

REGISTRATION REPORT

Part B

Section 8

Environmental Fate

Detailed summary of the risk assessment

Product code: GLOB1911F

Product name: **CURRANDO/ SUBIGON/ COLLECTOR**

Chemical active substance:

Difenoconazole , 500 g/L

Central Zone

Zonal Rapporteur Member State: Poland

CORE ASSESSMENT

Applicant: Globachem NV

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When	What
August 2020	Version submitted by the applicant
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May 2021	Version evaluated by zRMS
October 2021	Finalised 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	11	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 Groundwater
					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	kg as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min/max			
Zonal uses (field or outdoor uses, certain types of protected crops)														
1	PL, CZ, BE, DE, NL	Potatoes	F	<i>Alternaria</i> sp.	Normal downward spraying	BBCH 40-99	a) 1-4 b) 1-4	10	a) 0.250 b) 1.0	a) 0.125 b) 0.500	100-400	14	/	
2, 3	PL, CZ, BE, DE, NL	Sugar beet/ fodder beet	F	Rust, <i>Ramularia beticola</i> , powdery mildew, <i>Cercospora beticola</i>	Normal downward spraying	After BBCH 31 till 49	a) 1-2 b) 1-2	14	a) 0.250 b) 0.500	a) 0.125 b) 0.250	100-400	21	/	
4	PL, CZ, BE, DE	Winter oilseed rape	F	<i>Phoma lingam</i> , <i>Alternaria brassicae</i> , <i>Sclerotinia sclerotiorum</i> , <i>Erysiphe cruciferarum</i> , <i>Pyrenopeziza brassicae</i>	Normal downward spraying	BBCH 19-69	a) 1-2 b) 1-2	14	a) 0.250 b) 0.500	a) 0.125 b) 0.250	100-400	56	Max. 1 application in autumn	
5	NL	Winter oilseed rape	F	<i>Phoma lingam</i> , <i>Alternaria brassicae</i> , <i>Sclerotinia sclerotiorum</i> , <i>Erysiphe cruciferarum</i> , <i>Pyrenopeziza brassicae</i>	Normal downward spraying	BBCH 19-69	a) 1-2 b) 1-2	14	a) 0.250 b) 0.500	a) 0.125 b) 0.250	100-400	56	Application timing according to NL-specific conditions 2 applications in autumn allowed	
6	PL, CZ, BE, DE, NL	Spring oilseed rape	F	<i>Phoma lingam</i> , <i>Alternaria brassicae</i> , <i>Sclerotinia</i>	Normal downward spraying	BBCH 19-69	c) 1-2 d) 1-2	14	a) 0.250 b) 0.500	a) 0.125 b) 0.250	100-400	56	Max. 1 application before BBCH	

				<i>sclerotiorum,</i> <i>Erysiphe</i> <i>cruciferarum,</i> <i>Pyrenopeziza</i> <i>brassicae</i>									21	
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* Use number(s) in accordance with the list of all intended GAPs in Part B, Section 0 should be given in column 1

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

Explanation for column 15 “Conclusion”

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

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

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Use- No. *	Member state(s)	Crop and/or situation (crop destination / purpose of crop)	F, Fn, Fpn G, Gn, Gpn or I **	Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)	Application				Application rate			PHI (days)	Remarks: e.g. g safener/ synergist per ha
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	kg or L product/ha a) max. rate per appl. b) max. total rate per crop/season	g or kg as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min/max		
1	EU, North and South	Pome fruit	F	<i>Podosphaera</i> <i>leucotricha</i> <i>Venturia inaequalis</i>	High volume spray or mist blower	Spray programme beginning at flowering (BBCH 61)	a) 4 b) 4	10-14	a) 0.3 b) 1.2	a) 0.075 b) 0.300	500-1500	N/A	/
2	EU, North and South	Carrot	F	<i>Alternaria dauci</i> <i>Erysiphe heraclei</i>	High volume spray	First application at BBCH 42/43	a) 3 b) 3	14	a) 0.5 b) 1.5	a) 0.125 b) 0.375	100-500	N/A	/
3	EU, North and South	Cereals (Wheat, barley, triticale, rye and oat)	F	<i>Fusarium spp</i> <i>Tilletia spp</i> <i>Pyrenophthora</i>	Seed treatment	BBCH 00	a) 1 b) 1	N/A	a) 0.4 b) 0.4	a) 0.012 b) 0.012	/	N/A	/

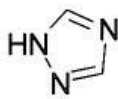
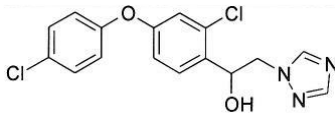
				<i>granimea</i> <i>Urocystis oculata</i> <i>Ustilago avenae</i> <i>Pyrenophora avenae</i> <i>Cochliobolus sativum</i> <i>Fusarium culmorum</i> <i>Gibberella avenacea</i> <i>Pythium ultimum</i>										
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* Use number(s) in accordance with the list of all intended GAPs in Part B, Section 0 should be given in column 1

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

8.2 Metabolites considered in the assessment

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

Metabolite	Molar mass	Chemical structure	Maximum observed occurrence in compartments	Exposure assessment required due to
CGA71019 (1,2,4-triazole)	69		Soil: 23.4% Water/sediment: 9.6% max. 3.2% in pond system (day 148), max. 14.1% in river system (day 148)	PEC _{gw} PEC _{soil} PEC _{sw/sed}
CGA205375	350		Soil: 11.9% Water/sediment: 11.6%	PEC _{gw} PEC _{soil} PEC _{sw/sed}

8.3 Rate of degradation in soil (KCP 9.1.1)

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

8.3.1 Aerobic degradation in soil (KCP 9.1.1.1)

The rate of degradation in soil of Difenoconazole was evaluated during the Annex I Inclusion. No additional studies have been performed. A summary of rates of degradation of Difenoconazole and its metabolites based on agreed EU endpoints is presented in tables below.

For more details, please refer to the corresponding document of the EU review dossier.

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

Difenoconazole, Laboratory studies, aerobic conditions										
Soil name	Soil type (USDA)	pH (H ₂ O)	t (°C)	MWHC (%)	DT ₅₀ (d)	DT ₉₀ (d)	DT ₅₀ (d) ^c 20°C pF2/10kPa	Chi ² (%)	Kinetic model	Evaluated on EU level / Reference
--	Loam	7.2	20	40	104	345	64	-	SFO	Yes /EFSA 2011
--	Loam	7.2	20	40	118	392	72	-	SFO	Yes /EFSA 2011
Geometric mean, loam soils (n=2)							111			
-	Sandy loam	5.0	20	40	123 ^a	409	123	-	SFO	Yes /EFSA 2011
-	Silt loam	7.2	20	60	456 ^a	>>273	456	-	SFO	Yes /EFSA 2011
-	Silt loam	7.2	30	60	175 ^b	>>178 ^b	-	-	SFO	
-	Silt loam	7.2	20	30	709 ^{a,b}	>>281 ^b	-	-	SFO	
-	Silt loam	7.2	20	60	345 ^a	>>281	345	-	SFO	
-	Silt loam	7.2	10	60	602 ^{a,b}	>>281 ^b	-	-	SFO	
-	Silt loam	7.2	20	60	83	277	83	-	SFO	
Geometric mean, silt loam soils (n=3)							235			
-	Loam	7.2	20	22	136 ^b	452 ^b	-	-	SFO	Yes /EFSA 2011

Difenoconazole, Laboratory studies, aerobic conditions										
Soil name	Soil type (USDA)	pH (H ₂ O)	t (°C)	MWHC (%)	DT ₅₀ (d)	DT ₉₀ (d)	DT ₅₀ (d) ^c 20°C pF2/10kPa	Chi ² (%)	Kinetic model	Evaluated on EU level / Reference
-	Loam	7.2	10	43	338 ^{a,b}	>1000 ^b	-	-	SFO	
-	Loam	7.2	20	43	53	175	53	-	SFO	
-	Loam, sterile	7.2	20	60	>1000 ^{a,b}	>1000 ^b	-	-	-	
-	Sandy loam	7.4	20	40	149	496	136	-	SFO	Yes /EFSA 2011
-	Sandy loam/Loamy sand	7.5	20	40	186	617	177	-	SFO	
-	Silty clay loam	6.7	20	40	187	620	151	-	SFO	
Overall geometric mean (n=7)							130			
Overall arithmetic mean (n=7)							123			
Median (n=7)							136			
pH-dependency:							No			

^a DT50 value extrapolated beyond the durations of the study.

^b Values not included in the mean/median because they were obtained from test at 10/30°C, dry moisture or sterile conditions.

^c In case the same soil was tested under standard conditions, the variations in temperature and moisture were not considered for mean/median values of normalised data.

Table 8.3-2: Summary of aerobic degradation rates for CGA205375 - laboratory studies

CGA205375, Laboratory studies, aerobic conditions												
Soil name	Soil type (USDA)	pH (H ₂ O)	t (°C)	MWHC (%)	DT ₅₀ (d)	DT ₉₀ (d)	f. f. from parent	DT ₅₀ (d) 20°C pF2/10kPa	Chi ² (%)	Kinetic model	Evaluated on EU level / Reference	
-	Sandy loam	7.4	20	40	93	309	-	85	-	SFO	Yes /EFSA, 2011	
-	Sandy loam/Loamy sand	7.5	20	40	83	275	-	79	-	SFO		
-	Silt loam	5.8	20	40	152	504	-	123	-	SFO		
Geometric mean (n=3)							-	94				
Arithmetic mean (n=3)							-	96				
Median (n=3)							-	85				
pH-dependency:							-	No				

Table 8.3-3: Summary of aerobic degradation rates for CGA71019 - laboratory studies

CGA71019, Laboratory studies, aerobic conditions											
Soil name	Soil type (USDA)	pH (H ₂ O)	t (°C)	MWHC (%)	DT ₅₀ (d)	DT ₉₀ (d)	f. f. from parent	DT ₅₀ (d) 20°C pF2/10kPa	Chi ² (%)	Kinetic model	Evaluated on EU level / Reference
-	Sandy loam	6.4	20	40	6.3	21	-	5.0	-	SFO	Yes /EFSA, 2011
-	Loamy sand	5.8	20	40	9.9	33	-	9.9	-	SFO	

CGA71019, Laboratory studies, aerobic conditions											
Soil name	Soil type (USDA)	pH (H ₂ O)	t (°C)	MWHC (%)	DT ₅₀ (d)	DT ₉₀ (d)	f. f. from parent	DT ₅₀ (d) 20°C pF2/10kPa	Chi ² (%)	Kinetic model	Evaluated on EU level / Reference
-	Silt loam	6.7	20	40	12	41	-	8.2	-	SFO	
Geometric mean (n=3)							-	7.4			
Arithmetic mean (n=3)							-	7.7			
Median (n=3)							-	8.2-7.7			
pH-dependency:								No			

For CGA71019 (1,2,4-triazole), a revision of the DT₅₀ was conducted by the UK¹. It was concluded that CGA71019 followed a biphasic degradation. The revised DT₅₀ are presented in the table below.

Table 8.3-4: Summary of aerobic degradation rates for CGA71019, according to FOCUS Kinetics (2006) - CRD 2013

CGA71019, Laboratory studies, aerobic conditions										
Soil name	Soil type (USDA)	pH (H ₂ O)	t (°C)	MWHC (%)	DegT ₅₀ -fast [d]	DegT ₅₀ -slow [d]	“g” ^a	Chi ² (%)	Kinetic model	Evaluated on EU level / Reference
Laacher Hof AXXa	-	-	-	-	0.9	59.2	0.683	-	DFOP	Yes / CRD (2013)
BBA 2.2	-	-	-	-	1.5	247.6	0.580	-	DFOP	
Laacher Hof AIII	-	-	-	-	0.8	20.6	0.443	-	DFOP	
Geometric mean (n=3)					1.0 0.7	67.1 46.4				
Arithmetic mean (n=3)							0.569			
pH-dependency:					No					

^a proportion of the substance described by k₁

zRMS Comments:	In accordance with <i>Triazole Derived Metabolite: 1,2,4-Triazole. Proposed revision to DT₅₀ Summary, Scientific Evaluation and Assessment July 2011, revised September 2011 (after comments from MS and EFSA) and further revised January 2013</i> the following DT ₅₀ values of 0.7 and 46.4 days are reported for fast and slow phase, respectively.
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8.3.2 Anaerobic degradation in soil (KCP 9.1.1.1)

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

No new metabolites were observed under anaerobic conditions. For more details, please refer to the corresponding document of the EU review dossier.

¹ Triazole Derived Metabolite: 1,2,4-triazole – Proposed revision to DT₅₀ – Summary, Scientific Evaluation and Assessment – July 2011, revised September 2011 (after comments from MS and EFSA) and further revised January 2013 (minor clarifications added post-commenting).

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)

Studies on field dissipation rates with the formulation were not performed, since it is possible to extrapolate from data obtained with the active substances.

Studies on field dissipation in soil of Difenoconazole have been reviewed during the EU Review of the active substances.

All relevant detailed experimental information has been submitted for the EU review of difenoconazole (EFSA Journal 2011; 9(1): 1967).

The degradation rate for the metabolite CGA71019 used in modelling has been evaluated in 1,2,4-Triazole: LoEP - Revision to DT50, UK CRD, January 2013.

Triggering endpoints

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

Difenoconazole, Field studies – Triggering endpoints									
Soil type (USDA)	Location	pH (H ₂ O)	Depth (cm)	DissT ₅₀ (d) Actual	DT ₉₀ (d) Actual	Kinetic parameters	Chi ² (%)	Kinetic model	Evaluated on EU level / Reference
Silt loam	Germany	7.4	0-20	160	532	-	18.6	SFO	Yes /EFSA, 2011
Silt loam	Germany	6.6	0-10	20	68	-	13.0	SFO	Yes /EFSA, 2011
Loamy sand	Germany	6.2	0-10	59	195	-	18.3	SFO	Yes /EFSA, 2011
Silt loam	Germany	6.8	0-20	64	211	-	14.1	SFO	Yes /EFSA, 2011
Loamy sand	Germany	5.6	0-10	61	202	-	14.8	SFO	Yes /EFSA, 2011
Sandy loam	Germany	6.0	0-20	265	879	-	18.6	SFO	Yes /EFSA, 2011
Silt loam	Germany	6.0	0-20	242	802	-	20.9	SFO	Yes /EFSA, 2011
Silt loam	Germany	5.7	0-20	118	394	-	21.8	SFO	Yes /EFSA, 2011
Clay loam	Switzerland	7.3	0-10	83	277	-	-	SFO	Yes /EFSA, 2011
Maximum (n=9)				265	879				

Table 8.4-2: Summary of aerobic degradation rates for CGA71019 - field studies: Triggering endpoints (LoEP - Revision to DT50, UK CRD, January 2013)

CGA71019, Field studies – Triggering endpoints										
Soil type (USDA)	Location	pH (H ₂ O) ^a	Depth (cm)	DT ₅₀ (d) Actual	DT ₉₀ (d) Actual	f.f. ^b	Kinetic Parameters	Chi ² (%) ^c	Kinetic model.	Evaluated on EU level / Reference
Silt loam	Höfchen (DE)	6.36	0-50	7.8	366.7	-	α 0.4454 β 2.0966	15.2	FOMC	Yes / CRD (2013),
Silty clay loam	Albaro (IT)	7.6	0-50	21.2	207.4	-	$k_1=0.3500$, $k_2=0.0086$, g 0.4000	10.7	DFOP	
Sandy loam	Little Shelford (UK)	7.4	0-50	6.8	109.3	-	$k_1=0.4863$, $k_2=0.0154$, g 0.4633	17.8	DFOP	
Loam	Vilobi (SP)	5.8	0-50	28.1	717.6	-	$k_1=0.0632$,	13.3	DFOP	

CGA71019, Field studies – Triggering endpoints										
Soil type (USDA)	Location	pH (H ₂ O) ^a	Depth (cm)	DT ₅₀ (d) Actual	DT ₉₀ (d) Actual	f.f. ^b	Kinetic Parameters	Chi ² (%) ^c	Kinetic model.	Evaluated on EU level / Reference
							k ₂ =0.0020, g 0.5732			
Maximum (n=4)				28.1	717.6	-	-			

^a 0 – 30cm

^b refer to agreed EU end-point (EFSA Journal 2011;9(1):1967)

^c t-test: DFOP, for k₁, k₂ and g; FOMC, t-test not applicable, no confidence intervals for α or β parameters given.

Modelling endpoints

Table 8.4-3: Summary of aerobic degradation rates for CGA71019 - field studies: Modelling endpoints (LoEP - Revision to DT50, UK CRD, January 2013).

CGA71019, Field studies – Modelling endpoints								
Soil type (USDA)	Location	pH (H ₂ O) ^a	Depth (cm)	DT ₅₀ (d) 20°C, pF2 fast phase (k ₁)	DT ₅₀ (d) 20°C, pF2 slow phase (k ₂)	'g' ^b	Kinetic model	Evaluated on EU level / Reference
Silt loam	Höfchen (DE)	6.36	0-50	2.5	70.7	0.655 ^c	DFOP	Yes / CRD (2013)
Silty clay loam	Albaro (IT)	7.6	0-50	1.4	59.8	0.364	DFOP	
Sandy loam	Little Shelford (UK)	7.4	0-50	0.5	25.1	0.458	DFOP	
Loam	Vilobi (SP)	5.8	0-50	4.6	126.0	0.477	DFOP	
Geometric mean (n=4)				1.68	60.5	0.489 ^d		
pH-dependency				No				

^a 0 - 30 cm ; ^b proportion of the substance described by k₁; ^c estimated and then fixed ; ^d arithmetic mean

8.4.2 Soil accumulation testing (KCP 9.1.1.2.2)

According the EFSA Journal (2011), no accumulation observed after up to 10 years use under the following conditions:

- 10-yr study in Switzerland (sandy loam): 7 years appl. of 125 g/ha to wheat, 2 years appl. of 125 g/ha to rape and 1 year 3x125 g/ha to sugar beet. Taking crop interception (90% by wheat and sugar beet and 80% by rape, FOCUS_{GW}) into account the “effective doses” would have been 12.5 g/ha for 7 years, 25 g/ha for 2 years and 37.5 g/ha for 1 year.
- 4-yr study in N Italy (sandy loam): Annual application to pome fruit at 250 g/ha. Assuming standard crop interception (50-65%, FOCUS GW) the annual “effective dose” would have been 87.5-125 g/ha.
- 4-yr study in N Italy (silt clay): Annual application to sugar beets at 202-241 g/ha. Assuming crop interception of 90% the “effective dose” would have been within 20-24 g/ha each year.
- 3-yr study in UK (sandy loam and clay): 3-yr appl. to winter wheat or bare ground, at 75 g/ha and 150 g/ha. Assuming 90% crop interception by wheat the net application rates would have been 7.5 and 15 g/ha. (this study considered as supplementary).

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.

The mobility in soil of Difenoconazole and metabolites was evaluated during the Annex I Inclusion. No additional studies have been performed.

It should be noted that according to the EFSA guidance (2014)², geometric mean of K_{foc} values should be considered in FOCUS modelling for dossiers submitted after May 1st 2015.

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

Difenoconazole							
Soil name	Soil type (USDA)	OC (%)	pH (CaCl ₂)	K _r (mL/g)	K _{foc} (mL/g)	1/n (-)	Evaluated on EU level / Reference
-	Sand	0.36	7.9	12.8	3870	0.74	Yes /EFSA, 2011
-	Sandy loam	1.98	7.8	63.0	3520	0.76	
-	Silt loam	1.74	6.5	54.8	3470	0.85	
-	Silty clay loam	0.67	6.9	47.2	7730	0.91	
-	Clay	2.79	5.9	97.8	3470	0.89	
-	Sand	0.52	6.5	2.1	400	0.80	
-	Silt loam	0.58	7.5	35.0	5660	0.88	
-	Sandy loam	0.58	8.5	11.5	1960	0.94	
Arithmetic mean (n=8)					3760	0.85	
Geometric mean (n=8)					2943	0.84	
Median (n=8)					3495	0.87	
pH-dependency					No		

Table 8.5-2: Summary of soil adsorption/desorption for CGA205375

CGA205375							
Soil Name	Soil Type (USDA)	OC (%)	pH (CaCl ₂)	K _r (mL/g)	K _{foc} (mL/g)	1/n (-)	Evaluated on EU level / Reference
-	Loamy sand	2.17	5.7	118	5440	0.81	Yes /EFSA, 2011
-	Silty clay loam	1.16	6.6	45.5	3920	0.76	
-	Clay	2.63	6.7	44.1	1680	0.76	
-	Sandy loam	1.17	6.8	22.6	1930	0.72	
-	Loam	1.22	7.6	23.6	1930	0.77	
Arithmetic mean (n=5)					2980	0.76	
Geometric mean (n=5)					2661	0.76	
Median (n=5)					1930	0.76	

² EFSA 2014 European Food Safety Authority. 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 2014;12(5):3662, 38 pp

CGA205375							
Soil Name	Soil Type (USDA)	OC (%)	pH (CaCl ₂)	K _r (mL/g)	K _{foc} (mL/g)	1/n (-)	Evaluated on EU level / Reference
pH-dependency					No		

Table 8.5-3: Summary of soil adsorption/desorption for CGA71019

CGA71019							
Soil Name	Soil Type (USDA)	OC (%)	pH (CaCl ₂)	K _r (mL/g)	K _{foc} (mL/g)	1/n (-)	Evaluated on EU level / Reference
Alpaugh	Silty clay	0.70	8.8	0.833	120	0.897	Yes /EFSA, 2011
Hollister	Clay loam	1.74	6.9	0.748	43	0.827	
Lakeland	Sand ^a	0.12	4.8	0.234	202	0.885	
Lawrence	Silty clay loam	0.70	7.0	0.722	104	0.922	
Pachappa	Sandy loam	0.81	6.9	0.720	89	1.016	
Arithmetic mean (n=5)					89	0.9155	
Geometric mean (n=5)					83	0.9130	
Median (n=5)					97	0.9095	
pH-dependency					No		

^a outlier therefore excluded from the mean calculations

8.5.1 Column leaching (KCP 9.1.2.1)

Since reliable adsorption/desorption data were available for Difenconazole and metabolites, soil column leaching is not formally required. However, soil column leaching studies with "freshly" applied Difenconazole were submitted during the EU review and the results support the conclusion of the adsorption/desorption tests. For more details, please refer to the corresponding document of the EU review dossier.

8.5.2 Lysimeter studies (KCP 9.1.2.2)

Since Difenconazole and its metabolites CGA205375 and CGA71019 are of low mobility to soil as confirmed by the column leaching study, lysimeter studies are not formally required and were therefore not performed.

8.5.3 Field leaching studies (KCP 9.1.2.3)

No data, 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.

Studies on degradation in water/sediment systems of Difenconazole have been reviewed during the EU Review of the active substances. For details, please refer to the corresponding documents of the EU review dossier.

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

Difenconazole Distribution (max. water 87% after 0 days, max. sediment 99.8% after 42 days)										
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	DissT ₅₀ sed. (d)	Kinetic model	Evaluated on EU level / Reference
Pond	- / 6.9	324	>1000	SFO	1.0	3.3	SFO	-	-	Yes/ EFSA, 2011
River	- / 7.2	307	>1000	SFO	2.0	6.6	SFO	-	-	
Geometric mean (n=2)		315	>1000		1.1	4.6				

Table 8.6-2: Summary of degradation in water/sediment of CGA205375

CGA205375 Distribution (max. water 97% after 0 days, max. sediment 91% after 62 days)										
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	DissT ₅₀ sed. (d)	Kinetic model	Evaluated on EU level / Reference
Pond	7.97 / 7.09	ca 630	>1000	SFO	1.4	4.7	-	-	-	Yes / EFSA, 2011
River	8.1 / 7.46	ca 301	>1000	SFO	3.1	10.2	-	-	-	Yes / EFSA, 2011
Geometric mean (n=2)		ca 435	>1000		2.1	6.9				

zRMS Comments:	For consistency the Table 8.6-2: <i>Summary of degradation in water/sediment of CGA 205375</i> was added.
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Table 8.6-3-3: Summary of observed metabolites

Metabolite	Maximum observed value in water/sediment system	Evaluated on EU level
CGA205375 Water/sediment system	Max. in water/sediment 11.6 % after 90-183 d (aerobic)	Yes/ EFSA, 2011
CGA71019 Water/sediment system	Max. in water/sediment 9.6 % - worse case assumption calculated by RMS from CGA205375 water / sediment study	Yes/ EFSA, 2011

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

zRMS
Comments:

Calculations of PEC_s for active substance its metabolites and formulation were submitted.

The DT₅₀ for difenoconazole and its metabolite CGA 205375 were agreed at the EU level (EFSA, 2011) and for CGA 71019 (1,2,4-triazole), EFSA Assessment, 2013.

Difenoconazole. The PECs were assessed in accordance with proposed use pattern with relevant interception.

Additionally, the PECs assessment for NL requirements authorization was submitted.

The PECs assessment was corrected by evaluator for both metabolites using the ESCAPE tool.

CGA71019. In PECs assessment the DT₅₀ = 347 d and max occurrence of 23.4 % were taken into consideration.

CGA205375. In PECs assessment the DT₅₀ = 152 d as it represents the worst case and max occurrence of 11.9 % were used.

PECsoil mg/kg	Potatoes 4 x 125 g a.s./ha		
	Difenoconazole	CGA205375	CGA71019
Initial	0.0959	0.0055	0.0008
Plateau concentration (5 cm) after 10 years	0.0602	0.0074	0.0020
PEC _{accumulation} (5 cm) (PEC _{act} +PEC _{soil plateau})	0.1561	0.0129	0.0029
PECsoil mg/kg			
Formulation 0.25 L/ha	0.0577		

PECsoil mg/kg	Sugar beet 2 x 125 g a.s./ha		
	Difenoconazole	CGA205375	CGA71019
Initial	0.0979	0.0055	0.0008
Plateau concentration (20 cm) after 10 years	0.0615	0.0074	0.0020
PEC _{accumulation} (5 cm) (PEC _{act} +PEC _{soil plateau})	0.1594	0.0129	0.0029
PECsoil mg/kg			
Formulation 0.25 L/ha	0.1153		

PECsoil mg/kg	winter OSR 2 x 125 g a.s./ha (40/40)		
	Difenoconazole	CGA205375	CGA71019

	Initial	0.1964.1959	0.0110	0.0017
	Plateau concentration (20 cm) after 10 years	0.1229	0.0149	0.0041
	PEC _{accumulation} (5 cm) (PEC _{act} +PEC _{soil plateau})	0.3193	0.0259	0.0057
PECsoil mg/kg				
	Formulation 0.25 L/ha	0.2306		

PECsoil mg/kg	winter OSR 2 x 125 g a.s./ha (40/80)		
	Difenoconazole	CGA205375	CGA71019
Initial	0.1297	0.0073	0.0011
Plateau concentration (20 cm) after 10 years	0.0812	0.0099	0.0027
PEC _{accumulation} (5 cm) (PEC _{act} +PEC _{soil plateau})	0.2109	0.0172	0.0038
PECsoil mg/kg			
Formulation 0.25 L/ha	0.2306		

The maximum PEC_s values for active substance and its metabolites for Central Zone are presented in following table:

Compound	PECs ini mg/kg soil	PECs accum mg/kg soil
Difenoconazole	0.1297 0.1959 1964*	0.2109 0.3188*
CGA205375	0.0073 0.0110*	0.0172 0.0259*
CGA71019	0.0011 0.0017*	0.0038 0.0057*
Currando formulation	0.2306 0.2306*	na

* only for the Netherlands

These values will be used in further risk assessment.

8.7.1 Justification for new endpoints

The following tables provide the EU endpoints to be used for the PEC soil calculations and deviations if any.

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

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

Use No.	1	2, 3	4, 5, 6
Crop	Potato	Sugar beet	Winter oilseed rape, Spring oilseed rape
Application rate (g as/ha)	4 x 125g a.s./ha	2 x 125g a.s./ha	2 x 125g a.s./ha
Number of applications/interval	4/10d	2/14d	2/14d
Crop interception (%)*	85/85/85/85	70/70	2 early applications: 40/40 1 early application, 1 late application: 40/80
Depth of soil layer (relevant for background concentration) (cm)	5 cm (background concentration at 5cm (no tillage) and 20cm (tillage))	5 cm (background concentration at 5cm (no tillage) and 20cm (tillage))	5 cm (background concentration at 5cm (no tillage) and 20cm (tillage))

*Crop interception values are taken from the “ Generic Guidance for Tier 1 FOCUS Ground Water Assessments Version 2.2”.

Table 8.7-2: Input parameter for active substance(s) and relevant metabolite(s) for PEC_{soil} calculation

Compound	Molecular weight (g/mol)	Max. occurrence (%)	DT50 (days)	Value in accordance to EU endpoint y/n/ Reference
Difenoconazole	406.3	-	265	Y*
CGA205375	350	11.9 Parent → CGA 205375	152	Y*
CGA71019	69	23.4 Parent → CGA71019	Biphasic degradation: Fast phase: 10.97 days Slow phase: 347 days DFOP kinetic: 0.5732	N*

* The longest field DT₅₀ in soil was used for Difenoconazole while the longest DT₅₀ in soil from the lab studies was used for the metabolite CGA205375. For the metabolite CGA71019, the longest DT₅₀ in soil from field studies was used, which corresponds with the most worst-case DFOP kinetic parameters as proposed by HSE's Chemicals Regulation Directorate (CRD). These revised values have been considered by Member States and EFSA and were formally noted at the Standing Committee on the Food Chain and Animal Health on 13 December 2013.

The PEC soil calculations were performed with the FOCUS model for a standard soil considering a dry soil bulk density of 1.5 g/cm³ and 5 cm soil depth.

PEC_s immediately after application were calculated using FOCUS guidance³ (i.e. current guidance) with the following equation:

³ FOCUS (1997) Soil persistence models and EU Registration - The Final Report of the Soil Modelling Workgroup of FOCUS (Forum for the Co-ordination of Pesticide Fate Models and their Use) – 29 February 1997.

$$PEC_{S, ini} = [A * (1-f_{int})]/(100 * d * bd)$$

where: A = application rate

f_{int} = fraction intercepted by plant cover

d = depth of the soil

bd = bulk soil density (g/cm³)

The actual PEC_S at specific times (t) are calculated with the formula:

$$PEC_{S, actual} = PEC_{S, ini} * e^{-k \cdot t}$$

where: $k = \ln(2)/DT_{50}$;

t: time period.

The maximum ('moving window') time weighted average (TWA) PEC values are found by calculating a set of TWA PECs over a time window that is moved along the time axis. The average PEC within a day is calculated by:

$$PEC_{TWA} = PEC_{S, ini} \cdot (1 - e^{-k \cdot t})/(k \cdot t)$$

Although field $DT_{50} > 3$ months and field $DT_{90} > 1$ year were observed for Difenonazole, soil accumulation studies with annual applications showed no accumulation of Difenonazole after up to 10 years use (see Annex point 8.4.2). However for the sake of completeness, $PEC_{accumulation}$ was calculated for Difenonazole as follows:

$$PEC_{accumulation} = \text{Maximum } PEC_S \text{ after 1 year of treatment} / (1 - e^{-ki})$$

where $k = \ln 2/DT_{50} = \ln 2/265$

i is the interval between the treatments (365 days)

$$PEC_{accumulation} = PEC_{S, ini} + PEC_{soil \text{ background}}$$

These $PEC_{soil, accumulation}$ are used in the risk assessment in Part B, Section 9.

Table 8.7-3: PEC_{soil} for Difenonazole on Potato (4 x 125 g a.s./ha)

PEC_{soil} (mg/kg)		Potato			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		0.0250	-	0.0962	-
Short term	24h	0.0249	0.0250	0.0959	0.0961
	2d	0.0249	0.0249	0.0957	0.0959
	4d	0.0247	0.0249	0.0952	0.0957
Long term	7d	0.0245	0.0248	0.0944	0.0953
	14d	0.0241	0.0245	0.0927	0.0945
	21d	0.0237	0.0243	0.0911	0.0936
	28d	0.0232	0.0241	0.0894	0.0928
	50d	0.0219	0.0234	0.0844	0.0902
	100d	0.0192	0.0220	0.0741	0.0846
Background concentration (5 cm) after 10 years (no tillage)		0.0156	-	0.0602	-

Background concentration (20 cm) after 10 years (tillage)	0.0039	-	0.0150	-
PEC _{accumulation} (5 cm) (PEC _{act} +PEC _{soil background}) (no tillage)	0.0406	-	0.1564	-
PEC _{accumulation} (20 cm) (PEC _{act} +PEC _{soil background}) (tillage)	0.0289	-	0.1112	-

Table 8.7-4: PEC_{soil} for Difenoconazole on Sugar beet (2 x 125 g a.s./ha)

PEC _{soil} (mg/kg)		Sugar beet			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		0.0500	-	0.0982	-
Short term	24h	0.0499	0.0499	0.0979	0.0981
	2d	0.0497	0.0499	0.0977	0.0979
	4d	0.0495	0.0497	0.0972	0.0977
Long term	7d	0.0491	0.0495	0.0964	0.0973
	14d	0.0482	0.0491	0.0947	0.0964
	21d	0.0473	0.0487	0.0930	0.0956
	28d	0.0465	0.0482	0.0913	0.0947
	50d	0.0441	0.0470	0.0866	0.0923
	100d	0.0385	0.0440	0.0756	0.0864
Background concentration (5 cm) after 10 years (no tillage)		0.031	-	0.064	-
Background concentration (20 cm) after 10 years (tillage)		0.008	-	0.016	-
PEC _{accumulation} (5 cm) (PEC _{act} +PEC _{soil background}) (no tillage)		0.081	-	0.160	-
PEC _{accumulation} (20 cm) (PEC _{act} +PEC _{soil background}) (tillage)		0.058	-	0.1142	-

Table 8.7-5: PEC_{soil} for Difenoconazole on Oilseed rape (winter) (2 x 125 g a.s./ha, crop interception 40/40)

PEC _{soil} (mg/kg)		Oilseed rape (winter)			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		0.1000	-	0.1964	-
Short term	24h	0.0997	0.0999	0.1959	0.1961
	2d	0.0995	0.0997	0.1954	0.1959
	4d	0.0990	0.0995	0.1944	0.1954
Long term	7d	0.0982	0.0991	0.1928	0.1946
	14d	0.0964	0.0982	0.1893	0.1929
	21d	0.0947	0.0973	0.1859	0.1911
	28d	0.0929	0.0964	0.1825	0.1894
	50d	0.0877	0.0937	0.1723	0.1841
	100d	0.0770	0.0880	0.1512	0.1728
Background concentration (5 cm) after 10 years (no tillage)		0.0626	-	0.1229	-
Background concentration (20 cm) after 10 years (tillage)		0.0156	-	0.0307	-
PEC _{accumulation} (5 cm) (PEC _{act} + PEC _{soil background}) (no tillage)		0.1626	-	0.3193	-
PEC _{accumulation} (20 cm) (PEC _{act} + PEC _{soil background}) (tillage)		0.1156	-	0.2271	-

This use on winter oilseed rape with 2 applications in autumn (crop interception 40/40) is only for the cMS The Netherlands. However, it is included in this core dossier and considered in the critical GAP in order to have it evaluated at Zonal level by the zRMS Poland.

Table 8.7-6: PEC_{soil} for Difenoconazole on Oilseed rape (winter and spring) (2 x 125 g a.s./ha, crop interception 40/80)

PEC _{soil} (mg/kg)		Oilseed rape (winter and spring)			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		0.1000	-	0.1297	-
Short term	24h	0.0997	0.0999	0.1294	0.1296
	2d	0.0995	0.0997	0.1291	0.1294
	4d	0.0990	0.0995	0.1284	0.1291
Long term	7d	0.0982	0.0991	0.1274	0.1286
	14d	0.0964	0.0982	0.1251	0.1274
	21d	0.0947	0.0973	0.1228	0.1262
	28d	0.0929	0.0964	0.1206	0.1251
	50d	0.0877	0.0937	0.1138	0.1216

	100d	0.0770	0.0880	0.0999	0.1142
Background concentration (5 cm) after 10 years (no tillage)		0.0626	-	0.0812	-
Background concentration (20 cm) after 10 years (tillage)		0.0156	-	0.0203	-
PEC _{accumulation} (5 cm) (PEC _{act} + PEC _{soil background}) (no tillage)		0.1626	-	0.2109	-
PEC _{accumulation} (20 cm) (PEC _{act} + PEC _{soil background}) (tillage)		0.1156	-	0.1500	-

In the dRR Part B Section 9 (9.8.2.2) a higher-tier chronic risk assessment to earthworms is performed by using the highest PEC_{soil, accumulation} at a soil depth of 10cm resulting from the use of GLOB1911F according to the critical GAP. Since the results of PEC_{soil} and PEC_{soil, accumulation} calculations at 5cm performed above show that highest PEC values are obtained for the intended use on winter and spring oilseed rape (Table 8.7-5 and 8.7-6), only PEC calculations at 10cm are performed for these intended uses and cover the intended use on sugar beet and potatoes.

Table 8.7-6/01: PEC_{soil} for Difenoconazole on Oilseed rape (winter) (2 x 125 g a.s./ha, crop interception 40/40) at a soil depth of 10cm

PEC _{soil} (mg/kg)		Oilseed rape (winter)			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		0.0500	-	0.0982	-
Short term	24h	0.0499	0.0499	0.0979	0.0981
	2d	0.0497	0.0499	0.0977	0.0979
	4d	0.0495	0.0497	0.0972	0.0977
Long term	7d	0.0491	0.0495	0.0964	0.0973
	14d	0.0482	0.0491	0.0947	0.0964
	21d	0.0473	0.0487	0.0930	0.0956
	28d	0.0465	0.0482	0.0913	0.0947
	50d	0.0439	0.0469	0.0862	0.0921
	100d	0.0385	0.0440	0.0756	0.0864
Background concentration (10 cm) after 10 years (no tillage)		0.0313	-	0.0615	--
PEC _{accumulation} (10 cm) (PEC _{act} + PEC _{soil background}) (no tillage)		0.0813	-	0.1597	

This use on winter oilseed rape with 2 applications in autumn (crop interception 40/40) is only for the cMS The Netherlands. However, it is included in this core dossier and considered in the critical GAP in order to have it evaluated at Zonal level by the zRMS Poland.

Table 8.7-6/02: PEC_{soil} for Difenoconazole on Oilseed rape (winter and spring) (2 x 125 g a.s./ha, crop interception 40/80) at a soil depth of 10cm

PEC_{soil} (mg/kg)		Oilseed rape (winter and spring)			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		0.0500	-	0.0649	-
Short term	24h	0.0499	0.0499	0.0647	0.0648
	2d	0.0497	0.0499	0.0645	0.0647
	4d	0.0495	0.0497	0.0642	0.0645
Long term	7d	0.0491	0.0495	0.0637	0.0643
	14d	0.0482	0.0491	0.0625	0.0637
	21d	0.0473	0.0487	0.0614	0.0631
	28d	0.0465	0.0482	0.0603	0.0626
	50d	0.0439	0.0469	0.0569	0.0608
	100d	0.0385	0.0440	0.0499	0.0571
Background concentration (10 cm) after 10 years (no tillage)		0.0313	-	0.0406	-
$PEC_{accumulation}$ (10 cm) ($PEC_{act} + PEC_{soil}$ background) (no tillage)		0.0813	-	0.1055	-

PEC_{soil} of metabolites

The PEC in soil for the metabolites of difenoconazole are calculated in the same way as described above but correcting the application rate of the parent for molar correction factor and the maximum occurrence in soil of each metabolite. Since for multiple applications the pattern of formation and decline of metabolites becomes uncertain, at first tier, the rate of application for the metabolite is calculated on the basis of a single application of the maximum total dose of the active substance, assuming there is no degradation of the metabolite between applications.

For the metabolites of Difenoconazole, a $PEC_{accumulation}$ was also calculated. The $PEC_{accumulation}$ in soil was calculated as follows:

$$PEC_{accumulation} = \text{Maximum } PEC_s \text{ after 1 year of treatment} / (1 - e^{-ki})$$

where $k = \ln 2 / DT_{50} \ln 2 / 152$ (for CGA205375)

i is the interval between the treatments (365 days)

For the metabolite CGA71019, a $PEC_{accumulation}$ was calculated as follows:

$$PEC_{accumulation} = (\text{Maximum } PEC_s \text{ after 1 year of treatment of the slow phase degradation} / (1 - e^{-ki})) + \text{Maximum } PEC_s \text{ after 1 year of treatment of the fast phase degradation}$$

where $k_{slow} = \ln 2 / DT_{50} = \ln 2 / 347$ and $k_{fast} = \ln 2 / DT_{50} = \ln 2 / 10.97$

i is the interval between the treatments (365 days)

These $PEC_{soil, accumulation}$ are used in the risk assessment in Part B, Section 9.

Metabolite CGA205375

Table 8.7-7: PEC_{soil} for CGA205375 on Potato (4 x 125 g a.s./ha)

PEC_{soil} (mg/kg)		Potato			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		0.0026	-	0.0103	-
Short term	24h	0.0026	0.0026	0.0102	0.0102
	2d	0.0025	0.0026	0.0102	0.0102
	4d	0.0025	0.0025	0.0101	0.0102
Long term	7d	0.0025	0.0025	0.0099	0.0101
	14d	0.0024	0.0025	0.0096	0.0099
	21d	0.0023	0.0024	0.0093	0.0098
	28d	0.0023	0.0024	0.0090	0.0096
	50d	0.0020	0.0023	0.0082	0.0092
	100d	0.0016	0.0021	0.0065	0.0082
Background-concentration (5 cm)-after 10 years (no tillage)		0.0006	-	0.0024	-
$PEC_{accumulation}$ ($PEC_{net} + PEC_{soil\ background}$) (no tillage)		0.0032	-	0.0126	-

Table 8.7-8: PEC_{soil} for CGA205375 on Sugar beet (2 x 125 g a.s./ha)

PEC_{soil} (mg/kg)		Sugar beet			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		0.0051	-	0.0103	-
Short term	24h	0.0051	0.0051	0.0102	0.0102
	2d	0.0051	0.0051	0.0102	0.0102
	4d	0.0050	0.0051	0.0101	0.0102
Long term	7d	0.0050	0.0050	0.0099	0.0101
	14d	0.0048	0.0050	0.0096	0.0099
	21d	0.0047	0.0049	0.0093	0.0098
	28d	0.0045	0.0048	0.0090	0.0096
	50d	0.0041	0.0046	0.0082	0.0092
	100d	0.0032	0.0041	0.0065	0.0082
Background-concentration (5 cm)-after 10 years (no tillage)		0.0012	-	0.0024	-
$PEC_{accumulation}$ ($PEC_{net} + PEC_{soil\ background}$) (no tillage)		0.0063	-	0.0126	-

Table 8.7-9: PEC_{soil} for CGA205375 on Oilseed rape (winter) (2 x 125 g a.s./ha, crop intereception 40/40)

PEC_{soil} (mg/kg)	Oilseed rape (winter)			
	Single application		Multiple applications	
	Actual	TWA	Actual	TWA
Initial	-	-	0.032733	-
Background concentration (5 cm) after year 10 No tillage	-	-	0.007643	-
$PEC_{accumulation}$ ($PEC_{act} + PEC_{soil background}$) No tillage	-	-	0.040376	-

This use on winter oilseed rape with 2 applications in autumn (crop intereception 40/40) is only for the cMS The Netherlands. However, it is included in this core dossier and considered in the critical GAP in order to have it evaluated at Zonal level by the zRMS Poland.

Table 8.7-10: PEC_{soil} for CGA205375 on Oilseed rape (winter and spring) (2 x 125 g a.s./ha, crop intereception 40/80)

PEC_{soil} (mg/kg)		Oilseed rape (winter and spring)			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		0.0103	-	0.0137	-
Short term	24h	0.0102	0.0102	0.0136	0.0136
	2d	0.0102	0.0102	0.0135	0.0136
	4d	0.0101	0.0102	0.0134	0.0135
Long term	7d	0.0099	0.0101	0.0132	0.0135
	14d	0.0096	0.0099	0.0128	0.0132
	21d	0.0093	0.0098	0.0124	0.0130
	28d	0.0090	0.0096	0.0120	0.0128
	50d	0.0082	0.0092	0.0109	0.0122
	100d	0.0065	0.0082	0.0087	0.0110
Background concentration (5 cm) after 10 years (no tillage)		0.0024	-	0.0032	-
$PEC_{accumulation}$ ($PEC_{act} + PEC_{soil background}$) (no tillage)		0.0126	-	0.0169	-

Metabolite CGA71019

Table 8.7-11: ———— PEC_{soil} for CGA71019 on Potato (4 x 125 g a.s./ha)

PEC _{soil} (mg/kg)		Oilseed rape (winter and spring)			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		0.0103	-	0.0137	-
Short term	24h	0.0102	0.0102	0.0136	0.0136
	2d	0.0102	0.0102	0.0135	0.0136
	4d	0.0101	0.0102	0.0134	0.0135
Long term	7d	0.0099	0.0101	0.0132	0.0135
	14d	0.0096	0.0099	0.0128	0.0132
	21d	0.0093	0.0098	0.0124	0.0130
	28d	0.0090	0.0096	0.0120	0.0128
	50d	0.0082	0.0092	0.0109	0.0122
	100d	0.0065	0.0082	0.0087	0.0110
Background concentration (5 cm) after 10 years (no tillage)		0.0024	-	0.0032	-
PEC _{accumulation} (PEC _{net} + PEC _{soil background}) (no tillage)		0.0126	-	0.0169	-

Table 8.7-12: ———— PEC_{soil} for CGA71019 on Sugar beet (2 x 125 g a.s./ha)

PEC _{soil} (mg/kg)		Sugar beet					
		Single application			Multiple applications (4 appl)		
		Actual Fast phase	Actual Slow phase	Actual Sum fast and slow	Actual Fast phase	Actual Slow phase	Actual Sum fast and slow
Initial		0.00114	0.00085	0.00199	0.00228	0.00170	0.00398
Short term	24h	0.00107	0.00085	0.00192	0.00214	0.00169	0.00383
	2d	0.00100	0.00084	0.00184	0.00201	0.00169	0.00370
	4d	0.00088	0.00084	0.00172	0.00177	0.00168	0.00345
Long term	7d	0.00073	0.00084	0.00157	0.00146	0.00167	0.00313
	14d	0.00047	0.00082	0.00129	0.00094	0.00165	0.00259
	21d	0.00030	0.00081	0.00111	0.00060	0.00163	0.00223
	28d	0.00019	0.00080	0.00099	0.00039	0.00160	0.00199
	50d	0.00005	0.00077	0.00082	0.00010	0.00153	0.00163
	100d	0.00000	0.00069	0.00069	0.00000	0.00139	0.00139
Background concentration (5 cm) after year 10 No tillage		0.00000	0.00079	0.00079	0.00000	0.00158	0.00158

PEC_{soil} ($PEC_{\text{act}} + PEC_{\text{soil background}}$) No tillage	0.00114	0.00164	0.00278	0.00228	0.00328	0.00556
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Table 8.7-13: PEC_{soil} for CGA71019 on Oilseed rape (winter) (2 x 125 g a.s./ha, crop interception 40/40)

PEC_{soil} (mg/kg)	Oilseed rape (winter)			
	Single application	Multiple applications (2 appl)		
	Actual	Actual Fast-phase	Actual Slow-phase	Actual Sum fast and slow
Initial	-	0.007274	0.005416	0.012690
Background concentration (5 cm) after year 10 No tillage	-	0.000000	0.005046	0.005046
$PEC_{\text{accumulation}}$ ($PEC_{\text{act}} + PEC_{\text{soil background}}$) No tillage	-	0.007274	0.010462	0.017736

This use on winter oilseed rape with 2 applications in autumn (crop interception 40/40) is only for the cMS The Netherlands. However, it is included in this core dossier and considered in the critical GAP in order to have it evaluated at Zonal level by the zRMS Poland.

Table 8.7-14: PEC_{soil} for CGA71019 on Oilseed rape (winter and spring) (2 x 125 g a.s./ha, crop interception 40/80)

PEC_{soil} (mg/kg)		Oilseed rape (winter and spring)					
		Single application			Multiple applications (4 appl)		
		Actual Fast-phase	Actual Slow-phase	Actual Sum fast and slow	Actual Fast-phase	Actual Slow-phase	Actual Sum fast and slow
Initial		0.00228	0.0017	0.00398	0.00304	0.00226	0.0053
Short term	24h	0.00214	0.00169	0.00383	0.00285	0.00226	0.00511
	2d	0.00201	0.00169	0.00370	0.00268	0.00225	0.00493
	4d	0.00177	0.00168	0.00345	0.00236	0.00224	0.00460
Long term	7d	0.00146	0.00167	0.00313	0.00195	0.00223	0.00418
	14d	0.00094	0.00165	0.00259	0.00125	0.0022	0.00345
	21d	0.0006	0.00163	0.00223	0.00081	0.00217	0.00298
	28d	0.00039	0.0016	0.00199	0.00052	0.00214	0.00266
	50d	0.0001	0.00153	0.00163	0.00013	0.00205	0.00218
	100d	0.00214	0.00139	0.00353	0.00001	0.00185	0.00186
Background concentration (5 cm) after year 10 No tillage		0.00000	0.00158	0.00158	0.00000	0.00211	0.00211
$PEC_{\text{accumulation}}$ ($PEC_{\text{act}} + PEC_{\text{soil background}}$) No tillage		0.00228	0.00328	0.00556	0.00304	0.00437	0.00741

8.7.2.1 PEC_{soil} of GLOB1911F

The PEC_{soil} of GLOB1911F is calculated based on a density of 1.1532 g/mL.

Table 8.7-15: PEC_{soil} for GLOB1911F on Potato (4 applications)

Active substance/ reparation	Application rate (g/ha)	PEC _{act} (mg/kg)	PEC _{twa21 d} (mg/kg)	Tillage depth (cm)	PEC _{soil,background} (mg/kg) No tillage (tillage)	PEC _{accu} = PEC _{act} + PEC _{soil,background} (mg/kg) No tillage (tillage)
Difenoconazole	425	0.0962	0.0911	5 cm	0.0602 (0.0150)	0.1564 (0.1112)
GLOB1911F	288.3	0.2219	0.2100	5 cm	0.1388 (0.0347)	0.3607 (0.2566)

Table 8.7-16: PEC_{soil} for GLOB1911F on Sugar beet (2 applications)

Active substance/ reparation	Application rate (g/ha)	PEC _{act} (mg/kg)	PEC _{twa21 d} (mg/kg)	Tillage depth (cm)	PEC _{soil,background} (mg/kg) No tillage (tillage)	PEC _{accu} = PEC _{act} + PEC _{soil,background} (mg/kg) No tillage (tillage)
Difenoconazole	425	0.0982	0.0956	5 cm	0.0615 (0.0154)	0.1597 (0.1136)
GLOB1911F	288.3	0.2265	0.2204	5 cm	0.1417 (0.0354)	0.3682 (0.2631)

Table 8.7-17: PEC_{soil} for GLOB1911F on Oilseed rape (winter) (2 applications, crop interception 40/40)

Active substance/ reparation	Application rate (g/ha)	PEC _{act} (mg/kg)	PEC _{twa21 d} (mg/kg)	Tillage depth (cm)	PEC _{soil,background} (mg/kg) No tillage (tillage)	PEC _{accu} = PEC _{act} + PEC _{soil,background} (mg/kg) No tillage (tillage)
Difenoconazole	425	0.1964	0.1859	5 cm	0.1229 (0.0307)	0.3193 (0.2271)
GLOB1911F	288.3	0.4530	0.4288	5 cm	0.2835 (0.0709)	0.7365 (0.5239)

This use on winter oilseed rape with 2 applications in autumn (crop interception 40/40) is only for the cMS The Netherlands. However, it is included in this core dossier and considered in the critical GAP in order to have it evaluated at Zonal level by the zRMS Poland.

Table 8.7-18: ———— PEC_{soil} for GLOB1911F on Oilseed rape (winter and spring) (2 applications, crop interception 40/80)

Active substance/ reparation	Application rate (g/ha)	PEC_{act} (mg/kg)	$PEC_{\text{twa}21\text{d}}$ (mg/kg)	Tillage depth (cm)	$PEC_{\text{soil,background}}$ (mg/kg) No tillage (tillage)	$PEC_{\text{accu}} =$ $PEC_{\text{act}} +$ $PEC_{\text{soil,background}}$ (mg/kg) No tillage (tillage)
Difenoconazole	425	0.1297	0.1228	5 cm	0.0812 (0.0203)	0.2109 (0.1500)
GLOB1911F	288.3	0.2992	0.2832	5 cm	0.1873 (0.0468)	0.4865 (0.3460)

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

zRMS Comments:	<p>The proposed use pattern was considered. The submitted PEC_{gw} assessment was accepted.</p> <p>The used endpoints for difenoconazole and its metabolite CGA205375 were agreed at the EU level (EFSA, 2011) and for CGA 71019 (1,2,4-triazole) also agreed and presented in EFSA Assessment 2013.</p> <p>In PEC_{GW} calculations the factor PUF = 0 for active substance and its relevant metabolites were taken into consideration.</p> <p>The maximum PEC_{gw} values for active substance and metabolite CGA 205375 were below the trigger value of 0.1 µg/L in all considered scenarios.</p> <p>CGA 71019. The fast and slow degradation were taken into consideration. In accordance with EFSA conclusion considering the PEC_{gw} for 1,2,4-triazole is to be below the 0.1 µg/L. For proposed use pattern the PEC_{gw} values for metabolite CGA 71019 is below the trigger.</p> <p>The metabolite relevance of max PEC_{gw} will be evaluated in Section 10.</p>
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8.8.1 Justification for new endpoints

The following table provides the EU endpoints and the endpoints used in the evaluation for the PEC_{gw} calculations on Difenconazole and metabolites.

Table 8.8.1-1: Comparison of agreed EU End-points (EFSA Journal 2011) and endpoints used in evaluation for Difenconazole and its metabolites

End-Point	Difenconazole		CGA205375		CGA71019		Remark
	Agreed EU endpoint	Endpoint used in evaluation	Agreed EU endpoint	Endpoint used in evaluation	Agreed EU endpoint	Endpoint used in evaluation	
Molecular weight [g mol ⁻¹]	406.3	406.3	350	350	69	69	-

Molar correction factor [-]	1	1	0.861	0.861	0.17	0.17	-
Water solubility (25°C) [mg L ⁻¹]	15	15	100	100	730000	730000	-
Vapour pressure (25°C) [Pa]	3.32 x 10 ⁻⁸	3.32 x 10 ⁻⁸	5 x 10 ⁻⁶	5 x 10 ⁻⁶	0.34	0.34	-
DT ₅₀ soil [days]	130	130	93.7	93.7	1.68/60.5/0.489 (DT ₅₀ fast phase/DT ₅₀ slow phase/g, DFOP kinetic)	1.68/60.5/0.489 (DT ₅₀ fast phase/DT ₅₀ slow phase/g, DFOP kinetic)	CGA71019: value from CRD (2013)
K _{foc} [mL g ⁻¹]	3760	<u>2943</u>	2979.4	<u>2661</u>	89	<u>83</u>	Geomean in accordance with EFSA guidance (2014)
Freundlich exponent 1/n [-]	0.85	0.85	0.76	0.76	0.91	0.91	-
pH dependence, yes or no	No	No	No	No	No	No	-
Formation fraction source -> sink relation [-]	-	-	1 Parent → CGA 205375	1 Parent → CGA 205375	0.489 (fast phase) 0.511 (slow phase) Parent → CGA71019	0.489 (fast phase) 0.511 (slow phase) Parent → CGA71019	-

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

Report:	KCP 9.2.4.1-01, Ploem J-P., 2020
Title:	Difenoconazole 500 SC - Estimations of the predicted environmental concentration in groundwater (PEC _{gw}) of Difenoconazole and relevant metabolites following the application of GLOB1911F on potatoes, sugar beet and oilseed rape.
Document No:	GLOB1911F – GW – Central EU
Guidelines:	FOCUS (2011) “Generic Guidance for Tier 1 FOCUS Groundwater Assessments” FOCUS (2009) “Assessing Potential for Movement of Active Substances and their Metabolites to Ground Water in the EU” Report of the FOCUS Ground Water Work Group, EC Document Reference Sanco/13144/2010 version 1, 604 pp
GLP	No

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

Use No.	1	2, 3	4, 5	6
Crop	Potato	Sugar beet	Winter oilseed rape	Spring oilseed rape
Application rate (g as/ha)	Difenoconazole: 125 g as/ha	Difenoconazole: 125 g as/ha	Difenoconazole: 125 g as/ha	Difenoconazole: 125 g as/ha
Number of applications/interval (d)	4/10d	2/14d	2/14d	2/14d
Relative application date	Not applicable. See Table 8.8-2 for absolute application date	Not applicable. See Table 8.8-2 for absolute application date	First application: 14 days after FOCUS emergence. Second application: 14 days after first application.	First application: 10 days after FOCUS emergence. Second application: 14 days after first application.
Crop interception (%)*	85/85/85/85	70/70	2 early applications: 40/40 1 early application, 1 late application: 40/80	1 application before BBCH 21 and 1 application after BBCH 21: 40/80
Frequency of application	annual	annual	annual	annual
Models used for calculation	FOCUS PEARL v4.4.4 FOCUS PELMO v5.5.3	FOCUS PEARL v4.4.4 FOCUS PELMO v5.5.3	FOCUS PEARL v4.4.4 FOCUS PELMO v5.5.3	FOCUS PEARL v4.4.4 FOCUS PELMO v5.5.3

*Crop interception values are taken from the “Generic Guidance for Tier 1 FOCUS Ground Water Assessments Version 2.2”.

For the crops Sugar beet and Potato, absolute application dates are used in models FOCUS PEARL v4.4.4 and FOCUS PELMO v5.5.3 and are shown in table below. The absolute application date is chosen by using the Program AppDate v3.06.

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

Crop	Scenario	Application dates (absolute)
Sugar beet	Châteaudun	5/06, 19/06
	Hamburg	30/06, 14/07
	Jokioinen	7/07, 21/07
	Kremsmünster	30/06, 14/07

Crop	Scenario	Application dates (absolute)
	Okehampton	4/07, 18/07
	Piacenza	25/05, 8/06
	Porto	10/04, 24/04
	Sevilla	4/02, 18/02
	Thiva	3/06, 17/06
Potato	Châteaudun	3/06, 13/06, 23/06, 3/07
	Hamburg	1/07, 11/07, 21/07, 31/07
	Jokioinen	7/08, 17/08, 27/08, 6/09
	Kremsmünster	1/07, 11/07, 21/07, 31/07
	Okehampton	24/06, 4/07, 14/07, 24/07
	Piacenza	21/05, 31/05, 10/06, 20/06
	Porto	9/05, 19/05, 29/05, 8/06
	Sevilla	15/03, 25/03, 4/04, 14/04
	Thiva	14/04, 24/04, 4/05, 14/05

Table 8.8-3: Input parameters related to active substance Difenconazole and metabolites CGA205375 and CGA71019 for PEC_{gw} calculations

Parameter	Difenoconazole	CGA205375	CGA71019	Remarks
PHYSICO-CHEMICAL PARAMETERS				
Molecular weight [g mol ⁻¹]	406.3	350	69	LoEP difenoconazole Phys.-chem. properties
Water solubility [mg L ⁻¹] (25°C)	15	100	730000	LoEP difenoconazole Phys.-chem. Properties (worst case for CGA205375)
Molar enthalpy of dissolution [kJ mol ⁻¹]	27			FOCUS recommendation
Vapour pressure [Pa] (25°C)	3.32 x 10 ⁻⁸	5 x 10 ⁻⁶	0.34	LoEP difenoconazole Phys.-chem. properties
Molar enthalpy of vaporization [kJ mol ⁻¹]	95			FOCUS recommendation
Diffusion coefficient in water [m ² d ⁻¹]	4.3 x 10 ⁻⁵ (20 °C) (Pearl)			FOCUS recommendation
Diffusion coefficient in gas [m ² d ⁻¹]	0.43 (20 °C)			FOCUS recommendation
DEGRADATION IN SOIL				
formation fraction [-] source → sink relation [-]	N/A	1 Parent → CGA 205375	0.489 / 0.511 (fast / slow phases resp.) Parent → CGA71019	Worst case for CGA 205375 For CGA71019: CRD (2013)
DT ₅₀ soil [d]	130 days (n = 7)	93.7 days (n = 3)	1.68/60.5/0.489 (DT ₅₀ fast phase/DT ₅₀ slow phase/g, DFOP kinetic)	For difenoconazole and CGA205375:LoEP For CGA71019: CRD (2013).
Temperature correction function Reference temperature [°C] MACRO: [K ⁻¹] PRZM: Q ₁₀ [-]	20 0.095 2.58			FOCUS recommendation EFSA recommendation DAR
Moisture correction function Reference moisture [-] PRZM / MACRO: moisture exponent [-]	pF 2 0.7			FOCUS recommendation
SORPTION TO SOIL				
K _{f,oc} [mL g ⁻¹]	2943 (n=8)	2661 (n=5)	83 (n=4)	LoEP Difenoconazole

				Fate and behaviour Geometric mean
K _{f,om} [mL g ⁻¹]	1707	1544	48	LoEP Difenconazole Fate and behaviour Geometric mean
Freundlich exponent 1/n [-]	0.85 (n=8)	0.76 (n=5)	0.91 (n=4)	LoEP Difenconazole Fate and behaviour Arithmetic mean
Method of sorption subroutine description	pH independent			
CROP/ MANAGEMENT RELATED PARAMETERS				
Crop uptake factor [-]	0.0	0.0	0.0	FOCUS recommendation

Two sets of simulation were performed: the first one considering the formation of CGA205375 only and the second one considering the formation of CGA71019.

The degradation of CGA71019 in soil has been shown to be biphasic as shown in the degradation pathway below.

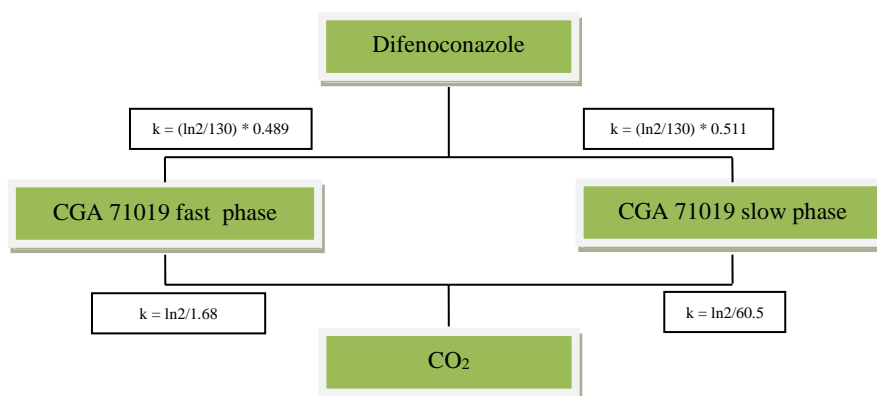


Figure 8.8-1. Degradation pathway of difenoconazole into CGA71019.

In order to account for the biphasic degradation, fast-phase and slow-phase degradations were simulated separately using the DT50 of CGA71019 determined for the respective pathways and considering a factor (g) representing the fraction of the compound degraded via the respective pathways. The model was run with the parent applied at twice the recommended application rate and the resulting annual average PEC_{gw} of the fast- and slow phase degradation pathways were summed and divided by two.

Table 8.8-4: PEC_{gw} for Difenoconazole and metabolite CGA205375 on Potato (with FOCUS PEARL 4.4.4)

Crop	Scenario	80 th Percentile PEC _{GW} at 1 m Soil Depth (µg L ⁻¹)	
		Difenoconazole	CGA205375
Potato 4 x 125 g as/ha Crop interception: 85/85/85/85	Châteaudun	<0.001 0.000000	<0.001 0.000000
	Hamburg	<0.001 0.000000	<0.001 0.000000
	Jokioinen	<0.001 0.000000	<0.001 0.000000
	Kremsmünster	<0.001 0.000000	<0.001 0.000000
	Okehampton	<0.001 0.000000	<0.001 0.000000
	Piacenza	<0.001 0.000000	<0.001 0.000000
	Porto	<0.001 0.000000	<0.001 0.000000

	Sevilla	<0.001 0.000000	<0.001 0.000000
	Thiva	<0.001 0.000000	<0.001 0.000000

Table 8.8-5: PEC_{gw} for Difenoconazole and metabolite CGA205375 on Sugar beet (with FOCUS PEARL 4.4.4)

Crop	Scenario	80 th Percentile PEC _{GW} at 1 m Soil Depth (µg L ⁻¹)	
		Difenoconazole	CGA205375
Sugar beet 2 x 125 g as/ha crop interception: 70/70	Châteaudun	<0.001 0.000000	<0.001 0.000000
	Hamburg	<0.001 0.000000	<0.001 0.000000
	Jokioinen	<0.001 0.000000	<0.001 0.000000
	Kremsmünster	<0.001 0.000000	<0.001 0.000000
	Okehampton	<0.001 0.000000	<0.001 0.000000
	Piacenza	<0.001 0.000000	<0.001 0.000000
	Porto	<0.001 0.000000	<0.001 0.000000
	Sevilla	<0.001 0.000000	<0.001 0.000000
	Thiva	<0.001 0.000000	<0.001 0.000000

Table 8.8-6: PEC_{gw} for Difenoconazole and metabolite CGA205375 on Winter oilseed rape (with FOCUS PEARL 4.4.4)

Crop	Scenario	80 th Percentile PEC _{GW} at 1 m Soil Depth (µg L ⁻¹)	
		Difenoconazole	CGA205375
OSR (winter) 2 x 125 g as/ha crop interception: 40/40	Kremsmünster	<0.001 0.000000	<0.001 0.000000

This use on winter oilseed rape with 2 applications in autumn is only for the cMS The Netherlands. However, it is included in this core dossier and considered in the critical GAP in order to have it evaluated at Zonal level by the zRMS Poland. For The Netherlands, only the Kremsmünster scenario is relevant and therefore only this scenario is taken into account in PEC_{gw} measurements for this use.

Table 8.8-7: PEC_{gw} for Difenoconazole and metabolite CGA205375 on Winter oilseed rape (with FOCUS PEARL 4.4.4)

Crop	Scenario	80 th Percentile PEC _{GW} at 1 m Soil Depth (µg L ⁻¹)	
		Difenoconazole	CGA205375
OSR (winter) 2 x 125 g as/ha crop interception: 40/80	Châteaudun	<0.001 0.000000	<0.001 0.000000
	Hamburg	<0.001 0.000000	<0.001 0.000000
	Jokioinen	/	/
	Kremsmünster	<0.001 0.000000	<0.001 0.000000
	Okehampton	<0.001 0.000000	<0.001 0.000000
	Piacenza	<0.001 0.000000	<0.001 0.000000
	Porto	<0.001 0.000000	<0.001 0.000000
	Sevilla	/	/
	Thiva	/	/

Table 8.8-8: PEC_{gw} for Difenoconazole and metabolite CGA205375 on Spring oilseed rape (with FOCUS PEARL 4.4.4)

Crop	Scenario	80 th Percentile PEC _{GW} at 1 m Soil Depth (µg L ⁻¹)	
		Difenoconazole	CGA205375
OSR (spring) 2 x 125 g as/ha crop interception: 40/80	Châteaudun	/	/
	Hamburg	/	/
	Jokioinen	<0.001 0.000000	<0.001 0.000000
	Kremsmünster	/	/
	Okehampton	<0.001 0.000000	<0.001 0.000000
	Piacenza	/	/
	Porto	<0.001 0.000000	<0.001 0.000000
	Sevilla	/	/
	Thiva	/	/

Table 8.8-9: PEC_{gw} for metabolite CGA71019 on Potato (with FOCUS PEARL 4.4.4)

Crop	Scenario	80 th Percentile PEC _{gw} at 1 m Soil Depth (µg/L)		
		CGA71019 fast phase (based on a double application rate)	CGA71019 slow phase (based on a double application rate)	CGA71019 (for a single application rate)
Potato 4 x 125 g as/ha Crop interception: 85/85/85/85	Châteaudun	<0.001 0.000000	0.034085	0.017043
	Hamburg	<0.001 0.000000	0.089233	0.044617
	Jokioinen	<0.001 0.000000	0.025775	0.012888
	Kremsmünster	<0.001 0.000000	0.058278	0.029139
	Okehampton	<0.001 0.000000	0.085237	0.042619
	Piacenza	<0.001 0.000000	0.063548	0.031774
	Porto	<0.001 0.000000	0.042008	0.021004
	Sevilla	<0.001 0.000000	0.003049	0.001525
	Thiva	<0.001 0.000000	0.014173	0.007087

Table 8.8-10: PEC_{gw} for metabolite CGA71019 on Sugar beet (with FOCUS PEARL 4.4.4)

Crop	Scenario	80 th Percentile PEC _{gw} at 1 m Soil Depth (µg/L)		
		CGA71019 fast phase (based on a double application rate)	CGA71019 slow phase (based on a double application rate)	CGA71019 (for a single application rate)
Sugar beet 2 x 125 g as/ha Crop interception: 70/70	Châteaudun	<0.001 0.000000	0.103777	0.0519
	Hamburg	<0.001 0.000000	0.113363	0.0567
	Kremsmünster	<0.001 0.000000	0.065861	0.0329
	Jokioinen	<0.001 0.000000	0.03874	0.0194
	Okehampton	<0.001 0.000000	0.065861	0.0329
	Piacenza	<0.001 0.000000	0.087845	0.0439
	Porto	<0.001 0.000000	0.071552	0.0358
	Sevilla	<0.001 0.000000	0.061478	0.0307
	Thiva	<0.001 0.000000	0.003966	0.0020

Table 8.8-11: PEC_{gw} for metabolite CGA71019 on Winter oilseed rape (with FOCUS PEARL 4.4.4)

Crop	Scenario	80 th Percentile PEC _{gw} at 1 m Soil Depth (µg/L)		
		CGA71019 fast phase (based on a double application rate)	CGA71019 slow phase (based on a double application rate)	CGA71019 (for a single application rate)
OSR (winter) 2 x 125 g as/ha crop interception: 40/40	Kremsmünster	<0.001 0.000000	0.171236	0.085618

This use on winter oilseed rape with 2 applications in autumn is only for the cMS The Netherlands. However, it is included in this core dossier and considered in the critical GAP in order to have it evaluated at Zonal level by the zRMS Poland. For The Netherlands, only the Kremsmünster scenario is relevant and therefore only this scenario is taken into account in PEC_{gw} measurements for this use.

Table 8.8-12: PEC_{gw} for metabolite CGA71019 on Winter oilseed rape (with FOCUS PEARL 4.4.4)

Crop	Scenario	80 th Percentile PEC _{gw} at 1 m Soil Depth (µg/L)		
		CGA71019 fast phase (based on a double application rate)	CGA71019 slow phase (based on a double application rate)	CGA71019 (for a single application rate)
OSR (winter) 2 x 125 g as/ha crop interception: 40/80	Châteaudun	<0.001 0.000000	0.041323	0.020662
	Hamburg	<0.001 0.000000	0.159705	0.079853
	Jokioinen	/	/	/
	Kremsmünster	<0.001 0.000000	0.101796	0.050898
	Okehampton	<0.001 0.000000	0.144594	0.072297
	Piacenza	<0.001 0.000000	0.065706	0.032853
	Porto	<0.001 0.000000	0.096645	0.048323
	Sevilla	/	/	/
	Thiva	/	/	/

Table 8.8-13: PEC_{gw} for metabolite CGA71019 on Spring oilseed rape (with FOCUS PEARL 4.4.4)

Crop	Scenario	80 th Percentile PEC _{gw} at 1 m Soil Depth (µg/L)		
		CGA71019 fast phase (based on a double application rate)	CGA71019 slow phase (based on a double application rate)	CGA71019 (for a single application rate)
OSR (spring) 2 x 125 g as/ha crop interception: 40/80	Châteaudun	/	/	/
	Hamburg	/	/	/
	Jokioinen	<0.001 0.000000	0.049844	0.024922
	Kremsmünster	/	/	/
	Okehampton	<0.001 0.000000	0.124727	0.062364
	Piacenza	/	/	/
	Porto	<0.001 0.000000	0.075047	0.037524
	Sevilla	/	/	/
	Thiva	/	/	/

Table 8.8-14: PEC_{gw} for Difenoconazole and metabolite CGA205375 on Potato (with FOCUS PELMO 5.5.3)

Crop	Scenario	80 th Percentile PEC _{GW} at 1 m Soil Depth (µg L ⁻¹)	
		Difenoconazole	CGA205375
Potato 4 x 125 g as/ha Crop interception: 85/85/85/85	Châteaudun	<0.001 0.000	<0.001 0.000
	Hamburg	<0.001 0.000	<0.001 0.000
	Jokioinen	<0.001 0.000	<0.001 0.000
	Kremsmünster	<0.001 0.000	<0.001 0.000
	Okehampton	<0.001 0.000	<0.001 0.000
	Piacenza	<0.001 0.000	<0.001 0.000
	Porto	<0.001 0.000	<0.001 0.000
	Sevilla	<0.001 0.000	<0.001 0.000
	Thiva	<0.001 0.000	<0.001 0.000

Table 8.8-15: PEC_{gw} for Difenoconazole and metabolite CGA205375 on Sugar beet (with FOCUS PELMO 5.5.3)

Crop	Scenario	80 th Percentile PEC _{GW} at 1 m Soil Depth (µg L ⁻¹)	
		Difenoconazole	CGA205375
Sugar beet 2 x 125 g as/ha crop interception: 70/70	Châteaudun	<0.001 0.000	<0.001 0.000
	Hamburg	<0.001 0.000	<0.001 0.000
	Jokioinen	<0.001 0.000	<0.001 0.000
	Kremsmünster	<0.001 0.000	<0.001 0.000
	Okehampton	<0.001 0.000	<0.001 0.000
	Piacenza	<0.001 0.000	<0.001 0.000
	Porto	<0.001 0.000	<0.001 0.000
	Sevilla	<0.001 0.000	<0.001 0.000
	Thiva	<0.001 0.000	<0.001 0.000

Table 8.8-16: PEC_{gw} for Difenoconazole and metabolite CGA205375 on Winter oilseed rape (with FOCUS PELMO 5.5.3)

Crop	Scenario	80 th Percentile PEC _{GW} at 1 m Soil Depth (µg L ⁻¹)	
		Difenoconazole	CGA205375
OSR (winter) 2 x 125 g as/ha crop interception: 40/40	Kremsmünster	<0.001 0.000	<0.001 0.000

This use on winter oilseed rape with 2 applications in autumn is only for the cMS The Netherlands. However, it is included in this core dossier and considered in the critical GAP in order to have it evaluated at Zonal level by the zRMS Poland. For The Netherlands, only the Kremsmünster scenario is relevant and therefore only this scenario is taken into account in PEC_{gw} measurements for this use.

Table 8.8-17: PEC_{gw} for Difenoconazole and metabolite CGA205375 on Winter oilseed rape (with FOCUS PELMO 5.5.3)

Crop	Scenario	80 th Percentile PEC _{GW} at 1 m Soil Depth (µg L ⁻¹)	
		Difenoconazole	CGA205375
OSR (winter) 2 x 125 g as/ha crop interception: 40/80	Châteaudun	<0.001 0.000	<0.001 0.000
	Hamburg	<0.001 0.000	<0.001 0.000
	Jokioinen	/	/
	Kremsmünster	<0.001 0.000	<0.001 0.000
	Okehampton	<0.001 0.000	<0.001 0.000
	Piacenza	<0.001 0.000	<0.001 0.000
	Porto	<0.001 0.000	<0.001 0.000
	Sevilla	/	/
	Thiva	/	/

Table 8.8-18: PEC_{gw} for Difenoconazole and metabolite CGA205375 on Spring oilseed rape (with FOCUS PELMO 5.5.3)

Crop	Scenario	80 th Percentile PEC _{GW} at 1 m Soil Depth (µg L ⁻¹)	
		Difenoconazole	CGA205375
OSR (spring) 2 x 125 g as/ha crop interception: 40/80	Châteaudun	/	/
	Hamburg	/	/
	Jokioinen	<0.001 0.000	<0.001 0.000
	Kremsmünster	/	/
	Okehampton	<0.001 0.000	<0.001 0.000
	Piacenza	/	/
	Porto	<0.001 0.000	<0.001 0.000
	Sevilla	/	/
	Thiva	/	/

Table 8.8-19: PEC_{gw} for metabolite CGA71019 on Potato (with FOCUS PELMO 5.5.3)

Crop	Scenario	80 th Percentile PEC _{gw} at 1 m Soil Depth (µg/L)		
		CGA71019 fast phase (based on a double application rate)	CGA71019 slow phase (based on a double application rate)	CGA71019 (for a single application rate)
Potato 4 x 125 g as/ha Crop interception: 85/85/85/85	Châteaudun	<0.001 0.000	0.024	0.012
	Hamburg	<0.001 0.000	0.086	0.043
	Jokioinen	<0.001 0.000	0.022	0.011
	Kremsmünster	<0.001 0.000	0.058	0.029
	Okehampton	<0.001 0.000	0.087	0.044
	Piacenza	<0.001 0.000	0.065	0.033
	Porto	<0.001 0.000	0.071	0.036
	Sevilla	<0.001 0.000	0.001	0.001
	Thiva	<0.001 0.000	0.010	0.005

Table 8.8-20: PEC_{gw} for metabolite CGA71019 on Sugar beet (with FOCUS PELMO 5.5.3)

Crop	Scenario	80 th Percentile PEC _{gw} at 1 m Soil Depth (µg/L)		
		CGA71019 fast phase (based on a double application rate)	CGA71019 slow phase (based on a double application rate)	CGA71019 (for a single application rate)
Sugar beet 2 x 125 g as/ha crop interception: 70/70	Châteaudun	<0.001 0.000	0.045	0.023
	Hamburg	<0.001 0.000	0.103	0.052
	Jokioinen	<0.001 0.000	0.070	0.035
	Kremsmünster	<0.001 0.000	0.032	0.016
	Okehampton	<0.001 0.000	0.092	0.046
	Piacenza	<0.001 0.000	0.070	0.035
	Porto	<0.001 0.000	0.062	0.031
	Sevilla	<0.001 0.000	0.004	0.002
	Thiva	<0.001 0.000	0.017	0.009

Table 8.8-21: PEC_{gw} for metabolite CGA71019 on Winter oilseed rape (with FOCUS PELMO 5.5.3)

Crop	Scenario	80 th Percentile PEC _{gw} at 1 m Soil Depth (µg/L)		
		CGA71019 fast phase (based on a double application rate)	CGA71019 slow phase (based on a double application rate)	CGA71019 (for a single application rate)
OSR (winter) 2 x 125 g as/ha crop interception: 40/40	Kremsmünster	<0.001 0.000	0.178	0.089

This use on winter oilseed rape with 2 applications in autumn is only for the cMS The Netherlands. However, it is included in this core dossier and considered in the critical GAP in order to have it evaluated at Zonal level by the zRMS Poland. For The Netherlands, only the Kremsmünster scenario is relevant and therefore only this scenario is taken into account in PEC_{gw} measurements for this use.

Table 8.8-22: PEC_{gw} for metabolite CGA71019 on Winter oilseed rape (with FOCUS PELMO 5.5.3)

Crop	Scenario	80 th Percentile PEC _{gw} at 1 m Soil Depth (µg/L)		
		CGA71019 fast phase (based on a double application rate)	CGA71019 slow phase (based on a double application rate)	CGA71019 (for a single application rate)
OSR (winter) 2 x 125 g as/ha crop interception: 40/80	Châteaudun	<0.001 0.000	0.038	0.019
	Hamburg	<0.001 0.000	0.162	0.081
	Jokioinen	/	/	/
	Kremsmünster	<0.001 0.000	0.106	0.053
	Okehampton	<0.001 0.000	0.173	0.087
	Piacenza	<0.001 0.000	0.077	0.039
	Porto	<0.001 0.000	0.158	0.079
	Sevilla	/	/	/
	Thiva	/	/	/

Table 8.8-23: PEC_{gw} for metabolite CGA71019 on Spring oilseed rape (with FOCUS PELMO 5.5.3)

Crop	Scenario	80 th Percentile PEC _{gw} at 1 m Soil Depth (µg/L)		
		CGA71019 fast phase (based on a double application rate)	CGA71019 slow phase (based on a double application rate)	CGA71019 (for a single application rate)
OSR (spring) 2 x 125 g as/ha crop interception: 40/80	Châteaudun	/	/	/
	Hamburg	/	/	/
	Jokioinen	<0.001 0.000	0.05	0.025
	Kremsmünster	/	/	/
	Okehampton	<0.001 0.000	0.129	0.065
	Piacenza	/	/	/
	Porto	<0.001 0.000	0.108	0.054
	Sevilla	/	/	/
	Thiva	/	/	/

8.9 Predicted Environmental Concentrations in surface water and sediment (PEC_{sw/sed}) (KCP 9.2.5)

zRMS Comments:	<p>The submitted PEC_{sw/sed} assessment was accepted. The application dates were accepted.</p> <p>All used endpoints for active substance and its metabolites were agreed at the EU level.</p> <p>The calculations have been done in accordance with FOCUS Surface water guidelines. Models Step 1 & 2 and Step 3 and Step 4 have been used. In Step 2, the South Europe was not evaluated as non-relevant for Central Zone.</p> <p>All scenarios relevant for zRMS and cMSs were considered:</p> <table><tr><th>Country</th><th>Scenarios</th></tr><tr><td>Poland</td><td>D3, D4, R1</td></tr><tr><td>Czech Republic</td><td>D4, R1</td></tr><tr><td>Belgium</td><td>D3, D4, R1</td></tr><tr><td>Germany</td><td>National Specific models</td></tr><tr><td>The Netherlands</td><td>National Specific models</td></tr></table> <p>The mitigation measures were proposed.</p> <p>Drift, drainage and runoff as a main exposure route were considered. The single and multiple applications were taken into consideration.</p> <p>Relevant metabolites were taken into consideration in Step 1 and 2. Due to potential difenoconazole accumulation in sediment, the PEC_{sed} accum were taken into consideration. The PEC_{sed} as non-relevant for risk assessment were not considered further.</p> <p>The relevant PEC_{sw} and PEC_{sed} values for active substance and its metabolites are presented in the table below:</p>	Country	Scenarios	Poland	D3, D4, R1	Czech Republic	D4, R1	Belgium	D3, D4, R1	Germany	National Specific models	The Netherlands	National Specific models
Country	Scenarios												
Poland	D3, D4, R1												
Czech Republic	D4, R1												
Belgium	D3, D4, R1												
Germany	National Specific models												
The Netherlands	National Specific models												

Difenoconazole, multiple application				
Crop	Mitigation measure	Max PEC_{sw} (µg/L)	Step 3, Max PEC_{sed} (µg/kg)	Step 3, Max PEC_{sed} accum (µg/kg)
Potatoes 4 x 125 g a.s./ha	Step 4: 10 m vbs with 10 m nss	0.329 R1 stream	0.06 R1 stream	49.51 R1 stream
Sugar beets, 2 x 125 g a.s./ha	Step 4: 10 m vbs with 10 m nss	0.221 R1 stream	4.23 D2 ditch	34.75 R1 stream
Winter OSR, 2 x 125 g a.s./ha, (autumn and spring application)	Step 4: 10 m vbs with 10 m nss	0.231 R1 stream	4.13 R4 stream	7.16 R1 pond
Winter OSR, 2 x 125 g a.s./ha, (2 x spring application)	Step 4: 10 m vbs with 10 m nss	0.201 R1 stream	5.248 R1 stream, Step 3	16.34 R1 stream
Spring OSR, 2 x 125 g a.s./ha,	Step 4: 5 m nss or 1 m nss and 50% DRT	0.318 R1 stream	4.13 R4 stream	22.72 R1 stream
<p>* PEC_{sed} values were assessed in Step 3 PEC_{sed} in Step 4 was not evaluated as PEC_{sed} assessed in Step 3 was sufficient for risk assessment.</p>				
Difenoconazole, single application				
Crop	Mitigation measure	Max PEC_{sw} (µg/L)	Step 3, Max PEC_{sed} (µg/kg)	Step 3, Max PEC_{sed} accum (µg/kg)
Potatoes 1 x 125 g a.s./ha	Step 4: 5 m nss	0.244 R1 stream	3.06 R1 stream	18.00 R1 stream
Sugar beets, 1 x 125 g a.s./ha	Step 4: 5 m nss	0.235 R1 stream	4.23 D2 ditch	14.561 R1 stream

Winter OSR, 1 x 125 g a.s./ha, (autumn application)	Step 4: 5 m nss	0.248 D4 stream	4.13 R4 stream	3.619 R1 pond
Winter OSR, 1 x 125 g a.s./ha, (spring application)	Step 4: 5 m nss	0.242 D4 stream		8.022 R1 stream
Spring OSR, 1 x 125 g a.s./ha,	Step 4: 5 m nss	0.248 D4 stream	4.13 R4 stream	12.744 R1 stream

* PECsed values were assessed in Step 3

Metabolites of difenoconazole. The PEC_{sw} assessment was provided in Step 2 (North and South Europe). The North Europe is representative for Central Zone and the max PEC_{sw} and PEC_{sed} are presented in the table below:

Step 2. Winter and Spring oilseed rape

Metabolite	Max PEC _{sw} (µg/L)	Max PEC _{sed} (µg/kg)
CGA205375	0.5767	15.0791
CGA71019	1.1680	0.9679

Formulation

The PEC_{sw} calculation for formulation was provided by evaluator. The use pattern of formulation at max 0.25 L prod/ha was used in drift exposure assessment.

At drift buffer of 1 m the PEC_{sw} = 1.8522 µg a.s./L; this value will be used in risk assessment.

The final mitigation measures are proposed in Section 9.

The PEC_{sw} values for active substance and its metabolites and formulation will be used for further risk assessment.

8.9.1 Justification for new endpoints

The following table provides the EU endpoints and the endpoints used in the evaluation for the PEC_{sw}/sed calculations on Difenoconazole and its metabolites.

Table 8.9-1: Comparison of agreed EU End-points (EFSA Journal, 2011) and endpoints used in evaluation for Difenoconazole and its metabolites.

End-Point	Difenoconazole		CGA205375		CGA71019		Remark
	Agreed EU endpoint	Endpoint used in evaluation	Agreed EU endpoint	Endpoint used in evaluation	Agreed EU endpoint	Endpoint used in evaluation	
Molecular weight [g mol ⁻¹]	406.3	406.3	350	350	69	69	-
Molar correction factor [-]	1	1	0.861	0.861	0.17	0.17	-
Water solubility (25°C) [mg L ⁻¹]	15	15	100	100	730000	730000	-
Vapour pressure (25°C) [Pa]	3.32 x 10 ⁻⁸	3.32 x 10 ⁻⁸	5 x 10 ⁻⁶	5 x 10 ⁻⁶	0.34	0.34	-
DT ₅₀ soil [days]	130	130	93.7	93.7	1.68/60.5/0.489 (DT ₅₀ fast phase/DT ₅₀ slow phase/g, DFOP kinetic)	1.68/60.5/0.489 (DT ₅₀ fast phase/DT ₅₀ slow phase/g, DFOP kinetic)	For CGA71019 data from CRD (2013)
K _{foc} [mL g ⁻¹]	3760	<u>2943</u>	2979.4	<u>2661</u>	89	<u>83</u>	Geomean in accordance with EFSA guidance (2014)
Freundlich exponent 1/n [-]	0.85	0.85	0.76	0.76	0.91	0.91	-
pH dependence, yes or no	No	No	No	No	No	No	-
Maximum occurrence in soil [%]	100	100	11.9	11.9	23.4	23.4	-
source -> sink relation [-]			Parent → CGA 205375	Parent → CGA 205375	Parent → CGA71019	Parent → CGA71019	
Water/sediment DT ₅₀ [d]	315.5	315.5	465.5	465.5	1000	1000	-
Water DT ₅₀ [d]	315.5	1000	465.5	1000	1000	1000	default
Sediment DT ₅₀ [d]	315.5	315.5	465.5	465.5	1000	1000	Value of whole system
Maximum occurrence in water/sediment [%]	100	100	11.6	11.6	9.6	9.6	-
source -> sink relation [-]			Parent → CGA 205375	Parent → CGA 205375	Parent → CGA71019	Parent → CGA71019	

8.9.2 Active substance(s), relevant metabolite(s) and the formulation (KCP 9.2.5)

Report:	KCP 9.2.5-01, Ploem J-P., 2021
Title:	Difenoconazole 500 SC – Estimation of the Predicted Environmental concentrations in surface water (PEC _{SW}) and sediments (PEC _{SED}) for Difenoconazole and relevant metabolites following the application of GLOB1911F on potatoes, sugar beet and oilseed rape.
Document No:	GLOB1911F – Difenoconazole – SW/SED – Central EU
Guidelines:	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. 245 pp
GLP	No

Table 8.9-2: Input parameters related to application for PEC_{SW/SED} calculations

Use No.	1	2, 3	4, 5	6
Crop	Potato	Sugar beet	Winter oilseed rape	Spring oilseed rape
Application rate (kg as/ha)	Difenoconazole: 0.125 kg as/ha	Difenoconazole: 0.125 kg as/ha	Difenoconazole: 0.125 kg as/ha	Difenoconazole: 0.125 kg as/ha
Number of applications/interval (d)	4/10d	2/14d	2/14d	2/14d
Application window (STEP 1 and 2 only)	Mar-May (full canopy) June-Sep (full canopy) Oct-Feb (full canopy)	Mar-May (full canopy) June-Sep (full canopy)	Mar-May (minimal crop cover) June-Sep (minimal crop cover) Oct-Feb (minimal crop cover)	Mar-May (minimal crop cover) June-Sep (minimal crop cover) Oct-Feb (minimal crop cover)
Application method	Ground spray	Ground spray	Ground spray	Ground spray
CAM (Chemical application method)	CAM 2	CAM 2	CAM 2	CAM 2
Soil depth (cm)	4 cm	4 cm	4 cm	4 cm
Models used for calculation	FOCUS STEP 1-2 v3.2 FOCUS SWASH v5.3, FOCUS PRZM v4.3.1, FOCUS MACRO v5.5.4, FOCUS TOXSWA v5.5.3, SWAN v5.0.1			

Table 8.9-3: FOCUS Step 3 Scenario related input parameters for $PEC_{sw/sed}$ calculations for the application of GLOB1911F

Uses simulated	FOCUS crop	Scenario	Emergence date	Harvest date	Number of applications	Dose rate (g a.s./ha)	Interval between applications	Input for the application timing		Application date(s) chosen by the model
								1st application	Last application	
Use No. 4,5	Oil seed rape, winter	D2	15-Sep	15-Jul	2	125 g Difenconazole/ha	14	29/09	12/11	9/10, 3/11
		D3	2-Sep	20-Jul				16/09	30/10	26/09, 10/10
		D4	3-Sep	9-Aug				17/09	31/10	28/09, 26/10
		D5	20-Sep	5-Jul				4/10	17/11	31/10, 14/11
		R1	4-Sep	10-Jul				18/09	01/11	18/09, 6/10
		R3	5-Oct	5-Jun				19/10	2/12	27/10, 15/11
		D2	15-Sep	15-Jul	1	125 g Difenconazole/ha	-	29/09	29/10	9/10
		D3	2-Sep	20-Jul				16/09	16/10	26/09
		D4	3-Sep	9-Aug				17/09	17/10	28/09
		D5	20-Sep	5-Jul				4/10	3/10	4/10
		R1	4-Sep	10-Jul				18/09	18/10	18/09
		R3	5-Oct	5-Jun				19/10	18/11	27/10
		D2	15-Sep	15-Jul	2	125 g Difenconazole/ha	14	22/05	5/06	23/05, 6/06
		D3	2-Sep	20-Jul				2/05	15/06	4/05, 22/05
		D4	3-Sep	9-Aug				12/05	25/06	30/05, 16/06
		D5	20-Sep	5-Jul				23/04	6/06	23/04, 11/05
		R1	4-Sep	10-Jul				15/05	28/06	15/05, 31/05
		R3	5-Oct	5-Jun				9/04	23/05	11/04, 25/04
		D2	15-Sep	15-Jul	1	125 g Difenconazole/ha	-	22/05	21/06	23/05
		D3	2-Sep	20-Jul				2/05	1/06	4/05
		D4	3-Sep	9-Aug				12/05	11/06	30/05
		D5	20-Sep	5-Jul				23/04	23/05	23/04

		R1	4-Sep	10-Jul				15/05	14/06	13/6
		R3	5-Oct	5-Jun				9/04	9/05	11/04
Use No. 6	Oilseed rape, spring	D1	19-May	8-Sept	2	125 g Difenconazole/ha	14	28/06	11/08	2/07, 4/08
		D3	10-Apr	25-Aug				7/06	21/07	23/06, 8/07
		D4	1-May	31-Aug				11/06	25/07	4/07, 18/07
		D5	15-Mar	30-Jul				16/05	29/07	27/05, 10/06
		R1	10-Apr	15-Aug				31/05	14/07	13/06, 5/07
		D1	19-May	8-Sept	1	125 g Difenconazole/ha	-	28/06	28/07	2/07
		D3	10-Apr	25-Aug				7/06	7/07	23/06
		D4	1-May	31-Aug				11/06	11/07	4/07
		D5	15-Mar	30-Jul				16/05	15/06	27/05
		R1	10-Apr	15-Aug				31/05	30/06	13/06
Use No. 2,3	Sugar beets	D3	25-Apr	18-Oct	2	125 g Difenconazole/ha	14	15/06	29/07	21/06, 24/07
		D4	4-May	25-Oct				20/06	03/08	20/06, 4/07
		R1	16-Apr	10-Oct				05/06	19/07	9/06, 29/06
		R3	20-Mar	3-Sep				13/05	26/06	18/05, 1/06
		D3	25-Apr	18-Oct	1	125 g Difenconazole/ha	-	15/06	15/07	21/06
		D4	4-May	25-Oct				20/06	20/07	20/06
		R1	16-Apr	10-Oct				5/06	5/07	09/06
		R3	20-Mar	3-Sep				13/05	12/06	18/05
Use No. 1	Potatoes	D3	10-May	15-Sep	4	125 g Difenconazole/ha	10	01/07	30/08	8/07, 24/07, 3/08, 18/08
		D4	22-May	23-Sep				27/07	25/09	7/08, 27/08, 10/09, 20/09
		D6 (1 st)	10-Apr	15-Jul				17/05	16/07	17/05, 4/06, 23/06, 5/07
		D6 (2 nd)	5-Aug	25-Nov				15/09	14/11	15/09, 27/09, 7/10, 18/10
		R1	5-May	8-Sep				11/06	10/08	11/06, 29/06, 11/07, 28/07
		R2	15-Mar	15-Jun				09/05	08/07	9/05, 20/05, 3/06, 25/06
		R3	10-Apr	1-Sep				17/05	16/07	18/05, 1/06, 11/06, 21/06

		D3	10-May	15-Sep	1	125 g Difenconazole/ha	-	01/07	31/07	8/07
		D4	22-May	23-Sep				27/07	26/08	07/08
		D6 (1 st)	10-Apr	15-Jul				17/05	16/06	17/05
		D6 (2 nd)	5-Aug	25-Nov				15/09	15/10	15/09
		R1	5-May	8-Sep				11/06	11/07	11/06
		R2	15-Mar	15-Jun				09/05	08/06	09/05
		R3	10-Apr	1-Sep				17/05	16/06	18/05

Table 8.9-4: Input parameters related to active substance Difenoconazole and metabolites CGA205375 and CGA71019 for PEC_{sw/sed} calculations STEP 1, 2, 3 and 4

Parameter	Difenoconazole	CGA205375	CGA71019	Remarks
Molecular weight [g mol ⁻¹]	406.3	350	69	LoEP Difenonazole Phys.-chem. Properties
Water solubility [mg L ⁻¹] (25°C)	15	100	730000	LoEP Difenonazole Phys.-chem. Properties (conservative assumption for CGA205375)
Vapour pressure [Pa] (25°C)	3.32 x 10 ⁻⁸	<5 x 10 ⁻⁶	0.34	LoEP Difenonazole Phys.-chem. properties
Activation Energy [J/mol] MACRO: [K ⁻¹] PRZM: Q ₁₀ [-]	65400 0.0948 2.58	Not used	Not used	FOCUS recommendation
Reference moisture [-] PRZM/MACRO: moisture exponent [-]	pF2 0.7	Not used	Not used	FOCUS recommendation
DEGRADATION IN SOIL				
DT ₅₀ soil [d]	130 days (n = 7)	93.7 days (n = 3)	60.5 days at STEP 1-2	CRD (2013) for CGA71019
Maximum occurrence in soil [%] source -> sink relation [-]	100	11.9 Parent → CGA 205375	23.4 Parent → CGA71019	LoEP Difenonazole Fate and behaviour
SORPTION TO SOIL				
K _{f,oc} [mL g ⁻¹]	2943 (n=8)	2661 (n=5)	83 (n=4)	LoEP Difenonazole Fate and behaviour Geometric mean
K _{f,om} [mL g ⁻¹]	1707 (n=8)	1544 (n=5)	48 (n=4)	LoEP Difenonazole Fate and behaviour Geometric mean
Freundlich exponent 1/n [-]	0.85 (n=8)	0.76 (n=5)	0.91 (n=4)	LoEP Difenonazole Fate and behaviour Arithmetic mean
DEGRADATION IN AQUATIC SYSTEMS				
DT ₅₀ total system [d] (Step 1)	315.5	465.5	1000	LoEP Difenonazole mean DT ₅₀ value of 2 water/sediment systems (a.s. + CGA205375) and conservative assumption for CGA71019
DT ₅₀ water [d] (Step 2, Step 3)	1000	1000	1000	default
DT ₅₀ sediment [d] (Step 2, Step 3)	315.5	465.5	1000	Sediment most degrading compartment
Maximum occurrence in water/sediment [%] source -> sink relation [-]	100	11.6 Parent → CGA 205375	9.6 Parent → CGA71019	LoEP Difenonazole Fate and behaviour
DEGRADATION IN AQUATIC SYSTEMS				
Crop uptake factor [-]	0.0	0.0	0.0	FOCUS recommendation
Wash off coefficient PRZM: [cm ⁻¹] MACRO: [mm ⁻¹]	0.5 0.05	/ /	/ /	FOCUS recommendation

Calculation of $PEC_{SED,ACCU}$ of Difenoconazole:

As the DT_{50} of Difenoconazole in sediment amounts 315.5 days, Difenoconazole has the potential to bioaccumulate in the sediment.

The following equation is used to calculate $PEC_{sed, accu}$ based on FOCUS Step 1 and 2 values:

maximum PEC_s accumulation = Initial PEC_s for 1 application / $(1 - e^{-ki})$

Where $k = \ln 2 / DT_{50} = \ln 2 / 315.5$

i = interval between the applications = 365

To calculate $PEC_{sed, accu}$ based on FOCUS Step 3 and 4 values, following approach is used:

The pragmatic approach outlined in the EFSA Scientific Opinion on the effect assessment for pesticides on sediment organisms in edge-of-field surface water (EFSA Journal 2015;13(7):4176) was used. It is similar to the methodology commonly used for soil concentrations. Accumulation was calculated as follows:

$$PEC_{SED,ACCU} = PEC_{SED,FOCUS} + PEC_{SED,MAX,FOCUS} \frac{X}{1 - X}$$

$$X = \exp\left(\frac{365 \ln(2) f}{DegT50}\right)$$

$$f = \left(\frac{-E}{R} \left[\frac{1}{T_{arr,scen} + 273.15} - \frac{1}{T_0 + 273.15} \right] \right)$$

$PEC_{SED,ACCU}$:	predicted sediment concentration including accumulation ($\mu\text{g/kg}$)
$PEC_{SED,FOCUS}$:	predicted concentration in sediment according to FOCUS ($\mu\text{g/kg}$)
$PEC_{SED,MAX,FOCUS}$:	maximum concentration in sediment according to FOCUS ($\mu\text{g/kg}$)
f :	temperature correction factor (–)
$DegT50$:	degradation in water/sediment at reference temperature (days)
$T_{arr,scen}$:	Arrhenius-weighted average concentration of the scenario ($^{\circ}\text{C}$)
T_0 :	Reference temperature during the degradation study (20°C)
E :	Arrhenius activation energy, (kJ/mol)
R :	Gas constant (kJ/mol/K)

EFSA (2015) explains that $PEC_{SED,FOCUS}$ represents the standard environmental concentrations as provided by FOCUS at the different steps. It could alternatively be a maximum concentration or an actual concentration sometime after the maximum or a TWA. The maximum PEC_{SED} from the FOCUS Step 3 and 4 simulations was used in the calculations presented in this dRR. Temperature correction factors for the 10 FOCUS surface water scenarios have been provided by EFSA and repeated here in the following table:

Table 8.9.2.1: Temperature correction factor for the FOCUS surface water scenarios (EFSA 2015)

Scenario	Correction factor f
D1	0.366
D2	0.424
D3	0.483
D4	0.400
D5	0.526
D6	0.841
R1	0.483
R2	0.660
R3	0.679
R4	0.662

In the table below the D and R scenarios considered relevant for zRMS (Poland) and cMS countries are shown. For completeness all PEC_{sw} and PEC_{sed, accumulation} results for the 10 FOCUS scenarios are presented in this core dossier but the scenarios not relevant for these countries are shown in font light grey.

D and R scenarios considered relevant for each country

Country	Scenarios
Poland	D3, D4, R1
Czech Republic	D4, R1
Belgium	D3, D4, R1
Germany	National Specific models
The Netherlands	National Specific models

Results of the PEC_{sw} and PEC_{sed} calculations are reported below. Both single and multiple applications were envisaged since the drift percentages depend on the number of applications and this has an impact on the PEC values.

FOCUS Step 1, 2, 3 PEC_{sw/sed}

Multiple applications

Table 8.9-4: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for Difenconazole following 4 applications of GLOB1911F to Potato

Scenario FOCUS	Waterbody	Dominant entry route	Date of the max. PEC _{sw}	Max PEC _{sw} (µg/L)	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)	Max PEC _{sed, accu} (µg/kg)
Step 1	---	Runoff and drainage	---	38.4462	34.0788	1020	1849.425
Step 2							
Northern Europe	Mar-May	Runoff and drainage	---	2.6726	2.4083	71.8898	130.348
	June-Sept			2.6726	2.4083	71.8898	130.348
	Oct-Feb			5.4303	5.1151	152.8709	277.180
Southern Europe	Mar-May	Runoff and drainage	---	4.5111	4.2128	125.8772	228.236
	June-Sept			3.5919	3.3106	98.8835	179.292
	Oct-Feb			4.5111	4.2128	125.8772	228.236
Step 3							
D3	Ditch	Drift	18-Aug	0.439	0.001	0.819	2.551
D4	Pond	Drainage	09-Dec	0.060	0.035	1.056	3.848
D4	Stream	Drift	20-Sep	0.373	0.000	0.219	0.798
D6	Ditch (1°)	Drainage	19-Jan	0.531	0.000	0.463	0.944
D6	Ditch (2°)	Drainage	19-Jan	0.943	0.000	0.672	1.372
R1	Pond	Runoff	31-Dec	0.333	0.232	7.799	24.287
R1	Stream	Runoff	18-Jul	0.726	0.001	15.900	49.514
R2	Stream	Drift	25-Jan	0.406	0.001	57.810	140.672
R2	Stream	Runoff	25-Jan	0.946	0.002	12.263	39.123

Table 8.9-5: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for Difenoconazole following 2 applications of GLOB1911F to Sugar beet

Scenario FOCUS	Waterbody	Dominant entry route	Date of the max. PEC _{sw}	Max PEC _{sw} (µg/L)	21 d-PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)	Max PEC _{sed, accu} (µg/kg)
Step 1	---	Run-off and drainage	---	19.2231	17.0394	510.6892	925.962
Step 2							
Northern Europe	Mar-May	Run-off and drainage	---	1.3542	1.1847	35.3366	64.071
	June-Sept			1.3542	1.1847	35.3366	64.071
	Oct-Feb			2.552	2.3604	70.5112	127.848
Southern Europe	Mar-May	Run-off and drainage	---	2.1528	1.9685	58.7863	106.589
	June-Sept			1.7535	1.5766	47.0614	85.330
	Oct-Feb			2.1528	1.9685	58.7863	106.589
Step 3							
D3	Ditch	Drift	24-Jul	0.5654	0.03107	0.5913	1.841
D4	Pond	Drift	04-Jul	0.03533	0.0275	0.5496	2.003
D4	Stream	Drift	20-Jun	0.4509	0.005681	0.08775	0.320
R1	Pond	Run-off	09-Jul	0.1542	0.1332	4.098	12.761
R1	Stream	Run-off	09-Jul	0.4846	0.05333	11.16	34.753
R3	Stream	Drift	01-Jun	0.5484	0.04914	5.64	13.433

Table 8.9-6: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for Difenoconazole following 2 applications of GLOB1911F to Winter oilseed rape

Scenario FOCUS	Waterbody	Dominant entry route	Date of the max. PEC _{sw}	Max PEC _{sw} (µg/L)	21 d-PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)	Max PEC _{sed, accu} (µg/kg)
Step 1	---	Run-off and drainage	---	19.2231	17.0394	510.6892	925.962
Step 2							
Northern Europe	Mar-May	Run-off and drainage	---	2.4722	2.2821	68.1662	123.596
	June-Sept			2.4722	2.2821	68.1662	123.596
	Oct-Feb			5.3470	5.1038	152.5851	276.661
Southern Europe	Mar-May	Run-off and drainage	---	4.3887	4.1632	124.4455	225.640
	June-Sept			3.4304	3.2226	96.3058	174.618
	Oct-Feb			4.3887	4.1632	124.4455	225.640
Step 3							
First application: autumn							
D2	ditch	Drift	03-Nov	0.754	0.304	4.786	16.605
D2	stream	Drift	09-Oct	0.629	0.227	3.157	10.953
D3	ditch	Drift	10-Oct	0.694	0.119	1.286	4.005
D4	pond	Drainage	09-Dec	0.038	0.030	0.648	2.362
D4	stream	Drift	28-Sep	0.589	0.008	0.163	0.593
D5	pond	Drift	14-Nov	0.038	0.031	0.515	1.496

Scenario FOCUS	Waterbody	Dominant entry route	Date of the max. PEC _{sw}	Max PEC _{sw} (µg/L)	21 d-PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)	Max PEC _{sed, accu} (µg/kg)
D5	stream	Drift	14-Nov	0.635	0.023	0.293	0.850
R1	pond	Run-off	31-Dec	0.105	0.085	2.300	7.162
R1	stream	Run-off	25-Nov	0.517	0.029	1.929	6.007
R3	stream	Drift	27-Oct	0.629	0.059	7.589	18.075
First application: spring							
D2	ditch	Drift	06-Jun	0.975	0.603	7.106	24.654
D2	stream	Drift	06-Jun	0.624	0.335	3.283	11.390
D3	ditch	Drift	22-May	0.691	0.086	0.952	2.964
D4	pond	Drift	16-Jun	0.036	0.029	0.519	1.892
D4	stream	Drift	16-Jun	0.589	0.012	0.167	0.608
D5	pond	Drift	11-May	0.037	0.030	0.526	1.530
D5	stream	Drift	11-May	0.635	0.015	0.213	0.619
R1	pond	Run-off	21-Jun	0.088	0.072	1.820	5.668
R1	stream	Drift	31-May	0.445	0.028	5.248	16.343
R3	stream	Drift	25-Apr	0.633	0.030	1.660	3.954

Table 8.9-7: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for Difenconazole following 2 applications of GLOB1911F to Spring oilseed rape

Scenario FOCUS	Waterbody	Dominant entry route	Date of the max. PEC _{sw}	Max PEC _{sw} (µg/L)	21 d-PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)	Max PEC _{sed, accu} (µg/kg)
Step 1	---	Run-off and drainage	---	19.2231	17.0394	498.0707	903.083
Step 2							
Northern Europe	Mar-May	Run-off and drainage	---	2.4722	2.2821	68.1662	123.596
	June-Sept			2.4722	2.2821	68.1662	123.596
	Oct-Feb			5.3470	5.1038	152.5851	276.661
Southern Europe	Mar-May	Run-off and drainage	---	4.3887	4.1632	124.4455	225.640
	June-Sept			3.4304	3.2226	96.3058	174.618
	Oct-Feb			4.3887	4.1632	124.4455	225.640
Step 3							
D1	ditch	Drift	04-Aug	0.857	0.504	6.195	24.357
D1	stream	Drift	04-Aug	0.602	0.026	0.531	2.089
D3	ditch	Drift	08-Jul	0.693	0.111	1.203	3.746
D4	pond	Drift	18-Jul	0.037	0.030	0.541	1.972
D4	stream	Drift	18-Jul	0.589	0.016	0.207	0.756
D5	pond	Drift	10-Jun	0.038	0.031	0.531	1.544
D5	stream	Drift	10-Jun	0.635	0.023	0.290	0.843
R1	pond	Run-off	02-Feb	0.093	0.082	2.711	8.442
R1	stream	Drift	05-Jul	0.450	0.032	7.296	22.720

FOCUS Step 1, 2, 3 PEC_{sw}/sed

Single application

Table 8.9-8: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for Difenconazole following single application of GLOB1911F to Potato

Scenario FOCUS	Waterbody	Dominant entry route	Date of the max. PEC _{sw}	Max PEC _{sw} (µg/L)	21 d-PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)	Max PEC _{sed, accu} (µg/kg)
Step 1	---	Run-off and drainage	---	38.4462	34.0788	1020	1849.425
Step 2							
Northern Europe	Mar-May	Run-off and drainage	---	1.1496	0.6897	21.4045	38.810
	June-Sept			1.1496	0.6897	21.4045	38.810
	Oct-Feb			1.5629	1.4493	43.2966	78.504
Southern Europe	Mar-May	Run-off and drainage	---	1.3144	1.2054	35.9992	65.272
	June-Sept			1.1496	0.8938	28.7019	52.041
	Oct-Feb			1.3144	1.2054	35.9992	65.272
Step 3							
D3	Ditch	Drift	08-Jul	0.651		0.475	1.479
D4	Pond	Drift	07-Aug	0.02617		0.3212	1.171
D4	Stream	Drift	07-Aug	0.4769		0.04048	0.148
D5	Ditch (1 st)	Drift	07-May	0.648		0.3371	1.087
D5	Ditch (2 nd)	Drift	15-Sep	0.646		0.3372	1.085
R1	Pond	Runoff	11-Jun	0.07783		2.17	6.758
R1	Stream	Drift	11-Jun	0.4516		5.781	18.002
R2	Stream	Drift	09-May	0.6054		16.19	49.396
R3	Stream	Runoff	18-May	0.6567		3.022	7.198

Table 8.9-9: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for Difenconazole following single application of GLOB1911F to Sugar beet

Scenario FOCUS	Waterbody	Dominant entry route	Date of the max. PEC _{sw}	Max PEC _{sw} (µg/L)	21 d-PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)	Max PEC _{sed, accu} (µg/kg)
Step 1	---	Run-off and drainage	---	19.2231	17.0394	510.6892	925.962
Step 2							
Northern Europe	Mar-May	Run-off and drainage	---	1.1496	0.6216	18.9721	34.399
	June-Sept			1.1496	0.6216	18.9721	34.399
	Oct-Feb			1.3558	1.2460	37.2155	67.478
Southern Europe	Mar-May	Run-off and drainage	---	1.1496	0.9618	31.1343	56.452
	June-Sept			1.1496	0.7917	25.0532	45.425
Step 3							
D3	Ditch	Drift	18-Aug	0.6523	0.04218	0.5887	1.833

Scenario FOCUS	Waterbody	Dominant entry route	Date of the max. PEC _{sw}	Max PEC _{sw} (µg/L)	21 d-PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)	Max PEC _{sed, accu} (µg/kg)
D4	Pond	Drift	27-Aug	0.02618	0.01938	0.3161	1.152
D4	Stream	Drift	27-Aug	0.502	0.001150	0.02082	0.076
R1	Pond	Runoff	31-Dec	0.06137	0.05081	1.536	4.783
R1	Stream	Drift	20-Aug	0.4516	0.01160	4.676	14.561
R3	Stream	Drift	6-Jul	0.6367	0.03013	6.247	14.879

Table 8.9-10: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for Difenconazole following single application of GLOB1911F to Winter oilseed rape

Scenario FOCUS	Waterbody	Dominant entry route	Date of the max. PEC _{sw}	Max PEC _{sw} (µg/L)	21 d-PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)	Max PEC _{sed, accu} (µg/kg)
Step 1	---	Run-off and drainage	---	19.2231	17.0394	510.6892	925.962
Step 2							
Northern Europe	Mar-May	Run-off and drainage	---	1.3144	1.2054	35.9992	65.272
	June-Sept			1.3144	1.2054	35.9992	65.272
	Oct-Feb			2.8054	2.6689	79.7834	144.660
Southern Europe	Mar-May	Run-off and drainage	---	2.3084	2.1811	65.1887	118.198
	June-Sept			1.8114	1.6932	50.5940	91.735
	Oct-Feb			2.3084	2.1811	65.1887	118.198
Step 3							
First application: autumn							
D2	ditch	Drift	09-Oct	0.809	0.282	3.522	12.219
D2	stream	Drift	09-Oct	0.712	0.233	2.814	9.763
D3	ditch	Drift	26-Sep	0.790	0.068	0.900	2.803
D4	pond	Drift	28-Sep	0.027	0.021	0.369	1.344
D4	stream	Drift	28-Sep	0.681	0.009	0.149	0.541
D5	pond	Drift	04-Oct	0.027	0.021	0.341	0.990
D5	stream	Drift	04-Oct	0.734	0.013	0.210	0.609
R1	pond	Run-off	31-Dec	0.049	0.040	1.162	3.619
R1	stream	Drift	18-Sep	0.520	0.013	0.968	3.013
R3	stream	Drift	27-Oct	0.728	0.026	3.553	8.462
First application: spring							
D2	ditch	Drift	23-May	0.797	0.408	3.913	13.576
D2	stream	Drift	23-May	0.689	0.050	0.614	2.131
D3	ditch	Drift	04-May	0.788	0.047	0.665	2.070
D4	pond	Drift	30-May	0.027	0.021	0.314	1.144
D4	stream	Drift	30-May	0.663	0.005	0.075	0.274
D5	pond	Drift	23-Apr	0.027	0.021	0.327	0.951
D5	stream	Drift	23-Apr	0.702	0.004	0.063	0.183

Scenario FOCUS	Waterbody	Dominant entry route	Date of the max. PEC _{sw}	Max PEC _{sw} (µg/L)	21 d-PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)	Max PEC _{sed, accu} (µg/kg)
R1	pond	Run-off	21-Jun	0.037	0.029	0.777	2.420
R1	stream	Drift	13-Jun	0.520	0.010	2.576	8.022
R3	stream	Drift	11-Apr	0.732	0.018	1.232	2.934

Table 8.9-11: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for Difenconazole following single application of GLOB1911F to Spring oilseed rape

Scenario FOCUS	Waterbody	Dominant entry route	Date of the max. PEC _{sw}	Max PEC _{sw} (µg/L)	21 d-PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)	Max PEC _{sed, accu} (µg/kg)
Step 1	---	Run-off and drainage	---	19.2231	17.0394	498.0707	903.083
Step 2							
Northern Europe	Mar-May	Run-off and drainage	---	1.3144	1.2054	35.9992	65.272
	June-Sept			1.3144	1.2054	35.9992	65.272
	Oct-Feb			2.8054	2.6689	79.7834	144.660
Southern Europe	Mar-May	Run-off and drainage	---	2.3084	2.1811	65.1887	118.198
	June-Sept			1.8114	1.6932	50.5940	91.735
	Oct-Feb			2.3084	2.1811	65.1887	118.198
Step 3							
D1	ditch	Drift	02-Jul	0.796	0.419	3.712	14.594
D1	stream	Drift	02-Jul	0.697	0.036	0.440	1.730
D3	ditch	Drift	23-Jun	0.790	0.061	0.818	2.546
D4	pond	Drift	04-Jul	0.027	0.021	0.321	1.171
D4	stream	Drift	04-Jul	0.681	0.009	0.149	0.541
D5	pond	Drift	27-May	0.027	0.021	0.327	0.951
D5	stream	Drift	27-May	0.734	0.013	0.207	0.602
R1	pond	Run-off	02-Feb	0.044	0.039	1.414	4.403
R1	stream	Drift	13-Jun	0.520	0.015	4.102	12.774

For the Step 4 calculations no spray buffer zone of 5, 10, 15 and 20 meters were used, sometimes coupled with run-off mitigation measures. The fractional reduction in run-off volume and run-off flux as well as erosion volume and erosion flux which were used for mitigation purposes are presented in the table below which is extracted from the FOCUS Landscape and Mitigation Group (2009). Both single and multiple applications were envisaged since the drift percentages depend on the number of applications and this has an impact on the PEC values.

Table 7. 90th percentile worst-case values for reduction efficiencies for different widths of vegetated buffers and different phases of surface runoff

Buffer width (m)	10-12	18-20
Reduction in volume of runoff water (%)	60	80
Reduction in mass of pesticide transported in aqueous phase (%)	60	80
<i>n (for aqueous phase)</i>	36	30
Reduction in mass of eroded sediment (%)	85	95
Reduction in mass of pesticide transported in sediment phase (%)	85	95
<i>n (for sediment phase)</i>	19	11

None	R3 stream	0.865	0.395	0.395	0.395	0.395	0.180	0.094
50%		0.432	0.395	0.395	0.395	0.395	0.180	0.094
75%		0.395	0.395	0.395	0.395	0.395	0.180	0.094
90%		0.395	0.395	0.395	0.395	0.395	0.180	0.094

Table 8.9-14: Global maximum PEC_{sw} values for Difenoconazole, following multiple application(s) (2 applications) of GLOB1911F to Winter oilseed rape according to surface water Step 4 – First application: autumn

PEC _{sw} (µg/L)	Scenario	STEP 4 Difenoconazole						
Nozzle	Vegetative strip (m)	None	None	None	None	None	10	20
reduction	No spray buffer (m)	FOCUS default	5	10	15	20	10	20
None	D2 ditch	0.754	0.573	0.573	0.573	0.573	-	-
50%		0.573	0.573	0.573	0.573	0.573	-	-
75%		0.573	0.573	0.573	0.573	0.573	-	-
90%		0.573	0.573	0.573	0.573	0.573	-	-
None	D2 stream	0.629	0.362	0.362	0.362	0.362	-	-
50%		0.433	0.362	0.362	0.362	0.362	-	-
75%		0.362	0.362	0.362	0.362	0.362	-	-
90%		0.362	0.362	0.362	0.362	0.362	-	-
None	D3 ditch	0.694	0.180	0.093	0.063	0.047	-	-
50%		0.346	0.090	0.047	0.031	0.024	-	-
75%		0.173	0.045	0.023	0.016	0.012	-	-
90%		0.069	0.018	0.009	0.006	0.005	-	-
None	D4 pond	0.038	0.036	0.032	0.029	0.028	-	-
50%		0.034	0.029	0.027	0.026	0.025	-	-
75%		0.028	0.025	0.024	0.024	0.023	-	-
90%		0.024	0.023	0.023	0.023	0.022	-	-
None	D4 stream	0.589	0.208	0.141	0.141	0.141	-	-
50%		0.401	0.141	0.141	0.141	0.141	-	-
75%		0.200	0.141	0.141	0.141	0.141	-	-
90%		0.141	0.141	0.141	0.141	0.141	-	-
None	D5 pond	0.038	0.032	0.023	0.018	0.015	-	-
50%		0.029	0.016	0.012	0.009	0.008	-	-
75%		0.014	0.008	0.006	0.005	0.004	-	-
90%		0.006	0.003	0.003	0.003	0.003	-	-
None	D5 stream	0.635	0.224	0.116	0.078	0.059	-	-
50%		0.432	0.112	0.058	0.039	0.031	-	-

75%	R1 pond	0.216	0.056	0.031	0.031	0.031	-	-
90%		0.086	0.031	0.031	0.031	0.031	-	-
None		0.105	0.103	0.100	0.098	0.097	0.045	0.023
50%		0.102	0.098	0.096	0.096	0.095	0.041	0.021
75%		0.097	0.095	0.095	0.094	0.094	0.039	0.020
90%	R1 stream	0.095	0.094	0.094	0.093	0.093	0.038	0.019
None		0.517	0.517	0.517	0.517	0.517	0.231	0.120
50%		0.517	0.517	0.517	0.517	0.517	0.231	0.120
75%		0.517	0.517	0.517	0.517	0.517	0.231	0.120
90%	R3 stream	0.517	0.517	0.517	0.517	0.517	0.231	0.120
None		0.629	0.540	0.540	0.540	0.540	0.246	0.129
50%		0.540	0.540	0.540	0.540	0.540	0.246	0.129
75%		0.540	0.540	0.540	0.540	0.540	0.246	0.129
90%		0.540	0.540	0.540	0.540	0.540	0.246	0.129

Table 8.9-15: Global maximum PEC_{sw} values for Difenoconazole, following multiple application(s) (2 applications) of GLOB1911F to Winter oilseed rape according to surface water Step 4 – First application: spring

PEC _{sw} (µg/L)	Scenario	STEP 4 Difenoconazole						
Nozzle	Vegetative strip (m)	None	None	None	None	None	10	20
reduction	No spray buffer (m)	FOCUS default	5	10	15	20	10	20
None	D2 ditch	0.975	0.253	0.228	0.228	0.228	-	-
50%		0.486	0.228	0.228	0.228	0.228	-	-
75%		0.244	0.228	0.228	0.228	0.228	-	-
90%		0.228	0.228	0.228	0.228	0.228	-	-
None	D2 stream	0.624	0.221	0.143	0.143	0.143	-	-
50%		0.425	0.143	0.143	0.143	0.143	-	-
75%		0.213	0.143	0.143	0.143	0.143	-	-
90%		0.143	0.143	0.143	0.143	0.143	-	-
None	D3 ditch	0.691	0.179	0.093	0.063	0.047	-	-
50%		0.345	0.089	0.046	0.031	0.024	-	-
75%		0.172	0.045	0.023	0.016	0.012	-	-
90%		0.069	0.018	0.009	0.006	0.005	-	-
None	D4 pond	0.036	0.031	0.022	0.017	0.015	-	-
50%		0.028	0.016	0.011	0.009	0.007	-	-
75%		0.014	0.008	0.006	0.006	0.006	-	-
90%		0.006	0.006	0.005	0.005	0.005	-	-

None	D4 stream	0.589	0.208	0.108	0.073	0.055	-	-
50%		0.401	0.104	0.054	0.036	0.034	-	-
75%		0.200	0.052	0.034	0.034	0.034	-	-
90%		0.080	0.034	0.034	0.034	0.034	-	-
None	D5 pond	0.037	0.031	0.022	0.018	0.015	-	-
50%		0.028	0.016	0.011	0.009	0.007	-	-
75%		0.014	0.008	0.006	0.004	0.004	-	-
90%		0.006	0.003	0.002	0.002	0.002	-	-
None	D5 stream	0.635	0.224	0.116	0.078	0.059	-	-
50%		0.432	0.112	0.058	0.039	0.030	-	-
75%		0.216	0.056	0.029	0.020	0.015	-	-
90%		0.086	0.022	0.012	0.011	0.011	-	-
None	R1 pond	0.088	0.085	0.079	0.076	0.074	0.040	0.022
50%		0.083	0.075	0.072	0.071	0.070	0.033	0.018
75%		0.074	0.070	0.069	0.068	0.068	0.030	0.015
90%		0.069	0.067	0.067	0.066	0.066	0.028	0.014
None	R1 stream	0.445	0.442	0.442	0.442	0.442	0.201	0.105
50%		0.442	0.442	0.442	0.442	0.442	0.201	0.105
75%		0.442	0.442	0.442	0.442	0.442	0.201	0.105
90%		0.442	0.442	0.442	0.442	0.442	0.201	0.105
None	R3 stream	0.633	0.334	0.334	0.334	0.334	0.151	0.079
50%		0.431	0.334	0.334	0.334	0.334	0.151	0.079
75%		0.334	0.334	0.334	0.334	0.334	0.151	0.079
90%		0.334	0.334	0.334	0.334	0.334	0.151	0.079

Table 8.9-16: Global maximum PEC_{sw} values for Difenoconazole, following multiple application(s) (2 applications) of GLOB1911F to Spring oilseed rape according to surface water Step 4

PEC _{sw} (µg/L)	Scenario	STEP 4 Difenoconazole						
Nozzle	Vegetative strip (m)	None	None	None	None	None	10	20
reduction	No spray buffer (m)	FOCUS default	5	10	15	20	10	20
None	D1 ditch	0.857	0.218	0.113	0.075	0.057	0.113	0.057
50%		0.424	0.108	0.056	0.051	0.051	0.056	0.051
75%		0.210	0.054	0.051	0.051	0.051	0.051	0.051
90%		0.083	0.051	0.051	0.051	0.051	0.051	0.051
None	D1 stream	0.602	0.213	0.110	0.074	0.056	0.110	0.056
50%		0.410	0.106	0.055	0.037	0.033	0.055	0.033

None	R2 stream	0.605	0.255	0.135	0.092	0.070	0.135	0.070
50%		0.470	0.127	0.067	0.065	0.065	0.067	0.035
75%		0.235	0.065	0.065	0.065	0.065	0.034	0.017
90%		0.094	0.065	0.065	0.065	0.065	0.030	0.016
None	R3 stream	0.635	0.267	0.204	0.204	0.204	0.141	0.073
50%		0.493	0.204	0.204	0.204	0.204	0.093	0.049
75%		0.246	0.204	0.204	0.204	0.204	0.093	0.049
90%		0.204	0.204	0.204	0.204	0.204	0.093	0.049

Table 8.9-18: Global maximum PEC_{sw} values for Difenconazole, following single application of GLOB1911F to Sugar beet according to surface water Step 4

PEC _{sw} (µg/L)	Scenario	STEP 4 Difenconazole						
Nozzle reduction	Vegetative strip (m)	None	None	None	None	None	10	20
	No spray buffer (m)	FOCUS default	5	10	15	20	10	20
None	D3 ditch	0.787	0.213	0.113	0.077	0.059	-	-
50%		0.393	0.106	0.056	0.038	0.029	-	-
75%		0.196	0.053	0.028	0.019	0.015	-	-
90%		0.078	0.021	0.011	0.008	0.006	-	-
None	D4 pond	0.041	0.023	0.017	0.013	0.011	-	-
50%		0.020	0.012	0.008	0.008	0.008	-	-
75%		0.010	0.008	0.076	0.008	0.007	-	-
90%		0.008	0.007	0.007	0.007	0.007	-	-
None	D4 stream	0.814	0.220	0.117	0.080	0.061	-	-
50%		0.407	0.110	0.058	0.048	0.048	-	-
75%		0.203	0.055	0.048	0.048	0.048	-	-
90%		0.081	0.048	0.048	0.482	0.048	-	-
None	R1 pond	0.082	0.074	0.071	0.069	0.068	0.034	0.018
50%		0.072	0.068	0.067	0.066	0.066	0.029	0.015
75%		0.067	0.066	0.066	0.066	0.066	0.028	0.014
90%		0.066	0.065	0.065	0.065	0.065	0.027	0.014
None	R1 stream	0.702	0.235	0.235	0.235	0.235	0.107	0.056
50%		0.351	0.235	0.235	0.235	0.235	0.107	0.056
75%		0.235	0.235	0.235	0.235	0.235	0.107	0.056
90%		0.235	0.235	0.235	0.235	0.235	0.107	0.056
None	R3 stream	0.986	0.267	0.206	0.206	0.206	0.142	0.073
50%		0.493	0.206	0.206	0.206	0.206	0.093	0.049
75%		0.246	0.206	0.206	0.206	0.206	0.093	0.049

90%		0.206	0.206	0.206	0.206	0.206	0.093	0.049
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Table 8.9-19: Global maximum PEC_{sw} values for Difenoconazole, following single application of GLOB1911F to Winter oilseed rape according to surface water Step 4 – First application: Autumn

PEC _{sw} (µg/L)	Scenario	STEP 4 Difenoconazole						
Nozzle	Vegetative strip (m)	None	None	None	None	None	10	20
reduction	No spray buffer (m)	FOCUS default	5	10	15	20	10	20
None	D2 ditch	0.809	0.228	0.197	0.197	0.197	-	-
50%		0.410	0.197	0.197	0.197	0.197	-	-
75%		0.211	0.197	0.197	0.197	0.197	-	-
90%		0.197	0.197	0.197	0.197	0.197	-	-
None	D2 stream	0.712	0.262	0.140	0.125	0.125	-	-
50%		0.481	0.132	0.125	0.125	0.125	-	-
75%		0.241	0.125	0.125	0.125	0.125	-	-
90%		0.125	0.125	0.125	0.125	0.125	-	-
None	D3 ditch	0.790	0.214	0.113	0.077	0.059	-	-
50%		0.395	0.107	0.057	0.039	0.029	-	-
75%		0.197	0.053	0.028	0.019	0.015	-	-
90%		0.079	0.021	0.011	0.008	0.006	-	-
None	D4 pond	0.027	0.023	0.017	0.013	0.012	-	-
50%		0.020	0.012	0.011	0.010	0.010	-	-
75%		0.011	0.010	0.010	0.009	0.009	-	-
90%		0.009	0.009	0.009	0.009	0.009	-	-
None	D4 stream	0.681	0.248	0.132	0.090	0.068	-	-
50%		0.459	0.124	0.066	0.058	0.058	-	-
75%		0.229	0.062	0.058	0.058	0.058	-	-
90%		0.092	0.058	0.058	0.058	0.058	-	-
None	D5 pond	0.027	0.023	0.017	0.013	0.011	-	-
50%		0.020	0.012	0.008	0.007	0.006	-	-
75%		0.010	0.006	0.004	0.003	0.003	-	-
90%		0.004	0.002	0.002	0.001	0.001	-	-
None	D5 stream	0.734	0.268	0.142	0.097	0.074	-	-
50%		0.495	0.134	0.071	0.048	0.037	-	-
75%		0.247	0.067	0.035	0.024	0.018	-	-
90%		0.099	0.027	0.014	0.011	0.011	-	-
None	R1 pond	0.049	0.048	0.046	0.046	0.045	0.021	0.013

50%		0.047	0.045	0.044	0.044	0.044	0.019	0.010
75%		0.045	0.044	0.043	0.043	0.043	0.018	0.009
90%		0.043	0.043	0.043	0.043	0.043	0.018	0.009
None		0.520	0.232	0.232	0.232	0.232	0.103	0.054
50%	R1 stream	0.351	0.232	0.232	0.232	0.232	0.103	0.054
75%		0.232	0.232	0.232	0.232	0.232	0.103	0.054
90%		0.232	0.232	0.232	0.232	0.232	0.103	0.054
None	R3 stream	0.728	0.271	0.271	0.271	0.271	0.141	0.073
50%		0.490	0.271	0.271	0.271	0.271	0.123	0.064
75%		0.271	0.271	0.271	0.271	0.271	0.123	0.064
90%		0.271	0.271	0.271	0.271	0.271	0.123	0.064

Table 8.9-20: Global maximum PEC_{sw} values for Difenconazole, following single application of GLOB1911F to Winter oilseed rape according to surface water Step 4 – First application: spring

PEC _{sw} (µg/L)	Scenario	STEP 4 Difenconazole						
Nozzle	Vegetative strip (m)	None	None	None	None	None	10	20
reduction	No spray buffer (m)	FOCUS default	5	10	15	20	10	20
None	D2 ditch	0.797	0.216	0.121	0.121	0.121		
50%		0.399	0.121	0.121	0.121	0.121	-	-
75%		0.200	0.121	0.121	0.121	0.121	-	-
90%		0.121	0.121	0.121	0.121	0.121	-	-
None	D2 stream	0.689	0.252	0.133	0.091	0.076	-	-
50%		0.464	0.126	0.076	0.076	0.076	-	-
75%		0.232	0.076	0.076	0.076	0.076	-	-
90%		0.093	0.076	0.076	0.076	0.076	-	-
None	D3 ditch	0.788	0.213	0.113	0.077	0.059	-	-
50%		0.394	0.107	0.057	0.039	0.029	-	-
75%		0.197	0.053	0.028	0.019	0.015	-	-
90%		0.079	0.021	0.011	0.008	0.006	-	-
None	D4 pond	0.027	0.023	0.017	0.013	0.011	-	-
50%		0.020	0.012	0.008	0.007	0.006	-	-
75%		0.010	0.006	0.004	0.003	0.003	-	-
90%		0.004	0.002	0.002	0.002	0.002	-	-
None	D4 stream	0.663	0.242	0.128	0.088	0.067	-	-
50%		0.447	0.121	0.064	0.044	0.033	-	-
75%		0.223	0.060	0.032	0.022	0.017	-	-

90%		0.089	0.024	0.015	0.015	0.015	█	█
None	D5 pond	0.027	0.023	0.017	0.013	0.011	█	█
50%		0.020	0.012	0.008	0.007	0.006	█	█
75%		0.010	0.006	0.004	0.003	0.003	█	█
90%		0.004	0.002	0.002	0.001	0.001	█	█
None	D5 stream	0.702	0.256	0.136	0.093	0.070	█	█
50%		0.473	0.128	0.068	0.046	0.035	█	█
75%		0.236	0.064	0.034	0.023	0.018	█	█
90%		0.094	0.026	0.014	0.009	0.007	█	█
None	R1 pond	0.037	0.034	0.029	0.027	0.025	0.019	0.012
50%		0.032	0.025	0.023	0.022	0.021	0.013	0.008
75%		0.024	0.021	0.020	0.019	0.019	0.010	0.005
90%		0.020	0.018	0.018	0.018	0.018	0.008	0.004
None	R1 stream	0.520	0.190	0.158	0.158	0.158	0.101	0.052
50%		0.350	0.158	0.158	0.158	0.158	0.071	0.037
75%		0.175	0.158	0.158	0.158	0.158	0.071	0.037
90%		0.158	0.158	0.158	0.158	0.158	0.071	0.037
None	R3 stream	0.732	0.267	0.145	0.145	0.145	0.142	0.073
50%		0.493	0.145	0.145	0.145	0.145	0.071	0.037
75%		0.246	0.145	0.145	0.145	0.145	0.066	0.035
90%		0.145	0.145	0.145	0.145	0.145	0.066	0.035

Table 8.9-21: Global maximum PEC_{sw} values for Difenoconazole, following single application of GLOB1911F to Spring oilseed rape according to surface water Step 4

PEC _{sw} (µg/L)	Scenario	STEP 4 Difenoconazole						
Nozzle reduction	Vegetative strip (m)	None	None	None	None	None	10	20
	No spray buffer (m)	FOCUS default	5	10	15	20	10	20
None	D1 ditch	0.697	0.254	0.135	0.092	0.070	█	█
50%		0.469	0.127	0.067	0.046	0.035	█	█
75%		0.234	0.063	0.034	0.023	0.017	█	█
90%		0.094	0.025	0.013	0.009	0.009	█	█
None	D1 ditch	0.796	0.216	0.114	0.078	0.059		
50%		0.398	0.108	0.057	0.039	0.030		
75%		0.199	0.054	0.029	0.019	0.015		
90%		0.079	0.021	0.013	0.013	0.013		
None	D1 stream	0.697	0.254	0.135	0.092	0.070	█	█

50%		0.469	0.127	0.067	0.046	0.035	█	█
75%		0.234	0.063	0.034	0.023	0.017	█	█
90%		0.094	0.025	0.013	0.009	0.009	█	█
None		0.790	0.214	0.113	0.077	0.059	█	█
50%	D3 ditch	0.395	0.107	0.057	0.039	0.029	█	█
75%		0.197	0.053	0.028	0.019	0.015	█	█
90%		0.079	0.021	0.011	0.008	0.006	█	█
None		0.681	0.248	0.132	0.090	0.068	█	█
50%	D4 pond	0.459	0.124	0.066	0.045	0.034	█	█
75%		0.229	0.062	0.033	0.022	0.017	█	█
90%		0.092	0.025	0.017	0.017	0.017	█	█
None		0.734	0.268	0.142	0.097	0.074	█	█
50%	D4 stream	0.495	0.134	0.071	0.048	0.037	█	█
75%		0.247	0.067	0.035	0.024	0.018	█	█
90%		0.099	0.027	0.014	0.010	0.007	█	█
None		0.027	0.023	0.017	0.013	0.011		
50%	D5 pond	0.020	0.012	0.008	0.007	0.006		
75%		0.010	0.006	0.004	0.003	0.003		
90%		0.004	0.003	0.003	0.003	0.003		
None		0.027	0.023	0.017	0.013	0.011		
50%	D5 pond	0.020	0.012	0.008	0.007	0.006		
75%		0.010	0.006	0.004	0.003	0.003		
90%		0.004	0.002	0.002	0.001	0.001		
None		0.734	0.268	0.142	0.097	0.074	█	█
50%	D5 stream	0.495	0.134	0.071	0.048	0.037	█	█
75%		0.247	0.067	0.035	0.024	0.018	█	█
90%		0.099	0.027	0.014	0.010	0.007	█	█
None		0.044	0.043	0.043	0.042	0.042	0.019	0.012
50%	R1 pond	0.043	0.042	0.042	0.042	0.042	0.018	0.009
75%		0.042	0.042	0.042	0.041	0.041	0.017	0.009
90%		0.042	0.041	0.041	0.041	0.041	0.017	0.008
None		0.520	0.190	0.146	0.146	0.146	0.101	0.052
50%	R1 stream	0.350	0.146	0.146	0.146	0.146	0.066	0.035
75%		0.175	0.146	0.146	0.146	0.146	0.066	0.035
90%		0.146	0.146	0.146	0.146	0.146	0.066	0.035

No further calculations are given if the PEC_{sw} is lower than the lowest RAC for aquatic organisms. This is 0.36 µg/L for Fish prolonged (*Pimephales promelas*). (Further info: see dRR Section B9).

90%		15.890	15.890	15.890	15.890	15.890	2.800	1.052
None	R2 stream	57.810	57.800	57.800	57.800	57.800	9.184	3.176
50%		57.810	57.800	57.800	57.800	57.800	9.183	3.175
75%		57.800	57.800	57.800	57.800	57.800	9.183	3.175
90%		57.800	57.800	57.800	57.800	57.800	9.182	3.175
None	R3 stream	12.230	12.180	12.170	12.160	12.160	2.384	0.965
50%		12.210	12.160	12.160	12.150	12.150	2.374	0.959
75%		12.180	12.160	12.150	12.150	12.150	2.369	0.956
90%		12.160	12.150	12.150	12.150	12.150	2.366	0.955
PEC_{sed}, accu (µg/kg)	Scenario	STEP 4 Difenconazole, PEC_{sed}, accumulation						
Nozzle	Vegetative strip (m)	None	None	None	None	None	10	20
reduction	No spray buffer (m)	FOCUS default	5	10	15	20	10	20
None	D3 ditch	2.551	0.875	0.476	0.329	0.253	-	-
50%		1.584	0.452	0.245	0.170	0.131	-	-
75%		0.819	0.233	0.127	0.088	0.067	-	-
90%		0.342	0.097	0.053	0.036	0.028	-	-
None	D4 pond	3.848	3.602	3.023	2.722	2.530	-	-
50%		3.341	2.579	2.286	2.137	2.044	-	-
75%		2.447	2.067	1.927	1.855	1.810	-	-
90%		1.918	1.772	1.716	1.688	1.669	-	-
None	D4 stream	0.798	0.768	0.758	0.754	0.751	-	-
50%		0.787	0.757	0.751	0.749	0.748	-	-
75%		0.767	0.751	0.748	0.747	0.746	-	-
90%		0.754	0.747	0.746	0.745	0.745	-	-
None	D6 ditch (1st)	0.944	0.604	0.579	0.570	0.565	-	-
50%		0.648	0.578	0.565	0.560	0.558	-	-
75%		0.600	0.564	0.558	0.555	0.554	-	-
90%		0.571	0.556	0.553	0.552	0.552	-	-
None	D6 ditch (2nd)	1.372	0.889	0.829	0.807	0.796	-	-
50%		0.996	0.825	0.795	0.784	0.778	-	-
75%		0.880	0.793	0.777	0.772	0.769	-	-
90%		0.809	0.773	0.767	0.764	0.763	-	-
None	R1 pond	24.287	24.140	23.795	23.614	23.499	8.732	5.646
50%		23.981	23.530	23.355	23.265	23.209	8.726	5.313
75%		23.449	23.222	23.137	23.091	23.063	8.722	5.148
90%		23.131	23.038	23.004	22.988	22.976	8.719	5.048

None	R1 stream	49.514	49.482	49.482	49.482	49.482	8.732	3.282
50%		49.514	49.482	49.482	49.482	49.482	8.726	3.279
75%		49.482	49.482	49.482	49.482	49.482	8.722	3.276
90%		49.482	49.482	49.482	49.482	49.482	8.719	3.276
None	R2 stream	140.672	140.648	140.648	140.648	140.648	22.348	7.728
50%		140.672	140.648	140.648	140.648	140.648	22.346	7.726
75%		140.648	140.648	140.648	140.648	140.648	22.346	7.726
90%		140.648	140.648	140.648	140.648	140.648	22.343	7.726
None	R3 stream	29.129	29.010	28.986	28.962	28.962	5.678	2.298
50%		29.081	28.962	28.962	28.938	28.938	5.654	2.285
75%		29.010	28.962	28.938	28.938	28.938	5.642	2.278
90%		28.962	28.938	28.938	28.938	28.938	5.635	2.273

Table 8.9-23: Global maximum PEC_{sed} and PEC_{sed, accumulation} values for Difenconazole, following multiple application(s) (2 applications) of GLOB1911F to Sugar beet according to Step 4

PEC _{sed} (µg/kg)	Scenario	STEP 4 Difenconazole, PEC _{sed}						
Nozzle reduction	Vegetative strip (m)	None	None	None	None	None	10	20
	No spray buffer (m)	FOCUS default	5	10	15	20	10	20
None	D3 ditch	0.716	0.193	0.102	0.070	0.053	-	-
50%		0.365	0.099	0.052	0.036	0.027	-	-
75%		0.187	0.050	0.027	0.018	0.014	-	-
90%		0.077	0.021	0.011	0.007	0.006	-	-
None	D4 pond	0.766	0.509	0.412	0.363	0.332	-	-
50%		0.472	0.343	0.294	0.269	0.253	-	-
75%		0.324	0.259	0.235	0.222	0.215	-	-
90%		0.235	0.209	0.200	0.195	0.192	-	-
None	D4 stream	0.091	0.084	0.083	0.083	0.083	-	-
50%		0.087	0.083	0.083	0.082	0.082	-	-
75%		0.084	0.083	0.082	0.082	0.082	-	-
90%		0.083	0.082	0.082	0.082	0.082	-	-
None	R1 pond	4.262	4.066	3.993	3.956	3.932	1.756	0.941
50%		4.039	3.941	3.904	3.886	3.874	1.659	0.875
75%		3.927	3.878	3.860	3.851	3.846	1.612	0.842
90%		3.861	3.841	3.834	3.831	3.828	1.583	0.822
None	R1 stream	11.180	11.130	11.130	11.120	11.120	1.896	0.699
50%		11.150	11.130	11.120	11.120	11.120	1.891	0.696

75%		11.130	11.120	11.120	11.120	11.120	1.889	0.695
90%		11.120	11.120	11.120	11.120	11.120	1.887	0.694
None	R3 stream	5.666	5.612	5.603	5.600	5.598	1.074	0.429
50%		5.630	5.603	5.598	5.596	5.595	1.068	0.426
75%		5.611	5.598	5.595	5.595	5.594	1.065	0.424
90%		5.600	5.595	5.594	5.594	5.593	1.064	0.423
PEC_{sed}, accu (µg/kg)	Scenario	STEP 4 Difenoconazole, PEC_{sed}, accumulation						
Nozzle	Vegetative strip (m)	None	None	None	None	None	10	20
reduction	No spray buffer (m)	FOCUS default	5	10	15	20	10	20
None	D3 ditch	2.229	0.602	0.319	0.218	0.165	-	-
50%		1.138	0.307	0.163	0.111	0.084	-	-
75%		0.581	0.157	0.083	0.057	0.043	-	-
90%		0.239	0.064	0.034	0.023	0.018	-	-
None	D4 pond	2.791	1.853	1.503	1.323	1.208	-	-
50%		1.721	1.249	1.071	0.980	0.923	-	-
75%		1.182	0.943	0.855	0.810	0.782	-	-
90%		0.855	0.763	0.729	0.711	0.700	-	-
None	D4 stream	0.331	0.308	0.303	0.302	0.301	-	-
50%		0.315	0.303	0.301	0.300	0.300	-	-
75%		0.307	0.301	0.299	0.299	0.299	-	-
90%		0.302	0.299	0.299	0.298	0.298	-	-
None	R1 pond	13.272	12.662	12.434	12.319	12.244	5.468	2.932
50%		12.578	12.273	12.157	12.101	12.064	5.166	2.724
75%		12.229	12.076	12.020	11.992	11.977	5.020	2.621
90%		12.023	11.961	11.939	11.930	11.921	4.930	2.559
None	R1 stream	34.815	34.660	34.660	34.628	34.628	5.904	2.176
50%		34.722	34.660	34.628	34.628	34.628	5.889	2.168
75%		34.660	34.628	34.628	34.628	34.628	5.882	2.163
90%		34.628	34.628	34.628	34.628	34.628	5.876	2.161
None	R3 stream	13.495	13.366	13.345	13.338	13.333	2.558	1.021
50%		13.409	13.345	13.333	13.328	13.326	2.544	1.014
75%		13.364	13.333	13.326	13.326	13.323	2.537	1.010
90%		13.338	13.326	13.323	13.323	13.321	2.534	1.008

Table 8.9-24: Global maximum PEC_{sed} and PEC_{sed, accumulation} values for Difenoconazole, following multiple application(s) (2 applications) of GLOB1911F to Winter oilseed rape according to Step 4 – First application: Autumn

PEC _{sed} (µg/kg)	Scenario	STEP 4 Difenoconazole, PEC sed						
Nozzle	Vegetative strip (m)	None	None	None	None	None	10	20
reduction	No spray buffer (m)	FOCUS default	5	10	15	20	10	20
None	D2 ditch	4.786	4.084	4.016	3.992	3.979	-	-
50%		4.216	4.013	3.979	3.967	3.960	-	-
75%		4.079	3.977	3.960	3.954	3.951	-	-
90%		3.997	3.956	3.949	3.947	3.945	-	-
None	D2 stream	3.157	2.087	2.027	2.006	1.995	-	-
50%		2.464	2.024	1.994	1.984	1.978	-	-
75%		2.082	1.993	1.978	1.973	1.970	-	-
90%		2.010	1.974	1.968	1.966	1.965	-	-
None	D3 ditch	1.286	0.350	0.186	0.127	0.097	-	-
50%		0.660	0.179	0.095	0.065	0.049	-	-
75%		0.338	0.092	0.049	0.033	0.025	-	-
90%		0.139	0.038	0.020	0.014	0.010	-	-
None	D4 pond	0.648	0.588	0.481	0.425	0.390	-	-
50%		0.548	0.402	0.348	0.320	0.303	-	-
75%		0.382	0.309	0.282	0.269	0.260	-	-
90%		0.283	0.254	0.244	0.238	0.235	-	-
None	D4 stream	0.163	0.125	0.114	0.110	0.108	-	-
50%		0.144	0.113	0.108	0.106	0.105	-	-
75%		0.124	0.107	0.104	0.103	0.103	-	-
90%		0.111	0.104	0.102	0.102	0.102	-	-
None	D5 pond	0.515	0.447	0.326	0.266	0.228	-	-
50%		0.402	0.241	0.184	0.155	0.137	-	-
75%		0.220	0.143	0.115	0.100	0.090	-	-
90%		0.115	0.084	0.072	0.066	0.062	-	-
None	D5 stream	0.293	0.107	0.057	0.039	0.029	-	-
50%		0.201	0.054	0.029	0.020	0.015	-	-
75%		0.103	0.028	0.015	0.010	0.009	-	-
90%		0.042	0.012	0.008	0.008	0.007	-	-
None	R1 pond	2.300	2.250	2.161	2.115	2.087	1.041	0.576
50%		2.216	2.097	2.052	2.030	2.015	0.927	0.498

75%		2.080	2.020	1.998	1.987	1.979	0.870	0.459
90%		1.998	1.974	1.965	1.961	1.958	0.836	0.436
None		1.929	1.914	1.910	1.908	1.907	0.479	0.216
50%		1.921	1.909	1.907	1.907	1.906	0.477	0.214
75%		1.913	1.907	1.906	1.906	1.906	0.475	0.214
90%		1.908	1.906	1.906	1.906	1.905	0.475	0.213
None		7.589	7.538	7.533	7.532	7.531	1.396	0.543
50%		7.564	7.533	7.531	7.531	7.531	1.388	0.539
75%		7.537	7.531	7.531	7.530	7.530	1.384	0.537
90%		7.532	7.530	7.530	7.530	7.530	1.382	0.535
PEC_{sed}, accu (µg/kg)	Scenario	STEP 4 Difenconazole, PEC_{sed}, accumulation						
Nozzle	Vegetative strip (m)	None	None	None	None	None	10	20
reduction	No spray buffer (m)	FOCUS default	5	10	15	20	10	20
None		16.605	14.169	13.933	13.850	13.805	-	-
50%		14.627	13.923	13.805	13.763	13.739	-	-
75%		14.152	13.798	13.739	13.718	13.708	-	-
90%		13.867	13.725	13.701	13.694	13.687	-	-
None		10.953	7.241	7.033	6.960	6.921	-	-
50%		8.549	7.022	6.918	6.883	6.863	-	-
75%		7.223	6.915	6.863	6.845	6.835	-	-
90%		6.974	6.849	6.828	6.821	6.817	-	-
None		4.005	1.091	0.580	0.396	0.301	-	-
50%		2.054	0.558	0.296	0.202	0.154	-	-
75%		1.053	0.285	0.151	0.103	0.078	-	-
90%		0.434	0.117	0.062	0.042	0.032	-	-
None		2.362	2.143	1.751	1.549	1.421	-	-
50%		1.995	1.466	1.268	1.166	1.103	-	-
75%		1.391	1.125	1.029	0.980	0.949	-	-
90%		1.030	0.927	0.888	0.869	0.856	-	-
None		0.593	0.454	0.415	0.400	0.393	-	-
50%		0.526	0.413	0.392	0.385	0.381	-	-
75%		0.451	0.391	0.380	0.376	0.375	-	-
90%		0.403	0.378	0.373	0.371	0.371	-	-
None		1.496	1.300	0.947	0.772	0.663	-	-
50%		1.167	0.701	0.536	0.451	0.397	-	-
75%		0.638	0.416	0.333	0.290	0.263	-	-

90%		0.334	0.244	0.210	0.192	0.181	-	-
None	D5 stream	0.850	0.310	0.164	0.112	0.086	-	-
50%		0.585	0.158	0.084	0.058	0.044	-	-
75%		0.299	0.081	0.043	0.030	0.026	-	-
90%		0.123	0.034	0.024	0.022	0.021	-	-
None	R1 pond	7.162	7.007	6.729	6.586	6.499	3.242	1.792
50%		6.901	6.530	6.390	6.322	6.275	2.886	1.551
75%		6.477	6.290	6.222	6.188	6.163	2.709	1.430
90%		6.222	6.147	6.119	6.107	6.097	2.602	1.357
None	R1 stream	6.007	5.960	5.948	5.942	5.939	1.491	0.672
50%		5.982	5.945	5.939	5.939	5.935	1.484	0.668
75%		5.957	5.939	5.935	5.935	5.935	1.480	0.666
90%		5.942	5.935	5.935	5.935	5.932	1.478	0.665
None	R3 stream	18.075	17.954	17.942	17.939	17.937	3.325	1.294
50%		18.015	17.942	17.937	17.937	17.937	3.306	1.283
75%		17.951	17.937	17.937	17.934	17.934	3.296	1.278
90%		17.939	17.934	17.934	17.934	17.934	3.292	1.275

Table 8.9-25: Global maximum PEC_{sed} and PEC_{sed, accumulation} values for Difenoconazole, following multiple application(s) (2 applications) of GLOB1911F to Winter oilseed rape according to Step 4 – First application: Spring

PEC _{sed} (µg/kg)	Scenario	STEP 4 Difenoconazole, PEC sed						
Nozzle reduction	Vegetative strip (m)	None	None	None	None	None	10	20
	No spray buffer (m)	FOCUS default	5	10	15	20	10	20
None	D2 ditch	7.106	2.064	1.198	1.069	1.019	-	-
50%		3.717	1.167	1.016	0.967	0.941	-	-
75%		1.999	1.010	0.940	0.915	0.903	-	-
90%		1.090	0.922	0.894	0.885	0.880	-	-
None	D2 stream	3.283	1.257	0.709	0.513	0.465	-	-
50%		2.291	0.686	0.463	0.436	0.422	-	-
75%		1.215	0.460	0.422	0.408	0.401	-	-
90%		0.554	0.412	0.397	0.391	0.388	-	-
None	D3 ditch	0.952	0.259	0.137	0.094	0.071	-	-
50%		0.487	0.132	0.070	0.048	0.036	-	-
75%		0.249	0.067	0.036	0.024	0.018	-	-
90%		0.103	0.028	0.015	0.010	0.008	-	-
None	D4 pond	0.519	0.454	0.336	0.276	0.239	-	-

50%		0.409	0.252	0.194	0.165	0.146	-	-
75%		0.230	0.153	0.124	0.109	0.099	-	-
90%		0.124	0.093	0.081	0.075	0.071	-	-
None	D4 stream	0.167	0.060	0.031	0.028	0.027	-	-
50%		0.114	0.030	0.027	0.026	0.025	-	-
75%		0.058	0.026	0.025	0.025	0.024	-	-
90%		0.028	0.025	0.024	0.024	0.024	-	-
None	D5 pond	0.526	0.456	0.329	0.264	0.222	-	-
50%		0.408	0.237	0.171	0.138	0.116	-	-
75%		0.212	0.124	0.091	0.073	0.062	-	-
90%		0.091	0.055	0.041	0.035	0.031	-	-
None	D5 stream	0.213	0.077	0.040	0.027	0.021	-	-
50%		0.146	0.039	0.020	0.014	0.011	-	-
75%		0.074	0.020	0.010	0.007	0.006	-	-
90%		0.030	0.008	0.004	0.003	0.002	-	-
None	R1 pond	1.820	1.776	1.697	1.656	1.631	0.803	0.447
50%		1.746	1.640	1.600	1.580	1.567	0.701	0.376
75%		1.625	1.572	1.552	1.542	1.535	0.649	0.341
90%		1.552	1.531	1.523	1.519	1.516	0.618	0.319
None	R1 stream	5.248	5.236	5.232	5.231	5.231	0.934	0.355
50%		5.242	5.232	5.231	5.230	5.230	0.932	0.354
75%		5.235	5.230	5.230	5.229	5.229	0.931	0.354
90%		5.231	5.229	5.229	5.229	5.229	0.930	0.353
None	R3 stream	1.660	1.625	1.616	1.613	1.611	0.374	0.166
50%		1.643	1.616	1.611	1.609	1.609	0.364	0.160
75%		1.625	1.611	1.609	1.608	1.607	0.359	0.158
90%		1.613	1.608	1.607	1.607	1.607	0.356	0.156
PEC_{sed}, accu (µg/kg)	Scenario	STEP 4 Difenoconazole, PEC_{sed}, accumulation						
Nozzle reduction	Vegetative strip (m)	None	None	None	None	None	10	20
	No spray buffer (m)	FOCUS default	5	10	15	20	10	20
None	D2 ditch	24.654	7.161	4.156	3.709	3.535	-	-
50%		12.896	4.049	3.525	3.353	3.265	-	-
75%		6.935	3.504	3.261	3.175	3.131	-	-
90%		3.782	3.200	3.103	3.069	3.051	-	-
None	D2 stream	11.390	4.361	2.459	1.779	1.613	-	-
50%		7.948	2.381	1.607	1.513	1.465	-	-

75%		4.215	1.597	1.463	1.416	1.392	-	-
90%		1.921	1.429	1.376	1.357	1.347	-	-
None	D3 ditch	2.964	0.805	0.427	0.291	0.221	-	-
50%		1.517	0.411	0.218	0.149	0.113	-	-
75%		0.776	0.210	0.111	0.076	0.058	-	-
90%		0.320	0.086	0.046	0.031	0.024	-	-
None		1.892	1.653	1.226	1.007	0.870	-	-
50%	D4 pond	1.491	0.918	0.707	0.599	0.532	-	-
75%		0.838	0.556	0.450	0.396	0.362	-	-
90%		0.452	0.338	0.295	0.274	0.260	-	-
None		0.608	0.219	0.115	0.101	0.097	-	-
50%	D4 stream	0.417	0.110	0.097	0.093	0.091	-	-
75%		0.211	0.096	0.091	0.089	0.088	-	-
90%		0.102	0.090	0.088	0.087	0.086	-	-
None		1.530	1.325	0.956	0.766	0.644	-	-
50%	D5 pond	1.186	0.687	0.498	0.400	0.338	-	-
75%		0.616	0.360	0.263	0.213	0.182	-	-
90%		0.264	0.159	0.119	0.101	0.090	-	-
None		0.619	0.222	0.117	0.080	0.060	-	-
50%	D5 stream	0.424	0.113	0.059	0.041	0.031	-	-
75%		0.214	0.057	0.030	0.021	0.016	-	-
90%		0.087	0.024	0.013	0.009	0.007	-	-
None	R1 pond	5.668	5.531	5.285	5.157	5.079	2.501	1.392
50%		5.437	5.107	4.983	4.920	4.880	2.181	1.170
75%		5.060	4.895	4.833	4.802	4.780	2.021	1.061
90%		4.833	4.768	4.743	4.730	4.721	1.924	0.995
None	R1 stream	16.343	16.305	16.293	16.290	16.290	2.909	1.107
50%		16.324	16.293	16.290	16.287	16.287	2.903	1.103
75%		16.302	16.287	16.287	16.283	16.283	2.900	1.102
90%		16.290	16.283	16.283	16.283	16.283	2.897	1.101
None	R3 stream	3.954	3.870	3.849	3.842	3.837	0.891	0.394
50%		3.913	3.849	3.837	3.832	3.832	0.867	0.382
75%		3.870	3.837	3.832	3.830	3.827	0.856	0.375
90%		3.842	3.830	3.827	3.827	3.827	0.848	0.372

Table 8.9-26: Global maximum PEC_{sed} and PEC_{sed, accumulation} values for Difenoconazole, following multiple application(s) (2 applications) of GLOB1911F to Spring oilseed rape according to Step 4

PEC _{sed} (µg/kg)	Scenario	STEP 4 Difenoconazole, PEC sed						
Nozzle	Vegetative strip (m)	None	None	None	None	None	10	20
reduction	No spray buffer (m)	FOCUS default	5	10	15	20	10	20
None	D1 ditch	6.195	1.683	0.894	0.611	0.465	-	-
50%		3.171	0.862	0.458	0.313	0.239	-	-
75%		1.624	0.441	0.235	0.180	0.159	-	-
90%		0.670	0.192	0.145	0.128	0.120	-	-
None	D1 stream	0.531	0.195	0.104	0.075	0.071	-	-
50%		0.366	0.100	0.070	0.066	0.064	-	-
75%		0.188	0.070	0.064	0.062	0.061	-	-
90%		0.078	0.063	0.060	0.059	0.059	-	-
None	D3 ditch	1.203	0.327	0.174	0.119	0.090	-	-
50%		0.616	0.167	0.089	0.061	0.046	-	-
75%		0.316	0.085	0.045	0.031	0.023	-	-
90%		0.130	0.035	0.019	0.013	0.010	-	-
None	D4 pond	0.541	0.476	0.359	0.300	0.263	-	-
50%		0.432	0.276	0.219	0.190	0.171	-	-
75%		0.255	0.178	0.149	0.134	0.125	-	-
90%		0.149	0.118	0.106	0.101	0.097	-	-
None	D4 stream	0.207	0.075	0.043	0.041	0.039	-	-
50%		0.143	0.043	0.039	0.038	0.037	-	-
75%		0.073	0.039	0.037	0.036	0.036	-	-
90%		0.041	0.036	0.036	0.035	0.035	-	-
None	D5 pond	0.531	0.460	0.333	0.267	0.225	-	-
50%		0.412	0.240	0.175	0.141	0.119	-	-
75%		0.215	0.127	0.094	0.077	0.067	-	-
90%		0.094	0.060	0.048	0.042	0.038	-	-
None	D5 stream	0.290	0.106	0.056	0.038	0.029	-	-
50%		0.200	0.054	0.029	0.020	0.015	-	-
75%		0.102	0.028	0.015	0.010	0.008	-	-
90%		0.042	0.012	0.006	0.005	0.004	-	-
None	R1 pond	2.711	2.666	2.585	2.543	2.517	1.172	0.639
50%		2.635	2.526	2.485	2.464	2.451	1.065	0.566

75%		2.511	2.456	2.435	2.425	2.418	1.012	0.529
90%		2.435	2.414	2.405	2.401	2.398	0.979	0.507
None	R1 stream	7.296	7.288	7.286	7.285	7.285	1.246	0.462
50%		7.292	7.286	7.285	7.285	7.284	1.244	0.461
75%		7.288	7.285	7.284	7.284	7.284	1.244	0.461
90%		7.285	7.284	7.284	7.284	7.284	1.243	0.461
PEC_{sed}, accu (µg/kg)	Scenario	STEP 4 Difenoconazole, PEC_{sed}, accumulation						
Nozzle reduction	Vegetative strip (m)	None	None	None	None	None	10	20
	No spray buffer (m)	FOCUS default	5	10	15	20	10	20
None	D1 ditch	24.357	6.617	3.514	2.402	1.828	-	-
50%		12.467	3.387	1.799	1.231	0.938	-	-
75%		6.385	1.734	0.924	0.708	0.626	-	-
90%		2.634	0.756	0.571	0.505	0.471	-	-
None	D1 stream	2.089	0.765	0.408	0.294	0.278	-	-
50%		1.441	0.393	0.277	0.261	0.252	-	-
75%		0.738	0.275	0.252	0.244	0.239	-	-
90%		0.307	0.246	0.236	0.233	0.231	-	-
None	D3 ditch	3.746	1.019	0.541	0.369	0.281	-	-
50%		1.919	0.521	0.276	0.188	0.143	-	-
75%		0.983	0.266	0.141	0.096	0.073	-	-
90%		0.405	0.109	0.058	0.039	0.030	-	-
None	D4 pond	1.972	1.733	1.309	1.094	0.959	-	-
50%		1.573	1.007	0.798	0.691	0.624	-	-
75%		0.928	0.648	0.543	0.488	0.454	-	-
90%		0.543	0.430	0.388	0.366	0.353	-	-
None	D4 stream	0.756	0.274	0.158	0.148	0.143	-	-
50%		0.520	0.157	0.143	0.137	0.135	-	-
75%		0.264	0.142	0.135	0.132	0.130	-	-
90%		0.150	0.133	0.129	0.128	0.128	-	-
None	D5 pond	1.544	1.338	0.966	0.775	0.654	-	-
50%		1.198	0.697	0.507	0.409	0.347	-	-
75%		0.625	0.369	0.272	0.223	0.195	-	-
90%		0.273	0.175	0.140	0.122	0.111	-	-
None	D5 stream	0.843	0.307	0.163	0.111	0.085	-	-
50%		0.581	0.157	0.084	0.057	0.044	-	-
75%		0.296	0.081	0.043	0.030	0.023	-	-

90%		0.122	0.034	0.019	0.013	0.010	-	-
None	R1 pond	8.442	8.302	8.050	7.919	7.838	3.650	1.989
50%		8.206	7.866	7.738	7.673	7.633	3.316	1.762
75%		7.819	7.648	7.583	7.552	7.530	3.151	1.647
90%		7.583	7.517	7.489	7.477	7.468	3.049	1.579
None	R1 stream	22.720	22.695	22.689	22.686	22.686	3.880	1.438
50%		22.708	22.689	22.686	22.686	22.683	3.874	1.436
75%		22.695	22.686	22.683	22.683	22.683	3.874	1.435
90%		22.686	22.683	22.683	22.683	22.683	3.871	1.435

FOCUS Step 4 – PEC_{sed} and PEC_{sed, accumulation}

Single application

Table 8.9-27: Global maximum PEC_{sed} and PEC_{sed, accumulation} values for Difenoconazole, following single application of GLOB1911F to Potato according to Step 4

PEC _{sed} (µg/kg)	Scenario	STEP 4 Difenoconazole, PEC _{sed}						
Nozzle	Vegetative strip (m)	None	None	None	None	None	10	20
reduction	No spray buffer (m)	FOCUS default	5	10	15	20	10	20
None	D3 ditch	0.475	0.157	0.084	0.058	0.044	-	-
50%		0.289	0.079	0.042	0.029	0.022	-	-
75%		0.145	0.040	0.021	0.015	0.011	-	-
90%		0.059	0.016	0.009	0.006	0.004	-	-
None	D4 pond	0.321	0.296	0.237	0.206	0.187	-	-
50%		0.268	0.191	0.161	0.145	0.135	-	-
75%		0.177	0.137	0.122	0.115	0.110	-	-
90%		0.121	0.105	0.099	0.096	0.095	-	-
None	D4 stream	0.040	0.039	0.039	0.038	0.038	-	-
50%		0.040	0.039	0.038	0.038	0.038	-	-
75%		0.039	0.038	0.038	0.038	0.038	-	-
90%		0.038	0.038	0.038	0.038	0.038	-	-
None	D6 ditch (1st)	0.337	0.114	0.063	0.045	0.037	-	-
50%		0.206	0.060	0.037	0.036	0.036	-	-
75%		0.106	0.037	0.036	0.035	0.035	-	-
90%		0.045	0.035	0.035	0.035	0.034	-	-
None	D6 ditch	0.287	0.097	0.062	0.059	0.058	-	-

50%	(2nd)	0.175	0.062	0.058	0.056	0.055	-	-
75%		0.090	0.057	0.055	0.054	0.054	-	-
90%		0.059	0.054	0.053	0.053	0.053	-	-
None	R1 pond	2.170	2.152	2.110	2.088	2.074	0.941	0.508
50%		2.132	2.077	2.057	2.046	2.039	0.882	0.467
75%		2.067	2.040	2.030	2.024	2.021	0.853	0.447
90%		2.029	2.018	2.014	2.012	2.010	0.835	0.434
None	R1 stream	5.781	5.766	5.761	5.759	5.758	0.986	0.364
50%		5.775	5.761	5.758	5.757	5.757	0.982	0.362
75%		5.765	5.758	5.757	5.756	5.756	0.981	0.361
90%		5.759	5.756	5.756	5.756	5.756	0.980	0.360
None	R2 stream	16.190	16.190	16.190	16.190	16.190	2.552	0.878
50%		16.190	16.190	16.190	16.190	16.190	2.552	0.877
75%		16.190	16.190	16.190	16.190	16.190	2.552	0.877
90%		16.190	16.190	16.190	16.190	16.190	2.551	0.877
None	R3 stream	3.022	3.014	3.011	3.010	3.010	0.548	0.222
50%		3.019	3.011	3.010	3.009	3.009	0.546	0.220
75%		3.014	3.010	3.009	3.009	3.009	0.545	0.219
90%		3.010	3.009	3.009	3.009	3.008	0.544	0.219
PEC_{sed} accu (µg/kg)	Scenario	STEP 4 Difenoconazole, PEC_{sed}, accumultion						
Nozzle	Vegetative strip (m)	None	None	None	None	None	10	20
reduction	No spray buffer (m)	FOCUS default	5	10	15	20	10	20
None	D3 ditch	1.479	0.490	0.261	0.179	0.137	-	-
50%		0.899	0.247	0.131	0.090	0.069	-	-
75%		0.452	0.124	0.066	0.045	0.034	-	-
90%		0.182	0.050	0.027	0.018	0.014	-	-
None	D4 pond	1.171	1.079	0.864	0.751	0.680	-	-
50%		0.976	0.695	0.586	0.529	0.493	-	-
75%		0.643	0.501	0.446	0.417	0.399	-	-
90%		0.441	0.384	0.363	0.352	0.345	-	-
None	D4 stream	0.148	0.142	0.141	0.140	0.139	-	-
50%		0.146	0.140	0.139	0.139	0.139	-	-
75%		0.142	0.139	0.139	0.139	0.139	-	-
90%		0.140	0.139	0.138	0.138	0.138	-	-
None	D6 ditch (1st)	0.687	0.233	0.128	0.091	0.076	-	-
50%		0.421	0.122	0.076	0.074	0.073	-	-

75%	D6 ditch (2nd)	0.216	0.076	0.073	0.072	0.071	-	-
90%		0.092	0.072	0.071	0.070	0.070	-	-
None		0.585	0.197	0.127	0.121	0.118	-	-
50%		0.358	0.126	0.117	0.114	0.112	-	-
75%		0.183	0.117	0.112	0.110	0.110	-	-
90%	R1 pond	0.121	0.111	0.109	0.108	0.108	-	-
None		6.758	6.701	6.571	6.502	6.459	2.930	1.583
50%		6.639	6.468	6.406	6.371	6.350	2.747	1.455
75%		6.437	6.353	6.322	6.303	6.294	2.655	1.390
90%	R1 stream	6.318	6.284	6.272	6.265	6.259	2.600	1.352
None		18.002	17.956	17.940	17.934	17.931	3.069	1.133
50%		17.984	17.940	17.931	17.928	17.928	3.059	1.127
75%		17.953	17.931	17.928	17.925	17.925	3.054	1.124
90%	R2 stream	17.934	17.925	17.925	17.925	17.925	3.051	1.122
None		39.396	39.396	39.396	39.396	39.396	6.210	2.136
50%		39.396	39.396	39.396	39.396	39.396	6.210	2.135
75%		39.396	39.396	39.396	39.396	39.396	6.210	2.135
90%	R3 stream	39.396	39.396	39.396	39.396	39.396	6.207	2.134
None		7.198	7.179	7.171	7.169	7.169	1.305	0.529
50%		7.190	7.171	7.169	7.167	7.167	1.300	0.524
75%		7.179	7.169	7.167	7.167	7.167	1.298	0.522
90%		7.169	7.167	7.167	7.167	7.164	1.297	0.520

Table 8.9-28: Global maximum PEC_{sed} and PEC_{sed, accumulation} values for Difenoconazole, following single application of GLOB1911F to Sugar beet according to Step 4

PEC _{sed} (µg/kg)	Scenario	STEP 4 Difenoconazole						
Nozzle reduction	Vegetative strip (m)	None	None	None	None	None	10	20
	No spray buffer (m)	FOCUS default	5	10	15	20	10	20
None	D3 ditch	0.532	0.146	0.078	0.053	0.041	-	-
50%		0.268	0.073	0.039	0.027	0.020	-	-
75%		0.135	0.037	0.020	0.013	0.010	-	-
90%		0.054	0.015	0.008	0.005	0.004	-	-
None	D4 pond	0.436	0.283	0.225	0.195	0.175	-	-
50%		0.255	0.179	0.150	0.135	0.125	-	-
75%		0.165	0.127	0.112	0.104	0.099	-	-
90%		0.111	0.095	0.089	0.086	0.085	-	-

None	D4 stream	0.039	0.035	0.034	0.034	0.034	-	-
50%		0.036	0.034	0.034	0.034	0.034	-	-
75%		0.035	0.034	0.034	0.034	0.034	-	-
90%		0.034	0.034	0.033	0.033	0.033	-	-
None	R1 pond	2.109	1.994	1.950	1.927	1.913	0.872	0.473
50%		1.973	1.916	1.894	1.882	1.875	0.810	0.430
75%		1.905	1.876	1.865	1.860	1.856	0.779	0.408
90%		1.864	1.853	1.848	1.846	1.845	0.761	0.395
None	R1 stream	5.702	5.679	5.675	5.674	5.673	0.968	0.357
50%		5.687	5.675	5.673	5.672	5.672	0.966	0.356
75%		5.679	5.673	5.672	5.671	5.671	0.965	0.355
90%		5.674	5.671	5.671	5.671	5.671	0.964	0.355
None	R3 stream	2.946	2.930	2.927	2.926	2.925	0.555	0.222
50%		2.935	2.927	2.925	2.925	2.925	0.552	0.221
75%		2.929	2.925	2.924	2.924	2.924	0.550	0.220
90%		2.926	2.924	2.924	2.924	2.924	0.549	0.219
PEC_{sed}, accu (µg/kg)	Scenario	STEP 4 Difenoconazole, PEC_{sed}, accumulation						
Nozzle reduction	Vegetative strip (m)	None	None	None	None	None	10	20
	No spray buffer (m)	FOCUS default	5	10	15	20	10	20
None	D3 ditch	1.656	0.454	0.242	0.166	0.127	-	-
50%		0.834	0.229	0.122	0.083	0.064	-	-
75%		0.420	0.115	0.061	0.042	0.032	-	-
90%		0.169	0.046	0.025	0.017	0.013	-	-
None	D4 pond	1.590	1.032	0.820	0.709	0.639	-	-
50%		0.930	0.654	0.547	0.491	0.455	-	-
75%		0.603	0.463	0.408	0.380	0.362	-	-
90%		0.403	0.347	0.326	0.315	0.308	-	-
None	D4 stream	0.141	0.128	0.125	0.124	0.123	-	-
50%		0.132	0.125	0.123	0.123	0.123	-	-
75%		0.127	0.123	0.123	0.122	0.122	-	-
90%		0.124	0.122	0.122	0.122	0.122	-	-
None	R1 pond	6.568	6.209	6.072	6.001	5.957	2.715	1.473
50%		6.144	5.967	5.898	5.861	5.839	2.522	1.338
75%		5.932	5.842	5.808	5.792	5.780	2.426	1.270
90%		5.805	5.770	5.755	5.749	5.745	2.370	1.231
None	R1 stream	17.756	17.685	17.672	17.669	17.666	3.016	1.113

50%		17.710	17.672	17.666	17.663	17.663	3.008	1.108
75%		17.685	17.666	17.663	17.660	17.660	3.004	1.106
90%		17.669	17.660	17.660	17.660	17.660	3.001	1.105
None		7.017	6.979	6.971	6.969	6.967	1.321	0.530
50%	R3 stream	6.990	6.971	6.967	6.967	6.967	1.314	0.525
75%		6.976	6.967	6.964	6.964	6.964	1.310	0.523
90%		6.969	6.964	6.964	6.964	6.964	1.307	0.522
None								

Table 8.9-29: Global maximum PEC_{sed} and PEC_{sed, accumulation} values for Difenoconazole, following single application of GLOB1911F to Winter oilseed rape according to Step 4 – First application: Autumn

PEC _{sed} (µg/kg)	Scenario	STEP 4 Difenoconazole, PEC sed						
Nozzle	Vegetative strip (m)	None	None	None	None	None	10	20
reduction	No spray buffer (m)	FOCUS default	5	10	15	20	10	20
None	D2 ditch	3.522	1.412	1.200	1.176	1.164	-	-
50%		2.076	1.196	1.162	1.150	1.144	-	-
75%		1.351	1.160	1.143	1.137	1.134	-	-
90%		1.177	1.138	1.132	1.129	1.128	-	-
None	D2 stream	2.814	1.166	0.718	0.576	0.562	-	-
50%		1.974	0.689	0.561	0.547	0.540	-	-
75%		1.092	0.558	0.539	0.532	0.529	-	-
90%		0.578	0.534	0.526	0.523	0.522	-	-
None	D3 ditch	0.900	0.249	0.133	0.091	0.070	-	-
50%		0.455	0.126	0.067	0.046	0.035	-	-
75%		0.230	0.063	0.034	0.023	0.018	-	-
90%		0.093	0.026	0.014	0.009	0.007	-	-
None	D4 pond	0.369	0.331	0.263	0.227	0.204	-	-
50%		0.299	0.209	0.175	0.156	0.145	-	-
75%		0.193	0.147	0.130	0.121	0.115	-	-
90%		0.128	0.110	0.103	0.100	0.098	-	-
None	D4 stream	0.149	0.054	0.047	0.045	0.043	-	-
50%		0.100	0.047	0.043	0.042	0.041	-	-
75%		0.053	0.043	0.041	0.040	0.040	-	-
90%		0.045	0.040	0.039	0.039	0.039	-	-
None	D5 pond	0.341	0.297	0.218	0.176	0.149	-	-
50%		0.259	0.155	0.114	0.093	0.080	-	-
75%		0.136	0.082	0.064	0.054	0.048	-	-

90%		0.062	0.042	0.035	0.031	0.029	-	-
None	D5 stream	0.210	0.077	0.041	0.028	0.021	-	-
50%		0.142	0.039	0.021	0.014	0.011	-	-
75%		0.071	0.019	0.010	0.007	0.006	-	-
90%		0.029	0.008	0.004	0.003	0.003	-	-
None	R1 pond	1.162	1.132	1.078	1.050	1.032	0.538	0.303
50%		1.106	1.036	1.009	0.995	0.986	0.465	0.253
75%		1.023	0.988	0.974	0.967	0.962	0.428	0.228
90%		0.973	0.958	0.953	0.950	0.948	0.406	0.212
None	R1 stream	0.968	0.958	0.955	0.954	0.953	0.235	0.105
50%		0.963	0.955	0.953	0.953	0.953	0.233	0.104
75%		0.957	0.953	0.953	0.952	0.952	0.232	0.103
90%		0.954	0.952	0.952	0.952	0.952	0.232	0.103
None	R3 stream	3.553	3.538	3.535	3.534	3.534	0.670	0.265
50%		3.542	3.535	3.534	3.534	3.533	0.664	0.262
75%		3.537	3.534	3.533	3.533	3.533	0.661	0.260
90%		3.535	3.533	3.533	3.533	3.533	0.660	0.260
PEC_{sed}, accu (µg/kg)	Scenario	STEP 4 Difenoconazole, PEC_{sed}, accumulation						
Nozzle reduction	Vegetative strip (m)	None	None	None	None	None	10	20
	No spray buffer (m)	FOCUS default	5	10	15	20	10	20
None	D2 ditch	12.219	4.899	4.163	4.080	4.038	-	-
50%		7.203	4.149	4.031	3.990	3.969	-	-
75%		4.687	4.025	3.966	3.945	3.934	-	-
90%		4.084	3.948	3.927	3.917	3.914	-	-
None	D2 stream	9.763	4.045	2.492	2.000	1.951	-	-
50%		6.849	2.391	1.945	1.897	1.873	-	-
75%		3.789	1.936	1.870	1.846	1.834	-	-
90%		2.004	1.851	1.825	1.815	1.810	-	-
None	D3 ditch	2.803	0.776	0.415	0.285	0.217	-	-
50%		1.418	0.391	0.209	0.144	0.110	-	-
75%		0.716	0.197	0.105	0.072	0.055	-	-
90%		0.290	0.080	0.043	0.029	0.022	-	-
None	D4 pond	1.344	1.206	0.958	0.828	0.744	-	-
50%		1.088	0.762	0.636	0.570	0.528	-	-
75%		0.702	0.537	0.473	0.440	0.419	-	-
90%		0.467	0.401	0.377	0.364	0.356	-	-

None	D4 stream	0.541	0.198	0.172	0.163	0.158	-	-
50%		0.365	0.171	0.157	0.152	0.149	-	-
75%		0.194	0.156	0.149	0.146	0.145	-	-
90%		0.163	0.147	0.144	0.142	0.142	-	-
None	D5 pond	0.990	0.863	0.633	0.512	0.434	-	-
50%		0.753	0.451	0.332	0.270	0.231	-	-
75%		0.394	0.239	0.185	0.157	0.139	-	-
90%		0.180	0.123	0.102	0.090	0.083	-	-
None	D5 stream	0.609	0.224	0.119	0.082	0.062	-	-
50%		0.411	0.112	0.060	0.041	0.031	-	-
75%		0.206	0.057	0.030	0.021	0.016	-	-
90%		0.083	0.023	0.013	0.009	0.008	-	-
None	R1 pond	3.619	3.525	3.357	3.270	3.214	1.674	0.943
50%		3.444	3.226	3.142	3.097	3.069	1.447	0.787
75%		3.186	3.075	3.033	3.011	2.997	1.333	0.708
90%		3.029	2.985	2.968	2.959	2.953	1.265	0.661
None	R1 stream	3.013	2.982	2.974	2.971	2.969	0.731	0.326
50%		2.997	2.973	2.969	2.967	2.966	0.725	0.324
75%		2.981	2.969	2.966	2.966	2.965	0.723	0.322
90%		2.971	2.966	2.965	2.965	2.965	0.721	0.321
None	R3 stream	8.462	8.427	8.419	8.417	8.417	1.595	0.631
50%		8.436	8.419	8.417	8.417	8.415	1.582	0.624
75%		8.424	8.417	8.415	8.415	8.415	1.575	0.620
90%		8.419	8.415	8.415	8.415	8.415	1.571	0.618

Table 8.9-30: Global maximum PEC_{sed} and PEC_{sed}, accumulation values for Difenoconazole, following single application of GLOB1911F to Winter oilseed rape according to Step 4 – First application: Spring

PEC _{sed} (µg/kg)	Scenario	STEP 4 Difenoconazole, PEC sed						
Nozzle	Vegetative strip (m)	None	None	None	None	None	10	20
reduction	No spray buffer (m)	FOCUS default	5	10	15	20	10	20
None	D2 ditch	3.913	1.142	0.647	0.472	0.441	-	-
50%		2.023	0.614	0.437	0.407	0.391	-	-
75%		1.061	0.432	0.389	0.374	0.366	-	-
90%		0.475	0.378	0.361	0.355	0.351	-	-
None	D2 stream	0.614	0.248	0.164	0.158	0.154	-	-
50%		0.427	0.163	0.154	0.150	0.149	-	-
75%		0.232	0.153	0.149	0.147	0.146	-	-
90%		0.158	0.147	0.145	0.145	0.144	-	-
None	D3 ditch	0.665	0.183	0.098	0.067	0.051	-	-
50%		0.335	0.092	0.049	0.034	0.026	-	-
75%		0.169	0.046	0.025	0.017	0.013	-	-
90%		0.068	0.019	0.010	0.007	0.005	-	-
None	D4 pond	0.314	0.274	0.203	0.166	0.143	-	-
50%		0.241	0.148	0.112	0.094	0.082	-	-
75%		0.131	0.085	0.067	0.058	0.052	-	-
90%		0.065	0.047	0.040	0.036	0.034	-	-
None	D4 stream	0.075	0.028	0.015	0.011	0.011	-	-
50%		0.051	0.014	0.011	0.010	0.010	-	-
75%		0.025	0.011	0.010	0.010	0.010	-	-
90%		0.011	0.010	0.010	0.009	0.009	-	-
None	D5 pond	0.327	0.285	0.208	0.168	0.142	-	-
50%		0.248	0.147	0.108	0.087	0.074	-	-
75%		0.128	0.077	0.056	0.046	0.039	-	-
90%		0.054	0.033	0.025	0.020	0.017	-	-
None	D5 stream	0.063	0.023	0.012	0.009	0.007	-	-
50%		0.043	0.012	0.006	0.004	0.003	-	-
75%		0.021	0.006	0.003	0.002	0.002	-	-
90%		0.009	0.002	0.001	0.001	0.001	-	-
None	R1 pond	0.777	0.749	0.698	0.671	0.654	0.358	0.207
50%		0.724	0.658	0.632	0.619	0.610	0.288	0.159
75%		0.646	0.612	0.599	0.593	0.589	0.254	0.135

90%		0.598	0.585	0.580	0.577	0.575	0.233	0.121
None	R1 stream	2.576	2.563	2.560	2.559	2.558	0.446	0.167
50%		2.570	2.560	2.558	2.557	2.557	0.445	0.167
75%		2.563	2.558	2.557	2.557	2.556	0.444	0.166
90%		2.559	2.557	2.556	2.556	2.556	0.444	0.166
None	R3 stream	1.232	1.194	1.185	1.182	1.180	0.249	0.104
50%		1.210	1.184	1.180	1.178	1.177	0.244	0.101
75%		1.192	1.179	1.177	1.176	1.176	0.241	0.099
90%		1.182	1.177	1.176	1.175	1.175	0.239	0.098
PEC_{sed}, accu (µg/kg)	Scenario	STEP 4 Difenoconazole, PEC_{sed}, accumulation						
Nozzle	Vegetative strip (m)	None	None	None	None	None	10	20
reduction	No spray buffer (m)	FOCUS default	5	10	15	20	10	20
None	D2 ditch	13.576	3.962	2.243	1.638	1.530	-	-
50%		7.019	2.131	1.517	1.411	1.357	-	-
75%		3.681	1.498	1.350	1.298	1.271	-	-
90%		1.647	1.310	1.251	1.230	1.219	-	-
None	D2 stream	2.131	0.861	0.569	0.546	0.535	-	-
50%		1.482	0.565	0.533	0.522	0.516	-	-
75%		0.803	0.531	0.515	0.510	0.507	-	-
90%		0.547	0.511	0.504	0.502	0.501	-	-
None	D3 ditch	2.070	0.570	0.304	0.208	0.159	-	-
50%		1.044	0.287	0.153	0.105	0.080	-	-
75%		0.526	0.144	0.077	0.053	0.040	-	-
90%		0.212	0.058	0.031	0.021	0.016	-	-
None	D4 pond	1.144	1.000	0.741	0.606	0.520	-	-
50%		0.876	0.539	0.409	0.342	0.299	-	-
75%		0.477	0.308	0.244	0.211	0.190	-	-
90%		0.238	0.171	0.146	0.132	0.124	-	-
None	D4 stream	0.274	0.100	0.053	0.040	0.039	-	-
50%		0.185	0.050	0.039	0.037	0.036	-	-
75%		0.092	0.038	0.036	0.036	0.035	-	-
90%		0.040	0.036	0.035	0.035	0.034	-	-
None	D5 pond	0.951	0.828	0.604	0.487	0.411	-	-
50%		0.721	0.428	0.313	0.253	0.214	-	-
75%		0.373	0.222	0.164	0.133	0.113	-	-
90%		0.158	0.096	0.072	0.059	0.051	-	-

None	D5 stream	0.183	0.067	0.036	0.025	0.019	-	-
50%		0.124	0.034	0.018	0.013	0.010	-	-
75%		0.062	0.017	0.009	0.007	0.005	-	-
90%		0.025	0.007	0.004	0.003	0.002	-	-
None	R1 pond	2.420	2.332	2.173	2.090	2.037	1.113	0.645
50%		2.256	2.049	1.969	1.927	1.901	0.898	0.495
75%		2.011	1.907	1.867	1.846	1.833	0.789	0.421
90%		1.863	1.821	1.805	1.797	1.792	0.724	0.376
None	R1 stream	8.022	7.981	7.972	7.969	7.966	1.390	0.521
50%		8.003	7.972	7.966	7.963	7.963	1.386	0.519
75%		7.981	7.966	7.963	7.963	7.960	1.384	0.518
90%		7.969	7.963	7.960	7.960	7.960	1.382	0.517
None	R3 stream	2.934	2.844	2.822	2.815	2.810	0.593	0.247
50%		2.882	2.820	2.810	2.806	2.803	0.580	0.240
75%		2.839	2.808	2.803	2.801	2.801	0.573	0.236
90%		2.815	2.803	2.801	2.799	2.799	0.569	0.234

Table 8.9-31: Global maximum PEC_{sed} and PEC_{sed, accumulation} values for Difenoconazole, following single application of GLOB1911F to Spring oilseed rape according to Step 4

PEC _{sed} (µg/kg)	Scenario	STEP 4 Difenoconazole, PEC sed						
Nozzle	Vegetative strip (m)	None	None	None	None	None	10	20
reduction	No spray buffer (m)	FOCUS default	5	10	15	20	10	20
None	D1 ditch	0.440	0.1622	0.086	0.059	0.045	-	-
50%		0.298	0.08152	0.043	0.030	0.023	-	-
75%		0.150	0.041	0.022	0.015	0.011	-	-
90%		0.060	0.01657	0.009	0.009	0.008	-	-
None	D1 stream	0.440	0.1622	0.086	0.059	0.045	-	-
50%		0.298	0.08152	0.043	0.030	0.023	-	-
75%		0.150	0.041	0.022	0.015	0.011	-	-
90%		0.060	0.01657	0.009	0.009	0.008	-	-
None	D3 ditch	0.818	0.2258	0.121	0.083	0.063	-	-
50%		0.413	0.1139	0.061	0.042	0.032	-	-
75%		0.209	0.05739	0.031	0.021	0.016	-	-
90%		0.084	0.02316	0.012	0.008	0.006	-	-
None	D4 pond	0.149	0.05435	0.029	0.020	0.015	-	-
50%		0.100	0.0272	0.014	0.013	0.013	-	-

75%		0.050	0.01408	0.013	0.012	0.012	-	-
90%		0.020	0.0125	0.012	0.012	0.012	-	-
None	D4 stream	0.149	0.05435	0.029	0.020	0.015	-	-
50%		0.100	0.0272	0.014	0.013	0.013	-	-
75%		0.050	0.01408	0.013	0.012	0.012	-	-
90%		0.020	0.0125	0.012	0.012	0.012	-	-
None		0.207	0.07609	0.041	0.028	0.021	-	-
50%	D5 pond	0.140	0.03821	0.020	0.014	0.011	-	-
75%		0.070	0.01924	0.010	0.007	0.005	-	-
90%		0.028	0.00784	0.004	0.003	0.002	-	-
None		0.207	0.07609	0.041	0.028	0.021	-	-
50%	D5 stream	0.140	0.03821	0.020	0.014	0.011	-	-
75%		0.070	0.01924	0.010	0.007	0.005	-	-
90%		0.028	0.00784	0.004	0.003	0.002	-	-
None		0.207	0.07609	0.041	0.028	0.021	-	-
50%	R1 pond	1.414	1.387	1.338	1.313	1.297	0.617	0.340
75%		1.364	1.300	1.276	1.263	1.255	0.550	0.294
90%		1.288	1.257	1.244	1.238	1.234	0.516	0.271
None		1.243	1.230	1.225	1.223	1.221	0.496	0.256
50%	R1 stream	4.102	4.097	4.096	4.095	4.095	0.693	0.254
75%		4.099	4.096	4.095	4.095	4.095	0.692	0.254
90%		4.097	4.095	4.095	4.095	4.095	0.692	0.254
None		4.095	4.095	4.095	4.095	4.095	0.692	0.254
PEC_{sed}, accu (µg/kg)	Scenario	STEP 4 Difenoconazole, PEC_{sed}, accumulation						
Nozzle reduction	Vegetative strip (m)	None	None	None	None	None	10	20
	No spray buffer (m)	FOCUS default	5	10	15	20	10	20
None	D1 ditch	1.730	0.638	0.340	0.233	0.177	-	-
50%		1.170	0.321	0.171	0.117	0.089	-	-
75%		0.588	0.161	0.086	0.059	0.045	-	-
90%		0.237	0.065	0.036	0.034	0.033	-	-
None	D1 stream	1.730	0.638	0.340	0.233	0.177	-	-
50%		1.170	0.321	0.171	0.117	0.089	-	-
75%		0.588	0.161	0.086	0.059	0.045	-	-
90%		0.237	0.065	0.036	0.034	0.033	-	-
None	D3 ditch	2.546	0.703	0.376	0.258	0.197	-	-
50%		1.287	0.355	0.189	0.130	0.099	-	-
75%		0.649	0.179	0.095	0.065	0.050	-	-

90%		0.263	0.072	0.038	0.026	0.020	-	-
None	D4 pond	0.541	0.198	0.105	0.072	0.055	-	-
50%		0.365	0.099	0.053	0.049	0.047	-	-
75%		0.183	0.051	0.047	0.045	0.044	-	-
90%		0.073	0.046	0.044	0.043	0.043	-	-
None	D4 stream	0.541	0.198	0.105	0.072	0.055	-	-
50%		0.365	0.099	0.053	0.049	0.047	-	-
75%		0.183	0.051	0.047	0.045	0.044	-	-
90%		0.073	0.046	0.044	0.043	0.043	-	-
None	D5 pond	0.602	0.221	0.118	0.081	0.062	-	-
50%		0.407	0.111	0.059	0.041	0.031	-	-
75%		0.204	0.056	0.030	0.021	0.016	-	-
90%		0.082	0.023	0.012	0.009	0.007	-	-
None	D5 stream	0.602	0.221	0.118	0.081	0.062	-	-
50%		0.407	0.111	0.059	0.041	0.031	-	-
75%		0.204	0.056	0.030	0.021	0.016	-	-
90%		0.082	0.023	0.012	0.009	0.007	-	-
None	R1 pond	4.403	4.319	4.167	4.089	4.039	1.920	1.060
50%		4.248	4.048	3.974	3.933	3.908	1.711	0.916
75%		4.011	3.914	3.874	3.855	3.843	1.607	0.843
90%		3.871	3.830	3.815	3.808	3.802	1.543	0.798
None	R1 stream	12.774	12.758	12.755	12.752	12.752	2.159	0.792
50%		12.765	12.755	12.752	12.752	12.752	2.156	0.791
75%		12.758	12.752	12.752	12.752	12.752	2.155	0.790
90%		12.752	12.752	12.752	12.752	12.752	2.154	0.789

No further calculations are given if the PEC_{sed}, accu is lower than the lowest RAC for sediment dwelling organism. This is 820 µg/kg for sediment dwelling organisms (*Chironomus riparius*). (Further info: see dRR Section B9).

Metabolites of Difenoconazole

PEC_{sw} and PEC_{sed} were also calculated for the Difenoconazole metabolites CGA205375 and CGA71019 using FOCUS SW Step 1 & 2. The application rates of the “metabolites” were calculated internally by FOCUS SW Step 1 & 2 based on the maximum percentage found in soil and the difference in molecular weight.

As Difenoconazole has the potential to bioaccumulate in the sediment, a PEC_{accumulation} for the sediment was also calculated for the Difenoconazole metabolites.

$$\text{Accumulation PEC} = \text{Maximum PEC after 1 year of treatment} / (1 - e^{-ki})$$

Where $k = \ln 2 / DT_{50}$

i is the interval between the treatments (365 days)

Results are reported below.

Table 8.9-32: FOCUS Step 1,2 and 3 PEC_{sw} , PEC_{sed} and PEC_{sed, accu} for metabolite CGA205375 following 4 applications of GLOB1911F to Potato

Scenario FOCUS	Waterbody	Dominant entry route	Date of the max. PEC _{sw}	Max PEC _{sw} (µg/L)	21 d-PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)	PEC _{sed, accu} (µg/kg)
Step 1	---	Run-off and drainage	---	7.8780	7.4117	199.7976	476.5174
Step 2							
Northern Europe	Mar-May	Run-off and drainage	---	0.4857	0.4565	12.2759	29.2780
	June-Sept			0.4857	0.4565	12.2759	29.2780
	Oct-Feb			1.0789	1.0419	28.0353	66.8642
Southern Europe	Mar-May	Run-off and drainage	---	0.8811	0.8468	22.7821	54.3353
	June-Sept			0.6834	0.6517	17.5290	41.8067
	Oct-Feb			0.8811	0.8468	22.7821	54.3353

Table 8.9-33: FOCUS Step 1,2 and 3 PEC_{sw} , PEC_{sed} and PEC_{sed, accu} for metabolite CGA205375 following 2 applications of GLOB1911F to Sugar beet

Scenario FOCUS	Waterbody	Dominant entry route	Date of the max. PEC _{sw}	Max PEC _{sw} (µg/L)	21 d-PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)	PEC _{sed, accu} (µg/kg)
Step 1	---	Run-off and drainage	---	3.9390	3.6440	98.70342	178.9652
Step 2							
Northern Europe	Mar-May	Run-off and drainage	---	0.2676	0.2450	6.6888	12.1279
	June-Sept			0.2676	0.2450	6.6888	12.1279
Southern Europe	Mar-May	Run-off and drainage	---	0.4753	0.4472	12.2076	22.1343
	June-Sept			0.3714	0.3461	9.4482	17.1311

The calculations for Spring and winter oilseed rape resulted in the same PEC_{sw}/sed values and are therefore summarized in one table below.

Table 8.9-34: FOCUS Step 1,2 and 3 PEC_{sw} , PEC_{sed} and PEC_{sed, accu} for metabolite CGA205375 following 2 applications of GLOB1911F to Winter and Spring oilseed rape

Scenario FOCUS	Waterbody	Dominant entry route	Date of the max. PEC _{sw}	Max PEC _{sw} (µg/L)	21 d-PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)	PEC _{sed, accu} (µg/kg)
Step 1	---	Run-off and drainage	---	3.9390	3.7059	99.8988	238.2587
Step 2							
Northern Europe	Mar-May	Run-off and drainage	---	0.4753	0.4538	12.2076	29.1151
	June-Sept			0.4753	0.4538	12.2076	29.1151
	Oct-Feb			1.0984	1.0688	28.7637	68.6014
Southern Europe	Mar-May	Run-off and drainage	---	0.8907	0.8638	23.2450	55.4393
	June-Sept			0.6830	0.6588	17.7263	42.2772
	Oct-Feb			0.8907	0.8638	23.2450	55.4393

Table 8.9-35: FOCUS Step 1,2 and 3 PEC_{sw} , PEC_{sed} and PEC_{sed, accu} for metabolite CGA71019 following 4 applications of GLOB1911F to Potato

Scenario FOCUS	Waterbody	Dominant entry route	Date of the max. PEC _{sw}	Max PEC _{sw} (µg/L)	21 d-PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)	PEC _{sed, accu} (µg/kg)
Step 1	---	Run-off and drainage	---	8.4847	8.4160	7.0312	31.4551
Step 2							
Northern Europe	Mar-May	Run-off and drainage	---	0.4696	0.4647	0.3882	1.7367
	June-Sept			0.4696	0.4647	0.3882	1.7367
	Oct-Feb			1.1041	1.0946	0.9145	4.0912
Southern Europe	Mar-May	Run-off and drainage	---	0.8926	0.8846	0.7391	3.3065
	June-Sept			0.6811	0.6747	0.5636	2.5213
	Oct-Feb			0.8926	0.8846	0.7391	3.3065

Table 8.9-36: FOCUS Step 1,2 and 3 PEC_{sw} , PEC_{sed} and PEC_{sed, accu} for metabolite CGA71019 following 2 applications of GLOB1911F to Sugar beet

Scenario FOCUS	Waterbody	Dominant entry route	Date of the max. PEC _{sw}	Max PEC _{sw} (µg/L)	21 d-PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)	PEC _{sed, accu} (µg/kg)
Step 1	---	Run-off and drainage	---	4.2423	4.1774	3.4900	6.3279
Step 2							
Northern Europe	Mar-May	Run-off and drainage	---	0.2581	0.2534	0.2132	0.3866
	June-Sept			0.2581	0.2534	0.2132	0.3866
Southern Europe	Mar-May	Run-off and drainage	---	0.4856	0.4776	0.4019	0.7287
	June-Sept			0.3718	0.3655	0.3076	0.5577

The calculations for Spring and winter oilseed rape resulted in the same PEC_{sw}/sed values and are

therefore summarized in one table below.

Table 8.9-37: FOCUS Step 1,2 and 3 PEC_{sw} , PEC_{sed} and PEC_{sed, accu} for metabolite CGA71019 following 2 applications of GLOB1911F to Winter and Spring oilseed rape

Scenario FOCUS	Waterbody	Dominant entry route	Date of the max. PEC _{sw}	Max PEC _{sw} (µg/L)	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)	PEC _{sed, accu} (µg/kg)
Step 1	---	Run-off and drainage	---	4.2423	4.2080	3.5156	15.7276
Step 2							
Northern Europe	Mar-May	Run-off and drainage	---	0.4856	0.4811	0.4019	1.7980
	June-Sept			0.4856	0.4811	0.4019	1.7980
	Oct-Feb			1.1680	1.1586	0.9679	4.3300
Southern Europe	Mar-May	Run-off and drainage	---	0.9405	0.9327	0.7793	3.4863
	June-Sept			0.7131	0.7069	0.5906	2.6421
	Oct-Feb			0.9405	0.9327	0.7793	3.4863

Table 8.9-38: FOCUS Step 1,2 and 3 PEC_{sw} , PEC_{sed} and PEC_{sed, accu} for metabolite CGA205375 following single application of GLOB1911F to Potato

Scenario FOCUS	Waterbody	Dominant entry route	Date of the max. PEC _{sw}	Max PEC _{sw} (µg/L)	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)	PEC _{sed, accu} (µg/kg)
Step 1	---	Run-off and drainage	---	7.8780	7.4117	199.7976	476.5174
Step 2							
Northern Europe	Mar-May	Run-off and drainage	---	0.1428	0.1321	3.5501	8.4670
	June-Sept			0.1428	0.1321	3.5501	8.4670
	Oct-Feb			0.3056	0.2927	7.8735	18.7783
Southern Europe	Mar-May	Run-off and drainage	---	0.2513	0.2391	6.4324	15.3413
	June-Sept			0.1971	0.1856	4.9913	11.9043
	Oct-Feb			0.2513	0.2391	6.4324	15.3413

Table 8.9-39: FOCUS Step 1,2 and 3 PEC_{sw} , PEC_{sed} and PEC_{sed, accu} for metabolite CGA205375 following single application of GLOB1911F to Sugar beet

Scenario FOCUS	Waterbody	Dominant entry route	Date of the max. PEC _{sw}	Max PEC _{sw} (µg/L)	21 d- PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)	PEC _{sed, accu} (µg/kg)
Step 1	---	Run-off and drainage	---	5.9085	5.5588	149.8482	357.3880
Step 2							
Northern Europe	Mar-May	Run-off and drainage	---	0.1248	0.1142	3.0698	7.3215
	June-Sept			0.1248	0.1142	3.0698	7.3215
	Oct-Feb			0.2604	0.2481	6.6726	15.9142
Southern Europe	Mar-May	Run-off and drainage	---	0.2152	0.2035	5.4716	13.0498

Scenario FOCUS	Waterbody	Dominant entry route	Date of the max. PEC _{sw}	Max PEC _{sw} (µg/L)	21 d-PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)	PEC _{sed, accu} (µg/kg)
Europe	June-Sept	drainage		0.1700	0.1588	4.2707	10.1856
	Oct-Feb			0.2152	0.2035	5.4716	13.0498

The calculations for Spring and winter oilseed rape resulted in the same PEC_{sw}/sed values and are therefore summarized in one table below.

Table 8.9-40: FOCUS Step 1,2 and 3 PEC_{sw} , PEC_{sed} and PEC_{sed, accu} for metabolite CGA205375 following single application of GLOB1911F to Winter and Spring oilseed rape

Scenario FOCUS	Waterbody	Dominant entry route	Date of the max. PEC _{sw}	Max PEC _{sw} (µg/L)	21 d-PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)	PEC _{sed, accu} (µg/kg)
Step 1	---	Run-off and drainage	---	3.9390	3.7059	99.8988	238.2587
Step 2							
Northern Europe	Mar-May	Run-off and drainage	---	0.2513	0.2391	6.4324	15.3413
	June-Sept			0.2513	0.2391	6.4324	15.3413
	Oct-Feb			0.5767	0.5603	15.0791	35.9637
Southern Europe	Mar-May	Run-off and drainage	---	0.4683	0.4533	12.1969	29.0896
	June-Sept			0.3598	0.3462	9.3146	22.2153
	Oct-Feb			0.4683	0.4533	12.1969	29.0896

Table 8.9-41: FOCUS Step 1,2 and 3 PEC_{sw} , PEC_{sed} and PEC_{sed, accu} for metabolite CGA71019 following single application of GLOB1911F to Potato

Scenario FOCUS	Waterbody	Dominant entry route	Date of the max. PEC _{sw}	Max PEC _{sw} (µg/L)	21 d-PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)	PEC _{sed, accu} (µg/kg)
Step 1	---	Run-off and drainage	---	8.4847	8.4160	7.0312	31.4551
Step 2							
Northern Europe	Mar-May	Run-off and drainage	---	0.1388	0.1372	0.1146	0.5127
	June-Sept			0.1388	0.1372	0.1146	0.5127
	Oct-Feb			0.3208	0.3179	0.2656	1.1882
Southern Europe	Mar-May	Run-off and drainage	---	0.2601	0.2577	0.2153	0.9632
	June-Sept			0.1995	0.1974	0.1650	0.7382
	Oct-Feb			0.2601	0.2577	0.2153	0.9632

Table 8.9-42: FOCUS Step 1,2 and 3 PEC_{sw} , PEC_{sed} and PEC_{sed, accu} for metabolite CGA71019 following single application of GLOB1911F to Sugar beet

Scenario FOCUS	Waterbody	Dominant entry route	Date of the max. PEC _{sw}	Max PEC _{sw} (µg/L)	21 d-PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)	PEC _{sed, accu} (µg/kg)
Step 1	---	Run-off and drainage	---	6.3635	6.3120	5.2734	23.5913
Step 2							
Northern Europe	Mar-May	Run-off and drainage	---	0.1185	0.1171	0.0978	0.4375
	June-Sept			0.1185	0.1171	0.0978	0.4375
	Oct-Feb			0.2702	0.2677	0.2237	1.0008
Southern Europe	Mar-May	Run-off and drainage	---	0.2197	0.2175	0.1817	0.8129
	June-Sept			0.1691	0.1673	0.1398	0.6254
	Oct-Feb			0.2197	0.2175	0.1817	0.8129

The calculations for Spring and winter oilseed rape resulted in the same PEC_{sw}/sed values and are therefore summarized in one table below.

Table 8.9-43: FOCUS Step 1,2 and 3 PEC_{sw} , PEC_{sed} and PEC_{sed, accu} for metabolite CGA71019 following single application of GLOB1911F to Winter and Spring oilseed rape

Scenario FOCUS	Waterbody	Dominant entry route	Date of the max. PEC _{sw}	Max PEC _{sw} (µg/L)	21 d-PEC _{sw, twa} (µg/L)	Max PEC _{sed} (µg/kg)	PEC _{sed, accu} (µg/kg)
Step 1	---	Run-off and drainage	---	4.2423	4.2080	3.5156	15.7276
Step 2							
Northern Europe	Mar-May	Run-off and drainage	---	0.2601	0.2577	0.2153	0.9632
	June-Sept			0.2601	0.2577	0.2153	0.9632
	Oct-Feb			0.6242	0.6191	0.5173	2.3142
Southern Europe	Mar-May	Run-off and drainage	---	0.5029	0.4987	0.4166	1.8637
	June-Sept			0.3815	0.3782	0.3159	1.4132
	Oct-Feb			0.5029	0.4987	0.4166	1.8637

8.9.2.1 PEC_{sw/sed} of GLOB1911F

Not relevant.

Since the risk to aquatic organisms to the formulation GLOB1911F is covered by the risk to the active substance, no PEC_{sw/sed} for the formulation is calculated. Reference is made to 'dRR Section B9, subsection 9.5 Effect on aquatic organism' for more information.

8.10

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

The fate and behaviour in air of difenoconazole was evaluated during the EU review. All relevant detailed experimental information has been submitted for the EU review of difenoconazole. No additional studies have been performed.

Table 8.11-1 Summary of atmospheric degradation and behaviour

Compound	Difenoconazole
Direct photolysis in air	-
Quantum yield of direct phototransformation	-
Photochemical oxidative degradation in air	DT50 (h): 5 derived by the Atkinson model v 1.85 OH (12h) concentration assumed = 1.5×10^6 radicals cm^{-3}
Volatilisation	Vapour pressure (Pa): 3.3×10^{-8} (at 25°C) Henry's Law Constant ($\text{Pa.m}^3/\text{mol}$): 9.0×10^{-7} (at 25°C)
Metabolites ^a	-

^a data not currently available

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

8.12 References

EFSA (European Food Safety Authority), 2011. Conclusion on the peer review of the pesticide risk assessment of the active substance difenoconazole. EFSA Journal 2011;9(1):1967, 71 pp.
<https://doi.org/10.2903/j.efsa.2011.1967>

Appendix 1 Lists of data considered in support of the evaluation

Tables considered not relevant can be deleted as appropriate.

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

List of data submitted by the applicant and relied on

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Vertebrate study Y/N	Owner
KCP 9.2.4.1-01	Ploem, J-P.	2020	Difenoconazole 500 SC - Estimations of the predicted environmental concentration in groundwater (PEC _{gw}) of Difenoconazole and relevant metabolites following the application of GLOB1911F on potatoes, sugar beet and oilseed rape. Globachem NV, Report GLOB1911F – GW – Central EU Not GLP Unpublished	N	Globachem NV
KCP 9.2.5-01	Ploem, J-P.	2021	Difenoconazole 500 SC – Estimation of the Predicted Environmental concentrations in surface water (PEC _{sw}) and sediments (PEC _{sed}) for Difenoconazole and relevant metabolites following the application of GLOB1911F on potatoes, sugar beet and oilseed rape. Globachem NV, Report GLOB1911F – SW/SED – Central EU Not GLP Unpublished	N	Globachem NV

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

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

The following tables are to be completed by MS

List of data submitted by the applicant and not relied on

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

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

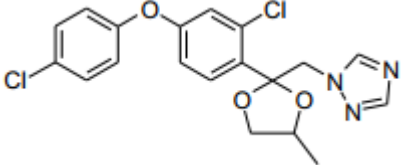

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Vertebrate study Y/N	Owner
KCP XX	Author	YYYY	Title Company Report N Source GLP/non GLP/GEP/non GEP Published/Unpublished	Y/N	Owner

Appendix 2 Detailed evaluation of the new Annex II studies

No new Annex II studies were submitted in support of the evaluation of the fate and behaviour of GLOB1911F.

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

Difenoconazole

Code/Trivial name	Chemical name	Structural formula
Difenoconazole	3-chloro-4-[(2RS,4RS;2RS,4SR)-4-methyl-2-(1H-1,2,4-triazol-1-ylmethyl)-1,3-dioxolan-2-yl]phenyl 4-chlorophenyl ether	
CGA71019	1H-1,2,4-triazole	
CGA205375	1-[2-[2-chloro-4-(4-chlorophenoxy)-phenyl]-2-1H-[1,2,4]triazol-yl]-ethanol	