% to 100.3% for each soil type. The stability of CGA321915 during the process was confirmed by TLC. The Freundlich adsorption coefficient K_F varied between 0.253 ml/g for the loamy sand and 2.52 ml/g for the sandy loam. The adsorption constants corrected for the organic carbon content (K_{OC}) ranged from 49.7 to 313 ml/g with an average K_{OC} value of 153 ml/g. The compound is hence found to be of medium to high mobility. The desorption K_{OC} values were higher than the adsorption K_{OC} values with an average of 441 ml/g. This indicates that adsorption was not fully reversible. The data are presented in Table A 50.

Table A 50: Adsorption and desorption constants of CGA321915

Soil /texture	**Adsorption (ml/g)**			**1st Desorption (ml/g)**		
	K_F	**K_{FOC}**	**N**	**K_F**	**K_{FOC}**	**N**
I - Sandy loam	2.52	313	0.6614	5.35	665	0.8356
II – Sand	1.45	180	0.7515	3.14	391	0.7519
III - Clay loam	0.999	49.7	0.9041	3.29	164	0.8982
IV – Loam	1.14	76.5	0.8199	4.34	291	1.0700
V - Loamy sand	0.253	147	0.8298	1.19	692	0.8298
Mean	1.27	**153**	0.7933	3.46	441	0.8771

Ye, M., 1995

A 2.3 KCA1 7.2.2.3, Partsch, S., 2015, VV-629383. Cyprodinil – Laboratory Degradation Kinetics for Persistence and Modelling Endpoints (including water/sediment metabolite CGA249287)

Comments of zRMS:	The study was evaluated and accepted in 2022.

Reference:	KCA1 7.2.2.3.
Report:	Cyprodinil – Laboratory Degradation Kinetics for Persistence and Modelling Endpoints (including water/sediment metabolite CGA249287), Partsch, S., 2015, Report number: 103238-1, VV-629383
Guideline(s):	FOCUS (2006). Guidance document on estimating persistence and degradation kinetics from environmental fate studies on pesticides in EU registration. Report of the FOCUS Work Group on Degradation Kinetics, EC Document Reference Sanco/10058/2005, version 2.0, 434 pp.
Deviations:	Not applicable
GLP:	Not applicable
Acceptability:	Yes

Materials and methods

This report presents the calculations of $DegT_{50}/DT_{50}$ and $DegT_{90}/DT_{90}$ values for cyprodinil (CGA219417) and its water/sediment metabolite CGA249287, for both persistence and modelling endpoints at Level P-I (parent) and Level M-I (metabolite).

The route and rate of degradation of cyprodinil has been studied in the laboratory in two studies, using two different aquatic systems (river/pond): Morgenroth & Völkel (1994), Morgenroth (2001). The original data from these studies was used to calculate the rate of degradation of cyprodinil and its metabolites in water/sediment as well as the rate of dissipation of cyprodinil from the water phase, following the guidance in FOCUS Kinetics (2006). The degradation scheme for cyprodinil in water/sediment is shown in Figure A 2. The pathways implemented for kinetic modelling are shown in Figure A 3.

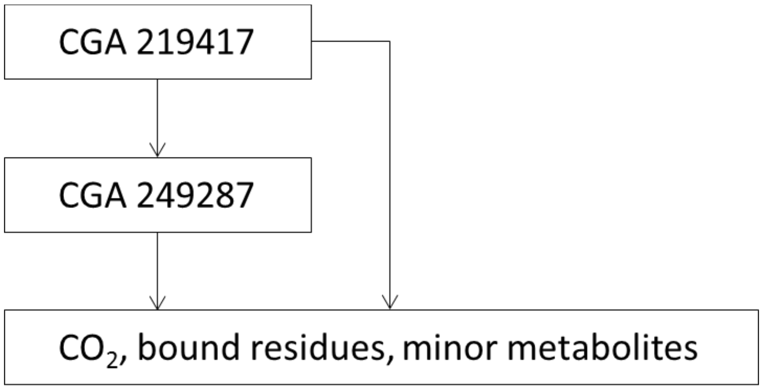


Figure A 2: Proposed degradation pathway for cyprodinil in water/sediment

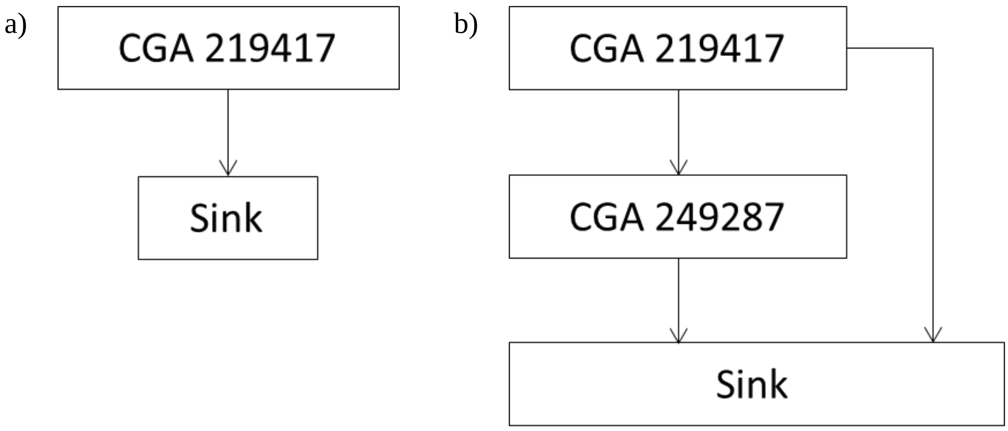


Figure A 3: Implementation of degradation pathways for kinetic fitting: a) Level P-I analysis of total system and water phase data; b) Level M-I degradation analysis of total system data.

Kinetic modelling following the appropriate FOCUS Kinetics (2006) flowchart was carried out using CAKE v3.1 (2015). Input data were pre-processed in accordance with FOCUS guidance. Since only values < LOQ were indicated in the study reports, those values were treated as < LOD values and were corrected to ½ LOQ in line with the guidance. Residue data for water and sediment were pre-processed separately and then summed up to total system data. During the kinetic analysis, residue data at day 112 of Morgenroth (2001) were identified as potential analytical artefacts and omitted from further analysis.

Confidence in the resulting parameters has been assessed visually and from the confidence intervals for the α and β parameters of the first order multi compartment (FOMC) model or probability values for a t-test of the rate parameters for the single first order (SFO), dual first order in parallel (DFOP) and hockey stick (HS) models. Where the parameters for a particular model are not significantly different from zero at the 90th significance level, preference was given to the model that visually represented the degradation behaviour of cyprodinil in that water/sediment most appropriate. The χ^2 error% parameter has been used to determine goodness of fit and where two models were appropriate to fit the data, the choice of best fit has been based on the lowest value of this parameter unless mentioned otherwise.

Results

Table A 51 to Table A 63 provide a summary and the averages across water/sediment types for persistence and modelling endpoints for cyprodinil and its water/sediment metabolite. As the studies were conducted at 20 ± 1 °C, in the dark, no temperature correction of the study data to standard conditions of 20 ºC was required.

Table A 51: Summary of persistence endpoints

Chemical	Level / Compartment	Derivation of value (number of values)	$DegT_{50}$ / DT_{50} [d]
Cyprodinil	Level P-I total system degradation	Geometric mean (4 water/sediments)	198
Cyprodinil	Level P-I water column dissipation	Geometric mean (4 water/sediments)	2.7
CGA249287	Level M-I total system degradation	Geometric mean (2 water/sediments)	--[a]

[a] No reliable fit could be achieved.

Table A 52: Summary of modelling endpoints

Chemical	Level / Compartment	Derivation of value (number of values)	$DegT_{50}$ / DT_{50} [d]
Cyprodinil	Level P-I total system degradation	Geometric mean (4 water/sediments)	158.8
Cyprodinil	Level P-I water column dissipation	Geometric mean (4 water/sediments)	6.1
CGA249287	Level M-I total system decline	Default (2 water/sediments)	1000[b]
CGA249287	Level M-I total system degradation	Geometric mean (2 water/sediments)	1000[a]

[a] Default value; no reliable fit could be achieved.
[b] Default value; no decline observed or insufficient number of data points.

Table A 53: Persistence endpoints for cyprodinil (phenyl label) at level P-I – River system (total system, Morgenroth & Völkel, 1994)

Water/sediment (ref)				
Model	SFO	FOMC	DFOP	HS
Visual Fit	Acceptable	Good	Good	Good
Residuals (visual)	Poor	Acceptable	Acceptable	Acceptable
χ2 error (%)	8.78	6.54	6.14	4.73
Initial value: estimate / (range) / standard error	Pini: 97.14 (90.2 - 104) σ: 3.81	Pini: 102.3 (95.2 – 109.4) σ: 3.86	Pini: 102.5 (95.9 – 109.0) σ: 3.52	Pini: 102.1 (101.6- 102.7) σ: 0.29
Rate Parameters: estimate / standard error / probability (trigger:0.05)	kP: 0.0054 σ: 9.70E-04 p = 1.25E-04	α: 0.3775 σ: 0.1841 CI excludes 0	k1: 0.0248 σ: 0.0194 p = 0.1185	k1: 0.0103 σ: 0.0016 p = 9.08E-05
		β: 25.15 σ: 24 CI contains 0	k2: 7.00E-018 σ: 0.0038 p = 0.500	k2: 8.39E-04 σ: 0.0014 p = 0.2822
			g: 0.5129 σ: 0.3196	tb: 56.09 σ: 14.95
DT_{50} (days)	129	133	148	196
DT_{90} (days)	429	>10,000	>10,000	2.12E+03
FOCUS decision step		FOMC better than SFO so try DFOP + HS (10% not reached in study)	DFOP better than FOMC and reliable; select DFOP	HS better than FOMC + DFOP

Table A 54: Persistence endpoints for cyprodinil (phenyl label) at level P-I – Pond system (total system, Morgenroth & Völkel, 1994)

Water/sediment (ref)				
Model	SFO	FOMC	DFOP	HS
Visual Fit	Acceptable	Good	Good	Good
Residuals (visual)	Poor	Acceptable	Acceptable	Acceptable
χ2 error (%)	8.02	6.09	6.11	5.59
Initial value: estimate / (range) / standard error	Pini: 95.58 (89.3 – 101.9) σ: 3.48	Pini: 101.3 (94.39 – 108.3) σ: 3.8	Pini: 101.5 (94.58 – 108.4) σ: 3.72	Pini: 100.8 (95.01 106.6) σ: 3.13
Rate Parameters: estimate / standard error / probability (trigger:0.05)	kP: 0.0042 σ: 8.06E-04 p = 1.94E-04	α: 0.2497 σ: 0.1118 CI excludes 0	k1: 0.0439 σ: 0.0381 p = 0.1408	k1: 0.0098 σ: 0.0026 p = 0.0030
		β: 15.28 σ: 15.52 CI contains 0	k2: 0.0015 σ: 0.0018 p = 0.219	k2: 0.0.0013 σ: 0.0012 p = 0.1486
			g: 0.2996 σ: 0.1677	tb: 42.98 σ: 15.35
DT_{50} (days)	165	230	226	253
DT_{90} (days)	547	>10,000	1.3E+03	1.5E+03
FOCUS decision step		FOMC better than SFO so try DFOP + HS (10% not reached in study)	DFOP similar to FOMC	HS best-fit and significant; select HS

Table A 55: Persistence endpoints for cyprodinil (phenyl label) at level P-I – River system (water column, Morgenroth & Völkel, 1994)

Water/sediment (ref)				
Model	SFO	FOMC	DFOP	HS
Visual Fit	Acceptable	Good	Good	Good
Residuals (visual)	Poor	Acceptable	Acceptable	Acceptable
χ^2 error (%)	11.2	4.2	4.8	4.9
Initial value: estimate / (range) / standard error	Pini: 97.94 (92.1 – 103.8) σ: 3.25	Pini: 102.2 (99.6 – 104.8) σ: 1.44	Pini: 101.9 (99.1 – 104.6) σ: 1.50	Pini: 101.1 (98.15 – 104.1) σ: 1.60
Rate Parameters: estimate / standard error / probability (trigger:0.05)	kP: 0.2561 σ: 0.029 p = 2.91E-06	α: 1.509 σ: 0.1857 CI excludes 0	k1: 0.5075 σ: 0.0776 p = 5.30E-05	k1: 3229 σ: 0.0199 p = 1.05E-07
		β: 3.773 σ: 0.7041 CI excludes 0	k2: 0.0831 σ: 0.0198 p = 0.0012	k2: 0.0867 σ: 0.0178 p = 6.10E-04
			g: 0.6673 σ: 0.0870	tb: 4.258 σ: 0.638
DT_{50} (days)	2.7	2.2	2.2	2.2
DT_{90} (days)	9.0	13.6	14.5	15
FOCUS decision step	Acceptable fit around DT_{50}; systematic deviations at later data points	FOMC better than SFO so try DFOP + HS (10% reached in study)	Very similar to FOMC + HS; select FOMC based on χ^2 error	Good visual fit; k2 not significant; select FOMC

Table A 56: Persistence endpoints for cyprodinil (phenyl label) at level P-I – Pond system (water column, Morgenroth & Völkel, 1994)

Water/sediment (ref)				
Model	SFO	FOMC	DFOP	HS
Visual Fit	Acceptable	Good	Good	Good
Residuals (visual)	Poor	Acceptable	Good	Good
χ2 error (%)	11.6	4.11	1.19	1.63
Initial value: estimate / (range) / standard error	Pini: 93.53 (85.9 – 101.1) σ: 4.08	Pini: 100.9 (97.3 – 104.6) σ: 1.94	Pini: 101.9 (100.7 - 103) σ: 0.60	Pini: 101.1 (99.6 – 102.6) σ: 0.77
Rate Parameters: estimate / standard error / probability (trigger:0.05)	kP: 0.1181 σ: 0.0169 p = 5.65E-05	α: 1.076 σ: 0.1463 CI excludes 0	k1: 0.5216 σ: 0.0347 p = 2.73E-06	k1: 0.2366 σ: 0.0087 p =8.00E-08
		β: 4.06 σ: 0.9878 CI excludes 0	k2: 0.0576 σ: 0.0029 p = 5.51E-07	k2: 0.0596 σ: 0.0034 p = 1.16E-06
			g: 0.4931 σ: 0.0220	tb: 3.552 σ: 0.2467
DT_{50} (days)	5.9	3.7	3.4	2.9
DT_{90} (days)	19.5	30.4	28.2	28.1
FOCUS decision step		FOMC better than SFO so try DFOP + HS (10% reached in study)	DFOP similar to FOMC + HS, but lowest χ2 error	

Table A 57: Persistence endpoints for cyprodinil (pyrimidyl label) at level P-I – River system (total system, Morgenroth, 2001)

Water/sediment (ref)				
Model	SFO[a]	FOMC[a]	DFOP[a]	HS[a]
Visual Fit	Acceptable	Good	Good	Good
Residuals (visual)	Poor	Acceptable	Acceptable	Acceptable
χ2 error (%)	6.57	5.57	5.78	5.56
Initial value: estimate / (range) / standard error	Pini: 96.5 (91.6 – 101.5) σ: 2.73	Pini: 99.7 (94.3 – 105.1) σ: 2.95	Pini: 99.7 (93.8 – 105.6) σ: 3.18	Pini: 99.7 (94.5 – 104.9) σ: 2.78
Rate Parameters: estimate / standard error / probability (trigger:0.05)	kP: 0.0044 σ: 5.88E-04 p = 1.15E-05	α: 0.6858 σ: 0.3704 CI excludes 0	k1: 0.0175 σ: 0.0264 p = 0.2632	k1: 0.0073 σ: 0.0014 p =4.43E-04
		β: 83.57 σ: 71.25 CI includes 0	k2: 0.0019 σ: 0.0039 p = 0.3230	k2: 0.0029 σ: 7.27E-04 p = 0.0020
			g: 0.3837 σ: 0.6171	tb: 52.47 σ: 1.22
DT_{50} (days)	159	146	145	160
DT_{90} (days)	528	2.32E+03	971	716
FOCUS decision step		FOMC better than SFO but unrealistic high DT_{90}, so try DFOP + HS (10% not reached in study)	DFOP similar to FOMC	Good visual fit, k-rates significant, select HS

[a] measurement at DAT112 omitted as analytical outlier

Table A 58: Persistence endpoints for cyprodinil (pyrimidyl label) at level P-I – Pond system (total system, Morgenroth, 2001)

Water/sediment (ref)				
Model	SFO	FOMC	DFOP	HS
Visual Fit	Acceptable	Acceptable	Good	Good
Residuals (visual)	Poor	Acceptable	Acceptable	Acceptable
χ2 error (%)	4.45	4.07	3.77	3.43
Initial value: estimate / (range) / standard error	Pini: 98.5 (95.2 – 101.8) σ: 1.84	Pini: 100.6 (96.8 – 104.4) σ: 2.08	Pini: 101.6 (97.5 – 105.8) σ: 2.26	Pini: 101.5 (98.1 – 105.0) σ: 1.88
Rate Parameters: estimate / standard error / probability (trigger:0.05)	kP: 0.0037 σ: 3.28E-04 p = 1.10E-07	α: 0.7946 σ: 0.4384 CI includes 0	k1: 0.0459 σ: 0.0486 p = 0.1848	k1: 0.0065 σ: 0.0015 p =9.48E-04
		β: 136.1 σ: 107.8 CI includes 0	k2: 0.0029 σ: 6.37E-04 p = 7.03E-04	k2: 0.0028 σ: 4.51E-04 p = 7.93E-05
			g: 0.1308 σ: 0.0833	tb: 40.51 σ: 18.48
DT_{50} (days)	188	190	191	194
DT_{90} (days)	623	2.33E+03	747	770
FOCUS decision step		FOMC better than SFO but unrealistic high DT_{90} so try DFOP + HS (10% not reached in study)	DFOP similar to FOMC, but k-rates not significant	Lowest χ2 error and k-rates significant, select HS

Table A 59: Persistence endpoints for cyprodinil (pyrimidyl label) at level P-I – River system (water column, Morgenroth, 2001)

Water/sediment (ref)				
Model	SFO	FOMC	DFOP	HS
Visual Fit	Poor	Good	Acceptable	Acceptable
Residuals (visual)	Poor	Acceptable	Poor	Poor
χ2 error (%)	15.60	6.69	7.60	8.15
Initial value: estimate / (range) / standard error	Pini: 99.7 (92.0 – 107.5) σ: 4.33	Pini: 104.7 (100.8 – 108.7) σ: 2.19	Pini: 104.0 (99.6 – 108.4) σ: 2.41	Pini: 103.0 (98.5 – 107.5) σ: 2.47
Rate Parameters: estimate / standard error / probability (trigger:0.05)	kP: 0.3142 σ: 0.0463 p = 1.51E-05	α: 1.129 σ: 0.152 CI excludes 0	k1: 0.6137 σ: 0.1161 p = 2.51E-04	k1: 0.3893 σ: 0.0326 p =4.00E-07
		β: 2.097 σ: 0.4815 CI excludes 0	k2: 0.0709 σ: 0.0244 p = 0.0086	k2: 0.0710 σ: 0.0236 p = 0.0074
			g: 0.7055 σ: 0.0931	tb: 3.759 σ: 0.744
DT_{50} (days)	2.2	1.8	nd	1.8
DT_{90} (days)	7.3	14.0	15.2	15.6
FOCUS decision step		FOMC better than SFO so try DFOP + HS (10% reached in study)	DFOP similar to FOMC + HS, but FOMC with lowest χ2 error	HS similar to FOMC + DFOP, but FOMC with lowest χ2 error

Table A 60: Persistence endpoints for cyprodinil (pyrimidyl label) at level P-I – Pond system (water column, Morgenroth, 2001)

Water/sediment (ref)				
Model	SFO	FOMC	DFOP	HS
Visual Fit	Acceptable	Good	Good	Good
Residuals (visual)	Poor	Acceptable	Acceptable	Acceptable
χ2 error (%)	11.3	3.70	3.17	3.67
Initial value: estimate / (range) / standard error	Pini: 94.0 (87.3 – 100.7) σ: 3.65	Pini: 100.6 (97.7 – 103.5) σ: 1.57	Pini: 101.1 (98.4 – 103.8) σ: 1.42	Pini: 100.6 (97.6 – 103.6) σ: 1.58
Rate Parameters: estimate / standard error / probability (trigger:0.05)	kP: 0.1110 σ: 0.0140 p = 1.16E-05	α: 1.12 σ: 0.1274 CI excludes 0	k1: 0.4125 σ: 0.0665 p = 2.23E-04	k1: 0.2094 σ: 0.0173 p =3.05E-06
		β: 4.76 σ: 0.9592 CI excludes 0	k2: 0.0500 σ: 0.0072 p = 1.08E-04	k2: 0.0556 σ: 0.0065 p = 2.91E-05
			g: 0.5273 σ: 0.0582	tb: 4.087 σ: 0.587
DT_{50} (days)	6.2	4.1	3.8	3.3
DT_{90} (days)	20.7	32.5	31.1	30.1
FOCUS decision step		FOMC better than SFO so try DFOP + HS (10% reached in study)	DFOP similar to FOMC + HS, but lowest χ2 error	

Table A 61: Modelling endpoints for cyprodinil (both labels) – total system

Water/sediment (ref)	Phenyl label – River (Morgenroth & Völkel, 1994)	Phenyl label – Pond (Morgenroth & Völkel, 1994)	Pyrimidyl label – River (Morgenroth, 2001)	Pyrimidyl label – Pond (Morgenroth, 2001)
Model	SFO	SFO	SFO[b]	SFO
Visual Fit	Acceptable	Acceptable	Acceptable	Acceptable
Residuals (visual)	Poor	Poor	Poor	Poor
χ2 error (%)	8.78	8.02	6.57	4.45
Initial value:	Pini: 97.14	Pini: 95.58	Pini: 96.5	Pini: 98.5
estimate / (range) / standard error	(90.2 - 104)	(89.3 – 101.9)	(91.6 – 101.5)	(95.2 – 101.8)
	σ: 3.81	σ: 3.48	σ: 2.73	σ: 1.84
Rate Parameters: estimate / standard error / probability (trigger:0.05)	kP: 0.0054	kP: 0.0042	kP: 0.0044	kP: 0.0037
	σ: 9.70E-04	σ: 8.06E-04	σ: 5.88E-04	σ: 3.28E-04
	p = 1.25E-04	p = 1.94E-04	p = 1.15E-05	p = 1.10E-07
DT_{50} (days)	129	165	159	188
DT_{90} (days)	429	547	528	623
Modelling DT_{50} (days)[a]	129	165	159	188
Adjusted for 20C and pF2 (days)	--	--	--	--
FOCUS decision step	SFO provides acceptable fit and represents general degradation behaviour	SFO provides acceptable fit and represents general degradation behaviour	SFO provides acceptable fit and represents general degradation behaviour	SFO provides acceptable fit and represents general degradation behaviour

[a] DT_{50} if SFO, biphasic DT_{90}/3.32 if 10% reached during study, otherwise ln(2)/k2
[b] measurement at DAT112 omitted as analytical outlier

Table A 62: Modelling Endpoints for cyprodinil (phenyl) – water column

Water/sediment (ref)	**Phenyl label – River (Morgenroth & Völkel, 1994)**		**Phenyl label – Pond (Morgenroth & Völkel, 1994)**	
Parent Model	SFO	FOMC	SFO	DFOP
Visual Fit	Acceptable	Good	Poor	Good
Residuals (visual)	Poor	Acceptable	Poor	Good
χ2 error (%)	11.2	4.2	11.6	1.19
Initial value: estimate / (range) / standard error	Pini: 97.94 (92.1 – 103.8) σ: 3.25	Pini: 102.2 (99.6 – 104.8) σ: 1.44	Pini: 93.53 (85.9 – 101.1) σ: 4.08	Pini: 101.9 (100.7 - 103) σ: 0.60
Rate Parameters: estimate / standard error / probability (trigger:0.05)	kP: 0.2561 σ: 0.029 p = 2.91E-06	α: 1.509 σ: 0.1857 CI excludes 0	kP: 0.1181 σ: 0.0169 p = 5.65E-05	k1: 0.5216 σ: 0.0347 p = 2.73E-06
		β: 3.773 σ: 0.7041 CI excludes 0		k2: 0.0576 σ: 0.0029 p = 5.51E-07
				g: 0.4931 σ: 0.0220
DT_{50} (days)	2.7	2.2	5.9	3.4
DT_{90} (days)	9.0	13.6	19.5	28.2
Modelling DT_{50} (days)[a]	2.7	4.1		8.5
Adjusted for 20C and pF2 (days)	--	--	--	--
FOCUS decision step	Acceptable fit around DT_{50}, systematic deviations at later data points, try all biphasics as 10% reached in study	FOMC best of biphasics; select FOMC	Acceptable fit around DT_{50}, systematic deviations at later data points, try all biphasics as 10% reached in study	DFOP best of biphasics; select DFOP

[a] DT_{90}/3.32 if 10% reached during study, otherwise ln(2)/k2

Table A 63: Modelling Endpoints for cyprodinil (pyrimidyl label) – water column

Water/sediment (ref)	**Pyrimidyl label – River (Morgenroth, 2001)**		**Pyrimidyl label – Pond (Morgenroth, 2001)**	
Parent Model	SFO	FOMC	SFO	DFOP
Visual Fit	Poor	Good	Poor	Good
Residuals (visual)	Poor	Acceptable	Poor	Acceptable
$\chi 2$ error (%)	15.60	6.69	11.30	3.17
Initial value: estimate / (range) / standard error	Pini: 99.7 (92.0 – 107.5) σ: 4.33	Pini: 104.7 (100.8 – 108.7) σ: 2.19	Pini: 94.0 (87.3 – 100.7) σ: 3.65	Pini: 101.1 (98.4 – 103.8) σ: 1.42
Rate Parameters: estimate / standard error / probability (trigger:0.05)	kP: 0.3142 σ: 0.0463 p = 1.51E-05	α: 1.129 σ: 0.152 CI excludes 0	kP: 0.1110 σ: 0.0140 p = 1.16E-05	k1: 0.4125 σ: 0.0665 p = 2.23E-04
		β: 2.097 σ: 0.4815 CI excludes 0		k2: 0.0500 σ: 0.0072 p = 1.08E-04
				g: 0.5273 σ: 0.0582
DT_{50} (days)	2.2	1.8		3.8
DT_{90} (days)	7.3	14.0		31.1
Modelling DT_{50} (days)[a]	2.2	4.2		9.4
Adjusted for 20C and pF2 (days)	--	--	--	--
FOCUS decision step	Acceptable fit around DT_{50}, systematic deviations at later data points, try all biphasics as 10% reached in study	FOMC best of biphasics; select FOMC	Acceptable fit around DT_{50}, systematic deviations at later data points, try all biphasics as 10% reached in study	DFOP best of biphasics; select DFOP

[a] DT_{90}/3.32 if 10% reached during study, otherwise ln(2)/k2

Partsch, S., 2015

Prothioconazole

XXXX is not the notifier of the active substance at European level. The notifier is Bayer Crop Science and appropriate letter of access is included in this submission. No study summaries, neither study report is available to XXXX. Relied on data can be submitted upon request to the competent authority.

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

A 3.1 KCP 9.1.3: Cyprodinil - PEC_S following application to cereals

Simulation of $PEC_{S,ini}$, short-term and long-term PEC_S values as well as $PEC_{S,plateau}$ and $PEC_{S,accumulation}$ were carried out using the too ESCAPE (v. 2.0).

Cyprodinil metabolites were applied using pseudo parent applications using molecular weight correction and formation fraction.

ESCAPE output files for cyprodinil and its metabolites CGA249287, CGA321915 and CGA275535 are presented below.

Cyprodinil, 1 x 450 g a.s./ha at 5 cm depth (with tillage)

E S C A P E
Estimation of Soil Concentrations After PEsticide Applications

developed by Michael Klein

Program version:	2.0 (26 November 2019)
Date of this simulation:	24/01/2022, 17:01:37
Calculation problem:	Programcheck

PROGRAM SETTINGS

Calculation mode:	Residues from different applications are considered separately over one year
Application mode:	Single annual application pattern (calculation period 1 year)

SCENARIO DATA USED IN THE CALCULATION

Name of the scenario:	new application pattern2
Name of the soil:	Borstel
Soil density (kg/L):	1.5
Soil depth (cm):	5
Tillage depth (cm)*:	20
Organic carbon content (%):	1.5
Field capacity (Vol%):	29.2
Wilting point (Vol%):	6.4
Climatic conditions:	20 °C constant

(* for calculation of background concentrations)

APPLICATION PATTERN USED IN THE CALCULATION

Crop rotation:	every year
Application date:	1 May
Application rate (g/ha):	90
Crop interception (%):	0

COMPOUNDS CONSIDERED IN THE CALCULATION

Metabolism scheme: Parent compound without metabolites

DEGRADATION KINETICS PARAMETERS CONSIDERED FOR THE CALCULATION

Soil study:	soil study 1
Metabolism scheme:	Parent compound without metabolites
Kinetics for Programcheck:	Single First order (SFO)
DT50 (d):	1000
Rate constant (1/d):	0.0007
Q10-factor:	2.58
Walker-exponent:	0.7
Ref. temperature (°C):	20

RESULTS OF THE CALCULATION

Metabolism scheme: Parent compound without metabolites

RESULTS FOR: Programcheck

Calculations over one year

Maximum annual total soil concentration for Programcheck over 5 cm(mg/kg): 0.1200
occurring on day 0

Calculated time dependent total soil concentrations over 5 cm for Programcheck after one year (mg/kg)

Time(d)	PECact*	PECtwa	Begin TWAframe(d)	End TWAframe(d)
1	0.1199	0.1200	0	1
2	0.1198	0.1199	0	2

4	0.1197	0.1198	0	4
7	0.1194	0.1197	0	7
14	0.1188	0.1194	0	14
21	0.1183	0.1191	0	21
28	0.1177	0.1188	0	28
42	0.1166	0.1183	0	42
50	0.1159	0.1179	0	50
100	0.1120	0.1159	0	100

(* PECact values are related to the time after the first application)

Calculation of background concentrations after many years

Final Background concentration in total soil for Programcheck over 20 cm(mg/kg): 0.1042**

(** according to the estimation 90% of the final plateau was reached after 10 years without crop rotation)

Reduction factor to account for crop rotation: 1

Final Background concentration in total soil including crop rotation(mg/kg): 0.1042

Calculations of concentrations considering accumulation after many years of application

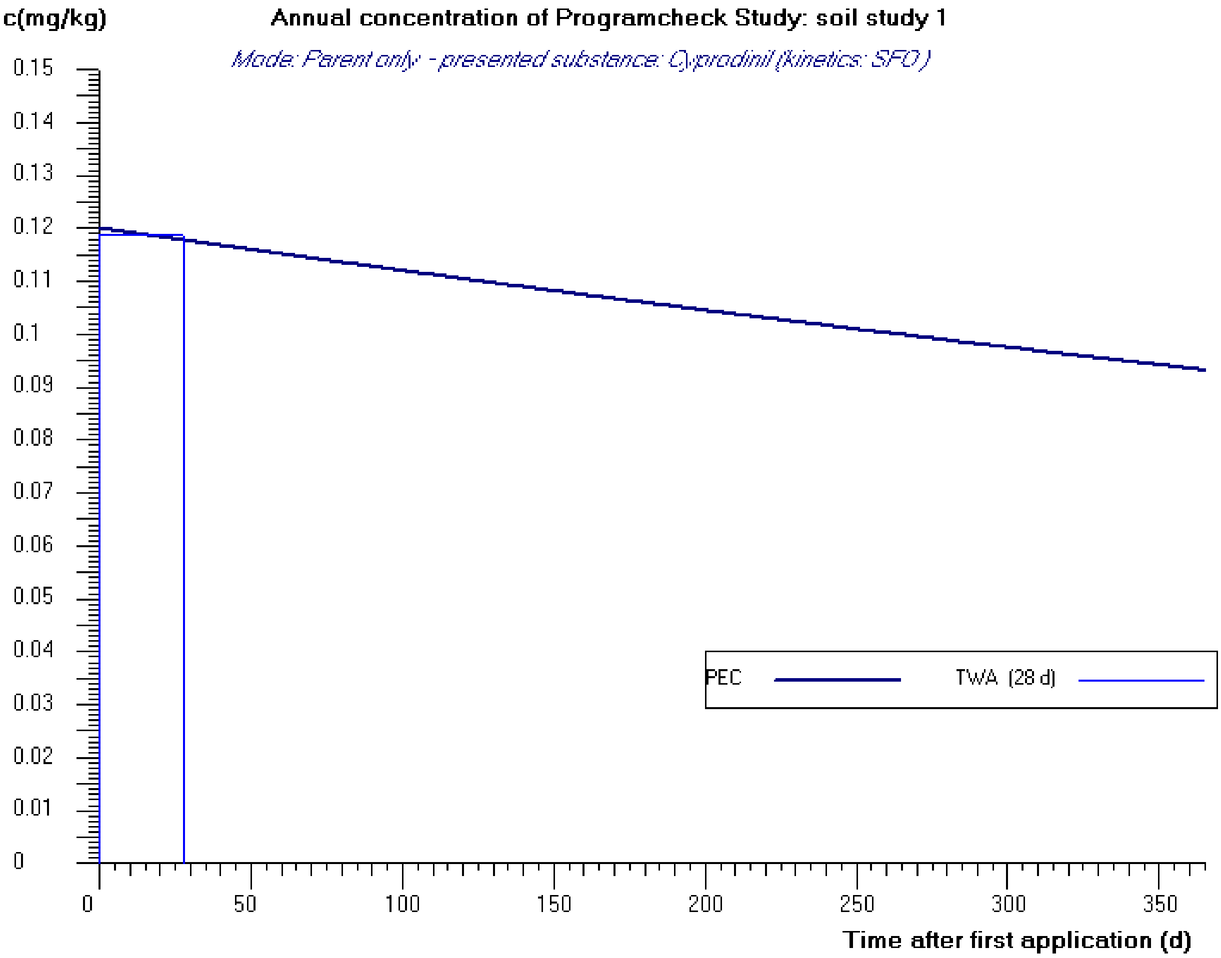
Maximum total soil concentration for Programcheck over 5 cm considering accumulation* (mg/kg) 0.2242
(* a tillage depth of 20 cm was considered for calculating the background concentration)

Calculated time dependent total soil concentrations over 5 cm for Programcheck(mg/kg) considering accumulation*

Time(d)	PECact**	PECtwa	Begin TWAframe(d)	End TWAframe(d)
1	0.2241	0.2242	0	1
2	0.2240	0.2241	0	2
4	0.2239	0.2240	0	4
7	0.2236	0.2239	0	7
14	0.2231	0.2236	0	14
21	0.2225	0.2233	0	21
28	0.2219	0.2231	0	28
42	0.2208	0.2225	0	42
50	0.2201	0.2222	0	50
100	0.2162	0.2201	0	100

(* a tillage depth of 20 cm was considered for calculating the background concentration)
(** PECact values are related to the time after the first application)

GRAPHIC REPRESENTATION OF THE CALCULATION



CGA249287, 1 x 11.4 g a.s./ha [a] at 5 cm depth (with tillage)

[a] pseudo application rate calculated as follows:

- MW correction * parent application rate (corrected for crop interception (80%) * formation fraction
- ((149.2 / 225.3) * (450 * 0.2)) * 0.192

E S C A P E
Estimation of Soil Concentrations After PEsticide Applications

developed by Michael Klein

Program version: 2.0 (26 November 2019)
Date of this simulation: 24/01/2022, 17:05:32
Calculation problem: Programcheck

PROGRAM SETTINGS

Calculation mode: Residues from different applications are considered separately over one year
Application mode: Single annual application pattern (calculation period 1 year)

SCENARIO DATA USED IN THE CALCULATION

Name of the scenario:	new application pattern2
Name of the soil:	Borstel
Soil density (kg/L):	1.5
Soil depth (cm):	5
Tillage depth (cm)*:	20
Organic carbon content (%):	1.5
Field capacity (Vol%):	29.2
Wilting point (Vol%):	6.4
Climatic conditions:	20 °C constant

(* for calculation of background concentrations)

APPLICATION PATTERN USED IN THE CALCULATION

Crop rotation: every year

Application date:	1 May
Application rate (g/ha):	11.4
Crop interception (%):	0

COMPOUNDS CONSIDERED IN THE CALCULATION

Metabolism scheme: Parent compound without metabolites

DEGRADATION KINETICS PARAMETERS CONSIDERED FOR THE CALCULATION

Soil study: soil study 1

Metabolism scheme: Parent compound without metabolites

Kinetics for Programcheck: Single First order (SFO)
DT50 (d): 1000
Rate constant (1/d): 0.0007
Q10-factor: 2.58
Walker-exponent: 0.7
Ref. temperature (°C): 20

RESULTS OF THE CALCULATION

Metabolism scheme: Parent compound without metabolites

RESULTS FOR: Programcheck

Calculations over one year

Maximum annual total soil concentration for Programcheck over 5 cm(mg/kg): 0.0152
occurring on day 0

Calculated time dependent total soil concentrations over 5 cm for Programcheck after one year (mg/kg)

Time(d)	PECact*	PECtwa	Begin TWAframe(d)	End TWAframe(d)
1	0.0152	0.0152	0	1
2	0.0152	0.0152	0	2
4	0.0152	0.0152	0	4
7	0.0151	0.0152	0	7
14	0.0151	0.0151	0	14
21	0.0150	0.0151	0	21
28	0.0149	0.0151	0	28
42	0.0148	0.0150	0	42
50	0.0147	0.0149	0	50
100	0.0142	0.0147	0	100

(* PECact values are related to the time after the first application)

Calculation of background concentrations after many years

Final Background concentration in total soil for Programcheck over 20 cm(mg/kg): 0.0132**

(** according to the estimation 90% of the final plateau was reached after 10 years without crop rotation)

Reduction factor to account for crop rotation: 1

Final Background concentration in total soil including crop rotation(mg/kg): 0.0132

Calculations of concentrations considering accumulation after many years of application

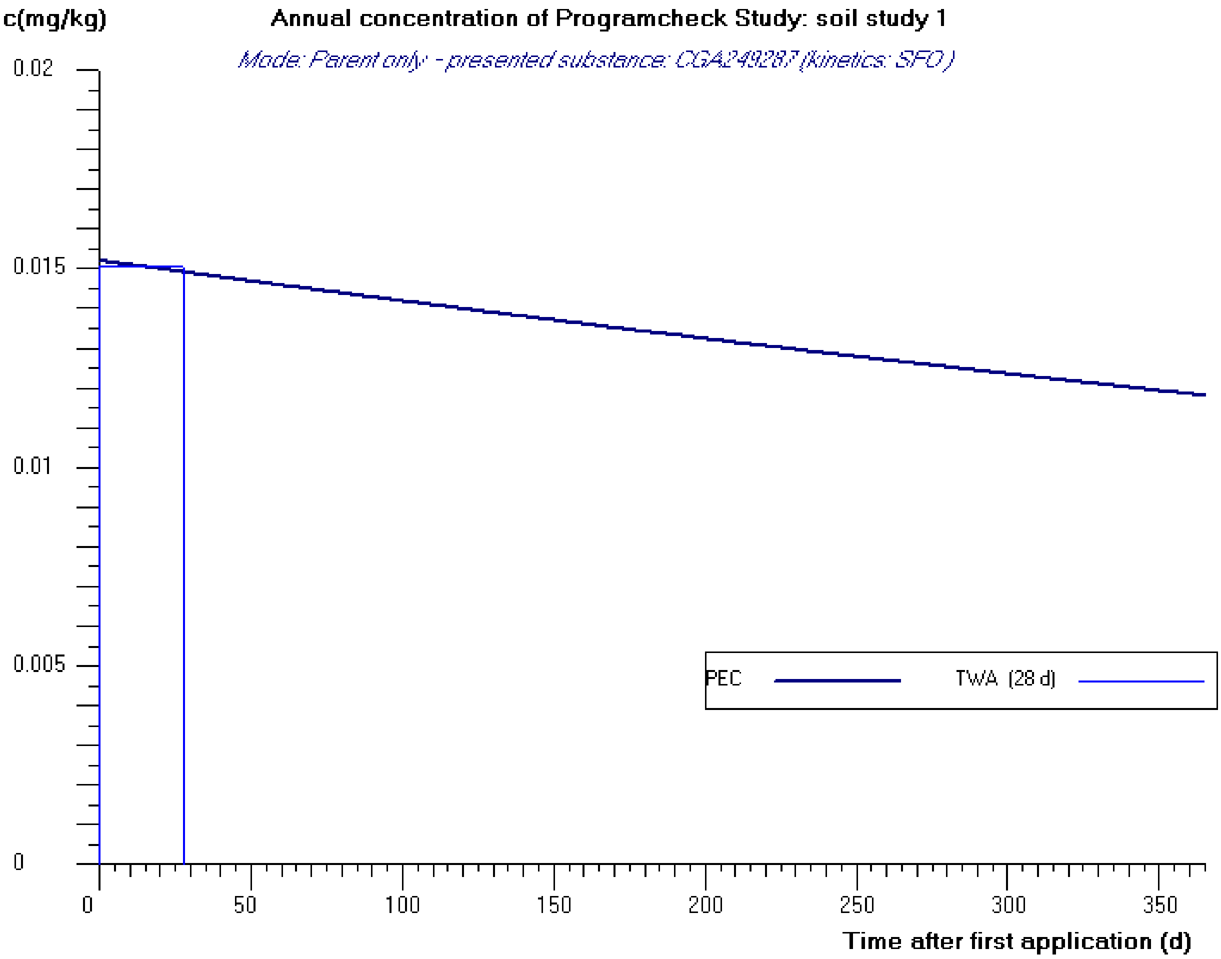
Maximum total soil concentration for Programcheck over 5 cm considering accumulation* (mg/kg) 0.0284
(* a tillage depth of 20 cm was considered for calculating the background concentration)

Calculated time dependent total soil concentrations over 5 cm for Programcheck(mg/kg) considering accumulation*

Time(d)	PECact**	PECtwa	Begin TWAframe(d)	End TWAframe(d)
1	0.0284	0.0284	0	1
2	0.0284	0.0284	0	2
4	0.0284	0.0284	0	4
7	0.0283	0.0284	0	7
14	0.0283	0.0283	0	14
21	0.0282	0.0283	0	21
28	0.0281	0.0283	0	28
42	0.0280	0.0282	0	42
50	0.0279	0.0281	0	50
100	0.0274	0.0279	0	100

(* a tillage depth of 20 cm was considered for calculating the background concentration)
(** PECact values are related to the time after the first application)

GRAPHIC REPRESENTATION OF THE CALCULATION


c(mg/kg)
Annual concentration of Programcheck Study: soil study 1
Mode: Parent only - presented substance: CGA249287 (kinetics: SFO)
0.02
0.015
0.01
0.005
0
0
50
100
150
200
250
300
350
Time after first application (d)
PEC
TWA (28 d)

CGA321915, 1 x 10.3 g a.s./ha [a] at 5 cm depth (with tillage)

[a] pseudo application rate calculated as follows:

- MW correction * parent application rate (corrected for crop interception (80%) * formation fraction
- ((150.2 / 225.3) * (450 * 0.2)) * 0.171 [b]

[b] formation fraction of primary metabolite (CGA249287) from parent (0.890) multiplied by formation fraction of secondary metabolite CGA321915 (0.890)

E S C A P E
Estimation of Soil Concentrations After PEsticide Applications

developed by Michael Klein

Program version:	2.0 (26 November 2019)
Date of this simulation:	24/01/2022, 17:09:29
Calculation problem:	Programcheck

PROGRAM SETTINGS

Calculation mode: Residues from different applications are considered separately over one year
Application mode: Single annual application pattern (calculation period 1 year)

SCENARIO DATA USED IN THE CALCULATION

Name of the scenario:	new application pattern2
Name of the soil:	Borstel
Soil density (kg/L):	1.5
Soil depth (cm):	5
Tillage depth (cm)*:	20
Organic carbon content (%):	1.5
Field capacity (Vol%):	29.2
Wilting point (Vol%):	6.4
Climatic conditions:	20 °C constant

(* for calculation of background concentrations)

APPLICATION PATTERN USED IN THE CALCULATION

Crop rotation:	every year
Application date:	1 May
Application rate (g/ha):	10.3

Crop interception (%): 0

COMPOUNDS CONSIDERED IN THE CALCULATION

Metabolism scheme: Parent compound without metabolites

DEGRADATION KINETICS PARAMETERS CONSIDERED FOR THE CALCULATION

Soil study: soil study 1

Metabolism scheme: Parent compound without metabolites

Kinetics for Programcheck: Single First order (SFO)
DT50 (d): 41.1
Rate constant (1/d): 0.016865
Q10-factor: 2.58
Walker-exponent: 0.7
Ref. temperature (°C): 20

RESULTS OF THE CALCULATION

Metabolism scheme: Parent compound without metabolites

RESULTS FOR: Programcheck

Calculations over one year

Maximum annual total soil concentration for Programcheck over 5 cm(mg/kg): 0.0137
occurring on day 0

Calculated time dependent total soil concentrations over 5 cm for Programcheck after one year (mg/kg)

Time(d)	PECact*	PECtwa	Begin TWAframe(d)	End TWAframe(d)
1	0.0135	0.0136	0	1
2	0.0133	0.0135	0	2
4	0.0128	0.0133	0	4
7	0.0122	0.0130	0	7
14	0.0109	0.0122	0	14
21	0.0096	0.0116	0	21
28	0.0086	0.0110	0	28
42	0.0068	0.0098	0	42
50	0.0059	0.0093	0	50
100	0.0026	0.0066	0	100

(* PECact values are related to the time after the first application)

Calculation of background concentrations after many years

Final Background concentration in total soil for Programcheck over 20 cm(mg/kg): <0.0001**

(** according to the estimation 100% of the final plateau was reached after 10 years without crop rotation)

Reduction factor to account for crop rotation: 1

Final Background concentration in total soil including crop rotation(mg/kg): <0.0001

Calculations of concentrations considering accumulation after many years of application

Maximum total soil concentration for Programcheck over 5 cm considering accumulation* (mg/kg) 0.0137

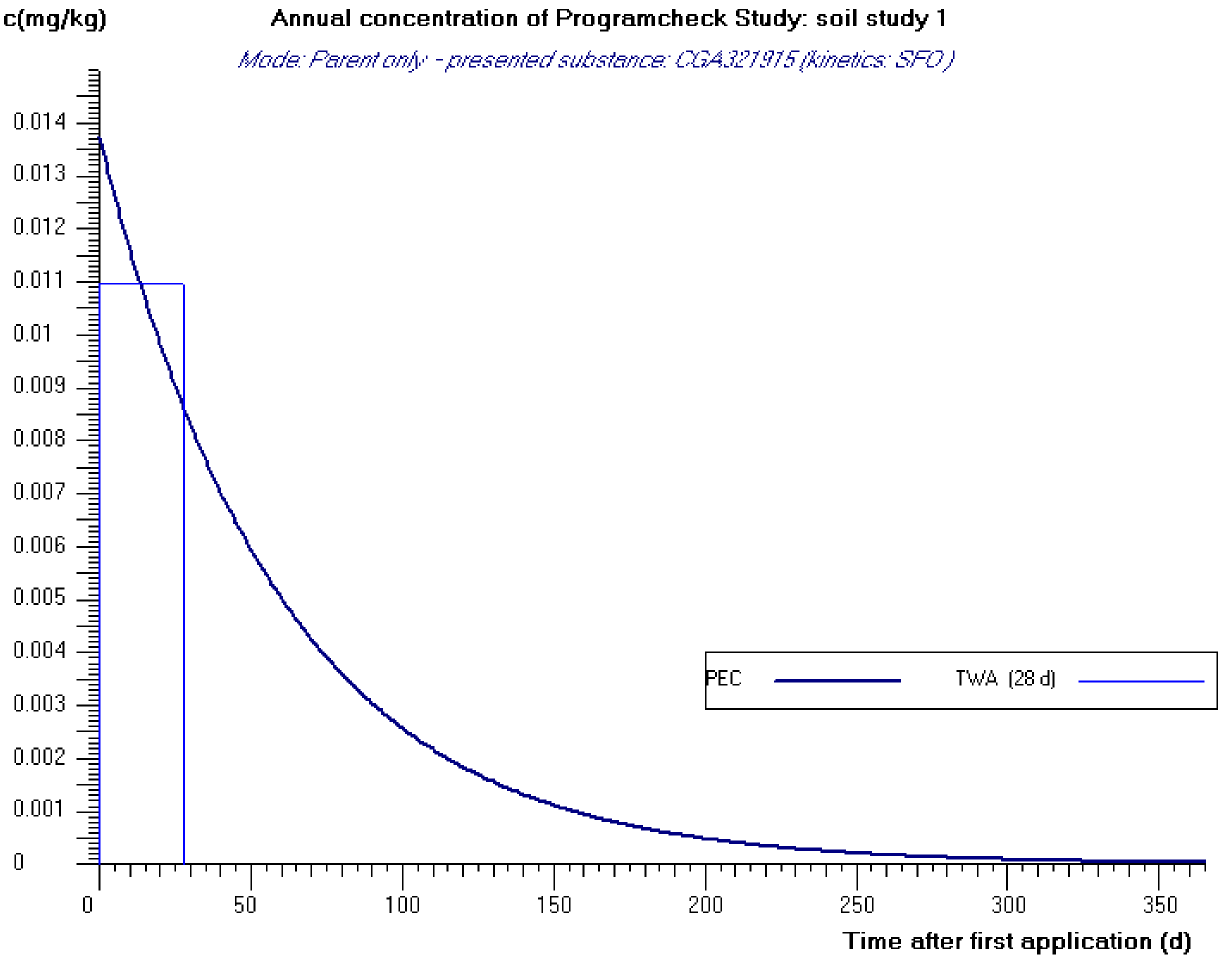
(* a tillage depth of 20 cm was considered for calculating the background concentration)

Calculated time dependent total soil concentrations over 5 cm for Programcheck(mg/kg) considering accumulation*

Time(d)	PECact**	PECtwa	Begin TWAframe(d)	End TWAframe(d)
1	0.0135	0.0136	0	1
2	0.0133	0.0135	0	2
4	0.0129	0.0133	0	4
7	0.0122	0.0130	0	7
14	0.0109	0.0123	0	14
21	0.0096	0.0116	0	21
28	0.0086	0.0110	0	28
42	0.0068	0.0098	0	42
50	0.0059	0.0093	0	50
100	0.0026	0.0066	0	100

(* a tillage depth of 20 cm was considered for calculating the background concentration)
(** PECact values are related to the time after the first application)

GRAPHIC REPRESENTATION OF THE CALCULATION


c(mg/kg)
Annual concentration of Programcheck Study: soil study 1
Mode: Parent only - presented substance: CGA321915 (kinetics: SFO)
0.014
0.013
0.012
0.011
0.01
0.009
0.008
0.007
0.006
0.005
0.004
0.003
0.002
0.001
0
PEC
TWA (28 d)
0
50
100
150
200
250
300
350
Time after first application (d)

CGA275535, 1 x 96.4 g a.s./ha [a] at 5 cm depth (with tillage)

[a] pseudo application rate calculated as follows:

- MW correction * parent application rate (corrected for crop interception (80%) * formation fraction
- ((241.3 / 225.3) * (450 * 0.2)) * 1.0

E S C A P E
Estimation of Soil Concentrations After PEsticide Applications

developed by Michael Klein

Program version: 2.0 (26 November 2019)
Date of this simulation: 24/01/2022, 17:11:42
Calculation problem: Programcheck

PROGRAM SETTINGS

Calculation mode: Residues from different applications are considered separately over one year
Application mode: Single annual application pattern (calculation period 1 year)

SCENARIO DATA USED IN THE CALCULATION

Name of the scenario:	new application pattern2
Name of the soil:	Borstel
Soil density (kg/L):	1.5
Soil depth (cm):	5
Tillage depth (cm)*:	20
Organic carbon content (%):	1.5
Field capacity (Vol%):	29.2
Wilting point (Vol%):	6.4
Climatic conditions:	20 °C constant

(* for calculation of background concentrations)

APPLICATION PATTERN USED IN THE CALCULATION

Crop rotation: every year

Application date:	1 May
Application rate (g/ha):	96.4
Crop interception (%):	0

COMPOUNDS CONSIDERED IN THE CALCULATION

Metabolism scheme: Parent compound without metabolites

DEGRADATION KINETICS PARAMETERS CONSIDERED FOR THE CALCULATION

Soil study: soil study 1

Metabolism scheme: Parent compound without metabolites

Kinetics for Programcheck: Single First order (SFO)
DT50 (d): 1.75
Rate constant (1/d): 0.3961
Q10-factor: 2.58
Walker-exponent: 0.7
Ref. temperature (°C): 20

RESULTS OF THE CALCULATION

Metabolism scheme: Parent compound without metabolites

RESULTS FOR: Programcheck

Calculations over one year

Maximum annual total soil concentration for Programcheck over 5 cm(mg/kg): 0.1285
occurring on day 0

Calculated time dependent total soil concentrations over 5 cm for Programcheck after one year (mg/kg)

Time(d)	PECact*	PECtwa	Begin TWAframe(d)	End TWAframe(d)
1	0.0865	0.1075	0	1
2	0.0582	0.0899	0	2
4	0.0264	0.0653	0	4
7	0.0080	0.0440	0	7
14	0.0005	0.0234	0	14
21	<0.0001	0.0157	0	21
28	<0.0001	0.0117	0	28
42	<0.0001	0.0078	0	42
50	<0.0001	0.0066	0	50
100	<0.0001	0.0033	0	100

(* PECact values are related to the time after the first application)

Calculation of background concentrations after many years

Final Background concentration in total soil for Programcheck over 20 cm(mg/kg): <0.0001**

(** according to the estimation 100% of the final plateau was reached after 10 years without crop rotation)

Reduction factor to account for crop rotation: 1

Final Background concentration in total soil including crop rotation(mg/kg): <0.0001

Calculations of concentrations considering accumulation after many years of application

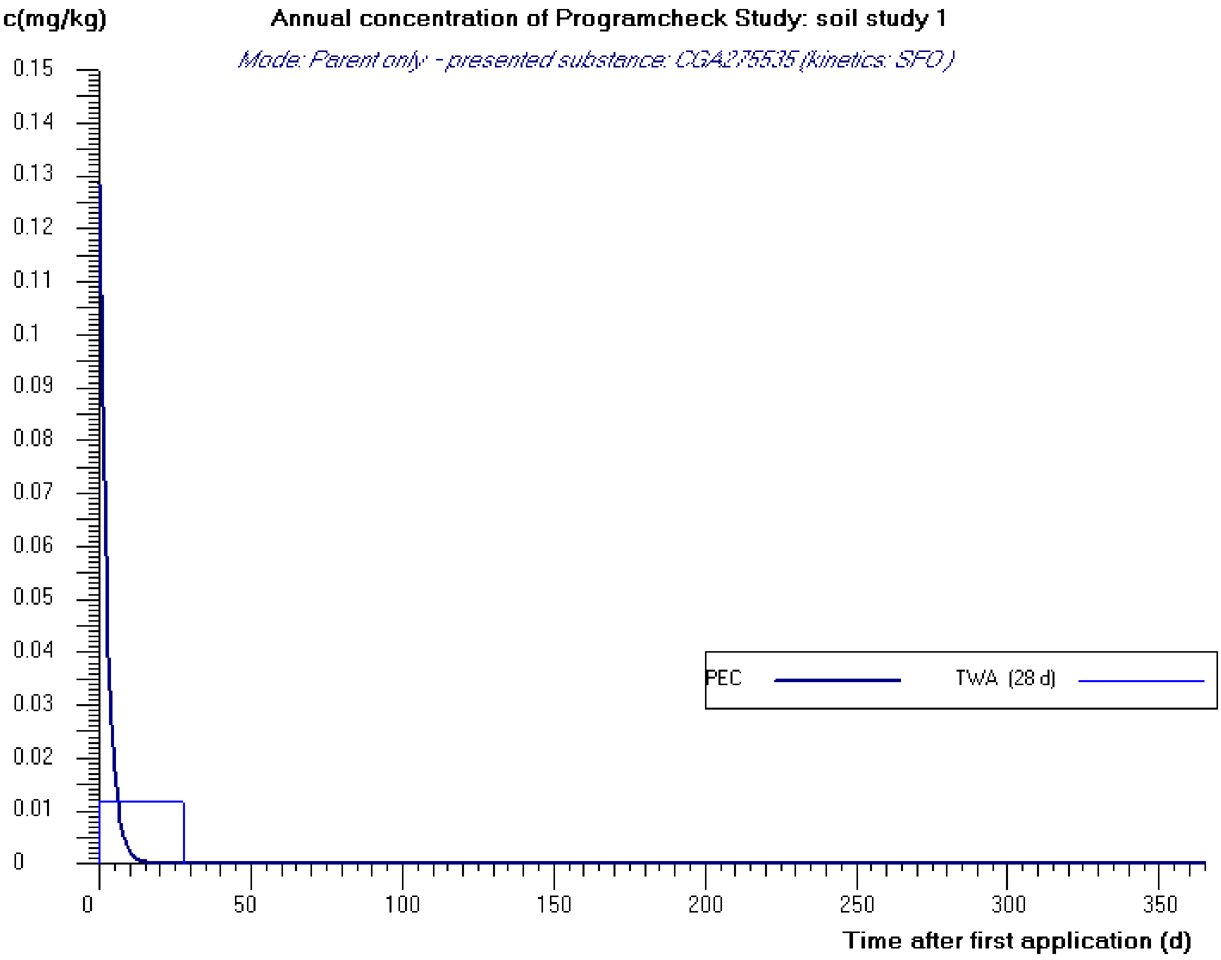
Maximum total soil concentration for Programcheck over 5 cm considering accumulation* (mg/kg) 0.1285
(* a tillage depth of 20 cm was considered for calculating the background concentration)

Calculated time dependent total soil concentrations over 5 cm for Programcheck(mg/kg) considering accumulation*

Time(d)	PECact**	PECtwa	Begin TWAframe(d)	End TWAframe(d)
1	0.0865	0.1075	0	1
2	0.0582	0.0899	0	2
4	0.0264	0.0653	0	4
7	0.0080	0.0440	0	7
14	0.0005	0.0234	0	14
21	<0.0001	0.0157	0	21
28	<0.0001	0.0117	0	28
42	<0.0001	0.0078	0	42
50	<0.0001	0.0066	0	50
100	<0.0001	0.0033	0	100

(* a tillage depth of 20 cm was considered for calculating the background concentration)
(** PECact values are related to the time after the first application)

GRAPHIC REPRESENTATION OF THE CALCULATION


c(mg/kg)
Annual concentration of Programcheck Study: soil study 1
Mode: Parent only - presented substance: CGA275535 (kinetics: SFO)
0.15
0.14
0.13
0.12
0.11
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
PEC
TWA (28 d)
0
50
100
150
200
250
300
350
Time after first application (d)

A 3.2 KCP 9.1.3: Prothioconazole - PEC_S following application to cereals

Simulation of $PEC_{S,ini}$, short-term and long-term PEC_S values as well as $PEC_{S,plateau}$ and $PEC_{S,accumulation}$ were carried out using the too ESCAPE (v. 2.0).

Prothioconazole metabolites were applied using pseudo parent applications using molecular weight correction and formation fraction.

ESCAPE output files for prothioconazole and its metabolites JAU 6476-S-methyl and JAU 6476-desthio are presented below.

Prothioconazole, 1 x 150 g a.s./ha at 5 cm depth (with tillage)

E S C A P E
Estimation of Soil Concentrations After PEsticide Applications

developed by Michael Klein

Program version: 2.0 (26 November 2019)
Date of this simulation: 06/01/2022, 15:24:20
Calculation problem: Programcheck

PROGRAM SETTINGS

Calculation mode: Residues from different applications are considered separately over one year
Application mode: Single annual application pattern (calculation period 1 year)

SCENARIO DATA USED IN THE CALCULATION

Name of the scenario:	Programcheck
Name of the soil:	Borstel
Soil density (kg/L):	1.5
Soil depth (cm):	5
Tillage depth (cm)*:	20
Organic carbon content (%):	1.5
Field capacity (Vol%):	29.2
Wilting point (Vol%):	6.4

Climatic conditions: 20 °C constant
(* for calculation of background concentrations)

APPLICATION PATTERN USED IN THE CALCULATION

Crop rotation: every year

Application date: 1 Sep
Application rate (g/ha): 150
Crop interception (%): 80

COMPOUNDS CONSIDERED IN THE CALCULATION

Metabolism scheme: Parent compound without metabolites

DEGRADATION KINETICS PARAMETERS CONSIDERED FOR THE CALCULATION

Soil study: soil study 1

Metabolism scheme: Parent compound without metabolites

Kinetics for Programcheck: Single First order (SFO)
DT50 (d): 2.8
Rate constant (1/d): 0.2476
Q10-factor: 2.58
Walker-exponent: 0.7
Ref. temperature (°C): 20

RESULTS OF THE CALCULATION

Metabolism scheme: Parent compound without metabolites

RESULTS FOR: Programcheck

Calculations over one year

Maximum annual total soil concentration for Programcheck over 5 cm(mg/kg): 0.0400
occurring on day 0

Calculated time dependent total soil concentrations over 5 cm for Programcheck after one year (mg/kg)

Time(d)	PECact*	PECtwa	Begin TWAframe(d)	End TWAframe(d)
1	0.0312	0.0356	0	1
2	0.0244	0.0317	0	2
4	0.0149	0.0255	0	4
7	0.0071	0.0191	0	7
14	0.0012	0.0112	0	14
21	0.0002	0.0077	0	21
28	<0.0001	0.0058	0	28

42	<0.0001	0.0039	0	42
50	<0.0001	0.0032	0	50
100	<0.0001	0.0016	0	100

(* PECact values are related to the time after the first application)

Calculation of background concentrations after many years

Final Background concentration in total soil for Programcheck over 20 cm(mg/kg): <0.0001**

(** according to the estimation 100% of the final plateau was reached after 10 years without crop rotation)

Reduction factor to account for crop rotation: 1

Final Background concentration in total soil including crop rotation(mg/kg): <0.0001

Calculations of concentrations considering accumulation after many years of application

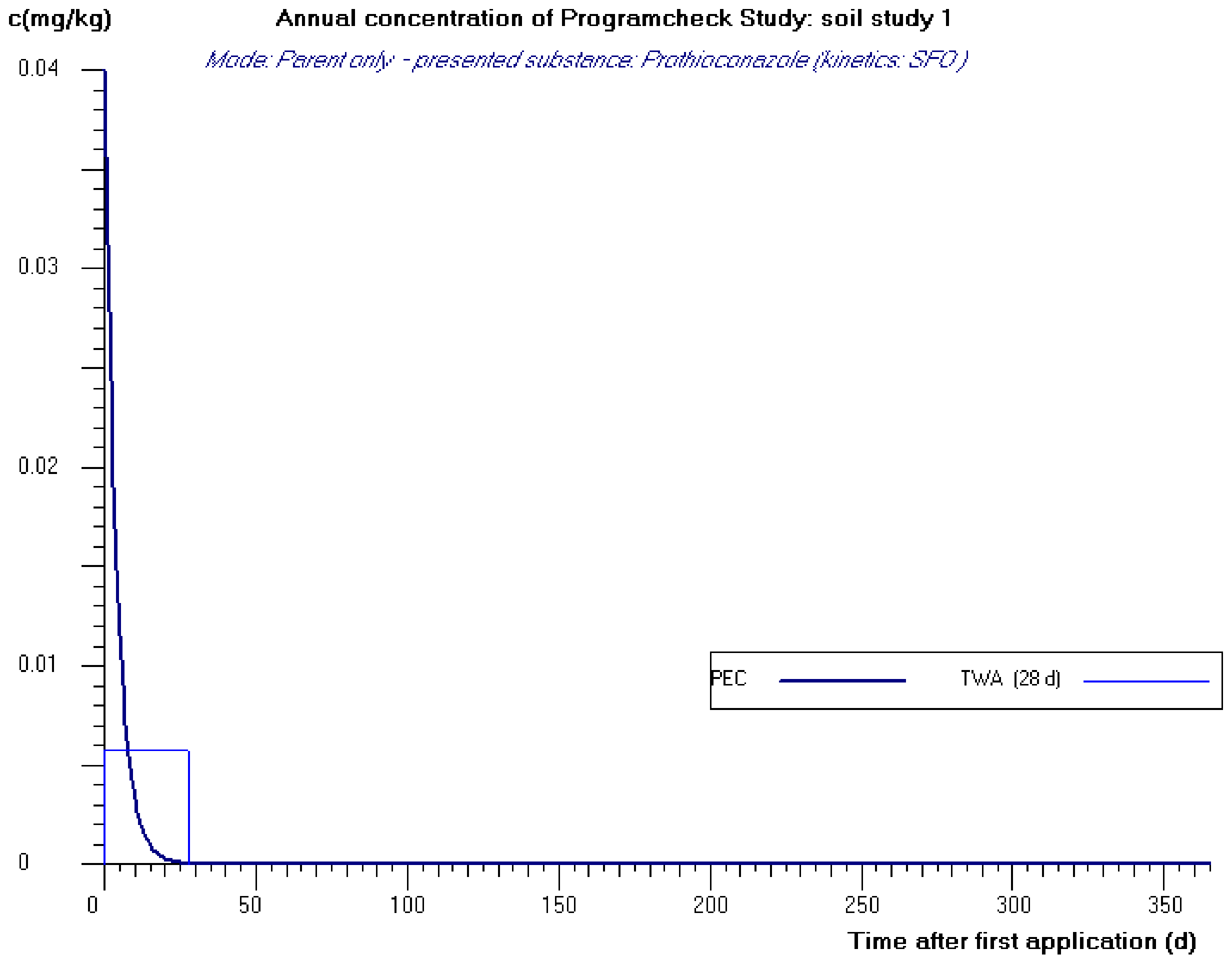
Maximum total soil concentration for Programcheck over 5 cm considering accumulation* (mg/kg) 0.0400
(* a tillage depth of 20 cm was considered for calculating the background concentration)

Calculated time dependent total soil concentrations over 5 cm for Programcheck(mg/kg) considering accumulation*

Time(d)	PECact**	PECtwa	Begin TWAframe(d)	End TWAframe(d)
1	0.0312	0.0356	0	1
2	0.0244	0.0317	0	2
4	0.0149	0.0255	0	4
7	0.0071	0.0191	0	7
14	0.0012	0.0112	0	14
21	0.0002	0.0077	0	21
28	<0.0001	0.0058	0	28
42	<0.0001	0.0039	0	42
50	<0.0001	0.0032	0	50
100	<0.0001	0.0016	0	100

(* a tillage depth of 20 cm was considered for calculating the background concentration)
(** PECact values are related to the time after the first application)

GRAPHIC REPRESENTATION OF THE CALCULATION


c(mg/kg)
Annual concentration of Programcheck Study: soil study 1
Mode: Parent only - presented substance: Prothioconazole (kinetics: SFO)
0.04
0.03
0.02
0.01
0
0
50
100
150
200
250
300
350
Time after first application (d)
PEC
TWA (28 d)

JAU 6476-S-methyl, 1 x 21.9 g a.s./ha [a] at 5 cm depth (with tillage)

[a] pseudo application rate calculated as follows:

- MW correction * parent application rate * formation fraction
- ((358.3 / 344.26) * 150) * 0.14

E S C A P E
Estimation of Soil Concentrations After PEsticide Applications

developed by Michael Klein

Program version: 2.0 (26 November 2019)
Date of this simulation: 06/01/2022, 15:17:20
Calculation problem: Programcheck

PROGRAM SETTINGS

Calculation mode: Residues from different applications are considered separately over one year
Application mode: Single annual application pattern (calculation period 1 year)

SCENARIO DATA USED IN THE CALCULATION

Name of the scenario:	Programcheck
Name of the soil:	Borstel
Soil density (kg/L):	1.5
Soil depth (cm):	5
Tillage depth (cm)*:	20
Organic carbon content (%):	1.5
Field capacity (Vol%):	29.2
Wilting point (Vol%):	6.4
Climatic conditions:	20 °C constant

(* for calculation of background concentrations)

APPLICATION PATTERN USED IN THE CALCULATION

Crop rotation: every year

Application date:	1 Sep
Application rate (g/ha):	21.9
Crop interception (%):	80

COMPOUNDS CONSIDERED IN THE CALCULATION

Metabolism scheme: Parent compound without metabolites

DEGRADATION KINETICS PARAMETERS CONSIDERED FOR THE CALCULATION

Soil study: soil study 1

Metabolism scheme: Parent compound without metabolites

Kinetics for Programcheck:	Single First order (SFO)
DT50 (d):	46
Rate constant (1/d):	0.0151
Q10-factor:	2.58
Walker-exponent:	0.7
Ref. temperature (°C):	20

RESULTS OF THE CALCULATION

Metabolism scheme: Parent compound without metabolites

RESULTS FOR: Programcheck

Calculations over one year

Maximum annual total soil concentration for Programcheck over 5 cm(mg/kg): 0.0058
occurring on day 0

Calculated time dependent total soil concentrations over 5 cm for Programcheck after one year (mg/kg)

Time(d)	PECact*	PECtwa	Begin TWAframe(d)	End TWAframe(d)
1	0.0058	0.0058	0	1
2	0.0057	0.0058	0	2
4	0.0055	0.0057	0	4
7	0.0053	0.0055	0	7
14	0.0047	0.0053	0	14
21	0.0043	0.0050	0	21
28	0.0038	0.0048	0	28
42	0.0031	0.0043	0	42
50	0.0027	0.0041	0	50
100	0.0013	0.0030	0	100

(* PECact values are related to the time after the first application)

Calculation of background concentrations after many years

Final Background concentration in total soil for Programcheck over 20 cm(mg/kg): <0.0001**

(** according to the estimation 100% of the final plateau was reached after 10 years without crop rotation)

Reduction factor to account for crop rotation: 1

Final Background concentration in total soil including crop rotation(mg/kg): <0.0001

Calculations of concentrations considering accumulation after many years of application

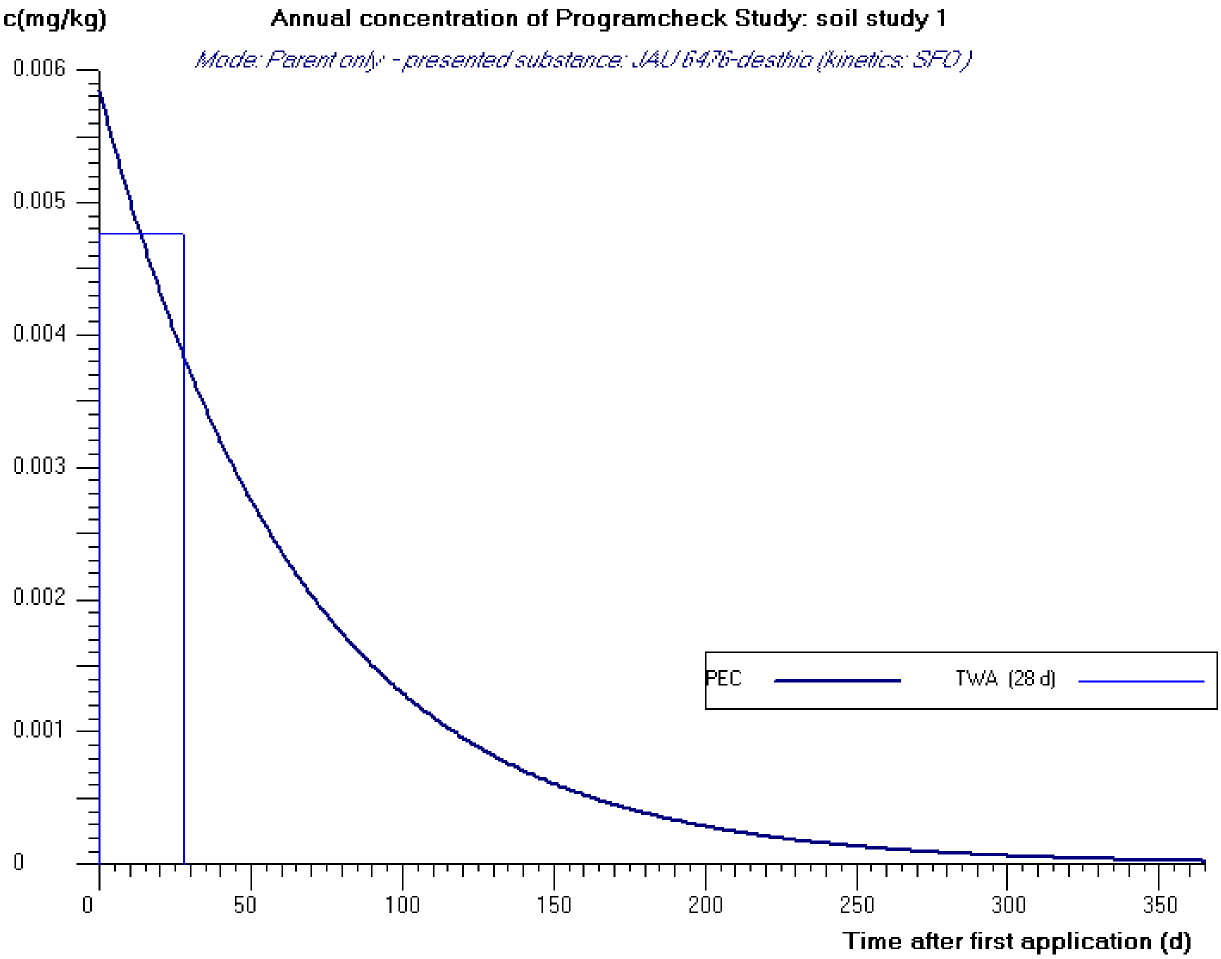
Maximum total soil concentration for Programcheck over 5 cm considering accumulation* (mg/kg) 0.0058
(* a tillage depth of 20 cm was considered for calculating the background concentration)

Calculated time dependent total soil concentrations over 5 cm for Programcheck(mg/kg) considering accumulation*

Time(d)	PECact**	PECtwa	Begin TWAframe(d)	End TWAframe(d)
1	0.0058	0.0058	0	1
2	0.0057	0.0058	0	2
4	0.0055	0.0057	0	4
7	0.0053	0.0055	0	7
14	0.0047	0.0053	0	14
21	0.0043	0.0050	0	21
28	0.0038	0.0048	0	28
42	0.0031	0.0043	0	42
50	0.0028	0.0041	0	50
100	0.0013	0.0030	0	100

(* a tillage depth of 20 cm was considered for calculating the background concentration)
(** PECact values are related to the time after the first application)

GRAPHIC REPRESENTATION OF THE CALCULATION


c(mg/kg)
Annual concentration of Programcheck Study: soil study 1
Mode: Parent only - presented substance: JAU 6476-desthio (kinetics: SFO)
0.006
0.005
0.004
0.003
0.002
0.001
0
0
50
100
150
200
250
300
350
Time after first application (d)
PEC
TWA (28 d)

JAU 6476-desthio, 1 x 100.7 g a.s./ha [a] at 5 cm depth (with tillage)

[a] pseudo application rate calculated as follows:

- (MW correction * parent application rate) * formation fraction
- ((312.2 / 344.26) * 150) * 0.74 [b]

[b] formation fraction of primary metabolite (JAU 6476-S-methyl) from parent (0.14) multiplied by formation fraction of secondary metabolite JAU 6476-desthio (1.0), plus formation of JAU 6476 desthio from parent (0.6)

E S C A P E
Estimation of Soil Concentrations After PEsticide Applications

developed by Michael Klein

Program version: 2.0 (26 November 2019)
Date of this simulation: 06/01/2022, 15:21:52
Calculation problem: Programcheck

PROGRAM SETTINGS

Calculation mode: Residues from different applications are considered separately over one year
Application mode: Single annual application pattern (calculation period 1 year)

SCENARIO DATA USED IN THE CALCULATION

Name of the scenario:	Programcheck
Name of the soil:	Borstel
Soil density (kg/L):	1.5
Soil depth (cm):	5
Tillage depth (cm)*:	20
Organic carbon content (%):	1.5
Field capacity (Vol%):	29.2
Wilting point (Vol%):	6.4

Climatic conditions: 20 °C constant
(* for calculation of background concentrations)

APPLICATION PATTERN USED IN THE CALCULATION

Crop rotation: every year

Application date: 1 Sep
Application rate (g/ha): 100.7

Crop interception (%): 80

COMPOUNDS CONSIDERED IN THE CALCULATION

Metabolism scheme: Parent compound without metabolites

DEGRADATION KINETICS PARAMETERS CONSIDERED FOR THE CALCULATION

Soil study: soil study 1

Metabolism scheme: Parent compound without metabolites

Kinetics for Programcheck: Single First order (SFO)
DT50 (d): 72.3
Rate constant (1/d): 0.0096
Q10-factor: 2.58
Walker-exponent: 0.7
Ref. temperature (°C): 20

RESULTS OF THE CALCULATION

Metabolism scheme: Parent compound without metabolites

RESULTS FOR: Programcheck

Calculations over one year

Maximum annual total soil concentration for Programcheck over 5 cm(mg/kg): 0.0269
occurring on day 0

Calculated time dependent total soil concentrations over 5 cm for Programcheck after one year (mg/kg)

Time(d)	PECact*	PECtwa	Begin TWAframe(d)	End TWAframe(d)
1	0.0266	0.0267	0	1
2	0.0263	0.0266	0	2
4	0.0258	0.0263	0	4
7	0.0251	0.0260	0	7
14	0.0235	0.0251	0	14
21	0.0220	0.0243	0	21
28	0.0205	0.0236	0	28
42	0.0180	0.0221	0	42
50	0.0166	0.0213	0	50
100	0.0103	0.0173	0	100

(* PECact values are related to the time after the first application)

Calculation of background concentrations after many years

Final Background concentration in total soil for Programcheck over 20 cm(mg/kg): 0.0002**

(** according to the estimation 100% of the final plateau was reached after 10 years without crop rotation)

Reduction factor to account for crop rotation: 1

Final Background concentration in total soil including crop rotation(mg/kg): 0.0002

Calculations of concentrations considering accumulation after many years of application

Maximum total soil concentration for Programcheck over 5 cm considering accumulation* (mg/kg) 0.0271

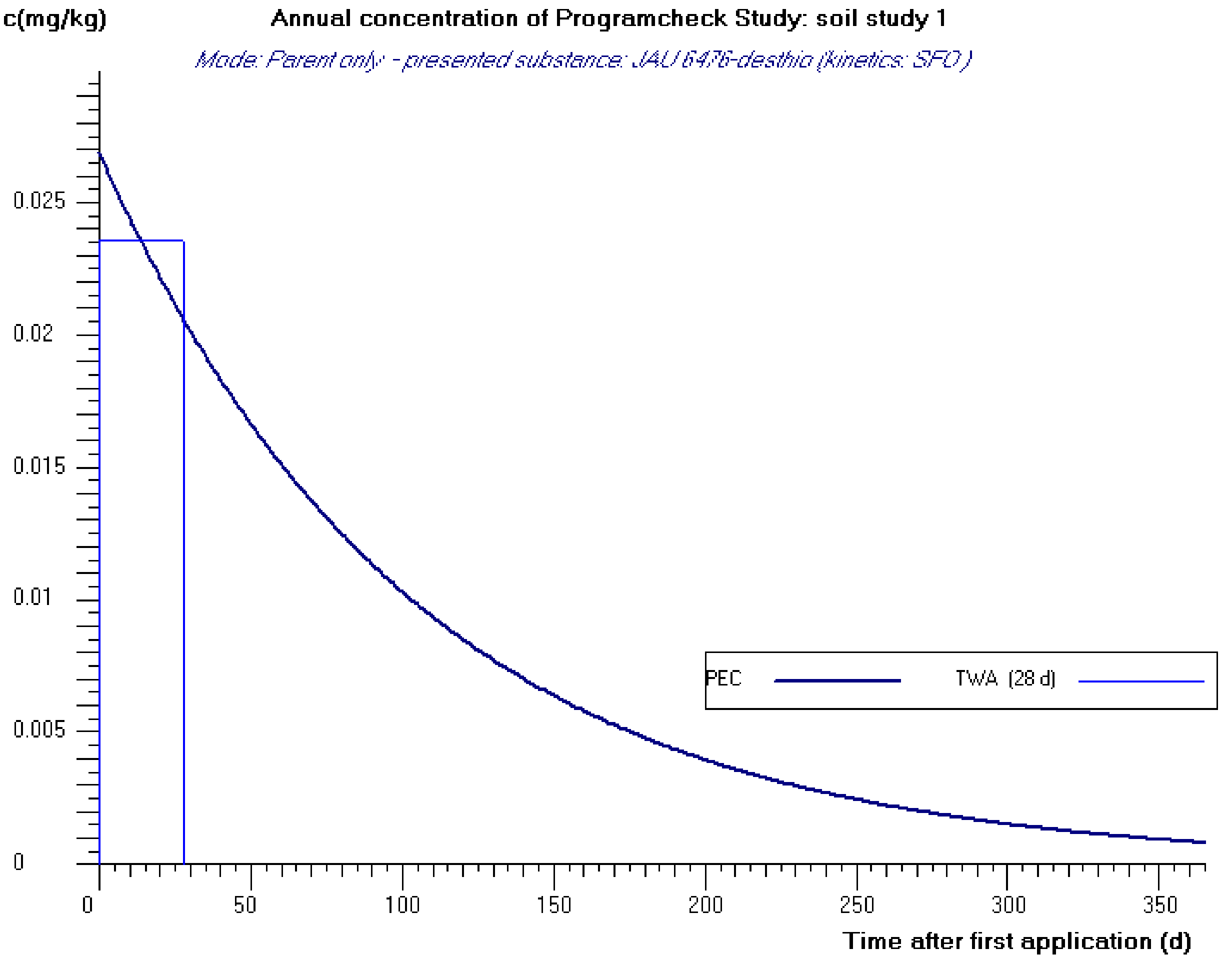
(* a tillage depth of 20 cm was considered for calculating the background concentration)

Calculated time dependent total soil concentrations over 5 cm for Programcheck(mg/kg) considering accumulation*

Time(d)	PECact**	PECtwa	Begin TWAframe(d)	End TWAframe(d)
1	0.0268	0.0269	0	1
2	0.0266	0.0268	0	2
4	0.0261	0.0266	0	4
7	0.0253	0.0262	0	7
14	0.0237	0.0253	0	14
21	0.0222	0.0245	0	21
28	0.0207	0.0238	0	28
42	0.0182	0.0223	0	42
50	0.0168	0.0215	0	50
100	0.0105	0.0175	0	100

(* a tillage depth of 20 cm was considered for calculating the background concentration)
(** PECact values are related to the time after the first application)

GRAPHIC REPRESENTATION OF THE CALCULATION


c(mg/kg)
Annual concentration of Programcheck Study: soil study 1
Mode: Parent only - presented substance: JAU 6476-desthio (kinetics: SFO)
0.025
0.02
0.015
0.01
0.005
0
0
50
100
150
200
250
300
350
Time after first application (d)
PEC
TWA (28 d)

A 3.3 KCP 9.2.4: Anderson, C., 2022, V-943645, Cyprodinil – PEC_{GW} following application to cereals

Comments of zRMS:	The submitted study was accepted. The metabolite CGA32915 was not taken into consideration (in EFSA, 2005, this metabolite was not considered as a soil metabolite). All relevant endpoints were accepted. The models FOCUS PEARL (v5.5.5) and FOCUS PELMO (v6.6.4) were used in the PECgw assessment.

Reference:	KCP 9.2.4
Report	Cyprodinil - A Leaching Assessment for Parent and Metabolites CGA249287, CGA321915 and CGA275535 Using the PEARL 5.5.5 and PELMO 6.6.4 Groundwater Models Following Spray Application to Winter and Spring Cereals in Central Europe, Anderson, C., 2022, Report number: SYN/2022/003, VV-943645
Guideline(s):	EFSA (2014). 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. EFSA Journal, 12(5): 3662. EC (2014). Assessing potential for movement of active substances and their metabolites to groundwater in the EU. Report of the FOCUS Groundwater Work Group, EC Document Reference Sanco/13144/2010 version 3, 613 pp. FOCUS (2000). FOCUS groundwater scenarios in the EU review of active substances. Report of the FOCUS groundwater scenarios workgroup, EC document reference Sanco/321/2000 rev. 2, 202 pp. FOCUS (2014). Generic guidance for Tier 1 FOCUS groundwater assessments, version 2.2 FOCUS groundwater scenarios working group. FOCUS (2014b): Generic Guidance for Estimating Persistence and Degradation Kinetics from Environmental Fate Studies on Pesticides in EU Registration, version 1.1. 440 pp.
Deviations:	No
GLP:	Not applicable
Acceptability:	Yes

A 3.3.1 Materials and Methods

This report describes a FOCUS groundwater modelling study that examined the potential for cyprodinil and its metabolites CGA249287, CGA321915 and CGA275535 to reach groundwater following application to winter and spring cereals. The FOCUS simulation models FOCUS PEARL (v5.5.5) and FOCUS PELMO (v6.6.4) were used in the modelling study.

Single foliar application at a rate of 450 g a.s./ha, at BBCH 30 onwards, and up to BBCH 69 was considered. The input parameters relating to application are shown in Table A 64, below.

Table A 64: Application patterns of cyprodinil to cereals used in modelling

Use No.	1	2	3	4
Crop	Winter cereals		Spring cereals	
Application rate (g a.s./ha)	450			
Number of applications/interval (d)	1 / -			
BBCH growth stage	BBCH 30	BBCH 69	BBCH 30	BBCH 69
Crop interception (%)	80	90	80	90
Frequency of application	Annual			
Models used for calculation	FOCUS PEARL v5.5.5 and FOCUS PELMO v6.6.4			

Applications were considered for the FOCUS scenarios Châteaudun, Hamburg, Jokioinen, Kremsmünster, Okehampton, Piacenza, Porto, Sevilla and Thiva in PEARL and PELMO. Application dates are presented in Table A 65, below. The absolute dates were selected with the tool AppDate (v3.06. Simulations were carried out using the FOCUS standard crop pome fruit in FOCUS PEARL and PELMO. Simulations were carried out over 26 years, as proposed by FOCUS for pesticides that are applied annually. The first 6 years are intended to be a ‘warm up’ period, thus the following 20 years were taken into account for the assessment of the leaching behaviour.

Table A 65: Application dates of cyprodinil to cereals used in modelling

Crop	Scenario	Application dates (absolute)	
		BBCH 30	BBCH69
Use 1 & 2 Winter cereals 1 x 450 g a.s./ha	Châteaudun	15 April (105)	14 June (165)
	Hamburg	04 May (124)	22 June (173)
	Jokioinen	14 May (134)	10 July (191)
	Kremsmünster	24 April (114)	25 June (176)
	Okehampton	21 April (111)	07 June (158)
	Piacenza	19 March (78)	26 May (146)

Crop	Scenario	Application dates (absolute)	
		BBCH 30	BBCH69
	Porto	30 January (30)	18 May (138)
	Sevilla	06 January (6)	28 March (87)
	Thiva	18 January (18)	27 April (117)
Ues 3 & 4 Spring cereals 1 x 450 g a.s./ha	Châteaudun	16 April (106)	22 June (173)
	Hamburg	28 April (118)	28 June (179)
	Jokioinen	05 June (156)	17 July (198)
	Kremsmünster	27 April (117)	28 June (179)
	Okehampton	22 April (112)	18 June (169)
	Porto	16 April (106)	22 June (173)

Values in parentheses are equivalent Julian days.

The input parameters of cyprodinil and its metabolites CGA249287, CGA321915 and CGA275535 used in modelling are shown in Table A 66, below. All other input values were set at the default values unless otherwise stated.

Schematic diagrams of the modelled routes of degradation of cyprodinil in soil with the FOCUS models PEARL and PELMO are shown in Figure A 4 and **Błąd! Nie można odnaleźć źródła odwołania.**. Two pathways have been considered to account for the formation of CGA249287, and subsequently CGA321915, from parent and the second considering the formation of CGA275535 from parent with a formation fraction of 1.0 (i.e. most conservative simulation).

Table A 66: Summary of input parameters for cyprodinil, CGA249287, CGA321915 and CGA275535 for PEC_{GW} calculations

Compound	Cyprodinil	CGA249287	CGA321915	CGA275535	Value in accordance to EU endpoint Reference
Molar mass (g/mol)	225.3	149.2	150.2	241.3	Yes / EFSA, 2005
Water solubility (mg/L @ 25°C):	20	6900	250	20	Yes / EFSA, 2005
Saturated vapour pressure (Pa):	5.1×10^{-4} (25°C)	-	-	-	Yes / EFSA, 2005
DT_{50} in soil (d) lab/field	27.1* (Geomean of lab values (n=4))	48.4* (Geomean of lab studies (n=4))	35.1** (Geomean of lab studies (n=3))	1.0 (Default, listed as <1 day in EFSA)	*Yes / EFSA, 2005 (updated to geomean) **No / Harvey, B., 2016, VV-629897

Compound	**Cyprodinil**	**CGA249287**	**CGA321915**	**CGA275535**	**Value in accordance to EU endpoint Reference**
K_{foc} (mL/g)	1697.7 / 984.7* (Geomean, n=5)	173 / 100.3* (Lowest value from alkaline soils)	133.4 / 77.4** (Geomean, n=5)	1810 / 1049.9 (Only SL-Ca II acceptable and worst case value)	*Yes / EFSA, 2005 (K_{OC} updated to geomean)
1/n	0.84* (Arithmetic mean, n=5)	0.76* (Arithmetic mean, n=5)	0.793** (Arithmetic mean, n=5)	0.84* (Only SL-Ca II acceptable and worst case value)	**No / Ye, M., 1995, VV-634154 K_{fom} = K_{foc} / 1.724
Plant uptake factor	0	0	0	0	Default
Formation fraction	-	0.22 from parent (Arithmetic mean, n=5) *	0.890 from CGA249287 (Arithmetic mean, n=3) **	1.0 from parent (Worst-case default) *	*Yes / EFSA, 2005 **No / Harvey, B., 2016, VV-629897
Transformation rate (PELMO)	0.0056270 to CGA249287 0.0199504 to sink **or;** 0.0255774 to CGA275535	0.0127459 to CGA321915 0.0015753 to sink	0.0197478 to sink	0.6931472 to sink	Calculated: (ln2 / DT_{50}) * ffm
Washoff Factor m^{-1} (PEARL/PELMO)	0.0001	0.0001	0.0001	0.0001	Default
Foliar DT_{50} (days)	10	10	10	10	Default

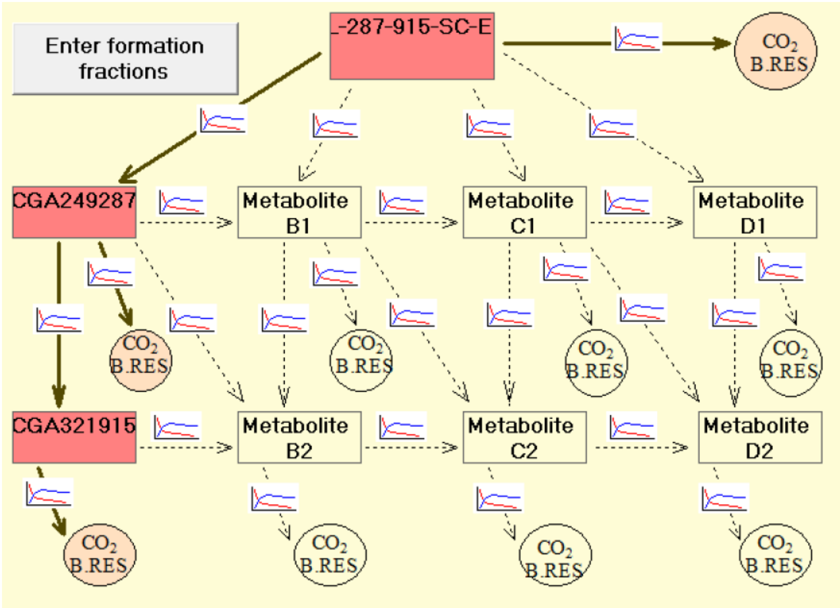


Figure A 4: **Schematic of the modelled route of degradation of cyprodinil and its major soil metabolites CGA249287 and CGA321915 for the FOCUS models PEARL and PELMO**

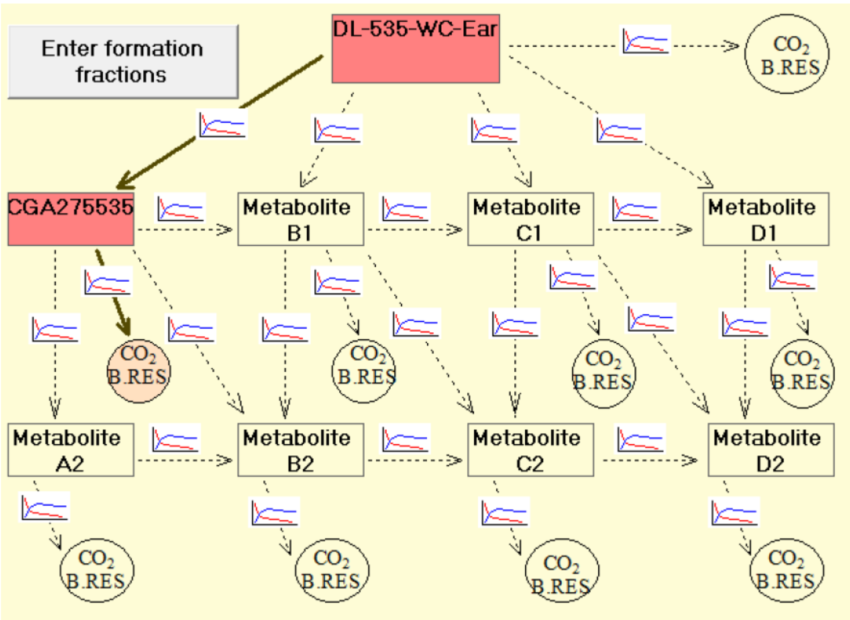


Figure A 5: **Schematic of the modelled route of d**
egradation of cyprodinil and its major soil metabolites CGA275535 for the FOCUS models PEARL and PELMO

A 3.3.2 Results and discussions

Predicted environmental concentrations for cyprodinil and its metabolites CGA249287, CGA321915 and CGA275535 in groundwater (PEC_{GW}) were calculated for the use cyprodinil on winter and spring cereal in Europe in accordance with FOCUS guidelines (FOCUS, 2000, 2014, 2021).

The 80th percentile (at 1 m soil depth) PEC_{GW} values generated by the FOCUS PEARL and FOCUS PELMO simulations are given in Table A 67 to Table A 68.

Table A 67: PEC_{gw} for cyprodinil and its metabolites CGA249287, CGA321915 and CGA275535 in winter and spring cereals (with FOCUS PEARL v5.5.5)

Crop	Scenario	80th Percentile PEC_{gw} at 1 m Soil Depth (µg/L)			
		Cyprodinil	CGA249287	CGA321915	CGA275535
Use 1 Winter cereal 450 g a.s./ha BBCH 30	Châteaudun	<0.001	<0.001	<0.001	<0.001
	Hamburg	<0.001	<0.001	<0.001	<0.001
	Jokioinen	<0.001	<0.001	<0.001	<0.001
	Kremsmünster	<0.001	<0.001	<0.001	<0.001
	Okehampton	<0.001	<0.001	<0.001	<0.001
	Piacenza	<0.001	<0.001	<0.001	<0.001
	Porto	<0.001	<0.001	<0.001	<0.001
	Sevilla	<0.001	<0.001	<0.001	<0.001
	Thiva	<0.001	<0.001	<0.001	<0.001
Use 2 Winter cereal 450 g a.s./ha BBCH 69	Châteaudun	<0.001	<0.001	<0.001	<0.001
	Hamburg	<0.001	<0.001	<0.001	<0.001
	Jokioinen	<0.001	<0.001	<0.001	<0.001
	Kremsmünster	<0.001	<0.001	<0.001	<0.001
	Okehampton	<0.001	<0.001	<0.001	<0.001
	Piacenza	<0.001	<0.001	<0.001	<0.001
	Porto	<0.001	<0.001	<0.001	<0.001
	Sevilla	<0.001	<0.001	<0.001	<0.001
	Thiva	<0.001	<0.001	<0.001	<0.001
Use 3 Spring cereal 450 g a.s./ha BBCH 30	Châteaudun	<0.001	<0.001	<0.001	<0.001
	Hamburg	<0.001	<0.001	<0.001	<0.001
	Jokioinen	<0.001	<0.001	<0.001	<0.001
	Kremsmünster	<0.001	<0.001	<0.001	<0.001
	Okehampton	<0.001	<0.001	<0.001	<0.001
	Porto	<0.001	<0.001	<0.001	<0.001
Use 4 Spring cereal 450 g a.s./ha BBCH 69	Châteaudun	<0.001	<0.001	<0.001	<0.001
	Hamburg	<0.001	<0.001	<0.001	<0.001
	Jokioinen	<0.001	<0.001	<0.001	<0.001
	Kremsmünster	<0.001	<0.001	<0.001	<0.001

	Okehampton	<0.001	<0.001	<0.001	<0.001
	Porto	<0.001	<0.001	<0.001	<0.001

Table A 68: PEC_{gw} for cyprodinil and its metabolites CGA249287, CGA321915 and CGA275535 in winter and spring cereals (with FOCUS PELMO v6.6.4)

Crop	Scenario	80th Percentile PEC_{gw} at 1 m Soil Depth (µg/L)			
		Cyprodinil	CGA249287	CGA321915	CGA275535
Use 1 Winter cereal 450 g a.s./ha BBCH 30	Châteaudun	<0.001	<0.001	<0.001	<0.001
	Hamburg	<0.001	<0.001	<0.001	<0.001
	Jokioinen	<0.001	<0.001	<0.001	<0.001
	Kremsmünster	<0.001	<0.001	<0.001	<0.001
	Okehampton	<0.001	<0.001	<0.001	<0.001
	Piacenza	<0.001	<0.001	<0.001	<0.001
	Porto	<0.001	<0.001	<0.001	<0.001
	Sevilla	<0.001	<0.001	<0.001	<0.001
	Thiva	<0.001	<0.001	<0.001	<0.001
Use 2 Winter cereal 450 g a.s./ha BBCH 69	Châteaudun	<0.001	<0.001	<0.001	<0.001
	Hamburg	<0.001	<0.001	<0.001	<0.001
	Jokioinen	<0.001	<0.001	<0.001	<0.001
	Kremsmünster	<0.001	<0.001	<0.001	<0.001
	Okehampton	<0.001	<0.001	<0.001	<0.001
	Piacenza	<0.001	<0.001	<0.001	<0.001
	Porto	<0.001	<0.001	<0.001	<0.001
	Sevilla	<0.001	<0.001	<0.001	<0.001
	Thiva	<0.001	<0.001	<0.001	<0.001
Use 3 Spring cereal 450 g a.s./ha BBCH 30	Châteaudun	<0.001	<0.001	<0.001	<0.001
	Hamburg	<0.001	<0.001	<0.001	<0.001
	Jokioinen	<0.001	<0.001	<0.001	<0.001
	Kremsmünster	<0.001	<0.001	<0.001	<0.001
	Okehampton	<0.001	<0.001	<0.001	<0.001
	Porto	<0.001	<0.001	<0.001	<0.001
Use 4 Spring cereal 450 g a.s./ha BBCH 69	Châteaudun	<0.001	<0.001	<0.001	<0.001
	Hamburg	<0.001	<0.001	<0.001	<0.001
	Jokioinen	<0.001	<0.001	<0.001	<0.001
	Kremsmünster	<0.001	<0.001	<0.001	<0.001
	Okehampton	<0.001	<0.001	<0.001	<0.001
	Porto	<0.001	<0.001	<0.001	<0.001

A 3.3.3 Conclusion

Table A 69 Summary of maximum PEC_{GW} across all models for cyprodinil and its metabolites CGA249287, CGA321915 and CGA275535 in winter and spring cereals

Substance	80th Percentile PEC_{gw} (µg/L)	Crop	Application	Model and Version Number	Scenario
Cyprodinil	<0.001	All crops	450 g a.s./ha BBCH 30-69	All models tested	All scenarios tested
CGA249287	<0.001			All models tested	All scenarios tested
CGA321915	<0.001			All models tested	All scenarios tested
CGA275535	<0.001			All models tested	All scenarios tested

Anderson, C., 2022

A 3.4 KCP 9.2.4: Papasova, V., 2022, V-943373, Prothioconazole – PEC_{GW} following application to cereals

Comments of zRMS:	The submitted study was accepted. All relevant endpoints were accepted. The models FOCUS PEARL (v5.5.5) and FOCUS PELMO (v6.6.4) were used in the PECgw assessment.

Reference:	KCP 9.2.4
Report	Prothioconazole - A Leaching Assessment for Parent and Metabolites JAU 6476-s-methyl and JAU 4676-desthio Using the PEARL 5.5.5 and PELMO 6.6.4 Groundwater Models Following Spray Application to Winter and Spring Cereal in Europe, Papasova, V., 2022, Report number: SYN/2022/006, VV-943373
Guideline(s):	EFSA (2014). 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. EFSA Journal, 12(5): 3662. EC (2014). Assessing potential for movement of active substances and their metabolites to groundwater in the EU. Report of the FOCUS Groundwater Work Group, EC Document Reference Sanco/13144/2010 version 3, 613 pp. FOCUS (2000). FOCUS groundwater scenarios in the EU review of active substances. Report of the FOCUS groundwater scenarios workgroup, EC document reference Sanco/321/2000 rev. 2, 202 pp.

FOCUS (2014). Generic guidance for Tier 1 FOCUS groundwater assessments, version 2.2 FOCUS groundwater scenarios working group.

FOCUS (2014b): Generic Guidance for Estimating Persistence and Degradation Kinetics from Environmental Fate Studies on Pesticides in EU Registration, version 1.1. 440 pp.

Deviations:	No
GLP:	Not applicable
Acceptability:	Yes

A 3.4.1 Materials and Methods

This report describes a FOCUS groundwater modelling study that examined the potential for prothioconazole and its metabolites JAU 6476-s-methyl and JAU 6476-desthio to reach groundwater following application to winter and spring cereal in Europe. The FOCUS simulation models FOCUS PEARL (v5.5.5) and PELMO (v6.6.4) were used in the modelling study.

Single foliar application at a rate of 150 g a.s./ha, at BBCH 30 onwards, and up to BBCH 69 was considered. The input parameters relating to application are shown in Table A 70, below.

Table A 70: Application patterns of prothioconazole to cereals used in modelling

Use No.	1	2	3	4
Crop	Winter cereals		Spring cereals	
Application rate (g a.s./ha)	450			
Number of applications/interval (d)	1 / -			
BBCH growth stage	BBCH 30	BBCH 69	BBCH 30	BBCH 69
Crop interception (%)	80	90	80	90
Frequency of application	Annual			
Models used for calculation	FOCUS PEARL v5.5.5 and FOCUS PELMO v6.6.4			

Applications were considered for the FOCUS scenarios Châteaudun, Hamburg, Jokioinen, Kremsmünster, Okehampton, Piacenza, Porto, Sevilla and Thiva in PEARL and PELMO. Application dates are presented in Table A 71, below. The absolute dates were selected with the tool AppDate (v3.06. Simulations were carried out using the FOCUS standard crop pome fruit in FOCUS PEARL and PELMO. Simulations were carried out over 26 years, as proposed by FOCUS for pesticides that are applied annually. The first 6 years are intended to be a ‘warm up’ period, thus the following 20 years were taken into account for the assessment of the leaching behaviour.

Table A 71: Application dates of Cyprodinil to pome fruit used in modelling

Crop	Scenario	Application dates (absolute)	
		BBCH 30	BBCH69
Use 1 & 2 Winter cereals 1 x 150 g a.s./ha	Châteaudun	15 April (105)	14 June (165)
	Hamburg	04 May (124)	22 June (173)
	Jokioinen	14 May (134)	10 July (191)
	Kremsmünster	24 April (114)	25 June (176)
	Okehampton	21 April (111)	07 June (158)
	Piacenza	19 March (78)	26 May (146)
	Porto	30 January (30)	18 May (138)
	Sevilla	06 January (6)	28 March (87)
	Thiva	18 January (18)	27 April (117)
Ues 3 & 4 Spring cereals 1 x 150 g a.s./ha	Châteaudun	16 April (106)	22 June (173)
	Hamburg	28 April (118)	28 June (179)
	Jokioinen	05 June (156)	17 July (198)
	Kremsmünster	27 April (117)	28 June (179)
	Okehampton	22 April (112)	18 June (169)
	Porto	16 April (106)	22 June (173)

Values in parentheses are equivalent Julian days.

The input parameters of prothioconazole and its metabolites JAU 6476-s-methyl and JAU 6476-desthio used in modelling are shown in Table A 72, below. All other input values were set at the default values unless otherwise stated.

Schematic diagrams of the modelled routes of degradation of prothioconazole in soil with the FOCUS models PEARL and PELMO are shown in Figure A 4.

Table A 72: Summary of input parameters for prothioconazole, JAU 6476-s-methyl and JAU 6476-desthio for PEC_{GW} calculations

Compound	Prothioconazole	JAU 6476-s-methyl	JAU 6476-desthio	Value in accordance to EU endpoint y/n/ Reference
Molecular weight (g/mol)	344.26	358.3	312.2	Yes / EFSA, 2007

Compound	Prothioconazole	JAU 6476-s-methyl	JAU 6476-desthio	Value in accordance to EU endpoint y/n/ Reference
Water solubility (mg/L)	300 (20 °C, pH = 8)	1000 (default)	1000 (default)	Yes / EFSA, 2007
Saturated vapour pressure (Pa)	<4.0 x 10^{-7}, 20°C	0 at 20°C (default)	0 at 20°C (default)	Yes / EFSA, 2007
DT_{50} in soil (d)	0.94 (geomean field study, normalized to 20 °C, n=8)	15.7 (geometric mean lab study, n=4)	21.8 (geomean field study, normalised to 20 °C, n=8)	Yes / EFSA, 2007 (updated to geomean)
K_{OC} / K_{OM} (mL/g)	1765 / 1024 (single data from aged leaching study)	2525.9 / 1465.1 (geomean mean value, n=4)	573.5 / 332.7 (geomean mean value, n=4)	Yes / EFSA, 2007 (K_{OC} updated to geomean)
1/n	1.0 (default)	0.88 (arithmetic mean value)	0.81 (arithmetic mean value)	Yes / EFSA, 2007
Plant uptake factor	0	0	0	Yes / EFSA, 2007
Formation fraction from precursor	-	0.14 (from parent)	0.60 (from parent) 1 (from JAU 6476-S-methyl)	Yes / EFSA, 2007
Washoff Factor m^{-1} (PEARL/PELMO)	0.0001	0.0001	0.0001	Default
Foliar DT_{50} (days)	10	10	10	Default

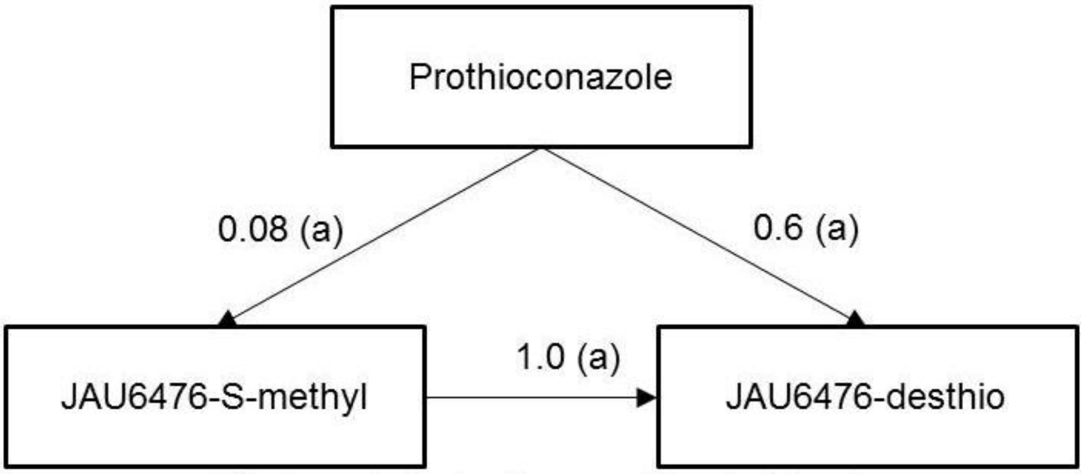


Figure A 6: **Schematic of the modelled route of degradation of prothioconazole for the FOCUS models PEARL and PELMO**

A 3.4.2 Results and discussions

Predicted environmental concentrations for prothioconazole and its metabolites JAU 6476-s-methyl and JAU 6476-desthio in groundwater (PEC_{GW}) were calculated for the use prothioconazole on winter and spring cereal in Europe in accordance with FOCUS guidelines (FOCUS, 2000, 2014, 2021).

The 80th percentile (at 1 m soil depth) PEC_{GW} values generated by the FOCUS PEARL and FOCUS PELMO simulations are given in Table A 73 to Table A 74.

Table A 73: **PEC_{GW} for prothioconazole and its metabolites JAU 6476-s-methyl and JAU 6476-desthio after application to winter and spring cereal (with FOCUS PEARL v5.5.5)**

Crop	Scenario	80th Percentile PEC_{gw} at 1 m Soil Depth (µg/L)		
		Prothioconazole	JAU 6476-s-methyl	JAU 6476-desthio
Use 1 Winter cereal 150 g a.s./ha BBCH 30	Châteaudun	< 0.001	< 0.001	< 0.001
	Hamburg	< 0.001	< 0.001	< 0.001
	Jokioinen	< 0.001	< 0.001	< 0.001
	Kremsmünster	< 0.001	< 0.001	< 0.001
	Okehampton	< 0.001	< 0.001	< 0.001
	Piacenza	< 0.001	< 0.001	< 0.001
	Porto	< 0.001	< 0.001	< 0.001

	Sevilla	< 0.001	< 0.001	< 0.001
	Thiva	< 0.001	< 0.001	< 0.001
Use 2 Winter cereal 150 g a.s./ha BBCH 69	Châteaudun	< 0.001	< 0.001	< 0.001
	Hamburg	< 0.001	< 0.001	< 0.001
	Jokioinen	< 0.001	< 0.001	< 0.001
	Kremsmünster	< 0.001	< 0.001	< 0.001
	Okehampton	< 0.001	< 0.001	< 0.001
	Piacenza	< 0.001	< 0.001	< 0.001
	Porto	< 0.001	< 0.001	< 0.001
	Sevilla	< 0.001	< 0.001	< 0.001
	Thiva	< 0.001	< 0.001	< 0.001
Use 3 Spring cereal 150 g a.s./ha BBCH 30	Châteaudun	< 0.001	< 0.001	< 0.001
	Hamburg	< 0.001	< 0.001	< 0.001
	Jokioinen	< 0.001	< 0.001	< 0.001
	Kremsmünster	< 0.001	< 0.001	< 0.001
	Okehampton	< 0.001	< 0.001	< 0.001
	Porto	< 0.001	< 0.001	< 0.001
Use 4 Spring cereal 150 g a.s./ha BBCH 69	Châteaudun	< 0.001	< 0.001	< 0.001
	Hamburg	< 0.001	< 0.001	< 0.001
	Jokioinen	< 0.001	< 0.001	< 0.001
	Kremsmünster	< 0.001	< 0.001	< 0.001
	Okehampton	< 0.001	< 0.001	< 0.001
	Porto	< 0.001	< 0.001	< 0.001

Table A 74: PEC_{GW} for prothioconazole and its metabolites JAU 6476-s-methyl and JAU 6476-desthio after application to winter and spring cereal (with FOCUS PELMO v6.6.4)

Crop	Scenario	80th Percentile PEC_{gw} at 1 m Soil Depth (µg/L)		
		Prothioconazole	JAU 6476-s-methyl	JAU 6476-desthio
Use 1 Winter cereal 150 g a.s./ha BBCH 30	Châteaudun	< 0.001	< 0.001	< 0.001
	Hamburg	< 0.001	< 0.001	< 0.001
	Jokioinen	< 0.001	< 0.001	< 0.001
	Kremsmünster	< 0.001	< 0.001	< 0.001

	Okehampton	< 0.001	< 0.001	< 0.001
	Piacenza	< 0.001	< 0.001	< 0.001
	Porto	< 0.001	< 0.001	< 0.001
	Sevilla	< 0.001	< 0.001	< 0.001
	Thiva	< 0.001	< 0.001	< 0.001
Use 2 Winter cereal 150 g a.s./ha BBCH 69	Châteaudun	< 0.001	< 0.001	< 0.001
	Hamburg	< 0.001	< 0.001	< 0.001
	Jokioinen	< 0.001	< 0.001	< 0.001
	Kremsmünster	< 0.001	< 0.001	< 0.001
	Okehampton	< 0.001	< 0.001	< 0.001
	Piacenza	< 0.001	< 0.001	< 0.001
	Porto	< 0.001	< 0.001	< 0.001
	Sevilla	< 0.001	< 0.001	< 0.001
	Thiva	< 0.001	< 0.001	< 0.001
Use 3 Spring cereal 150 g a.s./ha BBCH 30	Châteaudun	< 0.001	< 0.001	< 0.001
	Hamburg	< 0.001	< 0.001	< 0.001
	Jokioinen	< 0.001	< 0.001	< 0.001
	Kremsmünster	< 0.001	< 0.001	< 0.001
	Okehampton	< 0.001	< 0.001	< 0.001
	Porto	< 0.001	< 0.001	< 0.001
Use 4 Spring cereal 150 g a.s./ha BBCH 69	Châteaudun	< 0.001	< 0.001	< 0.001
	Hamburg	< 0.001	< 0.001	< 0.001
	Jokioinen	< 0.001	< 0.001	< 0.001
	Kremsmünster	< 0.001	< 0.001	< 0.001
	Okehampton	< 0.001	< 0.001	< 0.001
	Porto	< 0.001	< 0.001	< 0.001

A 3.4.3 Conclusion

Table A 75 Summary of maximum PEC_{GW} across all models for prothioconazole and its metabolites JAU 6476-s-methyl and JAU 6476-desthio in winter and spring cereals

Substance	80th Percentile PEC_{gw} (µg/L)	Crop	Application	Model and Version Number	Scenario
Prothioconazole	<0.001	All crops	150 g a.s./ha BBCH 30-69	All models tested	All scenarios tested
JAU 6476-s-methyl	<0.001			All models tested	All scenarios tested
JAU 6476-desthio	<0.001			All models tested	All scenarios tested

Papasova, V., 2022

A 3.5 KCP 9.2.5, Anderson, C., 2022, VV-942860. Cyprodinil – PECSW following application to cereals at STEPS 1 & 2

Comments of zRMS:	The submitted study was accepted. The metabolite CGA32915 was not taken into consideration (in EFSA, 2005, this metabolite was not considered as relevant in surface water). All relevant endpoints were accepted. The models FOCUS Step 1 and Step 2 were used in the PECsw assessment.

Reference: KCP 9.2.5

Report: Cyprodinil - A European Environmental Fate Assessment for Parent and its Metabolites CGA249287, CGA321915 and CGA275535 Using the FOCUS Surface Water Models at STEPs 1 to 2 Following Spray Application of Winter and Spring Cereals in Europe, Anderson, C., 2022, Report number: SYN/2022/001, VV-942860

Guideline(s): FOCUS (2001). FOCUS Surface Water Scenarios in the EU Evaluation Process under 91/414/EEC. Report of the FOCUS Working Group on Surface Water Scenarios, EC Document Reference SANCO/4802/2001 rev. 2.

FOCUS (2015). Generic Guidance for FOCUS Surface Water Scenarios, version 1.4.

Deviations: No

GLP: Not applicable

Acceptability: Yes

A 3.5.1 Materials and Methods

This report describes a FOCUS modelling study that examined the potential for cyprodinil and its metabolites CGA249287, CGA321915 and CGA275535 to reach surface water following spray application to pome fruit. FOCUS STEPS 1-2 (v3.2) were used for cyprodinil and its metabolites in the modelling study for STEP 1 and 2 simulations.

At STEP 1-2, simulations were conducted for Northern and Southern Europe with applications timings occurring in Mar-May, Jun-Sep and Oct-Feb to cover the prescribed GAP growth stage BBCH 30-69. Crop interception was set to ‘average crop cover’ in accordance with EFSA (2014) guidance for winter and spring cereals at BBCH 30 (worst case).

The input parameters relating to application are shown in Table A 76 below.

Table A 76: Input parameters related to application for $PEC_{SW/SED}$ calculations

Use No.	1
Crop	Winter and spring cereal [a]
Application rate (g a.s./ha)	450
Number of applications/interval (d)	1 / -
BBCH growth stage	BBCH 30 onwards
Crop interception (STEP 2)	‘average crop cover’
Models used for calculation	FOCUS STEPS 1-2 v3.2

[a] PEC values for winter and spring cereals are the same at STEP 1 & 2. Winter cereals selected as the appropriate crop in this assessment.

The input parameters for cyprodinil and its metabolites CGA249287, CGA321915 and CGA275535 as used in the modelling at STEP 1-2 are shown in Table A 77.

Table A 77: Input parameters related to active substance cyprodinil and metabolites CGA249287, CGA321915 and CGA275535 for $PEC_{SW/SED}$ calculations at STEP 1-2

Compound	Cyprodinil	CGA249287	CGA321915	CGA275535	Value in accordance to EU endpoint / Reference
Molecular weight (g mol^{-1})	225.3	149.2	150.2	241.3	Yes / EFSA (2005)
Water solubility (mg L^{-1}) (at 25 °C)	20	6900	250	20	Yes / EFSA (2005)
DT_{50} in soil (d)	27.1* (geomean lab study, normalized to 20 °C, n=4)	48.4* (geomean lab study, n=4)	35.1** (geomean lab study, n=3)	1.0* (default value, DT50 indicated as <1 day in EU review)	*Yes / EFSA (2005) (recalculated to geomean) ** No / Harvey, B., 2016 (VV-629897)
K_{foc} / K_{fom} (mL g^{-1})	1697.7 / 984.7* (geomean, n=5)	173 / 100.3* (lowest value from alkaline soils due to pH dependance, as per EU review)	133 / 77.4** (geomean, n=5)	1810 / 1049.9* (geomean, n=4)	*Yes / EFSA (2005) (recalculated to geomean) ** No / Ye, M., 1995, VV-634154
DT50,water (d)	158.8 (geomean, n=4)	1000 (default)	1000 (default)	1000 (default)	Yes / EFSA (2005)
DT50,sed (d)	158.8 (geomean, n=4)	1000 (default)	1000 (default)	1000 (default)	Yes / EFSA (2005)
DT50,whole system (d)	158.8 (geomean, n=4)	1000 (default)	1000 (default)	1000 (default)	Yes / EFSA (2005)
Maximum occurrence observed (% molar basis with respect to the parent) – water/sediment	-	21.1	0 [a]	0 [a]	Yes / EFSA (2005)

Compound	Cyprodinil	CGA249287	CGA321915	CGA275535	Value in accordance to EU endpoint / Reference
Maximum occurrence observed (% molar basis with respect to the parent) – soil	-	14.3	5.1	21.3	Yes / EFSA (2005)

A 3.5.2 Results

Predicted environmental concentrations in surface water (PEC_{SW}) and sediment (PEC_{SED}) were calculated for the spray application use of cyprodinil on winter and spring cereals in Europe in accordance with FOCUS guidelines.

The results are presented in the tables below in the following order:

FOCUS STEP 1-2 Maximum PEC_{SW} and PEC_{SED} for cyprodinil following spray applications to winter and spring cereals at a rate of 1 x 450 g a.s./ha at BBCH 30;

FOCUS STEP 1-2 Maximum PEC_{SW} and PEC_{SED} for cyprodinil metabolites CGA249287, CGA321915 and CGA275535 following spray applications to winter and spring cereals at a rate of 1 x 450 g a.s./ha at BBCH 30.

Table A 78: FOCUS STEP 1-2 Maximum PEC_{SW} and PEC_{SED} for cyprodinil following spray application to winter and spring cereal at BBCH 30

Region	Timing	Max PEC_{sw} (µg/L)	21d $PEC_{sw,twa}$ (µg/L)	Max PEC_{sed} (µg/kg)
Step 1	---	50.1	45.2	798
Step 2				
Northern Europe	Oct-Feb	18.2	17.1	302
	Mar-May	8.27	7.54	133
	Jun-Sep	8.27	7.54	133
Southern Europe	Oct-Feb	14.9	13.9	245
	Mar-May	14.9	13.9	245
	Jun-Sep	11.6	10.7	189

PEC values for winter and spring cereals at STEP 1 & 2 are the same.

Table A 79: FOCUS STEP 1-2 Maximum PEC_{SW} and PEC_{SED} for CGA249287 following spray application to winter and spring cereal at BBCH 30

Region	Timing	Max PEC_{sw} (µg/L)	21d $PEC_{sw,twa}$ (µg/L)	Max PEC_{sed} (µg/kg)
Step 1	---	29.2	28.8	50.2
Step 2				
Northern Europe	Oct-Feb	11.0	10.9	19.0
	Mar-May	4.70	4.64	8.08
	Jun-Sep	4.70	4.64	8.08
Southern Europe	Oct-Feb	8.91	8.81	15.4
	Mar-May	8.91	8.81	15.4
	Jun-Sep	6.81	6.73	11.7

PEC values for winter and spring cereals at STEP 1 & 2 are the same.

Table A 80: FOCUS STEP 1-2 Maximum PEC_{SW} and PEC_{SED} for CGA321915 following spray application to winter and spring cereal at BBCH 30

Region	Timing	Max PEC_{sw} (µg/L)	21d $PEC_{sw,twa}$ (µg/L)	Max PEC_{sed} (µg/kg)
Step 1	---	4.33	4.30	5.76
Step 2				
Northern Europe	Oct-Feb	1.60	1.59	2.13
	Mar-May	0.641	0.636	0.852
	Jun-Sep	0.641	0.636	0.852
Southern Europe	Oct-Feb	1.28	1.27	1.70
	Mar-May	1.28	1.27	1.70
	Jun-Sep	0.961	0.954	1.28

PEC values for winter and spring cereals at STEP 1 & 2 are the same.

Table A 81: FOCUS STEP 1-2 Maximum PEC_{SW} and PEC_{SED} for CGA275535 following spray application to winter and spring cereal at BBCH 30

Region	Timing	Max PEC_{sw} (µg/L)	21d $PEC_{sw,twa}$ (µg/L)	Max PEC_{sed} (µg/kg)
Step 1	---	10.0	9.95	181
Step 2				
Northern Europe	Oct-Feb	0.251	0.249	4.54

	Mar-May	0.100	0.100	1.82
	Jun-Sep	0.100	0.100	1.82
Southern Europe	Oct-Feb	0.201	0.199	3.63
	Mar-May	0.201	0.199	3.63
	Jun-Sep	0.151	0.149	2.72

PEC values for winter and spring cereals at STEP 1 & 2 are the same.

A 3.6 KCP 9.2.5, Anderson, C., 2022, VV-942867. Cyprodinil – PECSW following application to cereals at STEP 3 & 4 Report Amendment 1, 19th July 2023

Comments of zRMS:	The submitted study was accepted. All relevant endpoints were accepted. The metabolite CGA32915 was not taken into consideration (in EFSA, 2005, this metabolite was not considered as relevant in surface water). The models FOCUS Step 3 and Step 4 were used in the PECsw assessment. The mitigation measures were proposed.

Applicant note: The Applicant has amended the following FOCUS report to include step 4 values for both modelling options 1 and 2.

Reference:	KCP 9.2.5
Report:	Cyprodinil - A European Environmental Fate Assessment for Parent Using the FOCUS Surface Water Models at STEPs 3 to 4 Following Spray Application to Winter and Spring Cereals, Anderson, C., 2022, Report number: SYN/2022/002, VV-942867
Guideline(s):	FOCUS (2001). FOCUS Surface Water Scenarios in the EU Evaluation Process under 91/414/EEC. Report of the FOCUS Working Group on Surface Water Scenarios, EC Document Reference SANCO/4802/2001 rev. 2. FOCUS (2007). Landscape and Mitigation Factors In Aquatic Ecological Risk Assessment. Volume 1. Extended Summary and Recommendations, The Final Report of the FOCUS Working Group on Landscape and Mitigation Factors in Ecological Risk Assessment, EC Document Reference Sanco/10422/2005, version 2.0, September 2007. FOCUS (2015). Generic Guidance for FOCUS Surface Water Scenarios, version 1.4.
Deviations:	No

GLP: Not applicable

Acceptability: Yes

A 3.6.1 Materials and Methods

This report describes a FOCUS modelling study that examined the potential for cyprodinil to reach surface water following foliar application to winter and spring cereals. The FOCUS tool SWASH (v5.3), including the operational models FOCUS-MACRO (v5.5.4), FOCUS-PRZM (v4.3.1) and FOCUS-TOXSWA (v5.5.3), were used for cyprodinil in the modelling study for STEP 3 simulations. The ECPA tool SWAN (v5.0.1) was used to implement mitigation options at STEP 4.

To cover the large application window (BBCH 30-69), two simulations were conducted for each scenario at STEP 3, including;

- First application occurring on BBCH 30;
- Final application applied on BBCH 69.

The vapour pressure at 20 °C of the active substance cyprodinil is between 10^{-5} and 10^{-4} Pa. Hence the active substance cyprodinil is regarded as semi-volatile (volatilisation only from plant surfaces). Therefore exposure of adjacent surface waters and terrestrial ecosystems by the active cyprodinil due to volatilization with subsequent deposition was considered at STEP 4. Deposition rates were calculated using EVA 3.0.

Table A 82: Input parameters related to application for $PEC_{SW/SED}$ calculations

Use No.	1	2
Crop	'Winter cereals'	'Spring cereals'
Application rate (g as/ha)	450	450
Number of applications/interval (d)	1 / -	1 / -
BBCH growth stage	BBCH 30-69	BBCH 30-69
Application method	Foliar spray	Foliar spray
CAM (Chemical application method) (STEP 3)	2	2
Soil depth (cm) (STEP 3)	4	4
Models used for calculation	FOCUS SWASH v5.3, FOCUS PRZM v4.3.1, FOCUS MACRO v5.5.4, FOCUS TOXWA v5.5.3, ECPA SWAN v5.0.1	

For Step 3, spray application (foliar spray) was considered as the application method in all simulations. Crop interception at STEP 3 is calculated internally by the model on the basis of the maximum interception capacity and the actual leaf area index.

An application window for STEP 3 has to be specified from which the Pesticide Application Timer (PAT), internal to the model, determines actual application dates which were set generically for all scenarios. Application window dates are presented in Table A 83, below. The dates were selected with the tool AppDate (v3.06) based on aforementioned conditions to cover the BBCH 30-69 window.

Simulations were carried out using the FOCUS standard crop 'winter cereals' and 'spring cereals'

The application windows used for each scenario at STEP 3 are shown in Table A 83, below.

Table A 83: FOCUS STEP 3 Scenario related input parameters for $PEC_{SW/SED}$ calculations for the application of cyprodinil

Crop	Scenario	Rate (g a.s./ha)	Window Start Date (Julian Days)	Window End Date (Julian Days)
Winter Cereals BBCH 30 [a]	D1	450	25 Mar (84)	24 Apr (114)
	D2		04 Apr (94)	04 May (124)
	D3		16 Apr (106)	16 May (136)
	D4		18 Mar (77)	17 Apr (107)
	D5		15 Mar (74)	14 Apr (104)
	D6		16 Feb (47)	18 Mar (77)
	R1		24 Apr (114)	24 May (144)
	R3		19 Mar (78)	18 Apr (108)
	R4		24 Jan (24)	23 Feb (54)
Winter Cereals BBCH 69 [b]	D1	450	12 Jun (163)	12 Jul (193)
	D2		11 Jun (162)	11 Jul (192)
	D3		01 Jul (182)	31 Jul (212)
	D4		09 Jun (160)	09 Jul (190)
	D5		03 May (123)	02 Jun (153)
	D6		28 Mar (87)	27 Apr (117)
	R1		26 May (146)	25 Jun (176)
	R3		26 Apr (116)	26 May (146)
	R4		03 May (123)	02 Jun (153)
Spring Cereals BBCH 30 [a]	D1	450	27 May (147)	26 Jun (177)
	D3		28 Apr (118)	28 May (148)
	D4		18 May (138)	17 Jun (168)
	D5		09 Apr (99)	09 May (129)
	R4		09 Apr (99)	09 May (129)
Spring Cereals BBCH 69 [b]	D1	450	18 Jun (169)	18 Jul (199)
	D3		29 May (149)	28 Jun (179)
	D4		09 Jun (160)	09 Jul (190)
	D5		05 May (125)	04 Jun (155)
	R4		05 May (125)	04 Jun (155)

[a] Timing cover the early phase of the application window BBCH 30 - 69.
[b] Timing covers the latter phase of the application window BBCH 30 -69.
Numbers in brackets are the corresponding 'Julian Day' numbers

STEP 4 calculations were carried out for those scenarios which required mitigation. Reductions were applied using SWAN v5.0.1 in accordance with FOCUS (2007). Mitigation methods included:

- spray drift reduction in the form of no-spray zones at 5-20 m;

- spray drift reduction in the form of drift reducing technology (DRT) at 50, 75 and 90 %;
- run-off reduction in the form of vegetated filter strips (VFS) at 10 m and 20 m using runoff and erosion reduction values as given by the FOCUS Working Group on Landscape and Mitigation Factors (2007) – runoff/erosion reduction of 60/80 % for 10 m and 90/95 % for 20 m.
- run-off reduction in the form of vegetated filter strips (VFS) at 5 m and 15 m, for use in AT submission, using runoff and erosion reduction values as given by EXPOSIT v3.0 (5 m) and averaged 10 and 20 m values given by the FOCUS Working Group on Landscape and Mitigation Factors (2007) (15 m) - runoff/erosion reduction of 40/40 % for 5 m and 70/90 % for 15 m.

The input parameters for cyprodinil as used in the modelling at STEP 3-4 are shown in Table A 84.

Table A 84: Input parameters related to active substance cyprodinil for $PEC_{SW/SED}$ calculations at STEP 3-4

Compound	**Cyprodinil**	**Value in accordance to EU endpoint** **Reference**
Molar mass (g/mol)	225.3	Yes / EFSA, 2005
Water solubility (mg/L @ 25 °C):	20	Yes / EFSA, 2005
Saturated vapour pressure (Pa):	5.1 x 10^{-4} (25°C)	Yes / EFSA, 2005
DT_{50} in soil (d) lab/field	27.1 (geomean, n=4)	Yes / Geomean calculated from agreed EFSA, 2005 endpoints
K_{foc} / K_{fom}(mL/g)	1697.7 / 984.7 (geomean, n=5)	Yes / Geomean calculated from agreed EFSA, 2005 endpoints $K_{fom} = K_{foc}/1.724$
1/n	0.84 (arithmetic mean, n = 5)	
$DT_{50,water}$ (d)	Option 1: 158.8 (geomean, n=4) Option 2: 1000*	Yes / EFSA, 2005 (Kinetics evaluated by Partsch, 2015)
$DT_{50,sed}$ (d)	Option 1: 1000* Option 2: 158.8 (geomean, n=4)	Yes / EFSA, 2005 (Kinetics evaluated by Partsch, 2015)
$DT_{50,whole\ system}$ (d)	158.8 (geomean, n=4)	Yes / EFSA, 2005 (Kinetics evaluated by Partsch, 2015)
Plant uptake factor	0	Default (most conservative)

Compound	**Cyprodinil**	**Value in accordance to EU endpoint** **Reference**
Diffusion coefficient in water (m²/d)	4.3 x 10^{-5}	FOCUS default
Diffusion coefficient in air (m²/d)	0.43	FOCUS default
Wash-Off factor from Crop (1/mm)	0.05 (MACRO) 0.50 (PRZM)	FOCUS default

* Parent K_{FOC} >100 and <2000 so use DT_{50} whole system in either water or sediment compartment and a default 1000d in the other compartment and take worst case results from either combination forwards for assessment (FOCUS 2001).

A 3.6.2 Results

Predicted environmental concentrations in surface water (PEC_{SW}) and sediment (PEC_{SED}) were calculated for the use of cyprodinil on winter and spring cereals in Europe in accordance with FOCUS guidelines.

The results are presented in the tables below in the following order:

FOCUS STEP 3 Global Maximum PEC_{SW} and PEC_{SED} for cyprodinil following application to winter cereals at a rate of 450 g a.s./ha at BBCH 30 or BBCH 69 (Option 1 and Option 2);

FOCUS STEP 3 Global Maximum PEC_{SW} and PEC_{SED} for cyprodinil following application to spring cereals at a rate of 450 g a.s./ha at BBCH 30 or BBCH 69 (Option 1 and Option 2);

FOCUS Application dates and global maximum timing;

FOCUS Step 3 Summary Table, Global Maximum PEC_{SW} and PEC_{SED} for cyprodinil following single application to winter cereals at BBCH 30-69;

FOCUS Step 3 Summary Table, Global Maximum PEC_{SW} and PEC_{SED} for cyprodinil following single application to spring cereals at BBCH 30-69;

FOCUS STEP 4 Global Maximum PEC_{SW} for cyprodinil following application to winter cereals at a rate of 450 g a.s./ha at BBCH 30 or BBCH 69 (Option 1 and Option 2);

FOCUS STEP 4 Global Maximum PEC_{SW} for cyprodinil following application to spring cereals at a rate of 450 g a.s./ha at BBCH 30 or BBCH 69 (Option 1 and Option 2).

Table 3: FOCUS STEP 3 Global Maximum PECSW and PECSED for cyprodinil following single application to winter cereals at a rate of 450 g a.s./ha at BBCH 30 (SW DT_{50} = 158.8 days, Option 1)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	21d $PEC_{sw,twa}$ (µg/L)	Max PEC_{sed} (µg/kg)
Step 3					
D1	Ditch	2.85	Drift	0.245	2.80
D1	Stream	2.22	Drift	0.006	0.094
D2	Ditch	2.87	Drift	0.307	3.86
D2	Stream	2.44	Drift	0.026	0.412
D3	Ditch	2.84	Drift	0.138	1.85
D4	Pond	0.098	Drift	0.074	0.838
D4	Stream	2.10	Drift	0.004	0.062
D5	Pond	0.098	Drift	0.075	0.924
D5	Stream	2.27	Drift	0.004	0.066
D6	Ditch	2.81	Drift	0.061	0.890
R1	Pond	0.125	Run-off	0.105	1.77
R1	Stream	1.87	Drift	0.060	2.41
R3	Stream	2.63	Drift	0.047	3.16
R4	Stream	1.88	Drift	0.077	2.57

Table 4: FOCUS STEP 3 Global Maximum PEC_{SW} and PEC_{SED} for cyprodinil following single application to winter cereals at a rate of 450 g a.s./ha at BBCH 30 (SW DT_{50} = 1000 days, Option 2)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	21d $PEC_{sw,twa}$ (µg/L)	Max PEC_{sed} (µg/kg)
Step 3					
D1	Ditch	2.85	Drift	0.245	2.80
D1	Stream	2.22	Drift	0.006	0.094
D2	Ditch	2.87	Drift	0.308	3.86
D2	Stream	2.44	Drift	0.026	0.412
D3	Ditch	2.84	Drift	0.138	1.85
D4	Pond	0.098	Drift	0.074	0.812

D4	Stream	2.10	Drift	0.004	0.062
D5	Pond	0.098	Drift	0.076	0.891
D5	Stream	2.27	Drift	0.004	0.066
D6	Ditch	2.81	Drift	0.061	0.889
R1	Pond	0.128	Run-off	0.109	1.70
R1	Stream	1.87	Drift	0.060	2.31
R3	Stream	2.63	Drift	0.047	3.15
R4	Stream	1.88	Drift	0.077	2.52

Table 5: FOCUS STEP 3 Global Maximum PEC_{SW} and PEC_{SED} for cyprodinil following single application to winter cereals at a rate of 450 g a.s./ha at BBCH 69 (SW DT_{50} = 158.8 days, Option 1)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	21d $PEC_{sw,twa}$ (µg/L)	Max PEC_{sed} (µg/kg)
Step 3					
D1	Ditch	2.88	Drift	1.68	11.3
D1	Stream	2.52	Drift	0.108	1.51
D2	Ditch	2.88	Drift	1.70	13.1
D2	Stream	2.56	Drift	1.49	10.2
D3	Ditch	2.85	Drift	0.200	2.47
D4	Pond	0.098	Drift	0.075	0.890
D4	Stream	2.46	Drift	0.034	0.526
D5	Pond	0.098	Drift	0.077	0.925
D5	Stream	2.65	Drift	0.048	0.736
D6	Ditch	2.86	Drift	0.462	3.99
R1	Pond	0.146	Run-off	0.117	1.77
R1	Stream	1.88	Drift	0.048	5.48
R3	Stream	2.65	Drift	0.087	1.23
R4	Stream	1.88	Drift	0.237	5.77

Table 6: FOCUS STEP 3 Global Maximum PEC_{SW} and PEC_{SED} for cyprodinil following single application to winter cereals at a rate of 450 g a.s./ha at BBCH 69 (SW DT_{50} = 1000 days, Option 2)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	21d $PEC_{sw,twa}$ (µg/L)	Max PEC_{sed} (µg/kg)
Step 3					
D1	Ditch	2.88	Drift	1.70	11.1
D1	Stream	2.52	Drift	0.108	1.51
D2	Ditch	2.88	Drift	1.72	12.5
D2	Stream	2.56	Drift	1.51	10.0
D3	Ditch	2.85	Drift	0.200	2.47
D4	Pond	0.098	Drift	0.077	0.886
D4	Stream	2.46	Drift	0.034	0.525
D5	Pond	0.098	Drift	0.078	0.895
D5	Stream	2.65	Drift	0.048	0.736
D6	Ditch	2.86	Drift	0.464	3.99
R1	Pond	0.148	Run-off	0.121	1.69
R1	Stream	1.88	Drift	0.048	5.47
R3	Stream	2.65	Drift	0.087	1.20
R4	Stream	1.88	Drift	0.237	5.75

Table 7: FOCUS STEP 3 Global Maximum PEC_{SW} and PEC_{SED} for cyprodinil following single application to spring cereals at a rate of 450 g a.s./ha at BBCH 30 (SW DT_{50} = 158.8 days, Option 1)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	21d $PEC_{sw,twa}$ (µg/L)	Max PEC_{sed} (µg/kg)
Step 3					
D1	Ditch	2.88	Drift	1.68	11.3
D1	Stream	2.52	Drift	0.108	1.51
D3	Ditch	2.85	Drift	0.155	2.03
D4	Pond	0.098	Drift	0.075	0.869
D4	Stream	2.33	Drift	0.010	0.162
D5	Pond	0.098	Drift	0.076	0.915
D5	Stream	2.39	Drift	0.006	0.103
R4	Stream	1.88	Drift	0.252	5.96

Table 8: FOCUS STEP 3 Global Maximum PEC_{SW} and PEC_{SED} for cyprodinil following single application to spring cereals at a rate of 450 g a.s./ha at BBCH 30 (SW DT_{50} = 1000 days, Option 2)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	21d $PEC_{sw,twa}$ (µg/L)	Max PEC_{sed} (µg/kg)
Step 3					
D1	Ditch	2.88	Drift	1.70	11.1
D1	Stream	2.52	Drift	0.108	1.51
D3	Ditch	2.85	Drift	0.155	2.03
D4	Pond	0.098	Drift	0.076	0.849
D4	Stream	2.33	Drift	0.010	0.162
D5	Pond	0.098	Drift	0.077	0.881
D5	Stream	2.39	Drift	0.006	0.103
R4	Stream	1.88	Drift	0.252	5.94

Table 9: FOCUS STEP 3 Global Maximum PEC_{SW} and PEC_{SED} for cyprodinil following single application to spring cereals at a rate of 450 g a.s./ha at BBCH 69 (SW DT_{50} = 158.8 days, Option 1)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	21d $PEC_{sw,twa}$ (µg/L)	Max PEC_{sed} (µg/kg)
Step 3					
D1	Ditch	2.88	Drift	1.67	11.2
D1	Stream	2.52	Drift	0.108	1.51
D3	Ditch	2.85	Drift	0.173	2.21
D4	Pond	0.098	Drift	0.075	0.863
D4	Stream	2.45	Drift	0.031	0.480
D5	Pond	0.098	Drift	0.076	0.914
D5	Stream	2.48	Drift	0.010	0.160
R4	Stream	1.88	Drift	0.273	6.23

Table 10: FOCUS STEP 3 Global Maximum PEC_{SW} and PEC_{SED} for cyprodinil following single application to spring cereals at a rate of 450 g a.s./ha at BBCH 69 (SW DT_{50} = 1000 days, Option 2)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	21d $PEC_{sw,twa}$ (µg/L)	Max PEC_{sed} (µg/kg)
Step 3					
D1	Ditch	2.88	Drift	1.69	11.0
D1	Stream	2.52	Drift	0.108	1.51
D3	Ditch	2.85	Drift	0.174	2.21
D4	Pond	0.098	Drift	0.077	0.859
D4	Stream	2.45	Drift	0.031	0.480
D5	Pond	0.098	Drift	0.077	0.885
D5	Stream	2.48	Drift	0.010	0.160
R4	Stream	1.88	Drift	0.273	6.21

Table 11: FOCUS Application dates and global maximum timing

Application scenario	Scenario	Water body	Application date	Date of global maximum (Option 1)	Date of global maximum (Option 2)
Winter Cereals 1 x 450 g a.s./ha BBCH 30	D1	ditch	29-Mar-1982	29-Mar-1982	29-Mar-1982
	D1	stream	29-Mar-1982	29-Mar-1982	29-Mar-1982
	D2	ditch	04-Apr-1986	04-Apr-1986	04-Apr-1986
	D2	stream	04-Apr-1986	04-Apr-1986	04-Apr-1986
	D3	ditch	20-Apr-1992	20-Apr-1992	20-Apr-1992
	D4	pond	19-Mar-1985	19-Mar-1985	19-Mar-1985
	D4	stream	19-Mar-1985	19-Mar-1985	19-Mar-1985
	D5	pond	08-Apr-1978	08-Apr-1978	08-Apr-1978
	D5	stream	08-Apr-1978	08-Apr-1978	08-Apr-1978
	D6	ditch	27-Feb-1986	27-Feb-1986	27-Feb-1986
	R1	pond	26-Apr-1984	30-May-1984	30-May-1984
	R1	stream	26-Apr-1984	26-Apr-1984	26-Apr-1984
	R3	stream	28-Mar-1980	28-Mar-1980	28-Mar-1980
	R4	stream	04-Feb-1980	04-Feb-1980	04-Feb-1980
Winter Cereals 1 x 450 g a.s./ha BBCH 69	D1	ditch	17-Jun-1982	17-Jun-1982	17-Jun-1982
	D1	stream	17-Jun-1982	17-Jun-1982	17-Jun-1982
	D2	ditch	13-Jun-1986	13-Jun-1986	13-Jun-1986
	D2	stream	13-Jun-1986	13-Jun-1986	13-Jun-1986
	D3	ditch	08-Jul-1992	08-Jul-1992	08-Jul-1992
	D4	pond	04-Jul-1985	04-Jul-1985	04-Jul-1985
	D4	stream	04-Jul-1985	04-Jul-1985	04-Jul-1985
	D5	pond	11-May-1978	11-May-1978	11-May-1978
	D5	stream	11-May-1978	11-May-1978	11-May-1978
	D6	ditch	09-Apr-1986	09-Apr-1986	09-Apr-1986
	R1	pond	13-Jun-1984	21-Jun-1984	21-Jun-1984
	R1	stream	13-Jun-1984	13-Jun-1984	13-Jun-1984
	R3	stream	26-Apr-1980	26-Apr-1980	26-Apr-1980
	R4	stream	04-May-1984	04-May-1984	04-May-1984

Table 12: FOCUS Application dates and global maximum timing (continued)

Application scenario	Scenario	Water body	Application date	Date of global maximum (Option 1)	Date of global maximum (Option 2)
Spring Cereals 1 x 450 g a.s./ha BBCH 30	D1	ditch	17-Jun-1982	17-Jun-1982	17-Jun-1982
	D1	stream	17-Jun-1982	17-Jun-1982	17-Jun-1982
	D3	ditch	04-May-1992	04-May-1992	04-May-1992
	D4	pond	30-May-1985	30-May-1985	30-May-1985
	D4	stream	30-May-1985	30-May-1985	30-May-1985
	D5	pond	14-Apr-1978	14-Apr-1978	14-Apr-1978
	D5	stream	14-Apr-1978	14-Apr-1978	14-Apr-1978
	R4	stream	04-May-1984	04-May-1984	04-May-1984
Spring Cereals 1 x 450 g a.s./ha BBCH 69	D1	ditch	24-Jun-1982	24-Jun-1982	24-Jun-1982
	D1	stream	24-Jun-1982	24-Jun-1982	24-Jun-1982
	D3	ditch	28-May-1992	28-May-1992	28-May-1992
	D4	pond	04-Jul-1985	04-Jul-1985	04-Jul-1985
	D4	stream	04-Jul-1985	04-Jul-1985	04-Jul-1985
	D5	pond	11-May-1978	11-May-1978	11-May-1978
	D5	stream	11-May-1978	11-May-1978	11-May-1978
	R4	stream	05-May-1984	05-May-1984	05-May-1984

Table 12: FOCUS Step 3 Summary Table, Global Maximum PEC_{sw} and PEC_{sed} for cyprodinil following single application to winter cereals at BBCH 30-69

Scenario	Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	21 d- $PEC_{sw,twa}$ (µg/L)*	Max PEC_{sed} (µg/kg)
Step 3					
D1	ditch	2.88 [a]	Drift	1.70 [c]	11.3 [d]
D1	stream	2.52 [a]	Drift	0.108 [a]	1.51 [a]
D2	ditch	2.88 [a]	Drift	1.72 [c]	13.1 [d]
D2	stream	2.56 [a]	Drift	1.51 [c]	10.2 [d]
D3	ditch	2.85 [a]	Drift	0.200 [a]	2.47 [a]
D4	pond	0.098 [b]	Drift	0.077 [c]	0.890 [d]
D4	stream	2.46 [a]	Drift	0.034 [a]	0.526 [d]
D5	pond	0.098 [b]	Drift	0.078 [c]	0.925 [d]
D5	stream	2.65 [a]	Drift	0.048 [a]	0.736 [a]
D6	ditch	2.86 [a]	Drift	0.464 [c]	3.99 [a]
R1	pond	0.148 [c]	Run-off	0.121 [c]	1.77 [d]
R1	stream	1.88 [a]	Drift	0.048 [a]	5.48 [d]
R3	stream	2.65 [a]	Drift	0.087 [a]	3.16 [e]
R4	stream	1.88 [b]	Drift	0.237 [a]	5.77 [d]

* twa-time as required by ecotox
[a] maximum PEC derived from BBCH 69 simulations (Option 1 & 2 values were the same)
[b] maximum PEC derived from BBCH 30 & 69 simulations (Option 1 & 2 values were the same)
[c] maximum PEC derived from BBCH 69 simulation, Option 2
[d] maximum PEC derived from BBCH 69 simulation, Option 2
[e] maximum PEC derived from BBCH 30 simulation, Option 1

Table 13: FOCUS Step 3 Summary Table, Global Maximum PEC_{sw} and PEC_{sed} for cyprodinil following single application to spring cereals at BBCH 30-69

Scenario	Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	21 d- $PEC_{sw,twa}$ (µg/L)*	Max PEC_{sed} (µg/kg)
Step 3					
D1	ditch	2.88 [a]	Drift	1.70 [c]	11.3 [f]
D1	stream	2.52 [a]	Drift	0.108 [a]	1.51 [a]
D3	ditch	2.85 [a]	Drift	0.174 [d]	2.21 [d]
D4	pond	0.098 [a]	Drift	0.077 [d]	0.869 [f]
D4	stream	2.45 [b]	Drift	0.031 [b]	0.480 [b]
D5	pond	0.098 [a]	Drift	0.077 [e]	0.915 [f]
D5	stream	2.48 [b]	Drift	0.010 [b]	0.160 [b]
R4	stream	1.88 [a]	Drift	0.273 [b]	6.23 [g]

* twa-time as required by ecotox
[a] maximum PEC derived from BBCH 30 & 69 simulations (Option 1 & 2 values were the same)
[b] maximum PEC derived from BBCH 69 simulation (Option 1 & 2 values were the same)
[c] maximum PEC derived from BBCH 30, Option 2 simulation
[d] maximum PEC derived from BBCH 69, Option 2 simulation
[d] maximum PEC derived from BBCH 30 & 69, Option 2 simulations
[f] maximum PEC derived from BBCH 30, Option 1 simulation
[g] maximum PEC derived from BBCH 69, Option 1 simulation

Table 14: **FOCUS STEP 4 Global Maximum PEC_{SW} for cyprodinil following single application to winter cereals at a rate of 450 g a.s./ha at BBCH 30 (SW DT_{50} = 158.8 days, Option 1)**

FOCUS Scenario	DRT (%)	Step 4 PEC_{SW} (µg/L)									
		Step 4									
VFS (m)		0	0	0	0	5	10	10	15	10	20
NSZ (m)		5	10	15	20	5	10	15	15	20	20
D1 ditch	None	0.810	0.464	0.324	0.248	-	-	-	-	-	-
	50	0.478	0.289	0.206	0.158	-	-	-	-	-	-
	75	0.320	0.211	0.153	0.119	-	-	-	-	-	-
	90	0.236	0.167	0.124	0.096	-	-	-	-	-	-
D1 pond	None	0.837	0.450	0.309	0.235	-	-	-	-	-	-
	50	0.432	0.235	0.162	0.123	-	-	-	-	-	-
	75	0.229	0.128	0.089	0.068	-	-	-	-	-	-
	90	0.108	0.063	0.045	0.034	-	-	-	-	-	-
D2 ditch	None	0.876	0.511	0.359	0.275	-	-	-	-	-	-
	50	0.538	0.332	0.237	0.183	-	-	-	-	-	-
	75	0.370	0.244	0.177	0.136	-	-	-	-	-	-
	90	0.270	0.190	0.140	0.109	-	-	-	-	-	-
D2 stream	None	0.924	0.502	0.345	0.263	-	-	-	-	-	-
	50	0.487	0.270	0.187	0.143	-	-	-	-	-	-
	75	0.272	0.161	0.114	0.087	-	-	-	-	-	-
	90	0.153	0.101	0.073	0.056	-	-	-	-	-	-
D3 ditch	None	0.786	0.436	0.303	0.231	-	-	-	-	-	-
	50	0.443	0.268	0.190	0.146	-	-	-	-	-	-
	75	0.291	0.188	0.136	0.105	-	-	-	-	-	-
	90	0.202	0.142	0.104	0.081	-	-	-	-	-	-
D4 pond	None	0.114	0.084	0.065	0.054	-	-	-	-	-	-
	50	0.074	0.054	0.042	0.034	-	-	-	-	-	-
	75	0.053	0.040	0.030	0.024	-	-	-	-	-	-
	90	0.041	0.031	0.023	0.019	-	-	-	-	-	-
D4 stream	None	0.785	0.421	0.288	0.219	-	-	-	-	-	-
	50	0.402	0.217	0.149	0.114	-	-	-	-	-	-
	75	0.210	0.116	0.080	0.061	-	-	-	-	-	-
	90	0.095	0.055	0.038	0.029	-	-	-	-	-	-
D5 pond	None	0.114	0.084	0.066	0.054	-	-	-	-	-	-
	50	0.074	0.054	0.042	0.034	-	-	-	-	-	-
	75	0.053	0.040	0.031	0.024	-	-	-	-	-	-
	90	0.041	0.031	0.024	0.019	-	-	-	-	-	-
D5 stream	None	0.848	0.454	0.311	0.237	-	-	-	-	-	-
	50	0.434	0.234	0.161	0.123	-	-	-	-	-	-
	75	0.226	0.125	0.086	0.066	-	-	-	-	-	-
	90	0.102	0.059	0.041	0.031	-	-	-	-	-	-

FOCUS Scenario	**DRT (%)**	**Step 4 PEC$_{SW}$ (µg/L)**									
		Step 4									
VFS (m)		**0**	**0**	**0**	**0**	**5**	**10**	**10**	**15**	**10**	**20**
NSZ (m)		**5**	**10**	**15**	**20**	**5**	**10**	**15**	**15**	**20**	**20**
D6 ditch	None	0.761	0.404	0.276	0.211	-	-	-	-	-	-
	50	0.395	0.226	0.159	0.121	-	-	-	-	-	-
	75	0.235	0.143	0.102	0.078	-	-	-	-	-	-
	90	0.145	0.100	0.073	0.057	-	-	-	-	-	-
R1 pond	None	0.136	0.119	0.110	0.104	0.115	0.084	0.066	0.066	0.048	0.054
	50	0.114	0.104	0.100	0.096	0.084	0.059	0.052	0.044	0.048	0.034
	75	0.104	0.099	0.095	0.092	0.073	0.051	0.046	0.038	0.043	0.028
	90	0.099	0.095	0.092	0.090	0.067	0.046	0.042	0.035	0.040	0.025
R1 stream	None	0.800	0.800	0.800	0.800	0.732	0.402	0.363	0.279	0.363	0.212
	50	0.800	0.800	0.800	0.800	0.521	0.363	0.363	0.279	0.363	0.190
	75	0.800	0.800	0.800	0.800	0.521	0.363	0.363	0.279	0.363	0.190
	90	0.800	0.800	0.800	0.800	0.521	0.363	0.363	0.279	0.363	0.190
R3 stream	None	1.01	1.00	1.00	1.00	1.01	0.556	0.458	0.384	0.458	0.293
	50	1.00	1.00	1.00	1.00	0.657	0.458	0.458	0.352	0.458	0.240
	75	1.00	1.00	1.00	1.00	0.657	0.458	0.458	0.352	0.458	0.240
	90	1.00	1.00	1.00	1.00	0.657	0.458	0.458	0.352	0.458	0.240
R4 stream	None	1.52	1.52	1.52	1.52	0.993	0.692	0.692	0.531	0.692	0.363
	50	1.52	1.52	1.52	1.52	0.993	0.692	0.692	0.531	0.692	0.363
	75	1.52	1.52	1.52	1.52	0.993	0.692	0.692	0.531	0.692	0.363
	90	1.52	1.52	1.52	1.52	0.993	0.692	0.692	0.531	0.692	0.363

Table 15: FOCUS STEP 4 Global Maximum PEC_{SW} for cyprodinil following single application to winter cereals at a rate of 450 g a.s./ha at BBCH 30 (SW DT_{50} = 1000 days, Option 2)

FOCUS Scenario	DRT (%)	Step 4 PEC_{SW} (µg/L)									
		Step 4									
VFS (m)		0	0	0	0	5	10	10	15	10	20
NSZ (m)		5	10	15	20	5	10	15	15	20	20
D1 ditch	None	0.811	0.464	0.325	0.248	-	-	-	-	-	-
	50	0.478	0.290	0.206	0.158	-	-	-	-	-	-
	75	0.320	0.211	0.154	0.119	-	-	-	-	-	-
	90	0.236	0.167	0.124	0.096	-	-	-	-	-	-
D1 pond	None	0.837	0.450	0.309	0.235	-	-	-	-	-	-
	50	0.432	0.235	0.162	0.123	-	-	-	-	-	-
	75	0.229	0.128	0.089	0.068	-	-	-	-	-	-
	90	0.108	0.063	0.045	0.034	-	-	-	-	-	-
D2 ditch	None	0.877	0.512	0.359	0.275	-	-	-	-	-	-
	50	0.539	0.333	0.238	0.183	-	-	-	-	-	-
	75	0.371	0.244	0.177	0.136	-	-	-	-	-	-
	90	0.270	0.190	0.140	0.109	-	-	-	-	-	-
D2 stream	None	0.924	0.502	0.345	0.263	-	-	-	-	-	-
	50	0.487	0.270	0.187	0.143	-	-	-	-	-	-
	75	0.272	0.161	0.114	0.087	-	-	-	-	-	-
	90	0.153	0.101	0.073	0.056	-	-	-	-	-	-
D3 ditch	None	0.787	0.436	0.303	0.232	-	-	-	-	-	-
	50	0.444	0.268	0.190	0.146	-	-	-	-	-	-
	75	0.291	0.188	0.136	0.105	-	-	-	-	-	-
	90	0.202	0.142	0.105	0.081	-	-	-	-	-	-
D4 pond	None	0.114	0.084	0.065	0.054	-	-	-	-	-	-
	50	0.074	0.054	0.042	0.034	-	-	-	-	-	-
	75	0.053	0.040	0.030	0.024	-	-	-	-	-	-
	90	0.041	0.031	0.024	0.019	-	-	-	-	-	-
D4 stream	None	0.785	0.421	0.288	0.219	-	-	-	-	-	-
	50	0.402	0.217	0.149	0.114	-	-	-	-	-	-
	75	0.210	0.116	0.080	0.061	-	-	-	-	-	-
	90	0.095	0.055	0.038	0.029	-	-	-	-	-	-
D5 pond	None	0.115	0.084	0.066	0.054	-	-	-	-	-	-
	50	0.074	0.054	0.042	0.034	-	-	-	-	-	-
	75	0.053	0.040	0.031	0.024	-	-	-	-	-	-
	90	0.041	0.031	0.024	0.019	-	-	-	-	-	-
D5 stream	None	0.848	0.454	0.311	0.237	-	-	-	-	-	-
	50	0.434	0.234	0.161	0.123	-	-	-	-	-	-
	75	0.226	0.125	0.086	0.066	-	-	-	-	-	-
	90	0.102	0.059	0.041	0.031	-	-	-	-	-	-
D6 ditch	None	0.761	0.404	0.276	0.211	-	-	-	-	-	-

FOCUS Scenario	**DRT (%)**	**Step 4 PEC$_{SW}$ (µg/L)**									
		Step 4									
VFS (m)		**0**	**0**	**0**	**0**	**5**	**10**	**10**	**15**	**10**	**20**
NSZ (m)		**5**	**10**	**15**	**20**	**5**	**10**	**15**	**15**	**20**	**20**
	50	0.395	0.226	0.159	0.121	-	-	-	-	-	-
	75	0.235	0.143	0.102	0.078	-	-	-	-	-	-
	90	0.145	0.100	0.074	0.057	-	-	-	-	-	-
R1 pond	None	0.139	0.122	0.113	0.108	0.115	0.084	0.066	0.066	0.049	0.054
	50	0.117	0.108	0.103	0.100	0.086	0.060	0.053	0.046	0.049	0.034
	75	0.108	0.102	0.098	0.096	0.075	0.052	0.047	0.039	0.044	0.028
	90	0.103	0.098	0.095	0.093	0.069	0.047	0.044	0.035	0.042	0.025
R1 stream	None	0.800	0.800	0.800	0.800	0.732	0.402	0.363	0.279	0.363	0.212
	50	0.800	0.800	0.800	0.800	0.521	0.363	0.363	0.279	0.363	0.190
	75	0.800	0.800	0.800	0.800	0.521	0.363	0.363	0.279	0.363	0.190
	90	0.800	0.800	0.800	0.800	0.521	0.363	0.363	0.279	0.363	0.190
R3 stream	None	1.01	1.00	1.00	1.00	1.01	0.556	0.458	0.384	0.458	0.293
	50	1.00	1.00	1.00	1.00	0.657	0.458	0.458	0.352	0.458	0.240
	75	1.00	1.00	1.00	1.00	0.657	0.458	0.458	0.352	0.458	0.240
	90	1.00	1.00	1.00	1.00	0.657	0.458	0.458	0.352	0.458	0.240
R4 stream	None	1.52	1.52	1.52	1.52	0.993	0.692	0.692	0.531	0.692	0.363
	50	1.52	1.52	1.52	1.52	0.993	0.692	0.692	0.531	0.692	0.363
	75	1.52	1.52	1.52	1.52	0.993	0.692	0.692	0.531	0.692	0.363
	90	1.52	1.52	1.52	1.52	0.993	0.692	0.692	0.531	0.692	0.363

Table 16: FOCUS STEP 4 Global Maximum PEC_{SW} for cyprodinil following single application to winter cereals at a rate of 450 g a.s./ha at BBCH 69 (SW DT_{50} = 158.8 days, Option 1)

FOCUS Scenario	DRT (%)	Step 4 PEC_{SW} (µg/L)									
		Step 4									
VFS (m)		0	0	0	0	5	10	10	15	10	20
NSZ (m)		5	10	15	20	5	10	15	15	20	20
D1 ditch	None	0.927	0.544	0.385	0.290	-	-	-	-	-	-
	50	0.575	0.358	0.258	0.194	-	-	-	-	-	-
	75	0.400	0.265	0.195	0.146	-	-	-	-	-	-
	90	0.295	0.209	0.157	0.117	-	-	-	-	-	-
D1 pond	None	0.922	0.498	0.344	0.262	-	-	-	-	-	-
	50	0.496	0.293	0.209	0.159	-	-	-	-	-	-
	75	0.323	0.215	0.158	0.120	-	-	-	-	-	-
	90	0.248	0.180	0.135	0.102	-	-	-	-	-	-
D2 ditch	None	0.927	0.544	0.385	0.290	-	-	-	-	-	-
	50	0.575	0.358	0.258	0.194	-	-	-	-	-	-
	75	0.400	0.265	0.195	0.146	-	-	-	-	-	-
	90	0.295	0.209	0.157	0.117	-	-	-	-	-	-
D2 stream	None	0.938	0.498	0.340	0.259	-	-	-	-	-	-
	50	0.471	0.250	0.171	0.130	-	-	-	-	-	-
	75	0.237	0.127	0.087	0.066	-	-	-	-	-	-
	90	0.099	0.065	0.047	0.034	-	-	-	-	-	-
D3 ditch	None	0.810	0.465	0.327	0.248	-	-	-	-	-	-
	50	0.483	0.293	0.210	0.159	-	-	-	-	-	-
	75	0.323	0.213	0.157	0.117	-	-	-	-	-	-
	90	0.240	0.172	0.129	0.096	-	-	-	-	-	-
D4 pond	None	0.117	0.086	0.068	0.055	-	-	-	-	-	-
	50	0.076	0.057	0.044	0.035	-	-	-	-	-	-
	75	0.056	0.042	0.032	0.025	-	-	-	-	-	-
	90	0.044	0.033	0.025	0.019	-	-	-	-	-	-
D4 stream	None	0.930	0.507	0.349	0.266	-	-	-	-	-	-
	50	0.495	0.276	0.193	0.147	-	-	-	-	-	-
	75	0.285	0.171	0.122	0.093	-	-	-	-	-	-
	90	0.172	0.116	0.085	0.065	-	-	-	-	-	-
D5 pond	None	0.118	0.086	0.068	0.055	-	-	-	-	-	-
	50	0.077	0.057	0.044	0.035	-	-	-	-	-	-
	75	0.056	0.042	0.033	0.025	-	-	-	-	-	-
	90	0.044	0.033	0.026	0.019	-	-	-	-	-	-
D5 stream	None	0.991	0.540	0.372	0.283	-	-	-	-	-	-
	50	0.527	0.299	0.209	0.159	-	-	-	-	-	-
	75	0.307	0.190	0.136	0.104	-	-	-	-	-	-
	90	0.196	0.135	0.100	0.076	-	-	-	-	-	-
D6 ditch	None	0.861	0.496	0.351	0.265	-	-	-	-	-	-

FOCUS Scenario	**DRT (%)**	**Step 4 PEC$_{SW}$ (µg/L)**									
		Step 4									
VFS (m)		**0**	**0**	**0**	**0**	**5**	**10**	**10**	**15**	**10**	**20**
NSZ (m)		**5**	**10**	**15**	**20**	**5**	**10**	**15**	**15**	**20**	**20**
	50	0.526	0.328	0.237	0.178	-	-	-	-	-	-
	75	0.368	0.244	0.180	0.134	-	-	-	-	-	-
	90	0.274	0.195	0.146	0.109	-	-	-	-	-	-
R1 pond	None	0.164	0.140	0.125	0.115	0.136	0.097	0.082	0.075	0.057	0.058
	50	0.132	0.117	0.107	0.100	0.104	0.074	0.064	0.057	0.057	0.042
	75	0.116	0.105	0.098	0.092	0.088	0.062	0.055	0.047	0.049	0.034
	90	0.107	0.098	0.092	0.088	0.078	0.055	0.049	0.042	0.044	0.030
R1 stream	None	0.745	0.745	0.745	0.745	0.742	0.408	0.339	0.282	0.339	0.215
	50	0.745	0.745	0.745	0.745	0.486	0.339	0.339	0.260	0.339	0.177
	75	0.745	0.745	0.745	0.745	0.486	0.339	0.055	0.260	0.339	0.177
	90	0.745	0.745	0.745	0.745	0.486	0.339	0.339	0.260	0.339	0.177
R3 stream	None	1.02	0.922	0.922	0.922	1.02	0.560	0.415	0.387	0.415	0.295
	50	0.922	0.922	0.922	0.922	0.597	0.415	0.415	0.318	0.415	0.216
	75	0.922	0.922	0.922	0.922	0.597	0.415	0.415	0.318	0.415	0.216
	90	0.922	0.922	0.922	0.922	0.597	0.415	0.415	0.318	0.415	0.216
R4 stream	None	1.62	1.62	1.62	1.62	1.06	0.736	0.736	0.565	0.736	0.385
	50	1.62	1.62	1.62	1.62	1.06	0.736	0.736	0.565	0.736	0.385
	75	1.62	1.62	1.62	1.62	1.06	0.736	0.736	0.565	0.736	0.385
	90	1.62	1.62	1.62	1.62	1.06	0.736	0.736	0.565	0.736	0.385

Table 17: FOCUS STEP 4 Global Maximum PEC_{SW} for cyprodinil following single application to winter cereals at a rate of 450 g a.s./ha at BBCH 69 (SW DT_{50} = 1000 days, Option 2)

FOCUS Scenario	DRT (%)	Step 4 PEC_{SW} (µg/L)									
		Step 4									
VFS (m)		0	0	0	0	5	10	10	15	10	20
NSZ (m)		5	10	15	20	5	10	15	15	20	20
D1 ditch	None	0.928	0.545	0.385	0.291	-	-	-	-	-	-
	50	0.576	0.358	0.258	0.194	-	-	-	-	-	-
	75	0.401	0.265	0.195	0.146	-	-	-	-	-	-
	90	0.301	0.210	0.157	0.117	-	-	-	-	-	-
D1 pond	None	0.922	0.499	0.345	0.262	-	-	-	-	-	-
	50	0.496	0.294	0.209	0.159	-	-	-	-	-	-
	75	0.323	0.215	0.159	0.120	-	-	-	-	-	-
	90	0.251	0.180	0.135	0.102	-	-	-	-	-	-
D2 ditch	None	0.929	0.545	0.386	0.291	-	-	-	-	-	-
	50	0.577	0.359	0.259	0.194	-	-	-	-	-	-
	75	0.401	0.266	0.195	0.146	-	-	-	-	-	-
	90	0.301	0.210	0.157	0.117	-	-	-	-	-	-
D2 stream	None	0.938	0.498	0.340	0.259	-	-	-	-	-	-
	50	0.471	0.250	0.171	0.130	-	-	-	-	-	-
	75	0.237	0.127	0.087	0.066	-	-	-	-	-	-
	90	0.101	0.067	0.049	0.036	-	-	-	-	-	-
D3 ditch	None	0.811	0.466	0.327	0.249	-	-	-	-	-	-
	50	0.483	0.294	0.210	0.160	-	-	-	-	-	-
	75	0.324	0.214	0.157	0.118	-	-	-	-	-	-
	90	0.246	0.172	0.129	0.096	-	-	-	-	-	-
D4 pond	None	0.118	0.086	0.068	0.055	-	-	-	-	-	-
	50	0.077	0.057	0.044	0.035	-	-	-	-	-	-
	75	0.056	0.042	0.033	0.025	-	-	-	-	-	-
	90	0.045	0.033	0.026	0.019	-	-	-	-	-	-
D4 stream	None	0.930	0.507	0.349	0.266	-	-	-	-	-	-
	50	0.495	0.277	0.193	0.147	-	-	-	-	-	-
	75	0.285	0.172	0.122	0.093	-	-	-	-	-	-
	90	0.173	0.116	0.085	0.065	-	-	-	-	-	-
D5 pond	None	0.118	0.086	0.068	0.055	-	-	-	-	-	-
	50	0.077	0.057	0.044	0.035	-	-	-	-	-	-
	75	0.056	0.042	0.033	0.025	-	-	-	-	-	-
	90	0.045	0.033	0.026	0.019	-	-	-	-	-	-
D5 stream	None	0.991	0.540	0.372	0.283	-	-	-	-	-	-
	50	0.527	0.299	0.209	0.159	-	-	-	-	-	-
	75	0.308	0.190	0.136	0.104	-	-	-	-	-	-
	90	0.196	0.135	0.100	0.076	-	-	-	-	-	-
D6 ditch	None	0.862	0.497	0.352	0.266	-	-	-	-	-	-

FOCUS Scenario	**DRT (%)**	**Step 4 PEC$_{SW}$ (µg/L)**									
		Step 4									
VFS (m)		**0**	**0**	**0**	**0**	**5**	**10**	**10**	**15**	**10**	**20**
NSZ (m)		**5**	**10**	**15**	**20**	**5**	**10**	**15**	**15**	**20**	**20**
	50	0.527	0.329	0.237	0.178	-	-	-	-	-	-
	75	0.369	0.245	0.180	0.135	-	-	-	-	-	-
	90	0.279	0.195	0.146	0.109	-	-	-	-	-	-
R1 pond	None	0.166	0.141	0.126	0.116	0.138	0.098	0.083	0.076	0.057	0.059
	50	0.133	0.118	0.108	0.100	0.105	0.075	0.065	0.057	0.057	0.043
	75	0.117	0.106	0.098	0.093	0.089	0.063	0.055	0.048	0.049	0.035
	90	0.108	0.099	0.093	0.088	0.079	0.056	0.050	0.042	0.045	0.030
R1 stream	None	0.745	0.745	0.745	0.745	0.742	0.409	0.339	0.282	0.339	0.215
	50	0.745	0.745	0.745	0.745	0.486	0.339	0.339	0.260	0.339	0.177
	75	0.745	0.745	0.745	0.745	0.486	0.339	0.339	0.260	0.339	0.177
	90	0.745	0.745	0.745	0.745	0.486	0.339	0.339	0.260	0.339	0.177
R3 stream	None	1.02	0.922	0.922	0.922	1.02	0.560	0.415	0.387	0.415	0.295
	50	0.922	0.922	0.922	0.922	0.597	0.415	0.415	0.318	0.415	0.216
	75	0.922	0.922	0.922	0.922	0.597	0.415	0.415	0.318	0.415	0.216
	90	0.922	0.922	0.922	0.922	0.597	0.415	0.415	0.318	0.415	0.216
R4 stream	None	1.62	1.62	1.62	1.62	1.06	0.736	0.736	0.565	0.736	0.386
	50	1.62	1.62	1.62	1.62	1.06	0.736	0.736	0.565	0.736	0.386
	75	1.62	1.62	1.62	1.62	1.06	0.736	0.736	0.565	0.736	0.386
	90	1.62	1.62	1.62	1.62	1.06	0.736	0.736	0.565	0.736	0.386

Table 18: FOCUS STEP 4 Global Maximum PEC_{SW} for cyprodinil following single application to spring cereals at a rate of 450 g a.s./ha at BBCH 30 (SW DT_{50} = 158.8 days, Option 1)

FOCUS Scenario	**DRT (%)**	**Step 4 PEC_{SW} (µg/L)**									
		Step 4									
VFS (m)		**0**	**0**	**0**	**0**	**5**	**10**	**10**	**15**	**10**	**20**
NSZ (m)		**5**	**10**	**15**	**20**	**5**	**10**	**15**	**15**	**20**	**20**
D1 ditch	None	0.910	0.530	0.373	0.285	-	-	-	-	-	-
	50	0.558	0.345	0.246	0.189	-	-	-	-	-	-
	75	0.383	0.252	0.183	0.141	-	-	-	-	-	-
	90	0.278	0.196	0.144	0.112	-	-	-	-	-	-
D1 pond	None	0.921	0.494	0.341	0.260	-	-	-	-	-	-
	50	0.488	0.285	0.201	0.154	-	-	-	-	-	-
	75	0.309	0.204	0.148	0.115	-	-	-	-	-	-
	90	0.231	0.168	0.124	0.096	-	-	-	-	-	-
D3 ditch	None	0.792	0.441	0.308	0.235	-	-	-	-	-	-
	50	0.453	0.274	0.194	0.149	-	-	-	-	-	-
	75	0.298	0.192	0.139	0.107	-	-	-	-	-	-
	90	0.208	0.147	0.108	0.084	-	-	-	-	-	-
D4 pond	None	0.115	0.084	0.066	0.054	-	-	-	-	-	-
	50	0.074	0.054	0.042	0.034	-	-	-	-	-	-
	75	0.053	0.040	0.031	0.024	-	-	-	-	-	-
	90	0.041	0.031	0.024	0.019	-	-	-	-	-	-
D4 stream	None	0.883	0.476	0.327	0.249	-	-	-	-	-	-
	50	0.458	0.252	0.174	0.133	-	-	-	-	-	-
	75	0.250	0.143	0.100	0.076	-	-	-	-	-	-
	90	0.126	0.077	0.055	0.042	-	-	-	-	-	-
D5 pond	None	0.115	0.084	0.066	0.054	-	-	-	-	-	-
	50	0.074	0.055	0.042	0.034	-	-	-	-	-	-
	75	0.053	0.040	0.031	0.024	-	-	-	-	-	-
	90	0.041	0.031	0.024	0.019	-	-	-	-	-	-
D5 stream	None	0.901	0.484	0.332	0.253	-	-	-	-	-	-
	50	0.465	0.253	0.174	0.133	-	-	-	-	-	-
	75	0.247	0.138	0.095	0.073	-	-	-	-	-	-
	90	0.116	0.068	0.048	0.037	-	-	-	-	-	-
R4 stream	None	1.72	1.72	1.72	1.72	1.12	0.780	0.780	0.599	0.780	0.408
	50	1.72	1.72	1.72	1.72	1.12	0.780	0.780	0.599	0.780	0.408
	75	1.72	1.72	1.72	1.72	1.12	0.780	0.780	0.599	0.780	0.408
	90	1.72	1.72	1.72	1.72	1.12	0.780	0.780	0.599	0.780	0.408

Table 19: FOCUS STEP 4 Global Maximum PEC_{SW} for cyprodinil following single application to spring cereals at a rate of 450 g a.s./ha at BBCH 30 (SW DT_{50} = 1000 days, Option 2)

FOCUS Scenario	**DRT (%)**	**Step 4 PEC_{SW} (µg/L)**									
		Step 4									
VFS (m)		**0**	**0**	**0**	**0**	**5**	**10**	**10**	**15**	**10**	**20**
NSZ (m)		**5**	**10**	**15**	**20**	**5**	**10**	**15**	**15**	**20**	**20**
D1 ditch	None	0.911	0.531	0.373	0.286	-	-	-	-	-	-
	50	0.559	0.345	0.246	0.189	-	-	-	-	-	-
	75	0.384	0.252	0.183	0.141	-	-	-	-	-	-
	90	0.279	0.196	0.145	0.112	-	-	-	-	-	-
D1 pond	None	0.921	0.494	0.341	0.260	-	-	-	-	-	-
	50	0.488	0.285	0.202	0.155	-	-	-	-	-	-
	75	0.309	0.204	0.149	0.115	-	-	-	-	-	-
	90	0.232	0.168	0.124	0.096	-	-	-	-	-	-
D3 ditch	None	0.793	0.441	0.308	0.236	-	-	-	-	-	-
	50	0.453	0.274	0.194	0.149	-	-	-	-	-	-
	75	0.298	0.192	0.139	0.107	-	-	-	-	-	-
	90	0.208	0.147	0.109	0.084	-	-	-	-	-	-
D4 pond	None	0.115	0.084	0.066	0.054	-	-	-	-	-	-
	50	0.074	0.055	0.042	0.034	-	-	-	-	-	-
	75	0.053	0.040	0.031	0.024	-	-	-	-	-	-
	90	0.041	0.031	0.024	0.019	-	-	-	-	-	-
D4 stream	None	0.883	0.476	0.327	0.249	-	-	-	-	-	-
	50	0.458	0.252	0.174	0.133	-	-	-	-	-	-
	75	0.250	0.143	0.100	0.076	-	-	-	-	-	-
	90	0.126	0.077	0.055	0.042	-	-	-	-	-	-
D5 pond	None	0.115	0.084	0.066	0.054	-	-	-	-	-	-
	50	0.074	0.055	0.042	0.034	-	-	-	-	-	-
	75	0.053	0.040	0.031	0.025	-	-	-	-	-	-
	90	0.041	0.031	0.024	0.019	-	-	-	-	-	-
D5 stream	None	0.901	0.484	0.332	0.253	-	-	-	-	-	-
	50	0.465	0.253	0.174	0.133	-	-	-	-	-	-
	75	0.247	0.138	0.095	0.073	-	-	-	-	-	-
	90	0.116	0.068	0.048	0.037	-	-	-	-	-	-
R4 stream	None	1.72	1.72	1.72	1.72	1.12	0.780	0.780	0.599	0.780	0.408
	50	1.72	1.72	1.72	1.72	1.12	0.780	0.780	0.599	0.780	0.408
	75	1.72	1.72	1.72	1.72	1.12	0.780	0.780	0.599	0.780	0.408
	90	1.72	1.72	1.72	1.72	1.12	0.780	0.780	0.599	0.780	0.408

Table 20: FOCUS STEP 4 Global Maximum PEC_{SW} for cyprodinil following single application to spring cereals at a rate of 450 g a.s./ha at BBCH 69 (SW DT_{50} = 158.8 days, Option 1)

FOCUS Scenario	DRT (%)	Step 4 PEC_{SW} (µg/L)									
VFS (m)		0	0	0	0	5	10	10	15	10	20
NSZ (m)		5	10	15	20	5	10	15	15	20	20
D1 ditch	None	0.927	0.544	0.385	0.290	-	-	-	-	-	-
	50	0.400	0.358	0.258	0.205	-	-	-	-	-	-
	75	0.400	0.265	0.195	0.146	-	-	-	-	-	-
	90	0.295	0.209	0.157	0.117	-	-	-	-	-	-
D1 pond	None	0.922	0.498	0.344	0.262	-	-	-	-	-	-
	50	0.323	0.293	0.209	0.159	-	-	-	-	-	-
	75	0.323	0.215	0.158	0.120	-	-	-	-	-	-
	90	0.248	0.180	0.135	0.102	-	-	-	-	-	-
D3 ditch	None	0.805	0.457	0.321	0.244	-	-	-	-	-	-
	50	0.316	0.288	0.206	0.158	-	-	-	-	-	-
	75	0.316	0.206	0.151	0.114	-	-	-	-	-	-
	90	0.229	0.163	0.123	0.091	-	-	-	-	-	-
D4 pond	None	0.117	0.086	0.068	0.055	-	-	-	-	-	-
	50	0.056	0.057	0.044	0.037	-	-	-	-	-	-
	75	0.056	0.042	0.032	0.025	-	-	-	-	-	-
	90	0.044	0.033	0.025	0.019	-	-	-	-	-	-
D4 stream	None	0.927	0.504	0.348	0.265	-	-	-	-	-	-
	50	0.282	0.278	0.194	0.148	-	-	-	-	-	-
	75	0.282	0.170	0.121	0.092	-	-	-	-	-	-
	90	0.167	0.113	0.083	0.063	-	-	-	-	-	-
D5 pond	None	0.117	0.086	0.068	0.055	-	-	-	-	-	-
	50	0.056	0.057	0.044	0.037	-	-	-	-	-	-
	75	0.056	0.042	0.032	0.025	-	-	-	-	-	-
	90	0.044	0.033	0.025	0.019	-	-	-	-	-	-
D5 stream	None	0.945	0.510	0.350	0.267	-	-	-	-	-	-
	50	0.265	0.270	0.186	0.142	-	-	-	-	-	-
	75	0.265	0.151	0.106	0.080	-	-	-	-	-	-
	90	0.134	0.083	0.059	0.045	-	-	-	-	-	-
R4 stream	None	1.80	1.80	1.80	1.80	1.18	0.820	0.820	0.630	0.820	0.430
	50	1.80	1.80	1.80	1.80	1.18	0.820	0.820	0.630	0.820	0.430
	75	1.80	1.80	1.80	1.80	1.18	0.820	0.820	0.630	0.820	0.430
	90	1.80	1.80	1.80	1.80	1.18	0.820	0.820	0.630	0.820	0.430

Table 21: FOCUS STEP 4 Global Maximum PEC_{SW} for cyprodinil following single application to spring cereals at a rate of 450 g a.s./ha at BBCH 69 (SW DT_{50} = 1000 days, Option 2)

FOCUS Scenario	DRT (%)	Step 4 PEC_{SW} (µg/L)									
		Step 4									
VFS (m)		0	0	0	0	5	10	10	15	10	20
NSZ (m)		5	10	15	20	5	10	15	15	20	20
D1 ditch	None	0.928	0.545	0.385	0.291	-	-	-	-	-	-
	50	0.576	0.358	0.258	0.194	-	-	-	-	-	-
	75	0.401	0.265	0.195	0.146	-	-	-	-	-	-
	90	0.296	0.210	0.157	0.117	-	-	-	-	-	-
D1 pond	None	0.922	0.499	0.345	0.262	-	-	-	-	-	-
	50	0.496	0.294	0.209	0.159	-	-	-	-	-	-
	75	0.323	0.215	0.159	0.120	-	-	-	-	-	-
	90	0.248	0.180	0.135	0.102	-	-	-	-	-	-
D3 ditch	None	0.805	0.457	0.321	0.244	-	-	-	-	-	-
	50	0.474	0.289	0.206	0.157	-	-	-	-	-	-
	75	0.316	0.206	0.151	0.114	-	-	-	-	-	-
	90	0.229	0.164	0.123	0.091	-	-	-	-	-	-
D4 pond	None	0.118	0.086	0.068	0.055	-	-	-	-	-	-
	50	0.077	0.057	0.044	0.035	-	-	-	-	-	-
	75	0.056	0.042	0.033	0.025	-	-	-	-	-	-
	90	0.044	0.033	0.026	0.019	-	-	-	-	-	-
D4 stream	None	0.927	0.505	0.348	0.265	-	-	-	-	-	-
	50	0.495	0.279	0.194	0.148	-	-	-	-	-	-
	75	0.282	0.170	0.121	0.092	-	-	-	-	-	-
	90	0.167	0.113	0.083	0.063	-	-	-	-	-	-
D5 pond	None	0.118	0.086	0.068	0.055	-	-	-	-	-	-
	50	0.077	0.057	0.044	0.035	-	-	-	-	-	-
	75	0.056	0.042	0.033	0.025	-	-	-	-	-	-
	90	0.044	0.033	0.026	0.019	-	-	-	-	-	-
D5 stream	None	0.945	0.510	0.350	0.267	-	-	-	-	-	-
	50	0.492	0.270	0.186	0.142	-	-	-	-	-	-
	75	0.265	0.151	0.106	0.080	-	-	-	-	-	-
	90	0.134	0.083	0.059	0.045	-	-	-	-	-	-
R4 stream	None	1.80	1.80	1.80	1.80	1.18	0.820	0.820	0.630	0.820	0.430
	50	1.80	1.80	1.80	1.80	1.18	0.820	0.820	0.630	0.820	0.430
	75	1.80	1.80	1.80	1.80	1.18	0.820	0.820	0.630	0.820	0.430
	90	1.80	1.80	1.80	1.80	1.18	0.820	0.820	0.630	0.820	0.430

Anderson, C., 2022

A 3.7 KCP 9.2.5, Papasova, V., 2022, VV-943357. Prothioconazole – PECSW following application to cereals at STEPS 1 & 2

Comments of zRMS:	The submitted study was accepted. All relevant endpoints were accepted. The models FOCUS Step 1 and Step 2 were used in the PECsw assessment.

Reference:	KCP 9.2.5
Report:	Prothioconazole - A European Environmental Fate Assessment for Parent and its Metabolites JAU 6476-S-methyl, JAU 6476 desthio and 1,2,4-triazole Using the FOCUS Surface Water Models at STEPs 1 to 2 Following Spray Application of Winter and Spring Cereals in Europe, Papasova, V., 2022, Report number: SYN/2022/004, VV-943357
Guideline(s):	FOCUS (2001). FOCUS Surface Water Scenarios in the EU Evaluation Process under 91/414/EEC. Report of the FOCUS Working Group on Surface Water Scenarios, EC Document Reference SANCO/4802/2001 rev. 2. FOCUS (2015). Generic Guidance for FOCUS Surface Water Scenarios, version 1.4.
Deviations:	No
GLP:	Not applicable
Acceptability:	Yes

A 3.7.1 Materials and Methods

This report describes a FOCUS modelling study that examined the potential for prothioconazole and its metabolites JAU 6476-S-methyl, JAU 6476 desthio and 1,2,4-triazole to reach surface water following spray application to winter and spring cereals. FOCUS STEPS 1-2 (v3.2) were used for prothioconazole and its metabolites in the modelling study for STEP 1 and 2 simulations.

At STEP 1-2, simulations were conducted for Northern and Southern Europe with applications timings occurring in Mar-May, Jun-Sep and Oct-Feb to cover the prescribed GAP growth stage BBCH 30-69. Crop interception was set to ‘average crop cover’ in accordance with EFSA (2014) guidance for winter and spring cereals at BBCH 30 (worst case).

The input parameters relating to application are shown in Table A 85 below.

Table A 85: Input parameters related to application for $PEC_{SW/SED}$ calculations

Use No.	1
Crop	Winter and spring cereal [a]

Application rate (g a.s./ha)	150
Number of applications/interval (d)	1 / -
BBCH growth stage	BBCH 30 onwards
Crop interception (STEP 2)	‘average crop cover’
Models used for calculation	FOCUS STEPS 1-2 v3.2

[a] PEC values for winter and spring cereals are the same at STEP 1 & 2. Winter cereals selected as the appropriate crop in this assessment.

The input parameters for cyprodinil and its metabolites JAU 6476-S-methyl, JAU 6476 desthio and 1,2,4-triazole as used in the modelling at STEP 1-2 are shown in Table A 86.

Table A 86: Input parameters related to active substance cyprodinil and metabolites CGA249287, CGA321915 and CGA275535 for $PEC_{SW/SED}$ calculations at STEP 1-2

Compound	Prothioconazole	JAU 6476-S-methyl	JAU 64476 desthio	1,2,4-triazole	Reference
Molecular weight (g mol^{-1})	344.26	358.3	312.2	69.1	EFSA conclusion (2007)
Water solubility (mg L^{-1})	300	1000	1000	1000	EFSA conclusion (2007)
DT_{50} in soil (d)	0.94 (geomean field study, normalized to 20 °C, n=8)	15.7 (geomean lab study, n=4)	22.8 (geomean field study, normalised to 20 °C, n=8)	1000 (default)	EFSA conclusion (2007)
K_{foc} (mL g^{-1})	1765 (single data from aged leaching study)	2525.9 (geomean mean value, n=4)	573.5 (geomean mean value, n=4)	83.1 (geomean, n=4)	Re-calculated from EFSA conclusion (2007)
DT50,water (d)	39.5	40.2	49.9	1000	EFSA conclusion (2007)
DT50,sed (d)	39.5	40.2	49.9	1000	EFSA conclusion (2007)
DT50,whole system (d)	39.5	40.2	49.9	1000	EFSA conclusion (2007)
Maximum occurrence observed (% molar basis with respect to the parent) – water/sediment	-	12.7	55.7	41.8	EFSA conclusion (2007)
Maximum occurrence observed (% molar basis with respect to the parent) – soil	-	14.2	57.1	Not observed**	EFSA conclusion (2007)

* Minor metabolite in soil. Set to 0.001 in Step 1-2.

A 3.7.2 Results

Predicted environmental concentrations in surface water (PEC_{SW}) and sediment (PEC_{SED}) were calculated for the spray application use of prothioconazole on winter and spring cereals in Europe in accordance with FOCUS guidelines.

The results are presented in the tables below in the following order:

FOCUS STEP 1-2 Maximum PEC_{SW} and PEC_{SED} for prothioconazole following spray applications to winter and spring cereals at a rate of 1 x 150 g a.s./ha at BBCH 30;

FOCUS STEP 1-2 Maximum PEC_{SW} and PEC_{SED} for prothioconazole metabolites JAU 6476-S-methyl, JAU 6476 desthio and 1,2,4-triazole following spray applications to winter and spring cereals at a rate of 1 x150 g a.s./ha at BBCH 30.

Table A 87: FOCUS STEP 1-2 Maximum PEC_{SW} and PEC_{SED} for prothioconazole following spray application to winter and spring cereal at BBCH 30

Region	Timing	Max PEC_{sw} (µg/L)	21d $PEC_{sw,twa}$ (µg/L)	Max PEC_{sed} (µg/kg)
Step 1	---	16.3	12.8	266
Step 2				
Northern Europe	Oct-Feb	1.38	0.628	12.1
	Mar-May	1.38	0.492	8.82
	Jun-Sep	1.38	0.492	8.82
Southern Europe	Oct-Feb	1.38	0.583	11.0
	Mar-May	1.38	0.583	11.0
	Jun-Sep	1.38	0.538	9.90

PEC values for winter and spring cereals at STEP 1 & 2 are the same.

Table A 88: FOCUS STEP 1-2 Maximum PEC_{SW} and PEC_{SED} for JAU 6467-s-methyl following spray application to winter and spring cereal at BBCH 30

Region	Timing	Max PEC_{sw} (µg/L)	21d $PEC_{sw,twa}$ (µg/L)	Max PEC_{sed} (µg/kg)
Step 1	---	3.39	2.73	81.0
Step 2				
Northern Europe	Oct-Feb	0.652	0.536	16.0
	Mar-May	0.293	0.234	6.93
	Jun-Sep	0.293	0.234	6.93

Region	Timing	Max PEC_{sw} (µg/L)	21d $PEC_{sw,twa}$ (µg/L)	Max PEC_{sed} (µg/kg)
Southern Europe	Oct-Feb	0.532	0.435	13.0
	Mar-May	0.532	0.435	13.0
	Jun-Sep	0.412	0.335	9.96

PEC values for winter and spring cereals at STEP 1 & 2 are the same.

Table A 89: FOCUS STEP 1-2 Maximum PEC_{SW} and PEC_{SED} for JAU 6476-desthio following spray application to winter and spring cereal at BBCH 30

Region	Timing	Max PEC_{sw} (µg/L)	21d $PEC_{sw,twa}$ (µg/L)	Max PEC_{sed} (µg/kg)
Step 1	---	29.7	25.5	166
Step 2				
Northern Europe	Oct-Feb	5.90	5.07	33.0
	Mar-May	2.62	2.22	14.5
	Jun-Sep	2.62	2.22	14.5
Southern Europe	Oct-Feb	4.81	4.12	26.9
	Mar-May	4.81	4.12	26.9
	Jun-Sep	3.72	3.17	20.7

PEC values for winter and spring cereals at STEP 1 & 2 are the same.

Table A 90: FOCUS STEP 1-2 Maximum PEC_{SW} and PEC_{SED} for 1,2,4-triazole following spray application to winter and spring cereal at BBCH 30

Region	Timing	Max PEC_{sw} (µg/L)	21d $PEC_{sw,twa}$ (µg/L)	Max PEC_{sed} (µg/kg)
Step 1	---	3.89	3.85	3.22
Step 2				
Northern Europe	Oct-Feb	0.180	0.150	0.145
	Mar-May	0.133	0.109	0.106
	Jun-Sep	0.133	0.109	0.106
Southern Europe	Oct-Feb	0.164	0.136	0.132
	Mar-May	0.164	0.136	0.132
	Jun-Sep	0.149	0.123	0.119

PEC values for winter and spring cereals at STEP 1 & 2 are the same.

A 3.8 KCP 9.2.5, Papasova, V., 2022, VV-943372. Prothioconazole – PECSW following application to cereals at STEP 3 & 4, Report Amendment 1, 26th July 2023

Comments of zRMS:	The submitted study was accepted. All relevant endpoints were accepted. The models FOCUS Step 3 and Step 4 were used in the PECsw assessment. The mitigation measures were proposed.

Applicant note: The Applicant has amended the following FOCUS report to include step 4 values for both modelling options 1 and 2.

Reference:	KCP 9.2.5
Report:	Prothioconazole - A European Environmental Fate Assessment for Parent and its metabolite JAU 6475 desthio Using the FOCUS Surface Water Models at STEPs 3 to 4 Following Spray Application to Winter and Spring Cereals, Papasova, V., 2022, Report number: SYN/2022/005, VV-943372
Guideline(s):	FOCUS (2001). FOCUS Surface Water Scenarios in the EU Evaluation Process under 91/414/EEC. Report of the FOCUS Working Group on Surface Water Scenarios, EC Document Reference SANCO/4802/2001 rev. 2. FOCUS (2007). Landscape and Mitigation Factors In Aquatic Ecological Risk Assessment. Volume 1. Extended Summary and Recommendations, The Final Report of the FOCUS Working Group on Landscape and Mitigation Factors in Ecological Risk Assessment, EC Document Reference Sanco/10422/2005, version 2.0, September 2007. FOCUS (2015). Generic Guidance for FOCUS Surface Water Scenarios, version 1.4.
Deviations:	No
GLP:	Not applicable
Acceptability:	Yes

A 3.8.1 Materials and Methods

This report describes a FOCUS modelling study that examined the potential for prothioconazole to reach surface water following foliar application to winter and spring cereals. The FOCUS tool SWASH (v5.3), including the operational models FOCUS-MACRO (v5.5.4), FOCUS-PRZM (v4.3.1) and FOCUS-TOXSWA (v5.5.3), were used for cyprodinil in the modelling study for STEP 3 simulations. The ECPA tool SWAN (v5.0.1) was used to implement mitigation options at STEP 4.

To cover the large application window (BBCH 30-69), two simulations were conducted for each scenario at STEP 3, including;

- First application occurring on BBCH 30;
- Final application applied on BBCH 69.

Table A 91: Input parameters related to application for $PEC_{SW/SED}$ calculations

Use No.	1	2
Crop	‘Winter cereals’	‘Spring cereals’
Application rate (g as/ha)	150	150
Number of applications/interval (d)	1 / -	1 / -
BBCH growth stage	BBCH 30-69	BBCH 30-69
Application method	Foliar spray	Foliar spray
CAM (Chemical application method) (STEP 3)	2	2
Soil depth (cm) (STEP 3)	4	4
Models used for calculation	FOCUS SWASH v5.3, FOCUS PRZM v4.3.1, FOCUS MACRO v5.5.4, FOCUS TOXWA v5.5.3, ECPA SWAN v5.0.1	

For Step 3, spray application (foliar spray) was considered as the application method in all simulations. Crop interception at STEP 3 is calculated internally by the model on the basis of the maximum interception capacity and the actual leaf area index.

An application window for STEP 3 has to be specified from which the Pesticide Application Timer (PAT), internal to the model, determines actual application dates which were set generically for all scenarios. Application window dates are presented in Table A 92, below. The dates were selected with the tool AppDate (v3.06) based on aforementioned conditions to cover the BBCH 30-69 window.

Simulations were carried out using the FOCUS standard crop ‘winter cereals’ and ‘spring cereals’

The application windows used for each scenario at STEP 3 are shown in Table A 92, below.

Table A 92: FOCUS STEP 3 Scenario related input parameters for $PEC_{SW/SED}$ calculations for the application of prothioconazole

Crop	Scenario	Rate (g a.s./ha)	Window Start Date (Julian Days)	Window End Date (Julian Days)
Winter Cereals BBCH 30 [a]	D1	450	25 Mar (84)	24 Apr (114)
	D2		04 Apr (94)	04 May (124)
	D3		16 Apr (106)	16 May (136)
	D4		18 Mar (77)	17 Apr (107)
	D5		15 Mar (74)	14 Apr (104)
	D6		16 Feb (47)	18 Mar (77)
	R1		24 Apr (114)	24 May (144)
	R3		19 Mar (78)	18 Apr (108)
	R4		24 Jan (24)	23 Feb (54)
Winter Cereals BBCH 69 [b]	D1	450	12 Jun (163)	12 Jul (193)
	D2		11 Jun (162)	11 Jul (192)
	D3		01 Jul (182)	31 Jul (212)
	D4		09 Jun (160)	09 Jul (190)
	D5		03 May (123)	02 Jun (153)
	D6		28 Mar (87)	27 Apr (117)
	R1		26 May (146)	25 Jun (176)
	R3		26 Apr (116)	26 May (146)
	R4		03 May (123)	02 Jun (153)
Spring Cereals BBCH 30 [a]	D1	450	27 May (147)	26 Jun (177)
	D3		28 Apr (118)	28 May (148)
	D4		18 May (138)	17 Jun (168)
	D5		09 Apr (99)	09 May (129)
	R4		09 Apr (99)	09 May (129)
Spring Cereals BBCH 69 [b]	D1	450	18 Jun (169)	18 Jul (199)
	D3		29 May (149)	28 Jun (179)
	D4		09 Jun (160)	09 Jul (190)
	D5		05 May (125)	04 Jun (155)
	R4		05 May (125)	04 Jun (155)

[a] Timing cover the early phase of the application window BBCH 30 - 69.
[b] Timing covers the latter phase of the application window BBCH 30 -69.
Numbers in brackets are the corresponding 'Julian Day' numbers

STEP 4 calculations were carried out for those scenarios which required mitigation. Reductions were applied using SWAN v5.0.1 in accordance with FOCUS (2007). Mitigation methods included spray drift reduction in the form of no-spray zones at 5-20 m; spray drift reduction in the form of drift reducing technology (DRT) at 50, 75 and 90 %; run-off reduction in the form of vegetated filter strips (VFS) at 10 m and 20 m; and combinations of all aforementioned methods. Only the worst-case scenario from modelling Option 1 and Option 2 (as defined in the table, below) was carried forward to Step 4.

The input parameters for prothioconazole as used in the modelling at STEP 3-4 are shown in Table A 93.

Table A 93: Input parameters related to active substance Prothioconazole and its metabolite JAU 6476-desthio for $PEC_{SW/SED}$ calculations at STEP 3-4

Compound	Prothioconazole	JAU 6476 desthio	Value in accordance to EU endpoint Reference
Molar mass (g/mol)	344.26	312.2	Yes / EFSA, 2007
Water solubility (mg/L @ 20 °C, pH 8):	300	300 (parent value) [a]	Yes / EFSA, 2007
Saturated vapour pressure (Pa):	<4.00 x 10^{-7} [a]	<3.6 x 10^{-6} [b]	Yes / EFSA, 2007
DT_{50} in soil (d) lab/field	0.94[c] (field, median, normalisation to 10 kPa or pF2, 20 °C with Q10 of 2.58, n = 8)	21.8[c] (field, geometric mean, normalisation to 10 kPa or pF2, 20 °C with Q10 of 2.58, n = 8)	EFSA, 2007, updated in Hardy, 2012
K_{foc} / K_{fom}(mL/g)	1765 / 1024 (n=1, aged residues column leaching study)	573.5 / 332.7 (geomean n=4)	No / Geomean calculated from agreed EFSA, 2005 endponts $K_{fom} = K_{foc}/1.724$
1/n	1.0 (default)	0.81 (arithmetic mean, n=4)	
$DT_{50,water}$ (d)	Option 1: 39.5* (addendum to the DAR, geomean of HS slow phases, n=2) Option 2: 1000*	Option 1: 1000[d] Option 2: 1000[d]	Yes / EFSA, 2007
$DT_{50,sed}$ (d)	Option 1: 1000* Option 2: 39.5 (addendum to the DAR, geomean of HS slow phases, n=2)	Option 1: 49.9[c] (total system, worst-case value, n=2) Option 2: 49.9[c] (total system, worst-case value, n=2)worst-case	Yes / EFSA, 2007
$DT_{50,whole\ system}$ (d)	39.5 (addendum to the DAR, geomean of HS slow phases, n=2)	49.9	Yes / EFSA, 2007
Plant uptake factor	0	0	Default (most conservative)
Diffusion coefficient in water (m²/d)	4.3 x 10^{-5}	4.3 x 10^{-5}	FOCUS default
Diffusion coefficient in air (m²/d)	0.43	0.43	FOCUS default
Wash-Off factor from Crop (1/mm)	0.05 (MACRO) 0.50 (PRZM)	0.05 (MACRO) 0.50 (PRZM)	FOCUS default
Formation fraction	-	Soil: 0.6 Water: 1.0 Sediment: 1.0	Yes / EFSA, 2007

[a] Parent value was used as solubility of the metabolite, no impact on the PECs is anticipated.

[b] The value stated was used as saturated vapour pressure, as a worst-case scenario.
[c] The soil DT50 values for prothioconazole and JAU 6476-desthio have been updated according to the normalisation and geometric mean recalculations in Hardy, 2012.
[d] Worst-case PEC_{SW} for JAU 6476-desthio will be generated with the longest DT_{50} in the surface water compartment of the metabolite.
* Parent Kfoc is >100 and <2000, so DT_{50} whole system in either water or sediment compartmen is used, with a default 1000d in the other compartment, and the worst-case results from either combination is taken forwards for assessment (FOCUS 2001)

A 3.8.2 Results

Predicted environmental concentrations in surface water (PEC_{SW}) and sediment (PEC_{SED}) were calculated for the use of prothioconazole on and its metabolite JAU 6476-desthio on winter and spint cereals in Europe in accordance with FOCUS guidelines. Only the maximum PEC from Option 1 and Option 2 at STEP 3 are reported in the results tables.

The results are presented in the tables below in the following order:

FOCUS STEP 3 Global Maximum PEC_{SW} and PEC_{SED} for prothioconazole following application to winter cereals at a rate of 150 g a.s./ha at BBCH 30 or BBCH 69, option 1 and option 2;

FOCUS STEP 3 Global Maximum PEC_{SW} and PEC_{SED} for prothioconazole following application to spring cereals at a rate of 150 g a.s./ha at BBCH 30 or BBCH 69, option 1 and option 2;

FOCUS STEP 3 Global Maximum PEC_{SW} and PEC_{SED} for JAU 6476-desthio following application of prothioconazole to winter cereals at a rate of 150 g a.s./ha at BBCH 30 or BBCH 69, option 1 and option 2;

FOCUS STEP 3 Global Maximum PEC_{SW} and PEC_{SED} for JAU 6476-desthio following application of prothioconazole to spring cereals at a rate of 150 g a.s./ha at BBCH 30 or BBCH 69, option 1 and option 2;

FOCUS application dates and global maximum timing for prothioconazole and JAU 6476 -desthio following single application to winter cereals at BBCH 30-69;

STEP 3 Summary table, Global Maximum PEC_{SW} and PEC_{SED} for prothioconazole and JAU 6476-desthio following single application to winter cereals at BBCH 30-69;

FOCUS application dates and global maximum timing for prothioconazole and JAU 6476 -desthio following single application to spring cereals at BBCH 30-69;

STEP 3 Summary table, Global Maximum PEC_{SW} and PEC_{SED} for prothioconazole and JAU 6476-desthio following single application to spring cereals at BBCH 30-69;

FOCUS STEP 4 Global Maximum PEC_{SW} and PEC_{SED} for prothioconazole following application to winter cereals at a rate of 150 g a.s./ha at BBCH 30 and BBCH 69, option 1 and 2;

FOCUS STEP 4 Global Maximum PEC_{SW} and PEC_{SED} for prothioconazole following application to spring cereals at a rate of 150 g a.s./ha at BBCH 30 and BBCH 69, option 1 and 2;

FOCUS STEP 4 Global Maximum PEC_{SW} and PEC_{SED} for JAU 6476-desthio following application of prothioconazole to winter cereals at a rate of 150 g a.s./ha at BBCH 30 and BBCH 69, option 1 and 2;

FOCUS STEP 4 Global Maximum PEC_{SW} and PEC_{SED} for JAU 6476-desthio following application of prothioconazole to spring cereals at a rate of 150 g a.s./ha at BBCH 30 and BBCH 69, option 1 and 2.

Table 22: FOCUS STEP 3 Global Maximum PEC_{SW} and PEC_{SED} for prothioconazole following single application to winter cereals at a rate of 150 g a.s./ha at BBCH 30, option 1

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	21d $PEC_{sw,twa}$ (µg/L)	Max PEC_{sed} (µg/kg)
Step 3					
D1	Ditch	0.953	Drift	0.084	0.690
D1	Stream	0.740	Drift	0.002	0.030
D2	Ditch	0.959	Drift	0.104	0.961
D2	Stream	0.814	Drift	0.009	0.126
D3	Ditch	0.949	Drift	0.047	0.488
D4	Pond	0.033	Drift	0.026	0.130
D4	Stream	0.701	Drift	0.001	0.020
D5	Pond	0.033	Drift	0.026	0.131
D5	Stream	0.758	Drift	0.001	0.022
D6	Ditch	0.938	Drift	0.020	0.255
R1	Pond	0.033	Drift	0.026	0.121
R1	Stream	0.625	Drift	0.007	0.081
R3	Stream	0.878	Drift	0.012	0.164
R4	Stream	0.628	Drift	0.006	0.092

Table 23: FOCUS STEP 3 Global Maximum PEC_{SW} and PEC_{SED} for prothioconazole following single application to winter cereals at a rate of 150 g a.s./ha at BBCH 30, option 2

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	21d $PEC_{sw,twa}$ (µg/L)	Max PEC_{sed} (µg/kg)
Step 3					
D1	Ditch	0.953	Drift	0.085	0.690
D1	Stream	0.740	Drift	0.002	0.030
D2	Ditch	0.959	Drift	0.105	0.961
D2	Stream	0.814	Drift	0.009	0.126
D3	Ditch	0.949	Drift	0.047	0.487
D4	Pond	0.033	Drift	0.027	0.130
D4	Stream	0.701	Drift	0.001	0.020
D5	Pond	0.033	Drift	0.028	0.136
D5	Stream	0.758	Drift	0.001	0.022
D6	Ditch	0.938	Drift	0.020	0.255
R1	Pond	0.033	Drift	0.028	0.124
R1	Stream	0.625	Drift	0.007	0.081
R3	Stream	0.878	Drift	0.012	0.164
R4	Stream	0.628	Drift	0.006	0.092

Table 24: FOCUS STEP 3 Global Maximum PEC_{SW} and PEC_{SED} for prothioconazole following single application to winter cereals at a rate of 150 g a.s./ha at BBCH 69, option 1

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	21d $PEC_{sw,twa}$ (µg/L)	Max PEC_{sed} (µg/kg)
Step 3					
D1	Ditch	0.961	Drift	0.625	2.447
D1	Stream	0.840	Drift	0.036	0.410
D2	Ditch	0.962	Drift	0.626	2.670
D2	Stream	0.856	Drift	0.550	2.172
D3	Ditch	0.952	Drift	0.067	0.621
D4	Pond	0.033	Drift	0.025	0.113
D4	Stream	0.821	Drift	0.011	0.158
D5	Pond	0.033	Drift	0.026	0.124
D5	Stream	0.886	Drift	0.016	0.217
D6	Ditch	0.954	Drift	0.160	0.921
R1	Pond	0.047	Run-off	0.037	0.188
R1	Stream	0.627	Drift	0.015	0.685
R3	Stream	0.884	Drift	0.015	0.198
R4	Stream	0.628	Drift	0.035	0.489

Table 25: FOCUS STEP 3 Global Maximum PEC_{SW} and PEC_{SED} for prothioconazole following single application to winter cereals at a rate of 150 g a.s./ha at BBCH 69, option 2

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	21d $PEC_{sw,twa}$ (µg/L)	Max PEC_{sed} (µg/kg)
Step 3					
D1	Ditch	0.961	Drift	0.665	2.41
D1	Stream	0.840	Drift	0.036	0.410
D2	Ditch	0.962	Drift	0.676	2.62
D2	Stream	0.856	Drift	0.593	2.17
D3	Ditch	0.952	Drift	0.068	0.620
D4	Pond	0.033	Drift	0.028	0.128
D4	Stream	0.821	Drift	0.011	0.158
D5	Pond	0.033	Drift	0.029	0.133
D5	Stream	0.886	Drift	0.016	0.217
D6	Ditch	0.954	Drift	0.163	0.920
R1	Pond	0.049	Run-off	0.042	0.194
R1	Stream	0.627	Drift	0.015	0.679
R3	Stream	0.884	Drift	0.015	0.198
R4	Stream	0.628	Drift	0.035	0.480

Table 26: FOCUS STEP 3 Global Maximum PEC_{SW} and PEC_{SED} for prothioconazole following single application to spring cereals at a rate of 150 g a.s./ha at BBCH 30, option 1

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	21d $PEC_{sw,twa}$ (µg/L)	Max PEC_{sed} (µg/kg)
Step 3					
D1	Ditch	0.961	Drift	0.625	2.45
D1	Stream	0.840	Drift	0.036	0.410
D3	Ditch	0.950	Drift	0.052	0.527
D4	Pond	0.033	Drift	0.026	0.118
D4	Stream	0.777	Drift	0.003	0.052
D5	Pond	0.033	Drift	0.027	0.129
D5	Stream	0.798	Drift	0.002	0.033
R4	Stream	0.628	Drift	0.033	0.446

Table 27: FOCUS STEP 3 Global Maximum PEC_{SW} and PEC_{SED} for prothioconazole following single application to spring cereals at a rate of 150 g a.s./ha at BBCH 30, option 2

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	21d $PEC_{sw,twa}$ (µg/L)	Max PEC_{sed} (µg/kg)
Step 3					
D1	Ditch	0.961	Drift	0.665	2.41
D1	Stream	0.840	Drift	0.036	0.410
D3	Ditch	0.950	Drift	0.053	0.526
D4	Pond	0.033	Drift	0.028	0.125
D4	Stream	0.777	Drift	0.003	0.052
D5	Pond	0.033	Drift	0.028	0.133
D5	Stream	0.798	Drift	0.002	0.033
R4	Stream	0.628	Drift	0.033	0.437

Table 28: FOCUS STEP 3 Global Maximum PEC_{SW} and PEC_{SED} for prothioconazole following single application to spring cereals at a rate of 150 g a.s./ha at BBCH 69, option 1

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	21d $PEC_{sw,twa}$ (µg/L)	Max PEC_{sed} (µg/kg)
Step 3					
D1	Ditch	0.961	Drift	0.617	2.40
D1	Stream	0.840	Drift	0.036	0.410
D3	Ditch	0.951	Drift	0.058	0.568
D4	Pond	0.033	Drift	0.025	0.113
D4	Stream	0.819	Drift	0.010	0.144
D5	Pond	0.033	Drift	0.026	0.122
D5	Stream	0.829	Drift	0.003	0.051
R4	Stream	0.628	Drift	0.036	0.488

Table 29: FOCUS STEP 3 Global Maximum PEC_{SW} and PEC_{SED} for prothioconazole following single application to spring cereals at a rate of 150 g a.s./ha at BBCH 69, option 2

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	21d $PEC_{sw,twa}$ (µg/L)	Max PEC_{sed} (µg/kg)
Step 3					
D1	Ditch	0.961	Drift	0.663	2.37
D1	Stream	0.840	Drift	0.036	0.410
D3	Ditch	0.951	Drift	0.059	0.567
D4	Pond	0.033	Drift	0.028	0.126
D4	Stream	0.819	Drift	0.010	0.144
D5	Pond	0.033	Drift	0.028	0.132
D5	Stream	0.829	Drift	0.003	0.051
R4	Stream	0.628	Drift	0.036	0.479

Table 30: FOCUS STEP 3 Global Maximum PEC_{SW} and PEC_{SED} for JAU 6476-desthio following single application to winter cereals at a rate of 150 g a.s./ha at BBCH 30, option 1

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	21d $PEC_{sw,twa}$ (µg/L)	Max PEC_{sed} (µg/kg)
Step 3					
D1	Ditch	0.003	Drainage	0.001	0.014
D1	Stream	0.014	Drift	<0.001	0.007
D2	Ditch	0.014	Drainage	0.001	0.021
D2	Stream	0.053	Drift	0.001	0.013
D3	Ditch	0.003	Drainage	<0.001	0.003
D4	Pond	0.005	Drainage	0.005	0.076
D4	Stream	0.004	Drift	<0.001	0.002
D5	Pond	0.008	Drainage	0.008	0.104
D5	Stream	0.008	Drift	<0.001	<0.001
D6	Ditch	0.001	Drift	<0.001	0.001
R1	Pond	0.030	Run-off	0.027	0.247
R1	Stream	0.265	Run-off	0.018	0.275
R3	Stream	0.323	Run-off	0.015	0.420
R4	Stream	0.477	Run-off	0.023	0.311

Table 31: FOCUS STEP 3 Global Maximum PEC_{SW} and PEC_{SED} for JAU 6476-desthio following single application to winter cereals at a rate of 150 g a.s./ha at BBCH 30, option 2

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	21d $PEC_{sw,twa}$ (µg/L)	Max PEC_{sed} (µg/kg)
Step 3					
D1	Ditch	0.001	Drainage	0.001	0.048
D1	Stream	0.001	Drift	<0.001	0.007
D2	Ditch	0.014	Drainage	0.001	0.060
D2	Stream	0.009	Drainage	0.001	0.010
D3	Ditch	<0.001	Drainage	0.000	0.028
D4	Pond	0.001	Drainage	0.001	0.073
D4	Stream	0.002	Drainage	<0.001	0.002
D5	Pond	0.002	Drainage	0.002	0.091
D5	Stream	<0.001	Drift	<0.001	0.001
D6	Ditch	<0.001	Drift	<0.001	0.012
R1	Pond	0.025	Run-off	0.022	0.245
R1	Stream	0.265	Run-off	0.018	0.278
R3	Stream	0.321	Run-off	0.015	0.423
R4	Stream	0.476	Run-off	0.023	0.314

Table 32: FOCUS STEP 3 Global Maximum PEC_{SW} and PEC_{SED} for JAU 6476-desthio following single application to winter cereals at a rate of 150 g a.s./ha at BBCH 69, option 1

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	21d $PEC_{sw,twa}$ (µg/L)	Max PEC_{sed} (µg/kg)
Step 3					
D1	Ditch	0.074	Drainage	0.072	0.562
D1	Stream	0.017	Drift	0.001	0.022
D2	Ditch	0.112	Drainage	0.111	0.984
D2	Stream	0.093	Drainage	0.090	0.688
D3	Ditch	0.009	Drainage	0.001	0.012
D4	Pond	0.008	Drainage	0.008	0.111
D4	Stream	0.006	Drift	<0.001	0.004
D5	Pond	0.008	Drainage	0.008	0.117
D5	Stream	0.010	Drift	<0.001	0.003
D6	Ditch	0.011	Drainage	0.004	0.033
R1	Pond	0.024	Run-off	0.022	0.256
R1	Stream	0.169	Run-off	0.008	0.459
R3	Stream	0.314	Run-off	0.023	0.198
R4	Stream	0.383	Run-off	0.053	0.614

Table 33: FOCUS STEP 3 Global Maximum PEC_{SW} and PEC_{SED} for JAU 6476-desthio following single application to winter cereals at a rate of 150 g a.s./ha at BBCH 69, option 2

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	21d $PEC_{sw,twa}$ (µg/L)	Max PEC_{sed} (µg/kg)
Step 3					
D1	Ditch	0.024	Drainage	0.024	0.898
D1	Stream	0.002	Drainage	0.001	0.028
D2	Ditch	0.045	Drainage	0.042	1.123
D2	Stream	0.023	Drainage	0.023	0.797
D3	Ditch	<0.001	Drainage	<0.001	0.050
D4	Pond	0.002	Drainage	0.002	0.082
D4	Stream	0.004	Drainage	<0.001	0.009
D5	Pond	0.002	Drainage	0.002	0.096
D5	Stream	<0.001	Drift	<0.001	0.010
D6	Ditch	0.001	Drainage	0.001	0.111
R1	Pond	0.016	Run-off	0.013	0.238
R1	Stream	0.163	Run-off	0.008	0.462
R3	Stream	0.313	Run-off	0.023	0.204
R4	Stream	0.374	Run-off	0.051	0.613

Table 34: FOCUS STEP 3 Global Maximum PEC_{SW} and PEC_{SED} for JAU 6476-desthio following single application to spring cereals at a rate of 150 g a.s./ha at BBCH 30, option 1

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	21d $PEC_{sw,twa}$ (µg/L)	Max PEC_{sed} (µg/kg)
Step 3					
D1	Ditch	0.075	Drainage	0.072	0.564
D1	Stream	0.017	Drift	0.001	0.026
D3	Ditch	0.006	Drainage	<0.001	0.006
D4	Pond	0.007	Drainage	0.007	0.100
D4	Stream	0.005	Drift	<0.001	0.002
D5	Pond	0.008	Drainage	0.008	0.105
D5	Stream	0.008	Drift	<0.001	<0.001
R4	Stream	0.427	Run-off	0.058	0.675

Table 35: FOCUS STEP 3 Global Maximum PEC_{SW} and PEC_{SED} for JAU 6476-desthio following single application to spring cereals at a rate of 150 g a.s./ha at BBCH 30, option 2

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	21d $PEC_{sw,twa}$ (µg/L)	Max PEC_{sed} (µg/kg)
Step 3					
D1	Ditch	0.025	Drainage	0.024	0.900
D1	Stream	0.002	Drainage	0.001	0.030
D3	Ditch	0.000	Drainage	0.000	0.034
D4	Pond	0.001	Drainage	0.001	0.082
D4	Stream	0.003	Drainage	0.000	0.003
D5	Pond	0.002	Drainage	0.002	0.091
D5	Stream	0.000	Drift	0.000	0.001
R4	Stream	0.419	Run-off	0.057	0.674

Table 36: FOCUS STEP 3 Global Maximum PEC_{SW} and PEC_{SED} for JAU 6476-desthio following single application to spring cereals at a rate of 150 g a.s./ha at BBCH 69, option 1

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	21d $PEC_{sw,twa}$ (µg/L)	Max PEC_{sed} (µg/kg)
Step 3					
D1	Ditch	0.081	Drainage	0.078	0.591
D1	Stream	0.017	Drift	0.001	0.023
D3	Ditch	0.006	Drainage	0.001	0.007
D4	Pond	0.007	Drainage	0.007	0.103
D4	Stream	0.006	Drift	0.000	0.005
D5	Pond	0.008	Drainage	0.008	0.115
D5	Stream	0.009	Drift	0.000	0.001
R4	Stream	0.443	Run-off	0.060	0.695

Table 37: FOCUS STEP 3 Global Maximum PEC_{SW} and PEC_{SED} for JAU 6476-desthio following single application to spring cereals at a rate of 150 g a.s./ha at BBCH 69, option 2

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	21d $PEC_{sw,twa}$ (µg/L)	Max PEC_{sed} (µg/kg)
Step 3					
D1	Ditch	0.025	Drainage	0.025	0.892
D1	Stream	0.001	Drainage	0.001	0.030
D3	Ditch	0.000	Drainage	0.000	0.040
D4	Pond	0.002	Drainage	0.002	0.079
D4	Stream	0.005	Drainage	0.000	0.009
D5	Pond	0.002	Drainage	0.002	0.095
D5	Stream	0.000	Drift	0.000	0.002
R4	Stream	0.434	Run-off	0.059	0.694

Table 38: FOCUS Application dates and global maximum timing for prothioconazole following single application to winter cereals

Application scenario	Scenario	Water body	Application date	Date of global maximum Option 1	Date of global maximum Option 2
Winter Cereals 1 x 150 g a.s./ha BBCH 30	D1	ditch	29-Mar-1982	29-Mar-1982	29-Mar-1982
	D1	stream	29-Mar-1982	29-Mar-1982	29-Mar-1982
	D2	ditch	04-Apr-1986	04-Apr-1986	04-Apr-1986
	D2	stream	04-Apr-1986	04-Apr-1986	04-Apr-1986
	D3	ditch	20-Apr-1992	20-Apr-1992	20-Apr-1992
	D4	pond	19-Mar-1985	19-Mar-1985	19-Mar-1985
	D4	stream	19-Mar-1985	19-Mar-1985	19-Mar-1985
	D5	pond	08-Apr-1978	08-Apr-1978	08-Apr-1978
	D5	stream	08-Apr-1978	08-Apr-1978	08-Apr-1978
	D6	ditch	27-Feb-1986	27-Feb-1986	27-Feb-1986
	R1	pond	26-Apr-1984	26-Apr-1984	26-Apr-1984
	R1	stream	26-Apr-1984	26-Apr-1984	26-Apr-1984
	R3	stream	28-Mar-1980	28-Mar-1980	28-Mar-1980
	R4	stream	04-Feb-1980	04-Feb-1980	04-Feb-1980
Winter Cereals 1 x 150 g a.s./ha BBCH 69	D1	ditch	17-Jun-1982	17-Jun-1982	17-Jun-1982
	D1	stream	17-Jun-1982	17-Jun-1982	17-Jun-1982
	D2	ditch	13-Jun-1986	13-Jun-1986	13-Jun-1986
	D2	stream	13-Jun-1986	13-Jun-1986	13-Jun-1986
	D3	ditch	08-Jul-1992	08-Jul-1992	08-Jul-1992
	D4	pond	04-Jul-1985	04-Jul-1985	04-Jul-1985
	D4	stream	04-Jul-1985	04-Jul-1985	04-Jul-1985
	D5	pond	11-May-1978	11-May-1978	11-May-1978
	D5	stream	11-May-1978	11-May-1978	11-May-1978
	D6	ditch	09-Apr-1986	09-Apr-1986	09-Apr-1986
	R1	pond	13-Jun-1984	21-Jun-1984	21-Jun-1984
	R1	stream	13-Jun-1984	13-Jun-1984	13-Jun-1984
	R3	stream	26-Apr-1980	26-Apr-1980	26-Apr-1980
	R4	stream	04-May-1984	04-May-1984	04-May-1984

Table 39: FOCUS Application dates and global maximum timing for JAU 6476-desthio following single application to winter cereals

Application scenario	Scenario	Water body	Application date	Date of global maximum Option 1	Date of global maximum Option 2
Winter Cereals 1 x 150 g a.s./ha BBCH 30	D1	ditch	29-Mar-1982	30-Mar-1982	08-Apr-1982
	D1	stream	29-Mar-1982	29-Mar-1982	29-Mar-1982
	D2	ditch	04-Apr-1986	04-Apr-1987	04-Apr-1987
	D2	stream	04-Apr-1986	04-Apr-1986	04-Apr-1987
	D3	ditch	20-Apr-1992	21-Apr-1992	21-Apr-1992
	D4	pond	19-Mar-1985	01-Aug-1985	09-Dec-1985
	D4	stream	19-Mar-1985	19-Mar-1985	07-Dec-1985
	D5	pond	08-Apr-1978	01-Aug-1978	07-Oct-1978
	D5	stream	08-Apr-1978	08-Apr-1978	08-Apr-1978
	D6	ditch	27-Feb-1986	27-Feb-1986	27-Feb-1986
	R1	pond	26-Apr-1984	21-Jun-1984	21-Jun-1984
	R1	stream	26-Apr-1984	20-May-1984	20-May-1984
	R3	stream	28-Mar-1980	20-Apr-1980	20-Apr-1980
	R4	stream	04-Feb-1980	19-Mar-1980	19-Mar-1980
Winter Cereals 1 x 150 g a.s./ha BBCH 69	D1	ditch	17-Jun-1982	17-Jul-1982	07-Aug-1982
	D1	stream	17-Jun-1982	17-Jun-1982	01-Jan-1982
	D2	ditch	13-Jun-1986	01-Aug-1986	25-Aug-1986
	D2	stream	13-Jun-1986	07-Jul-1986	03-Aug-1986
	D3	ditch	08-Jul-1992	09-Jul-1992	09-Jul-1992
	D4	pond	04-Jul-1985	01-Sep-1985	09-Dec-1985
	D4	stream	04-Jul-1985	04-Jul-1985	07-Dec-1985
	D5	pond	11-May-1978	12-Aug-1978	31-Oct-1978
	D5	stream	11-May-1978	11-May-1978	11-May-1978
	D6	ditch	09-Apr-1986	11-Apr-1986	19-Apr-1986
	R1	pond	13-Jun-1984	31-Jul-1984	21-Jun-1984
	R1	stream	13-Jun-1984	21-Jun-1984	14-Jul-1984
	R3	stream	26-Apr-1980	13-May-1980	13-May-1980
	R4	stream	04-May-1984	18-May-1984	18-May-1984

Table 40: FOCUS Step 3 Summary Table, Global Maximum PECsw and PECsed prothioconazole following single application to winter cereals at BBCH 30-69

All PEC's tabulated below are the highest figures taken from the two parameter sets from the water/sediment DT_{50}'s.

Scenario	Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	21 d- $PEC_{sw,twa}$ (µg/L)*	Max PEC_{sed} (µg/kg)
Step 3					
D1	ditch	0.961	Drift	0.665	2.447
D1	stream	0.840	Drift	0.036	0.410
D2	ditch	0.962	Drift	0.676	2.670
D2	stream	0.856	Drift	0.593	2.172
D3	ditch	0.952	Drift	0.068	0.621
D4	pond	0.033	Drift	0.028	0.130
D4	stream	0.821	Drift	0.011	0.158
D5	pond	0.033	Drift	0.029	0.136
D5	stream	0.886	Drift	0.016	0.217
D6	ditch	0.954	Drift	0.163	0.921
R1	pond	0.049	Run-off	0.042	0.194
R1	stream	0.627	Drift	0.015	0.685
R3	stream	0.884	Drift	0.015	0.198
R4	stream	0.628	Drift	0.035	0.489

* twa-time as required by ecotox

Table 41: FOCUS Step 3 Summary Table, Global Maximum PECsw and PECsed JAU 6476-desthio following single application to winter cereals at BBCH 30-69

All PEC's tabulated below are the highest figures taken from the two parameter sets from the water/sediment DT_{50}'s.

Scenario	Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	21 d- $PEC_{sw,twa}$ (µg/L)*	Max PEC_{sed} (µg/kg)
Step 3					
D1	ditch	0.074	Drainage	0.072	0.898
D1	stream	0.017	Drift	0.001	0.028
D2	ditch	0.112	Drainage	0.111	1.123
D2	stream	0.093	Drainage	0.090	0.797
D3	ditch	0.009	Drainage	0.001	0.050
D4	pond	0.008	Drainage	0.008	0.111
D4	stream	0.006	Drift	0.000	0.009
D5	pond	0.008	Drainage	0.008	0.117
D5	stream	0.010	Drift	0.000	0.010
D6	ditch	0.011	Drainage	0.004	0.111
R1	pond	0.030	Run-off	0.027	0.256
R1	stream	0.265	Run-off	0.018	0.462
R3	stream	0.323	Run-off	0.023	0.423
R4	stream	0.477	Run-off	0.053	0.614

* twa-time as required by ecotox

Table 42: FOCUS Application dates and global maximum timing for prothioconazole following single application to spring cereals

Application scenario	Scenario	Water body	Application date	Date of global maximum Option 1	Date of global maximum Option 2
Spring Cereals 1 x 150 g a.s./ha BBCH 30	D1	ditch	17-Jun-1982	17-Jun-1982	17-Jun-1982
	D1	stream	17-Jun-1982	17-Jun-1982	17-Jun-1982
	D3	ditch	04-May-1992	04-May-1992	04-May-1992
	D4	pond	30-May-1985	30-May-1985	30-May-1985
	D4	stream	30-May-1985	30-May-1985	30-May-1985
	D5	pond	14-Apr-1978	14-Apr-1978	14-Apr-1978
	D5	stream	14-Apr-1978	14-Apr-1978	14-Apr-1978
	R4	stream	04-May-1984	04-May-1984	04-May-1984
Spring Cereals 1 x 150 g a.s./ha BBCH 69	D1	ditch	24-Jun-1982	24-Jun-1982	24-Jun-1982
	D1	stream	24-Jun-1982	24-Jun-1982	24-Jun-1982
	D3	ditch	28-May-1992	28-May-1992	28-May-1992
	D4	pond	04-Jul-1985	04-Jul-1985	04-Jul-1985
	D4	stream	04-Jul-1985	04-Jul-1985	04-Jul-1985
	D5	pond	11-May-1978	11-May-1978	11-May-1978
	D5	stream	11-May-1978	11-May-1978	11-May-1978
	R4	stream	05-May-1984	05-May-1984	05-May-1984

Table 43: FOCUS Application dates and global maximum timing for JAU 6476-desthio following single application to spring cereals

Application scenario	Scenario	Water body	Application date	Date of global maximum Option 1	Date of global maximum Option 2
Spring Cereals 1 x 150 g a.s./ha BBCH 30	D1	ditch	17-Jun-1982	17-Jul-1982	07-Aug-1982
	D1	stream	17-Jun-1982	17-Jun-1982	01-Jan-1982
	D3	ditch	04-May-1992	05-May-1992	05-May-1992
	D4	pond	30-May-1985	22-Aug-1985	09-Dec-1985
	D4	stream	30-May-1985	30-May-1985	07-Dec-1985
	D5	pond	14-Apr-1978	01-Aug-1978	10-Oct-1978
	D5	stream	14-Apr-1978	14-Apr-1978	14-Apr-1978
	R4	stream	04-May-1984	18-May-1984	18-May-1984
Spring Cereals 1 x 150 g a.s./ha BBCH 69	D1	ditch	24-Jun-1982	21-Jul-1982	12-Aug-1982
	D1	stream	24-Jun-1982	24-Jun-1982	01-Jan-1982
	D3	ditch	28-May-1992	29-May-1992	29-May-1992
	D4	pond	04-Jul-1985	01-Sep-1985	09-Dec-1985
	D4	stream	04-Jul-1985	04-Jul-1985	07-Dec-1985
	D5	pond	11-May-1978	12-Aug-1978	31-Oct-1978
	D5	stream	11-May-1978	11-May-1978	11-May-1978
	R4	stream	05-May-1984	18-May-1984	18-May-1984

Table 44: FOCUS Step 3 Summary Table, Global Maximum PECsw and PECsed prothioconazole following single application to spring cereals at BBCH 30-69

All PEC's tabulated below are the highest figures taken from the two parameter sets from the water/sediment DT_{50}'s.

Scenario	Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	21 d- $PEC_{sw,twa}$ (µg/L)*	Max PEC_{sed} (µg/kg)
Step 3					
D1	ditch	0.961	Drift	0.665	2.447
D1	stream	0.840	Drift	0.036	0.410
D3	ditch	0.951	Drift	0.059	0.568
D4	pond	0.033	Drift	0.028	0.126
D4	stream	0.819	Drift	0.010	0.144
D5	pond	0.033	Drift	0.028	0.133
D5	stream	0.829	Drift	0.003	0.051
R4	stream	0.628	Drift	0.036	0.488

* twa-time as required by ecotox

Table 45: FOCUS Step 3 Summary Table, Global Maximum PECsw and PECsed JAU 6476-desthio following single application to spring cereals at BBCH 30-69

All PEC's tabulated below are the highest figures taken from the two parameter sets from the water/sediment DT_{50}'s.

Scenario	Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	21 d- $PEC_{sw,twa}$ (µg/L)*	Max PEC_{sed} (µg/kg)
Step 3					
D1	ditch	0.081	Drift	0.078	0.900
D1	stream	0.017	Drift	0.001	0.030
D3	ditch	0.006	Drift	0.001	0.040
D4	pond	0.007	Drift	0.007	0.103
D4	stream	0.006	Drift	0.000	0.009
D5	pond	0.008	Drift	0.008	0.115
D5	stream	0.009	Drift	0.000	0.002
R4	stream	0.443	Drift	0.060	0.695

* twa-time as required by ecotox

Table 46: FOCUS STEP 4 Global Maximum PEC_{SW} for prothioconazole following single application to winter cereals at a rate of 150 g a.s./ha at BBCH 30, option 1

FOCUS Scenario	DRT (%)	Step 4 PEC_{SW} (µg/L)									
		Step 4									
VFS (m)		0	0	0	0	5	10	10	15	10	20
NSZ (m)		5	10	15	20	5	10	15	15	20	20
D1 ditch	None	0.258	0.137	0.094	0.071	-	-	-	-	-	-
	50	0.129	0.068	0.047	0.036	-	-	-	-	-	-
	75	0.065	0.034	0.023	0.018	-	-	-	-	-	-
	90	0.026	0.014	0.009	0.007	-	-	-	-	-	-
D1 pond	None	0.270	0.143	0.098	0.075	-	-	-	-	-	-
	50	0.135	0.072	0.049	0.037	-	-	-	-	-	-
	75	0.068	0.036	0.024	0.019	-	-	-	-	-	-
	90	0.027	0.014	0.010	0.007	-	-	-	-	-	-
D2 ditch	None	0.260	0.138	0.094	0.072	-	-	-	-	-	-
	50	0.130	0.069	0.047	0.036	-	-	-	-	-	-
	75	0.065	0.034	0.024	0.018	-	-	-	-	-	-
	90	0.026	0.014	0.009	0.007	-	-	-	-	-	-
D2 stream	None	0.297	0.158	0.108	0.082	-	-	-	-	-	-
	50	0.149	0.079	0.054	0.041	-	-	-	-	-	-
	75	0.074	0.039	0.027	0.020	-	-	-	-	-	-
	90	0.030	0.016	0.011	0.008	-	-	-	-	-	-
D3 ditch	None	0.257	0.137	0.093	0.071	-	-	-	-	-	-
	50	0.129	0.068	0.047	0.035	-	-	-	-	-	-
	75	0.064	0.034	0.023	0.018	-	-	-	-	-	-
	90	0.026	0.014	0.009	0.007	-	-	-	-	-	-
D4 pond	None	0.028	0.020	0.016	0.014	-	-	-	-	-	-
	50	0.014	0.010	0.008	0.007	-	-	-	-	-	-
	75	0.007	0.005	0.004	0.003	-	-	-	-	-	-
	90	0.003	0.002	0.002	0.001	-	-	-	-	-	-
D4 stream	None	0.256	0.136	0.093	0.071	-	-	-	-	-	-
	50	0.128	0.068	0.046	0.035	-	-	-	-	-	-
	75	0.064	0.034	0.023	0.018	-	-	-	-	-	-
	90	0.026	0.014	0.009	0.007	-	-	-	-	-	-
D5 pond	None	0.028	0.020	0.016	0.014	-	-	-	-	-	-
	50	0.014	0.010	0.008	0.007	-	-	-	-	-	-
	75	0.007	0.005	0.004	0.003	-	-	-	-	-	-
	90	0.003	0.002	0.002	0.001	-	-	-	-	-	-
D5 stream	None	0.277	0.147	0.100	0.076	-	-	-	-	-	-
	50	0.138	0.073	0.050	0.038	-	-	-	-	-	-
	75	0.069	0.037	0.025	0.019	-	-	-	-	-	-
	90	0.028	0.015	0.010	0.008	-	-	-	-	-	-
D6 ditch	None	0.254	0.135	0.092	0.070	-	-	-	-	-	-
	50	0.127	0.067	0.046	0.035	-	-	-	-	-	-
	75	0.064	0.034	0.023	0.018	-	-	-	-	-	-
	90	0.025	0.013	0.009	0.007	-	-	-	-	-	-
R1 pond	None	0.028	0.020	0.016	0.014	0.028	0.020	0.016	0.016	0.007	0.014
	50	0.014	0.010	0.008	0.007	0.014	0.010	0.008	0.008	0.007	0.007
	75	0.007	0.005	0.004	0.003	0.007	0.005	0.004	0.004	0.003	0.003

FOCUS Scenario	**DRT (%)**	**Step 4 PEC$_{SW}$ (µg/L)**									
		Step 4									
VFS (m)		**0**	**0**	**0**	**0**	**5**	**10**	**10**	**15**	**10**	**20**
NSZ (m)		**5**	**10**	**15**	**20**	**5**	**10**	**15**	**15**	**20**	**20**
	90	0.003	0.002	0.002	0.002	0.003	0.002	0.002	0.002	0.001	0.001
R1 stream	None	0.229	0.121	0.083	0.063	0.229	0.121	0.083	0.083	0.031	0.063
	50	0.114	0.061	0.041	0.040	0.114	0.061	0.041	0.041	0.031	0.031
	75	0.057	0.040	0.040	0.040	0.057	0.030	0.021	0.021	0.017	0.016
	90	0.040	0.040	0.040	0.040	0.025	0.017	0.017	0.013	0.017	0.008
R3 stream	None	0.321	0.170	0.116	0.088	0.321	0.170	0.116	0.116	0.044	0.088
	50	0.161	0.085	0.058	0.044	0.161	0.085	0.058	0.058	0.044	0.044
	75	0.080	0.043	0.037	0.037	0.080	0.043	0.029	0.029	0.022	0.022
	90	0.037	0.037	0.037	0.037	0.032	0.017	0.017	0.013	0.017	0.009
R4 stream	None	0.230	0.122	0.083	0.063	0.230	0.122	0.083	0.083	0.032	0.063
	50	0.115	0.061	0.042	0.032	0.115	0.061	0.042	0.042	0.032	0.032
	75	0.057	0.030	0.021	0.016	0.057	0.030	0.021	0.021	0.016	0.016
	90	0.023	0.012	0.010	0.010	0.023	0.012	0.008	0.008	0.006	0.006

Table 47: FOCUS STEP 4 Global Maximum PEC_{SW} for prothioconazole following single application to winter cereals at a rate of 150 g a.s./ha at BBCH 30, option 2

FOCUS Scenario	**DRT (%)**	**Step 4 PEC_{SW} (µg/L)**									
		Step 4									
VFS (m)		**0**	**0**	**0**	**0**	**5**	**10**	**10**	**15**	**10**	**20**
NSZ (m)		**5**	**10**	**15**	**20**	**5**	**10**	**15**	**15**	**20**	**20**
D1 ditch	None	0.258	0.137	0.094	0.071	-	-	-	-	-	-
	50	0.129	0.068	0.047	0.036	-	-	-	-	-	-
	75	0.065	0.034	0.023	0.018	-	-	-	-	-	-
	90	0.026	0.014	0.009	0.007	-	-	-	-	-	-
D1 pond	None	0.270	0.143	0.098	0.075	-	-	-	-	-	-
	50	0.135	0.072	0.049	0.037	-	-	-	-	-	-
	75	0.068	0.036	0.024	0.019	-	-	-	-	-	-
	90	0.027	0.014	0.010	0.007	-	-	-	-	-	-
D2 ditch	None	0.260	0.138	0.094	0.072	-	-	-	-	-	-
	50	0.130	0.069	0.047	0.036	-	-	-	-	-	-
	75	0.065	0.034	0.024	0.018	-	-	-	-	-	-
	90	0.026	0.014	0.009	0.007	-	-	-	-	-	-
D2 stream	None	0.297	0.158	0.108	0.082	-	-	-	-	-	-
	50	0.149	0.079	0.054	0.041	-	-	-	-	-	-
	75	0.074	0.039	0.027	0.020	-	-	-	-	-	-
	90	0.030	0.016	0.011	0.008	-	-	-	-	-	-
D3 ditch	None	0.257	0.137	0.093	0.071	-	-	-	-	-	-
	50	0.129	0.068	0.047	0.035	-	-	-	-	-	-
	75	0.064	0.034	0.023	0.018	-	-	-	-	-	-
	90	0.026	0.014	0.009	0.007	-	-	-	-	-	-
D4 pond	None	0.028	0.020	0.016	0.014	-	-	-	-	-	-
	50	0.014	0.010	0.008	0.007	-	-	-	-	-	-
	75	0.007	0.005	0.004	0.003	-	-	-	-	-	-
	90	0.003	0.002	0.002	0.001	-	-	-	-	-	-
D4 stream	None	0.256	0.136	0.093	0.071	-	-	-	-	-	-
	50	0.128	0.068	0.046	0.035	-	-	-	-	-	-
	75	0.064	0.034	0.023	0.018	-	-	-	-	-	-
	90	0.026	0.014	0.009	0.007	-	-	-	-	-	-
D5 pond	None	0.028	0.020	0.016	0.014	-	-	-	-	-	-
	50	0.014	0.010	0.008	0.007	-	-	-	-	-	-
	75	0.007	0.005	0.004	0.003	-	-	-	-	-	-
	90	0.003	0.002	0.002	0.001	-	-	-	-	-	-
D5 stream	None	0.277	0.147	0.100	0.076	-	-	-	-	-	-
	50	0.138	0.073	0.050	0.038	-	-	-	-	-	-
	75	0.069	0.037	0.025	0.019	-	-	-	-	-	-
	90	0.028	0.015	0.010	0.008	-	-	-	-	-	-
D6 ditch	None	0.254	0.135	0.092	0.070	-	-	-	-	-	-
	50	0.127	0.067	0.046	0.035	-	-	-	-	-	-
	75	0.064	0.034	0.023	0.018	-	-	-	-	-	-
	90	0.025	0.013	0.009	0.007	-	-	-	-	-	-
R1 pond	None	0.028	0.020	0.016	0.014	0.028	0.020	0.016	0.016	0.007	0.014
	50	0.014	0.010	0.008	0.007	0.014	0.010	0.008	0.008	0.007	0.007
	75	0.007	0.005	0.004	0.003	0.007	0.005	0.004	0.004	0.003	0.003
	90	0.003	0.002	0.002	0.002	0.003	0.002	0.002	0.002	0.001	0.001

FOCUS Scenario	**DRT (%)**	**Step 4 PEC$_{SW}$ (µg/L)**									
		Step 4									
VFS (m)		**0**	**0**	**0**	**0**	**5**	**10**	**10**	**15**	**10**	**20**
NSZ (m)		**5**	**10**	**15**	**20**	**5**	**10**	**15**	**15**	**20**	**20**
R1 stream	None	0.229	0.121	0.083	0.063	0.229	0.121	0.083	0.083	0.031	0.063
	50	0.114	0.061	0.041	0.040	0.114	0.061	0.041	0.041	0.031	0.031
	75	0.057	0.040	0.040	0.040	0.057	0.030	0.021	0.021	0.017	0.016
	90	0.040	0.040	0.040	0.040	0.025	0.017	0.017	0.013	0.017	0.008
R3 stream	None	0.321	0.170	0.116	0.088	0.321	0.170	0.116	0.116	0.044	0.088
	50	0.161	0.085	0.058	0.044	0.161	0.085	0.058	0.058	0.044	0.044
	75	0.080	0.043	0.037	0.037	0.080	0.043	0.029	0.029	0.022	0.022
	90	0.037	0.037	0.037	0.037	0.032	0.017	0.017	0.013	0.017	0.009
R4 stream	None	0.230	0.122	0.083	0.063	0.230	0.122	0.083	0.083	0.032	0.063
	50	0.115	0.061	0.042	0.032	0.115	0.061	0.042	0.042	0.032	0.032
	75	0.057	0.030	0.021	0.016	0.057	0.030	0.021	0.021	0.016	0.016
	90	0.023	0.012	0.010	0.010	0.023	0.012	0.008	0.008	0.006	0.006

Table 48: FOCUS STEP 4 Global Maximum PEC_{SW} for prothioconazole following single application to winter cereals at a rate of 150 g a.s./ha at BBCH 69, option 1

FOCUS Scenario	**DRT (%)**	**Step 4 PEC_{SW} (µg/L)**									
		Step 4									
VFS (m)		**0**	**0**	**0**	**0**	**5**	**10**	**10**	**15**	**10**	**20**
NSZ (m)		**5**	**10**	**15**	**20**	**5**	**10**	**15**	**15**	**20**	**20**
D1 ditch	None	0.261	0.138	0.094	0.072	-	-	-	-	-	-
	50	0.130	0.069	0.047	0.036	-	-	-	-	-	-
	75	0.065	0.035	0.024	0.018	-	-	-	-	-	-
	90	0.026	0.014	0.009	0.007	-	-	-	-	-	-
D1 pond	None	0.307	0.163	0.111	0.085	-	-	-	-	-	-
	50	0.154	0.081	0.056	0.042	-	-	-	-	-	-
	75	0.077	0.041	0.028	0.021	-	-	-	-	-	-
	90	0.031	0.016	0.011	0.008	-	-	-	-	-	-
D2 ditch	None	0.261	0.138	0.094	0.072	-	-	-	-	-	-
	50	0.130	0.069	0.047	0.036	-	-	-	-	-	-
	75	0.065	0.035	0.024	0.018	-	-	-	-	-	-
	90	0.026	0.014	0.009	0.007	-	-	-	-	-	-
D2 stream	None	0.313	0.166	0.113	0.086	-	-	-	-	-	-
	50	0.156	0.083	0.057	0.043	-	-	-	-	-	-
	75	0.078	0.041	0.028	0.022	-	-	-	-	-	-
	90	0.031	0.017	0.011	0.009	-	-	-	-	-	-
D3 ditch	None	0.258	0.137	0.094	0.071	-	-	-	-	-	-
	50	0.129	0.068	0.047	0.036	-	-	-	-	-	-
	75	0.065	0.034	0.023	0.018	-	-	-	-	-	-
	90	0.026	0.014	0.009	0.007	-	-	-	-	-	-
D4 pond	None	0.028	0.020	0.016	0.014	-	-	-	-	-	-
	50	0.014	0.010	0.008	0.007	-	-	-	-	-	-
	75	0.007	0.005	0.004	0.003	-	-	-	-	-	-
	90	0.003	0.002	0.002	0.001	-	-	-	-	-	-
D4 stream	None	0.300	0.159	0.109	0.083	-	-	-	-	-	-
	50	0.150	0.080	0.054	0.041	-	-	-	-	-	-
	75	0.075	0.040	0.027	0.021	-	-	-	-	-	-
	90	0.030	0.016	0.011	0.008	-	-	-	-	-	-
D5 pond	None	0.028	0.020	0.016	0.014	-	-	-	-	-	-
	50	0.014	0.010	0.008	0.007	-	-	-	-	-	-
	75	0.007	0.005	0.004	0.003	-	-	-	-	-	-
	90	0.003	0.002	0.002	0.001	-	-	-	-	-	-
D5 stream	None	0.324	0.172	0.117	0.089	-	-	-	-	-	-
	50	0.162	0.086	0.059	0.045	-	-	-	-	-	-
	75	0.081	0.043	0.029	0.022	-	-	-	-	-	-
	90	0.032	0.017	0.012	0.009	-	-	-	-	-	-
D6 ditch	None	0.259	0.137	0.094	0.071	-	-	-	-	-	-
	50	0.129	0.069	0.047	0.036	-	-	-	-	-	-
	75	0.065	0.034	0.023	0.018	-	-	-	-	-	-
	90	0.026	0.014	0.009	0.007	-	-	-	-	-	-
R1 pond	None	0.043	0.037	0.034	0.032	0.035	0.024	0.021	0.019	0.014	0.015
	50	0.032	0.029	0.028	0.027	0.024	0.017	0.015	0.013	0.014	0.010
	75	0.027	0.025	0.025	0.024	0.018	0.013	0.012	0.010	0.011	0.007
	90	0.024	0.023	0.023	0.022	0.015	0.010	0.010	0.008	0.010	0.005

FOCUS Scenario	**DRT (%)**	**Step 4 PEC_{SW} (µg/L)**									
		Step 4									
VFS (m)		**0**	**0**	**0**	**0**	**5**	**10**	**10**	**15**	**10**	**20**
NSZ (m)		**5**	**10**	**15**	**20**	**5**	**10**	**15**	**15**	**20**	**20**
R1 stream	None	0.229	0.221	0.221	0.221	0.229	0.122	0.100	0.083	0.100	0.063
	50	0.221	0.221	0.221	0.221	0.144	0.100	0.100	0.077	0.100	0.053
	75	0.221	0.221	0.221	0.221	0.144	0.100	0.012	0.077	0.100	0.053
	90	0.221	0.221	0.221	0.221	0.144	0.100	0.100	0.077	0.100	0.053
R3 stream	None	0.32	0.171	0.117	0.089	0.32	0.171	0.117	0.117	0.044	0.089
	50	0.161	0.086	0.058	0.044	0.161	0.086	0.058	0.058	0.044	0.044
	75	0.081	0.043	0.029	0.022	0.081	0.043	0.029	0.029	0.022	0.022
	90	0.032	0.019	0.019	0.019	0.032	0.017	0.012	0.012	0.009	0.009
R4 stream	None	0.415	0.415	0.415	0.415	0.269	0.187	0.187	0.143	0.187	0.098
	50	0.415	0.415	0.415	0.415	0.269	0.187	0.187	0.143	0.187	0.098
	75	0.415	0.415	0.415	0.415	0.269	0.187	0.187	0.143	0.187	0.098
	90	0.415	0.415	0.415	0.415	0.269	0.187	0.187	0.143	0.187	0.098

Table 49: FOCUS STEP 4 Global Maximum PEC_{SW} for prothioconazole following single application to winter cereals at a rate of 150 g a.s./ha at BBCH 69, option 2

FOCUS Scenario	DRT (%)	Step 4 PEC_{SW} (µg/L)									
		Step 4									
VFS (m)		0	0	0	0	5	10	10	15	10	20
NSZ (m)		5	10	15	20	5	10	15	15	20	20
D1 ditch	None	0.261	0.138	0.094	0.072	-	-	-	-	-	-
	50	0.130	0.069	0.047	0.036	-	-	-	-	-	-
	75	0.065	0.035	0.024	0.018	-	-	-	-	-	-
	90	0.026	0.014	0.009	0.007	-	-	-	-	-	-
D1 pond	None	0.307	0.163	0.111	0.085	-	-	-	-	-	-
	50	0.154	0.081	0.056	0.042	-	-	-	-	-	-
	75	0.077	0.041	0.028	0.021	-	-	-	-	-	-
	90	0.031	0.016	0.011	0.008	-	-	-	-	-	-
D2 ditch	None	0.261	0.138	0.094	0.072	-	-	-	-	-	-
	50	0.130	0.069	0.047	0.036	-	-	-	-	-	-
	75	0.065	0.035	0.024	0.018	-	-	-	-	-	-
	90	0.026	0.014	0.009	0.007	-	-	-	-	-	-
D2 stream	None	0.313	0.166	0.113	0.086	-	-	-	-	-	-
	50	0.156	0.083	0.057	0.043	-	-	-	-	-	-
	75	0.078	0.041	0.028	0.022	-	-	-	-	-	-
	90	0.031	0.017	0.011	0.009	-	-	-	-	-	-
D3 ditch	None	0.258	0.137	0.094	0.071	-	-	-	-	-	-
	50	0.129	0.068	0.047	0.036	-	-	-	-	-	-
	75	0.065	0.034	0.023	0.018	-	-	-	-	-	-
	90	0.026	0.014	0.009	0.007	-	-	-	-	-	-
D4 pond	None	0.028	0.020	0.016	0.014	-	-	-	-	-	-
	50	0.014	0.010	0.008	0.007	-	-	-	-	-	-
	75	0.007	0.005	0.004	0.003	-	-	-	-	-	-
	90	0.003	0.002	0.002	0.001	-	-	-	-	-	-
D4 stream	None	0.300	0.159	0.109	0.083	-	-	-	-	-	-
	50	0.150	0.080	0.054	0.041	-	-	-	-	-	-
	75	0.075	0.040	0.027	0.021	-	-	-	-	-	-
	90	0.030	0.016	0.011	0.008	-	-	-	-	-	-
D5 pond	None	0.028	0.020	0.016	0.014	-	-	-	-	-	-
	50	0.014	0.010	0.008	0.007	-	-	-	-	-	-
	75	0.007	0.005	0.004	0.003	-	-	-	-	-	-
	90	0.003	0.002	0.002	0.001	-	-	-	-	-	-
D5 stream	None	0.324	0.172	0.117	0.089	-	-	-	-	-	-
	50	0.162	0.086	0.059	0.045	-	-	-	-	-	-
	75	0.081	0.043	0.029	0.022	-	-	-	-	-	-
	90	0.032	0.017	0.012	0.009	-	-	-	-	-	-
D6 ditch	None	0.259	0.137	0.094	0.071	-	-	-	-	-	-
	50	0.129	0.069	0.047	0.036	-	-	-	-	-	-
	75	0.065	0.034	0.023	0.018	-	-	-	-	-	-
	90	0.026	0.014	0.009	0.007	-	-	-	-	-	-
R1 pond	None	0.045	0.039	0.035	0.033	0.037	0.026	0.022	0.020	0.014	0.016
	50	0.033	0.030	0.028	0.027	0.025	0.017	0.016	0.013	0.014	0.010
	75	0.027	0.026	0.025	0.024	0.019	0.013	0.012	0.010	0.012	0.007
	90	0.024	0.023	0.023	0.023	0.015	0.010	0.010	0.008	0.010	0.005

FOCUS Scenario	**DRT (%)**	**Step 4 PEC$_{SW}$ (µg/L)**									
		Step 4									
VFS (m)		**0**	**0**	**0**	**0**	**5**	**10**	**10**	**15**	**10**	**20**
NSZ (m)		**5**	**10**	**15**	**20**	**5**	**10**	**15**	**15**	**20**	**20**
R1 stream	None	0.229	0.221	0.221	0.221	0.229	0.122	0.100	0.083	0.100	0.063
	50	0.221	0.221	0.221	0.221	0.144	0.100	0.100	0.077	0.100	0.053
	75	0.221	0.221	0.221	0.221	0.144	0.100	0.100	0.077	0.100	0.053
	90	0.221	0.221	0.221	0.221	0.144	0.100	0.100	0.077	0.100	0.053
R3 stream	None	0.323	0.171	0.117	0.089	0.323	0.171	0.117	0.117	0.044	0.089
	50	0.161	0.086	0.058	0.044	0.161	0.086	0.058	0.058	0.044	0.044
	75	0.081	0.043	0.029	0.022	0.081	0.043	0.029	0.029	0.022	0.022
	90	0.032	0.019	0.019	0.019	0.032	0.017	0.012	0.012	0.009	0.009
R4 stream	None	0.415	0.415	0.415	0.415	0.269	0.187	0.187	0.144	0.187	0.098
	50	0.415	0.415	0.415	0.415	0.269	0.187	0.187	0.144	0.187	0.098
	75	0.415	0.415	0.415	0.415	0.269	0.187	0.187	0.144	0.187	0.098
	90	0.415	0.415	0.415	0.415	0.269	0.187	0.187	0.144	0.187	0.098

Table 50: FOCUS STEP 4 Global Maximum PEC$_{SW}$ for prothioconazole following single application to spring cereals at a rate of 150 g a.s./ha at BBCH 30, option 1

FOCUS Scenario	DRT (%)	Step 4 PEC$_{SW}$ (µg/L)									
		Step 4									
VFS (m)		**0**	**0**	**0**	**0**	**5**	**10**	**10**	**15**	**10**	**20**
NSZ (m)		**5**	**10**	**15**	**20**	**5**	**10**	**15**	**15**	**20**	**20**
D1 ditch	None	0.261	0.138	0.094	0.072	-	-	-	-	-	-
	50	0.130	0.069	0.047	0.036	-	-	-	-	-	-
	75	0.065	0.035	0.024	0.018	-	-	-	-	-	-
	90	0.026	0.014	0.009	0.007	-	-	-	-	-	-
D1 pond	None	0.307	0.163	0.111	0.085	-	-	-	-	-	-
	50	0.154	0.081	0.056	0.042	-	-	-	-	-	-
	75	0.077	0.041	0.028	0.021	-	-	-	-	-	-
	90	0.031	0.016	0.011	0.008	-	-	-	-	-	-
D3 ditch	None	0.258	0.137	0.093	0.071	-	-	-	-	-	-
	50	0.129	0.068	0.047	0.036	-	-	-	-	-	-
	75	0.064	0.034	0.023	0.018	-	-	-	-	-	-
	90	0.026	0.014	0.009	0.007	-	-	-	-	-	-
D4 pond	None	0.028	0.020	0.016	0.014	-	-	-	-	-	-
	50	0.014	0.010	0.008	0.007	-	-	-	-	-	-
	75	0.007	0.005	0.004	0.003	-	-	-	-	-	-
	90	0.003	0.002	0.002	0.001	-	-	-	-	-	-
D4 stream	None	0.284	0.151	0.103	0.078	-	-	-	-	-	-
	50	0.142	0.075	0.051	0.039	-	-	-	-	-	-
	75	0.071	0.038	0.026	0.020	-	-	-	-	-	-
	90	0.028	0.015	0.010	0.008	-	-	-	-	-	-
D5 pond	None	0.028	0.020	0.016	0.014	-	-	-	-	-	-
	50	0.014	0.010	0.008	0.007	-	-	-	-	-	-
	75	0.007	0.005	0.004	0.003	-	-	-	-	-	-
	90	0.003	0.002	0.002	0.001	-	-	-	-	-	-
D5 stream	None	0.291	0.155	0.106	0.080	-	-	-	-	-	-
	50	0.146	0.077	0.053	0.040	-	-	-	-	-	-
	75	0.073	0.039	0.026	0.020	-	-	-	-	-	-
	90	0.029	0.015	0.011	0.008	-	-	-	-	-	-
R4 stream	None	0.379	0.379	0.379	0.379	0.246	0.171	0.171	0.131	0.171	0.089
	50	0.379	0.379	0.379	0.379	0.246	0.171	0.171	0.131	0.171	0.089
	75	0.379	0.379	0.379	0.379	0.246	0.171	0.171	0.131	0.171	0.089
	90	0.379	0.379	0.379	0.379	0.246	0.171	0.171	0.379	0.171	0.089

Table 51: FOCUS STEP 4 Global Maximum PEC_{SW} for prothioconazole following single application to spring cereals at a rate of 150 g a.s./ha at BBCH 30, option 2

FOCUS Scenario	DRT (%)	Step 4 PEC_{SW} (µg/L)									
		Step 4									
VFS (m)		0	0	0	0	5	10	10	15	10	20
NSZ (m)		5	10	15	20	5	10	15	15	20	20
D1 ditch	None	0.261	0.138	0.094	0.072	-	-	-	-	-	-
	50	0.130	0.069	0.047	0.036	-	-	-	-	-	-
	75	0.065	0.035	0.024	0.018	-	-	-	-	-	-
	90	0.026	0.014	0.009	0.007	-	-	-	-	-	-
D1 pond	None	0.307	0.163	0.111	0.085	-	-	-	-	-	-
	50	0.154	0.081	0.056	0.042	-	-	-	-	-	-
	75	0.077	0.041	0.028	0.021	-	-	-	-	-	-
	90	0.031	0.016	0.011	0.008	-	-	-	-	-	-
D3 ditch	None	0.258	0.137	0.093	0.071	-	-	-	-	-	-
	50	0.129	0.068	0.047	0.036	-	-	-	-	-	-
	75	0.064	0.034	0.023	0.018	-	-	-	-	-	-
	90	0.026	0.014	0.009	0.007	-	-	-	-	-	-
D4 pond	None	0.028	0.020	0.016	0.014	-	-	-	-	-	-
	50	0.014	0.010	0.008	0.007	-	-	-	-	-	-
	75	0.007	0.005	0.004	0.003	-	-	-	-	-	-
	90	0.003	0.002	0.002	0.001	-	-	-	-	-	-
D4 stream	None	0.284	0.151	0.103	0.078	-	-	-	-	-	-
	50	0.142	0.075	0.051	0.039	-	-	-	-	-	-
	75	0.071	0.038	0.026	0.020	-	-	-	-	-	-
	90	0.028	0.015	0.010	0.008	-	-	-	-	-	-
D5 pond	None	0.028	0.020	0.016	0.014	-	-	-	-	-	-
	50	0.014	0.010	0.008	0.007	-	-	-	-	-	-
	75	0.007	0.005	0.004	0.003	-	-	-	-	-	-
	90	0.003	0.002	0.002	0.001	-	-	-	-	-	-
D5 stream	None	0.291	0.155	0.106	0.080	-	-	-	-	-	-
	50	0.146	0.077	0.053	0.040	-	-	-	-	-	-
	75	0.073	0.039	0.026	0.020	-	-	-	-	-	-
	90	0.029	0.015	0.011	0.008	-	-	-	-	-	-
R4 stream	None	0.379	0.379	0.379	0.379	0.246	0.171	0.171	0.131	0.171	0.089
	50	0.379	0.379	0.379	0.379	0.246	0.171	0.171	0.131	0.171	0.089
	75	0.379	0.379	0.379	0.379	0.246	0.171	0.171	0.131	0.171	0.089
	90	0.379	0.379	0.379	0.379	0.246	0.171	0.171	0.131	0.171	0.089

Table 52: FOCUS STEP 4 Global Maximum PEC$_{SW}$ for prothioconazole following single application to spring cereals at a rate of 150 g a.s./ha at BBCH 69, option 1

FOCUS Scenario	DRT (%)	Step 4 PEC$_{SW}$ (µg/L)									
VFS (m)		0	0	0	0	5	10	10	15	10	20
NSZ (m)		5	10	15	20	5	10	15	15	20	20
D1 ditch	None	0.261	0.138	0.094	0.072	-	-	-	-	-	-
	50	0.130	0.069	0.047	0.036	-	-	-	-	-	-
	75	0.065	0.035	0.024	0.018	-	-	-	-	-	-
	90	0.026	0.014	0.009	0.007	-	-	-	-	-	-
D1 pond	None	0.307	0.163	0.111	0.085	-	-	-	-	-	-
	50	0.154	0.081	0.056	0.042	-	-	-	-	-	-
	75	0.077	0.041	0.028	0.021	-	-	-	-	-	-
	90	0.031	0.016	0.011	0.008	-	-	-	-	-	-
D3 ditch	None	0.258	0.137	0.093	0.071	-	-	-	-	-	-
	50	0.129	0.068	0.047	0.036	-	-	-	-	-	-
	75	0.064	0.034	0.023	0.018	-	-	-	-	-	-
	90	0.026	0.014	0.009	0.007	-	-	-	-	-	-
D4 pond	None	0.028	0.020	0.016	0.014	-	-	-	-	-	-
	50	0.014	0.010	0.008	0.007	-	-	-	-	-	-
	75	0.007	0.005	0.004	0.003	-	-	-	-	-	-
	90	0.003	0.002	0.002	0.001	-	-	-	-	-	-
D4 stream	None	0.299	0.159	0.108	0.082	-	-	-	-	-	-
	50	0.150	0.079	0.054	0.041	-	-	-	-	-	-
	75	0.075	0.040	0.027	0.021	-	-	-	-	-	-
	90	0.030	0.016	0.011	0.008	-	-	-	-	-	-
D5 pond	None	0.028	0.020	0.016	0.014	-	-	-	-	-	-
	50	0.014	0.010	0.008	0.007	-	-	-	-	-	-
	75	0.007	0.005	0.004	0.003	-	-	-	-	-	-
	90	0.003	0.002	0.002	0.001	-	-	-	-	-	-
D5 stream	None	0.303	0.161	0.110	0.083	-	-	-	-	-	-
	50	0.151	0.080	0.055	0.042	-	-	-	-	-	-
	75	0.076	0.040	0.027	0.021	-	-	-	-	-	-
	90	0.030	0.016	0.011	0.008	-	-	-	-	-	-
R4 stream	None	0.417	0.417	0.417	0.417	0.271	0.188	0.188	0.144	0.188	0.098
	50	0.417	0.417	0.417	0.417	0.271	0.188	0.188	0.144	0.188	0.098
	75	0.417	0.417	0.417	0.417	0.271	0.188	0.188	0.144	0.188	0.098
	90	0.417	0.417	0.417	0.417	0.271	0.188	0.188	0.144	0.188	0.098

Table 53: FOCUS STEP 4 Global Maximum PEC_{SW} for prothioconazole following single application to spring cereals at a rate of 150 g a.s./ha at BBCH 69, option 2

FOCUS Scenario	DRT (%)	Step 4 PEC_{SW} (µg/L)									
		Step 4									
VFS (m)		0	0	0	0	5	10	10	15	10	20
NSZ (m)		5	10	15	20	5	10	15	15	20	20
D1 ditch	None	0.261	0.138	0.094	0.072	-	-	-	-	-	-
	50	0.130	0.069	0.047	0.036	-	-	-	-	-	-
	75	0.065	0.035	0.024	0.018	-	-	-	-	-	-
	90	0.026	0.026	0.009	0.007	-	-	-	-	-	-
D1 pond	None	0.307	0.163	0.111	0.085	-	-	-	-	-	-
	50	0.154	0.081	0.056	0.042	-	-	-	-	-	-
	75	0.077	0.041	0.028	0.021	-	-	-	-	-	-
	90	0.031	0.031	0.011	0.008	-	-	-	-	-	-
D3 ditch	None	0.258	0.137	0.093	0.071	-	-	-	-	-	-
	50	0.129	0.068	0.047	0.036	-	-	-	-	-	-
	75	0.064	0.034	0.023	0.018	-	-	-	-	-	-
	90	0.026	0.026	0.009	0.007	-	-	-	-	-	-
D4 pond	None	0.028	0.020	0.016	0.014	-	-	-	-	-	-
	50	0.014	0.010	0.008	0.007	-	-	-	-	-	-
	75	0.007	0.005	0.004	0.003	-	-	-	-	-	-
	90	0.003	0.003	0.002	0.001	-	-	-	-	-	-
D4 stream	None	0.299	0.159	0.108	0.082	-	-	-	-	-	-
	50	0.150	0.079	0.054	0.041	-	-	-	-	-	-
	75	0.075	0.040	0.027	0.021	-	-	-	-	-	-
	90	0.030	0.030	0.011	0.008	-	-	-	-	-	-
D5 pond	None	0.028	0.020	0.016	0.014	-	-	-	-	-	-
	50	0.014	0.010	0.008	0.007	-	-	-	-	-	-
	75	0.007	0.005	0.004	0.003	-	-	-	-	-	-
	90	0.003	0.003	0.002	0.001	-	-	-	-	-	-
D5 stream	None	0.303	0.161	0.110	0.083	-	-	-	-	-	-
	50	0.151	0.080	0.055	0.042	-	-	-	-	-	-
	75	0.076	0.040	0.027	0.021	-	-	-	-	-	-
	90	0.030	0.030	0.011	0.008	-	-	-	-	-	-
R4 stream	None	0.417	0.417	0.417	0.417	0.271	0.188	0.188	0.144	0.188	0.098
	50	0.417	0.417	0.417	0.417	0.271	0.188	0.188	0.144	0.188	0.098
	75	0.417	0.417	0.417	0.417	0.271	0.188	0.188	0.144	0.188	0.098
	90	0.417	0.417	0.417	0.417	0.271	0.188	0.188	0.144	0.188	0.098

Table 54: FOCUS STEP 4 Global Maximum PEC_{SW} for JAU 6476-desthio following single application to winter cereals at a rate of 150 g a.s./ha at BBCH 30, option 1

FOCUS Scenario	DRT (%)	Step 4 PEC_{SW} (µg/L)									
		Step 4									
VFS (m)		0	0	0	0	5	10	10	15	10	20
NSZ (m)		5	10	15	20	5	10	15	15	20	20
D1 ditch	None	0.001	0.001	0.001	0.001	-	-	-	-	-	-
	50	0.001	0.001	0.001	0.001	-	-	-	-	-	-
	75	0.001	0.001	0.001	0.001	-	-	-	-	-	-
	90	0.001	0.001	0.001	0.001	-	-	-	-	-	-
D1 pond	None	0.005	0.003	0.002	0.002	-	-	-	-	-	-
	50	0.003	0.002	0.001	0.001	-	-	-	-	-	-
	75	0.002	0.001	0.001	0.001	-	-	-	-	-	-
	90	0.001	0.001	0.001	0.000	-	-	-	-	-	-
D2 ditch	None	0.014	0.014	0.014	0.014	-	-	-	-	-	-
	50	0.014	0.014	0.014	0.014	-	-	-	-	-	-
	75	0.014	0.014	0.014	0.014	-	-	-	-	-	-
	90	0.014	0.014	0.014	0.014	-	-	-	-	-	-
D2 stream	None	0.019	0.010	0.009	0.009	-	-	-	-	-	-
	50	0.010	0.009	0.009	0.009	-	-	-	-	-	-
	75	0.009	0.009	0.009	0.009	-	-	-	-	-	-
	90	0.009	0.009	0.009	0.009	-	-	-	-	-	-
D3 ditch	None	0.001	0.000	0.000	0.000	-	-	-	-	-	-
	50	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	75	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	90	0.000	0.000	0.000	0.000	-	-	-	-	-	-
D4 pond	None	0.004	0.003	0.002	0.002	-	-	-	-	-	-
	50	0.002	0.001	0.001	0.001	-	-	-	-	-	-
	75	0.001	0.001	0.001	0.001	-	-	-	-	-	-
	90	0.001	0.001	0.000	0.000	-	-	-	-	-	-
D4 stream	None	0.002	0.002	0.002	0.002	-	-	-	-	-	-
	50	0.002	0.002	0.002	0.002	-	-	-	-	-	-
	75	0.002	0.002	0.002	0.002	-	-	-	-	-	-
	90	0.002	0.002	0.002	0.002	-	-	-	-	-	-
D5 pond	None	0.007	0.005	0.004	0.003	-	-	-	-	-	-
	50	0.003	0.002	0.002	0.001	-	-	-	-	-	-
	75	0.002	0.001	0.001	0.001	-	-	-	-	-	-
	90	0.001	0.000	0.000	0.000	-	-	-	-	-	-
D5 stream	None	0.003	0.002	0.001	0.001	-	-	-	-	-	-
	50	0.001	0.001	0.001	0.000	-	-	-	-	-	-
	75	0.001	0.000	0.000	0.000	-	-	-	-	-	-
	90	0.000	0.000	0.000	0.000	-	-	-	-	-	-
D6 ditch	None	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	50	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	75	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	90	0.000	0.000	0.000	0.000	-	-	-	-	-	-
R1 pond	None	0.029	0.028	0.027	0.027	0.019	0.013	0.013	0.010	0.011	0.007
	50	0.027	0.026	0.026	0.026	0.017	0.012	0.011	0.009	0.011	0.006
	75	0.026	0.026	0.025	0.025	0.016	0.011	0.011	0.008	0.010	0.005

FOCUS Scenario	DRT (%)	Step 4 PEC$_{SW}$ (µg/L)									
		Step 4									
VFS (m)		0	0	0	0	5	10	10	15	10	20
NSZ (m)		5	10	15	20	5	10	15	15	20	20
	90	0.025	0.025	0.025	0.025	0.015	0.010	0.010	0.008	0.010	0.005
R1 stream	None	0.265	0.265	0.265	0.265	0.173	0.121	0.121	0.092	0.121	0.063
	50	0.265	0.265	0.265	0.265	0.173	0.121	0.121	0.092	0.121	0.063
	75	0.265	0.265	0.265	0.265	0.173	0.121	0.121	0.092	0.121	0.063
	90	0.265	0.265	0.265	0.265	0.173	0.121	0.121	0.092	0.121	0.063
R3 stream	None	0.323	0.323	0.323	0.323	0.211	0.148	0.148	0.113	0.148	0.077
	50	0.323	0.323	0.323	0.323	0.211	0.148	0.148	0.113	0.148	0.077
	75	0.323	0.323	0.323	0.323	0.211	0.148	0.148	0.113	0.148	0.077
	90	0.323	0.323	0.323	0.323	0.211	0.148	0.148	0.113	0.148	0.077
R4 stream	None	0.477	0.477	0.477	0.477	0.311	0.217	0.217	0.166	0.217	0.114
	50	0.477	0.477	0.477	0.477	0.311	0.217	0.217	0.166	0.217	0.114
	75	0.477	0.477	0.477	0.477	0.311	0.217	0.217	0.166	0.217	0.114
	90	0.477	0.477	0.477	0.477	0.311	0.217	0.217	0.166	0.217	0.114

Table 55: FOCUS STEP 4 Global Maximum PEC_{SW} for JAU 6476-desthio following single application to winter cereals at a rate of 150 g a.s./ha at BBCH 30, option 2

FOCUS Scenario	DRT (%)	Step 4 PEC_{SW} (µg/L)									
		Step 4									
VFS (m)		0	0	0	0	5	10	10	15	10	20
NSZ (m)		5	10	15	20	5	10	15	15	20	20
D1 ditch	None	0.001	0.001	0.001	0.001	-	-	-	-	-	-
	50	0.001	0.001	0.001	0.001	-	-	-	-	-	-
	75	0.001	0.001	0.001	0.001	-	-	-	-	-	-
	90	0.001	0.001	0.001	0.001	-	-	-	-	-	-
D1 pond	None	0.001	0.000	0.000	0.000	-	-	-	-	-	-
	50	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	75	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	90	0.000	0.000	0.000	0.000	-	-	-	-	-	-
D2 ditch	None	0.014	0.014	0.014	0.014	-	-	-	-	-	-
	50	0.014	0.014	0.014	0.014	-	-	-	-	-	-
	75	0.014	0.014	0.014	0.014	-	-	-	-	-	-
	90	0.014	0.014	0.014	0.014	-	-	-	-	-	-
D2 stream	None	0.009	0.009	0.009	0.009	-	-	-	-	-	-
	50	0.009	0.009	0.009	0.009	-	-	-	-	-	-
	75	0.009	0.009	0.009	0.009	-	-	-	-	-	-
	90	0.009	0.009	0.009	0.009	-	-	-	-	-	-
D3 ditch	None	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	50	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	75	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	90	0.000	0.000	0.000	0.000	-	-	-	-	-	-
D4 pond	None	0.001	0.001	0.001	0.001	-	-	-	-	-	-
	50	0.001	0.001	0.001	0.001	-	-	-	-	-	-
	75	0.001	0.000	0.000	0.000	-	-	-	-	-	-
	90	0.000	0.000	0.000	0.000	-	-	-	-	-	-
D4 stream	None	0.002	0.002	0.002	0.002	-	-	-	-	-	-
	50	0.002	0.002	0.002	0.002	-	-	-	-	-	-
	75	0.002	0.002	0.002	0.002	-	-	-	-	-	-
	90	0.002	0.002	0.002	0.002	-	-	-	-	-	-
D5 pond	None	0.001	0.001	0.001	0.001	-	-	-	-	-	-
	50	0.001	0.000	0.000	0.000	-	-	-	-	-	-
	75	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	90	0.000	0.000	0.000	0.000	-	-	-	-	-	-
D5 stream	None	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	50	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	75	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	90	0.000	0.000	0.000	0.000	-	-	-	-	-	-
D6 ditch	None	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	50	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	75	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	90	0.000	0.000	0.000	0.000	-	-	-	-	-	-
R1 pond	None	0.025	0.025	0.025	0.025	0.015	0.010	0.010	0.008	0.010	0.005
	50	0.025	0.025	0.025	0.025	0.015	0.010	0.010	0.008	0.010	0.005
	75	0.025	0.025	0.025	0.025	0.015	0.010	0.010	0.007	0.010	0.005

FOCUS Scenario	**DRT (%)**	**Step 4 PEC_{SW} (µg/L)**									
		Step 4									
VFS (m)		**0**	**0**	**0**	**0**	**5**	**10**	**10**	**15**	**10**	**20**
NSZ (m)		**5**	**10**	**15**	**20**	**5**	**10**	**15**	**15**	**20**	**20**
	90	0.025	0.025	0.025	0.025	0.015	0.010	0.010	0.007	0.010	0.005
R1 stream	None	0.265	0.265	0.265	0.265	0.173	0.120	0.120	0.092	0.120	0.063
	50	0.265	0.265	0.265	0.265	0.173	0.120	0.120	0.092	0.120	0.063
	75	0.265	0.265	0.265	0.265	0.173	0.120	0.120	0.092	0.120	0.063
	90	0.265	0.265	0.265	0.265	0.173	0.120	0.120	0.092	0.120	0.063
R3 stream	None	0.321	0.321	0.321	0.321	0.210	0.146	0.146	0.112	0.146	0.077
	50	0.321	0.321	0.321	0.321	0.210	0.146	0.146	0.112	0.146	0.077
	75	0.321	0.321	0.321	0.321	0.210	0.146	0.146	0.112	0.146	0.077
	90	0.321	0.321	0.321	0.321	0.210	0.146	0.146	0.112	0.146	0.077
R4 stream	None	0.476	0.476	0.476	0.476	0.311	0.217	0.217	0.166	0.217	0.114
	50	0.476	0.476	0.476	0.476	0.311	0.217	0.217	0.166	0.217	0.114
	75	0.476	0.476	0.476	0.476	0.311	0.217	0.217	0.166	0.217	0.114
	90	0.476	0.476	0.476	0.476	0.311	0.217	0.217	0.166	0.217	0.114

Table 56: FOCUS STEP 4 Global Maximum PEC$_{SW}$ for JAU 6476-desthio following single application to winter cereals at a rate of 150 g a.s./ha at BBCH 69, option 1

FOCUS Scenario	DRT (%)	Step 4 PEC$_{SW}$ (µg/L)									
		Step 4									
VFS (m)		0	0	0	0	5	10	10	15	10	20
NSZ (m)		5	10	15	20	5	10	15	15	20	20
D1 ditch	None	0.019	0.010	0.007	0.005	-	-	-	-	-	-
	50	0.010	0.005	0.004	0.005	-	-	-	-	-	-
	75	0.005	0.003	0.002	0.002	-	-	-	-	-	-
	90	0.002	0.002	0.002	0.002	-	-	-	-	-	-
D1 pond	None	0.006	0.003	0.002	0.002	-	-	-	-	-	-
	50	0.003	0.002	0.002	0.002	-	-	-	-	-	-
	75	0.002	0.002	0.002	0.002	-	-	-	-	-	-
	90	0.002	0.002	0.002	0.002	-	-	-	-	-	-
D2 ditch	None	0.028	0.015	0.013	0.013	-	-	-	-	-	-
	50	0.014	0.013	0.013	0.013	-	-	-	-	-	-
	75	0.013	0.013	0.013	0.013	-	-	-	-	-	-
	90	0.013	0.013	0.013	0.013	-	-	-	-	-	-
D2 stream	None	0.033	0.017	0.011	0.009	-	-	-	-	-	-
	50	0.016	0.008	0.008	0.008	-	-	-	-	-	-
	75	0.008	0.008	0.008	0.008	-	-	-	-	-	-
	90	0.008	0.008	0.008	0.008	-	-	-	-	-	-
D3 ditch	None	0.003	0.001	0.001	0.001	-	-	-	-	-	-
	50	0.001	0.001	0.000	0.001	-	-	-	-	-	-
	75	0.001	0.000	0.000	0.000	-	-	-	-	-	-
	90	0.000	0.000	0.000	0.000	-	-	-	-	-	-
D4 pond	None	0.007	0.005	0.004	0.003	-	-	-	-	-	-
	50	0.003	0.002	0.002	0.002	-	-	-	-	-	-
	75	0.002	0.001	0.001	0.001	-	-	-	-	-	-
	90	0.001	0.001	0.001	0.001	-	-	-	-	-	-
D4 stream	None	0.004	0.004	0.004	0.004	-	-	-	-	-	-
	50	0.004	0.004	0.004	0.004	-	-	-	-	-	-
	75	0.004	0.004	0.004	0.004	-	-	-	-	-	-
	90	0.004	0.004	0.004	0.004	-	-	-	-	-	-
D5 pond	None	0.007	0.005	0.004	0.003	-	-	-	-	-	-
	50	0.004	0.003	0.002	0.003	-	-	-	-	-	-
	75	0.002	0.001	0.001	0.001	-	-	-	-	-	-
	90	0.001	0.000	0.000	0.000	-	-	-	-	-	-
D5 stream	None	0.004	0.002	0.001	0.001	-	-	-	-	-	-
	50	0.002	0.001	0.001	0.001	-	-	-	-	-	-
	75	0.001	0.000	0.000	0.000	-	-	-	-	-	-
	90	0.000	0.000	0.000	0.000	-	-	-	-	-	-
D6 ditch	None	0.003	0.002	0.001	0.001	-	-	-	-	-	-
	50	0.002	0.001	0.001	0.001	-	-	-	-	-	-
	75	0.001	0.000	0.000	0.000	-	-	-	-	-	-
	90	0.000	0.000	0.000	0.000	-	-	-	-	-	-
R1 pond	None	0.023	0.021	0.020	0.020	0.016	0.011	0.010	0.008	0.008	0.006
	50	0.020	0.019	0.018	0.019	0.013	0.009	0.008	0.007	0.008	0.005
	75	0.018	0.018	0.018	0.018	0.011	0.008	0.007	0.006	0.007	0.004

FOCUS Scenario	**DRT (%)**	**Step 4 PEC$_{SW}$ (µg/L)**									
		Step 4									
VFS (m)		**0**	**0**	**0**	**0**	**5**	**10**	**10**	**15**	**10**	**20**
NSZ (m)		**5**	**10**	**15**	**20**	**5**	**10**	**15**	**15**	**20**	**20**
	90	0.017	0.017	0.017	0.017	0.011	0.007	0.007	0.005	0.007	0.004
R1 stream	None	0.169	0.169	0.169	0.169	0.110	0.077	0.077	0.059	0.077	0.040
	50	0.169	0.169	0.169	0.169	0.110	0.077	0.077	0.059	0.077	0.040
	75	0.169	0.169	0.169	0.169	0.110	0.077	0.077	0.059	0.077	0.040
	90	0.169	0.169	0.169	0.169	0.110	0.077	0.077	0.059	0.077	0.040
R3 stream	None	0.314	0.314	0.314	0.314	0.204	0.141	0.141	0.108	0.141	0.074
	50	0.314	0.314	0.314	0.314	0.204	0.141	0.141	0.108	0.141	0.074
	75	0.314	0.314	0.314	0.314	0.204	0.141	0.141	0.108	0.141	0.074
	90	0.314	0.314	0.314	0.314	0.204	0.141	0.141	0.108	0.141	0.074
R4 stream	None	0.383	0.383	0.383	0.383	0.250	0.174	0.174	0.134	0.174	0.091
	50	0.383	0.383	0.383	0.383	0.250	0.174	0.174	0.134	0.174	0.091
	75	0.383	0.383	0.383	0.383	0.250	0.174	0.174	0.134	0.174	0.091
	90	0.383	0.383	0.383	0.383	0.250	0.174	0.174	0.134	0.174	0.091

Table 57: FOCUS STEP 4 Global Maximum PEC_{SW} for JAU 6476-desthio following single application to winter cereals at a rate of 150 g a.s./ha at BBCH 69, option 2

FOCUS Scenario	DRT (%)	Step 4 PEC_{SW} (µg/L)									
		Step 4									
VFS (m)		0	0	0	0	5	10	10	15	10	20
NSZ (m)		5	10	15	20	5	10	15	15	20	20
D1 ditch	None	0.006	0.003	0.002	0.002	-	-	-	-	-	-
	50	0.003	0.002	0.002	0.002	-	-	-	-	-	-
	75	0.002	0.002	0.002	0.002	-	-	-	-	-	-
	90	0.002	0.002	0.002	0.002	-	-	-	-	-	-
D1 pond	None	0.002	0.002	0.002	0.002	-	-	-	-	-	-
	50	0.002	0.002	0.002	0.002	-	-	-	-	-	-
	75	0.002	0.002	0.002	0.002	-	-	-	-	-	-
	90	0.002	0.002	0.002	0.002	-	-	-	-	-	-
D2 ditch	None	0.013	0.013	0.013	0.013	-	-	-	-	-	-
	50	0.013	0.013	0.013	0.013	-	-	-	-	-	-
	75	0.013	0.013	0.013	0.013	-	-	-	-	-	-
	90	0.013	0.013	0.013	0.013	-	-	-	-	-	-
D2 stream	None	0.008	0.008	0.008	0.008	-	-	-	-	-	-
	50	0.008	0.008	0.008	0.008	-	-	-	-	-	-
	75	0.008	0.008	0.008	0.008	-	-	-	-	-	-
	90	0.008	0.008	0.008	0.008	-	-	-	-	-	-
D3 ditch	None	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	50	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	75	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	90	0.000	0.000	0.000	0.000	-	-	-	-	-	-
D4 pond	None	0.002	0.001	0.001	0.001	-	-	-	-	-	-
	50	0.001	0.001	0.001	0.001	-	-	-	-	-	-
	75	0.001	0.001	0.001	0.001	-	-	-	-	-	-
	90	0.001	0.001	0.001	0.001	-	-	-	-	-	-
D4 stream	None	0.004	0.004	0.004	0.004	-	-	-	-	-	-
	50	0.004	0.004	0.004	0.004	-	-	-	-	-	-
	75	0.004	0.004	0.004	0.004	-	-	-	-	-	-
	90	0.004	0.004	0.004	0.004	-	-	-	-	-	-
D5 pond	None	0.001	0.001	0.001	0.001	-	-	-	-	-	-
	50	0.001	0.000	0.000	0.000	-	-	-	-	-	-
	75	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	90	0.000	0.000	0.000	0.000	-	-	-	-	-	-
D5 stream	None	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	50	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	75	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	90	0.000	0.000	0.000	0.000	-	-	-	-	-	-
D6 ditch	None	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	50	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	75	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	90	0.000	0.000	0.000	0.000	-	-	-	-	-	-
R1 pond	None	0.016	0.016	0.016	0.016	0.010	0.006	0.006	0.005	0.006	0.003
	50	0.016	0.016	0.016	0.016	0.010	0.006	0.006	0.005	0.006	0.003
	75	0.016	0.016	0.016	0.016	0.010	0.006	0.006	0.005	0.006	0.003

FOCUS Scenario	**DRT (%)**	**Step 4 PEC$_{SW}$ (µg/L)**									
		Step 4									
VFS (m)		**0**	**0**	**0**	**0**	**5**	**10**	**10**	**15**	**10**	**20**
NSZ (m)		**5**	**10**	**15**	**20**	**5**	**10**	**15**	**15**	**20**	**20**
	90	0.016	0.016	0.016	0.016	0.010	0.006	0.006	0.005	0.006	0.003
R1 stream	None	0.163	0.163	0.163	0.163	0.106	0.074	0.074	0.057	0.074	0.039
	50	0.163	0.163	0.163	0.163	0.106	0.074	0.074	0.057	0.074	0.039
	75	0.163	0.163	0.163	0.163	0.106	0.074	0.074	0.057	0.074	0.039
	90	0.163	0.163	0.163	0.163	0.106	0.074	0.074	0.057	0.074	0.039
R3 stream	None	0.313	0.313	0.313	0.313	0.203	0.141	0.141	0.108	0.141	0.073
	50	0.313	0.313	0.313	0.313	0.203	0.141	0.141	0.108	0.141	0.073
	75	0.313	0.313	0.313	0.313	0.203	0.141	0.141	0.108	0.141	0.073
	90	0.313	0.313	0.313	0.313	0.203	0.141	0.141	0.108	0.141	0.073
R4 stream	None	0.374	0.374	0.374	0.374	0.244	0.170	0.170	0.131	0.170	0.089
	50	0.374	0.374	0.374	0.374	0.244	0.170	0.170	0.131	0.170	0.089
	75	0.374	0.374	0.374	0.374	0.244	0.170	0.170	0.131	0.170	0.089
	90	0.374	0.374	0.374	0.374	0.244	0.170	0.170	0.131	0.170	0.089

Table 58: FOCUS STEP 4 Global Maximum PEC_{SW} for JAU 6476-desthio following single application to spring cereals at a rate of 150 g a.s./ha at BBCH 30, option 1

FOCUS Scenario	DRT (%)	Step 4 PEC_{SW} (µg/L)									
		Step 4									
VFS (m)		0	0	0	0	5	10	10	15	10	20
NSZ (m)		5	10	15	20	5	10	15	15	20	20
D1 ditch	None	0.020	0.010	0.007	0.006	0.02	-	-	-	-	-
	50	0.010	0.005	0.004	0.003	0.01	-	-	-	-	-
	75	0.005	0.003	0.002	0.002	0.005	-	-	-	-	-
	90	0.002	0.002	0.002	0.002	0.002	-	-	-	-	-
D1 pond	None	0.006	0.003	0.002	0.002	0.006	-	-	-	-	-
	50	0.003	0.002	0.002	0.002	0.003	-	-	-	-	-
	75	0.002	0.002	0.002	0.002	0.002	-	-	-	-	-
	90	0.002	0.002	0.002	0.002	0.002	-	-	-	-	-
D3 ditch	None	0.001	0.001	0.001	0.000	0.001	-	-	-	-	-
	50	0.001	0.000	0.000	0.000	0.001	-	-	-	-	-
	75	0.000	0.000	0.000	0.000	0.000	-	-	-	-	-
	90	0.000	0.000	0.000	0.000	0.000	-	-	-	-	-
D4 pond	None	0.006	0.005	0.004	0.003	0.006	-	-	-	-	-
	50	0.003	0.002	0.002	0.001	0.003	-	-	-	-	-
	75	0.002	0.001	0.001	0.001	0.002	-	-	-	-	-
	90	0.001	0.001	0.001	0.001	0.001	-	-	-	-	-
D4 stream	None	0.003	0.003	0.003	0.003	0.003	-	-	-	-	-
	50	0.003	0.003	0.003	0.003	0.003	-	-	-	-	-
	75	0.003	0.003	0.003	0.003	0.003	-	-	-	-	-
	90	0.003	0.003	0.003	0.003	0.003	-	-	-	-	-
D5 pond	None	0.007	0.005	0.004	0.003	0.007	-	-	-	-	-
	50	0.003	0.002	0.002	0.001	0.003	-	-	-	-	-
	75	0.002	0.001	0.001	0.001	0.002	-	-	-	-	-
	90	0.001	0.000	0.000	0.000	0.001	-	-	-	-	-
D5 stream	None	0.003	0.002	0.001	0.001	0.003	-	-	-	-	-
	50	0.002	0.001	0.001	0.000	0.002	-	-	-	-	-
	75	0.001	0.000	0.000	0.000	0.001	-	-	-	-	-
	90	0.000	0.000	0.000	0.000	0.000	-	-	-	-	-
R4 stream	None	0.427	0.427	0.427	0.427	0.279	0.194	0.194	0.149	0.194	0.102
	50	0.427	0.427	0.427	0.427	0.279	0.194	0.194	0.149	0.194	0.102
	75	0.427	0.427	0.427	0.427	0.279	0.194	0.194	0.149	0.194	0.102
	90	0.427	0.427	0.427	0.427	0.279	0.194	0.194	0.149	0.194	0.102

Table 59: FOCUS STEP 4 Global Maximum PEC_{SW} for JAU 6476-desthio following single application to spring cereals at a rate of 150 g a.s./ha at BBCH 30, option 2

FOCUS Scenario	DRT (%)	Step 4 PEC_{SW} (µg/L)									
		Step 4									
VFS (m)		0	0	0	0	5	10	10	15	10	20
NSZ (m)		5	10	15	20	5	10	15	15	20	20
D1 ditch	None	0.006	0.003	0.002	0.002	-	-	-	-	-	-
	50	0.003	0.002	0.002	0.002	-	-	-	-	-	-
	75	0.002	0.002	0.002	0.002	-	-	-	-	-	-
	90	0.002	0.002	0.002	0.002	-	-	-	-	-	-
D1 pond	None	0.002	0.002	0.002	0.002	-	-	-	-	-	-
	50	0.002	0.002	0.002	0.002	-	-	-	-	-	-
	75	0.002	0.002	0.002	0.002	-	-	-	-	-	-
	90	0.002	0.002	0.002	0.002	-	-	-	-	-	-
D3 ditch	None	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	50	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	75	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	90	0.000	0.000	0.000	0.000	-	-	-	-	-	-
D4 pond	None	0.001	0.001	0.001	0.001	-	-	-	-	-	-
	50	0.001	0.001	0.001	0.001	-	-	-	-	-	-
	75	0.001	0.001	0.001	0.001	-	-	-	-	-	-
	90	0.001	0.001	0.001	0.001	-	-	-	-	-	-
D4 stream	None	0.003	0.003	0.003	0.003	-	-	-	-	-	-
	50	0.003	0.003	0.003	0.003	-	-	-	-	-	-
	75	0.003	0.003	0.003	0.003	-	-	-	-	-	-
	90	0.003	0.003	0.003	0.003	-	-	-	-	-	-
D5 pond	None	0.001	0.001	0.001	0.001	-	-	-	-	-	-
	50	0.001	0.000	0.000	0.000	-	-	-	-	-	-
	75	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	90	0.000	0.000	0.000	0.000	-	-	-	-	-	-
D5 stream	None	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	50	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	75	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	90	0.000	0.000	0.000	0.000	-	-	-	-	-	-
R4 stream	None	0.419	0.419	0.419	0.419	0.273	0.190	0.190	0.146	0.190	0.100
	50	0.419	0.419	0.419	0.419	0.273	0.190	0.190	0.146	0.190	0.100
	75	0.419	0.419	0.419	0.419	0.273	0.190	0.190	0.146	0.190	0.100
	90	0.419	0.419	0.419	0.419	0.273	0.190	0.190	0.146	0.190	0.100

Table 60: FOCUS STEP 4 Global Maximum PEC_{SW} for JAU6476-desthio following single application to spring cereals at a rate of 150 g a.s./ha at BBCH 69, option 1

FOCUS Scenario	DRT (%)	Step 4 PEC_{SW} (µg/L)									
VFS (m)		0	0	0	0	5	10	10	15	10	20
NSZ (m)		5	10	15	20	5	10	15	15	20	20
D1 ditch	None	0.021	0.011	0.006	0.006	-	-	-	-	-	-
	50	0.010	0.006	0.004	0.003	-	-	-	-	-	-
	75	0.005	0.006	0.002	0.002	-	-	-	-	-	-
	90	0.002	0.006	0.002	0.002	-	-	-	-	-	-
D1 pond	None	0.006	0.003	0.002	0.002	-	-	-	-	-	-
	50	0.003	0.002	0.001	0.001	-	-	-	-	-	-
	75	0.002	0.002	0.001	0.001	-	-	-	-	-	-
	90	0.001	0.002	0.001	0.001	-	-	-	-	-	-
D3 ditch	None	0.002	0.001	0.000	0.000	-	-	-	-	-	-
	50	0.001	0.000	0.000	0.000	-	-	-	-	-	-
	75	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	90	0.000	0.000	0.000	0.000	-	-	-	-	-	-
D4 pond	None	0.006	0.005	0.002	0.003	-	-	-	-	-	-
	50	0.003	0.002	0.002	0.002	-	-	-	-	-	-
	75	0.002	0.002	0.001	0.001	-	-	-	-	-	-
	90	0.001	0.002	0.001	0.001	-	-	-	-	-	-
D4 stream	None	0.005	0.005	0.005	0.005	-	-	-	-	-	-
	50	0.005	0.005	0.005	0.005	-	-	-	-	-	-
	75	0.005	0.005	0.005	0.005	-	-	-	-	-	-
	90	0.005	0.005	0.005	0.005	-	-	-	-	-	-
D5 pond	None	0.007	0.005	0.002	0.003	-	-	-	-	-	-
	50	0.004	0.002	0.002	0.002	-	-	-	-	-	-
	75	0.002	0.002	0.001	0.001	-	-	-	-	-	-
	90	0.001	0.002	0.000	0.000	-	-	-	-	-	-
D5 stream	None	0.003	0.002	0.001	0.001	-	-	-	-	-	-
	50	0.002	0.001	0.001	0.000	-	-	-	-	-	-
	75	0.001	0.001	0.000	0.000	-	-	-	-	-	-
	90	0.000	0.001	0.000	0.000	-	-	-	-	-	-
R4 stream	None	0.443	0.443	0.443	0.443	0.289	0.201	0.201	0.154	0.201	0.106
	50	0.443	0.443	0.443	0.443	0.289	0.201	0.201	0.154	0.201	0.106
	75	0.443	0.443	0.443	0.443	0.289	0.201	0.201	0.154	0.201	0.106
	90	0.443	0.443	0.443	0.443	0.289	0.201	0.201	0.154	0.201	0.106

Table 61: FOCUS STEP 4 Global Maximum PEC_{SW} for JAU6476-desthio following single application to spring cereals at a rate of 150 g a.s./ha at BBCH 69, option 2

FOCUS Scenario	DRT (%)	Step 4 PEC_{SW} (µg/L)									
		Step 4									
VFS (m)		0	0	0	0	5	10	10	15	10	20
NSZ (m)		5	10	15	20	5	10	15	15	20	20
D1 ditch	None	0.006	0.003	0.002	0.002	-	-	-	-	-	-
	50	0.003	0.002	0.002	0.002	-	-	-	-	-	-
	75	0.002	0.002	0.002	0.002	-	-	-	-	-	-
	90	0.002	0.002	0.002	0.002	-	-	-	-	-	-
D1 pond	None	0.001	0.001	0.001	0.001	-	-	-	-	-	-
	50	0.001	0.001	0.001	0.001	-	-	-	-	-	-
	75	0.001	0.001	0.001	0.001	-	-	-	-	-	-
	90	0.001	0.001	0.001	0.001	-	-	-	-	-	-
D3 ditch	None	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	50	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	75	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	90	0.000	0.000	0.000	0.000	-	-	-	-	-	-
D4 pond	None	0.002	0.002	0.001	0.001	-	-	-	-	-	-
	50	0.001	0.001	0.001	0.001	-	-	-	-	-	-
	75	0.001	0.001	0.001	0.001	-	-	-	-	-	-
	90	0.001	0.001	0.001	0.001	-	-	-	-	-	-
D4 stream	None	0.005	0.005	0.005	0.005	-	-	-	-	-	-
	50	0.005	0.005	0.005	0.005	-	-	-	-	-	-
	75	0.005	0.005	0.005	0.005	-	-	-	-	-	-
	90	0.005	0.005	0.005	0.005	-	-	-	-	-	-
D5 pond	None	0.001	0.001	0.001	0.001	-	-	-	-	-	-
	50	0.001	0.000	0.000	0.000	-	-	-	-	-	-
	75	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	90	0.000	0.000	0.000	0.000	-	-	-	-	-	-
D5 stream	None	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	50	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	75	0.000	0.000	0.000	0.000	-	-	-	-	-	-
	90	0.000	0.000	0.000	0.000	-	-	-	-	-	-
R4 stream	None	0.434	0.434	0.434	0.434	0.283	0.197	0.197	0.151	0.197	0.103
	50	0.434	0.434	0.434	0.434	0.283	0.197	0.197	0.151	0.197	0.103
	75	0.434	0.434	0.434	0.434	0.283	0.197	0.197	0.151	0.197	0.103
	90	0.434	0.434	0.434	0.434	0.283	0.197	0.197	0.151	0.197	0.103

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