REGISTRATION REPORT

Part B

Section 8

Environmental Fate

Detailed summary of the risk assessment

Product code: 102000028562

Product name: Deltamethrin + flupyradifurone EC 85 (10+75 g/L)

Chemical active substances:

Deltamethrin 10 g/L

Flupyradifurone 75 g/L

Central Zone

Zonal Rapporteur Member State: Poland

CORE ASSESSMENT

(Extension of use)

Applicant: Bayer Crop Science Division

Submission date: August 2021

Finalisation date: February 2023 (initial Core Assessment)

June 2023 (final Core Assessment)

Version history

When	What
31/08/2021	Original Bayer Crop Science Division submission
January 2023	During the evaluation process, the Applicant resigned from the use of the product 102000028562 / Deltamethrin + Flupyradifurone EC 85 in sunflower
February 2023	Initial zRMS assessment The report in the dRR format has been prepared by the Applicant, therefore all comments, additional evaluations and conclusions of the zRMS are presented in grey commenting boxes. Minor changes are introduced directly in the text and highlighted in grey. Not agreed or not relevant information are ~~struck through and shaded for transparency~~.
April 2023	Applicant has performed additional simulations for pome/stone fruits as surrogate crop, but with drift values manually reduced to the level relevant for vineyards.
June 2023	Final report (Core Assessment updated following the commenting period) Additional information/assessments included by the zRMS in the report in response to comments received from the cMS and the Applicant are highlighted in yellow. Information no longer relevant ~~is struck through and shaded~~.

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8 Fate and behaviour in the environment (KCP 9)

~~**The product Deltamethrin + flupyradifurone EC 85 (10+75 g/L) (DLT+FPF EC 85 / Product Code 102000028562) has been submitted at zonal level to Poland as ZRMS in October 2019 for its use in oilseed rape. However, because the evaluation of the initial dossier submitted in October 2019 is not finished, no final Registration Report from the ZRMS is available yet.**~~

~~**This present dossier is for an extension of use. For such dossier, only new information should be submitted. Currently, there is new information to submit in the present section.**~~

zRMS comments:
In the text above the Applicant indicates that no final Registration Report for DLT+FPF EC 85 is available. This statement was correct at the time when the dRR was prepared by the Applicant. However, in the meantime the zonal assessment of DLT+FPF EC 85 for uses in oilseed rape was finalised by the zRMS (PL) with the final Core Assessment issued in March 2022. Taking this into account, the statement above has been struck through as no longer relevant.

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**
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product/ha a) max. rate per appl. b) max. total rate per crop/season	g as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min/max			Groundwater
Zonal uses (field or outdoor uses, certain types of protected crops)														
~~105~~	~~SVN~~	~~Sunflower (HELAN)~~	~~F~~	~~ANURHE, LYGUSP~~	~~spraying (foliar)~~	~~31-69~~	~~a) 2 b) 2~~	~~14~~	~~a) 0.75 b) 1.5~~	~~a) DLT 7.5 + FPF 56.2 b) DLT 15 + FPF 112.5~~	~~200-600~~	~~as per growth stage~~		n.r.
216 218	ROU	Sorghum (SORSS) Millet, common (PANMI)	F	RHOPPA, RHOPMA MACSAV, METODR PYRUNU, HELIAR	spraying (foliar)	51-75	a) 1 b) 1	-	a) 0.75 b) 0.75	a) DLT 7.5 + FPF 56.2 b) DLT 7.5 + FPF 56.2	150-400	as per growth stage		A
106 108 110 112 114 116	SVN	Barley, spring (HORVS) Barley, winter (HORVW) Oat, spring (AVESP) Oat, winter (AVESW) Wheat, spring (TRZAS) Wheat, winter (TRZAW)	F	RHOPPA, MACSAV, LEMASP	spraying (foliar)	41-83	a) 2 b) 2	14	a) 0.5 b) 1	a) DLT 5 + FPF 37.5 b) DLT 10 + FPF 75	200-600	30		A
107 109 111 113 115 117	SVN	Barley, spring (HORVS) Barley, winter (HORVW) Oat, spring (AVESP) Oat, winter (AVESW) Wheat, spring (TRZAS) Wheat, winter (TRZAW)	F	EURYSP	spraying (foliar)	41-83	a) 2 b) 2	14	a) 0.75 b) 1.5	a) DLT 7.5 + FPF 56.2 b) DLT 15 + FPF 112.5	200-600	30		A

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Use-No. *	**Member state(s)**	**Crop and/or situation (crop destination / purpose of crop)**	**F, Fn, Fpn G, Gn, Gpn or I ****	**Pests or Group of pests controlled** (additionally: developmental stages of the pest or pest group)	**Application**				**Application rate**			**PHI (days)**	**Remarks:** e.g. g safener/ synergist per ha	**Conclusion**
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product/ha a) max. rate per appl. b) max. total rate per crop/season	g as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min/max			Groundwater
217	ROU	Corn, sweet (ZEAMS)	F	RHOPPA, RHOPMA, MACSAV, METODR, PYRUNU, HELIAR, DIABVI	spraying (foliar)	51-75	a) 1 b) 1	-	a) 0.75 b) 0.75	a) DLT 7.5 + FPF 56.2 b) DLT 7.5 + FPF 56.2	200-1000	7		A
215	ROU	Corn / Maize (ZEAMX)	F	RHOPPA, RHOPMA, MACSAV, METODR, PYRUNU, HELIAR, DIABVI	spraying (foliar)	51-75	a) 1 b) 1	-	a) 0.75 b) 0.75	a) DLT 7.5 + FPF 56.2 b) DLT 7.5 + FPF 56.2	200-1000	as per growth stage		A
201 202	ROU	Grape, table (VITVX) Grape, wine (VITVY)	F	SCAPLI	spraying (foliar)	57-81	a) 2 b) 2	14	a) 0.4 b) 0.8	a) DLT 4 + FPF 30 b) DLT 8 + FPF 60	100-1200	14		A

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

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

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
n.r.	Not relevant

Table 8.1-2: Assessed (critical) uses during approval of Deltamethrin 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)**	**L product/ha a) max. rate per appl. b) max. total rate per crop/season**	**g as/ha a) max. rate per appl. b) max. total rate per crop/season**	**Water L/ha min/max**		
	EU	Wheat (winter and spring variety)	F	Aphids: Sitobion avenae (Rhopalosiphum padi)	Foliar spray	BBCH 10-83	a)2 b)2/2	14	a)0.0625 b)0.125/0.125	a)0.00625 b)0.0125/0.0125	100-600	30	
	EU	Sugarbeet	F	*Chaetocnema tibialis* or *Ch.* spp	Foliar spray	BBCH 10-49	a)1 b)1/1	-	a)0.075 b)0.15/0.15	a)0.0075 b)0.015/0.015	100-600	30	
	EU	Cauliflower	F	Lepidotera: Pieris brassicae (Plutella & Mamestra)	Foliar spray	BBCH 10-69	a)2 b)2/2	14	a)0.075 b)0.15/0.15	a)0.0075 b)0.015/0.015	200-1000	7	

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

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

Uses listed in the table above are the representative uses with Deltamethrin EC 100 submitted in support of the re-approval process of deltamethrin.

Table 8.1-3: Assessed (critical) uses of Flupyradifurone SL 200 during approval of Flupyradifurone concerning the Section Environmental Fate

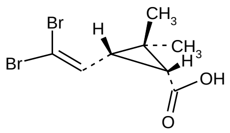
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Use-No. *	**Member state(s)**	**Crop and/or situation (crop destination / purpose of crop)**	**F, Fn, Fpn G, Gn, Gpn or I ****	**Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)**	**Application**				**Application rate**			**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)**	**L product/ha a) max. rate per appl. b) max. total rate per crop/season**	**g as/ha a) max. rate per appl. b) max. total rate per crop/season**	**Water L/ha min/max**		
	N-EU (residue zone)	Hops	F	Aphids	Foliar spray	BBCH 31-75 Apr-Sep	a) b) 1	n.a.	a) b) 0.75	a) b) 150	2000-3300	21	Max 1 application 24 months
	N/S-EU (residue zone)	Lettuce	F	Aphids	Foliar spray	BBCH 12-40 Mar-Oct	a) b) 1	n.a.	a) b) 0.625	a) b) 125	500-1000	3	Max 1 application 24 months
	N/S-EU (residue zone)	Lettuce	F	Aphids	Foliar spray	BBCH 41-49 Mar-Oct	a) b) 1	n.a.	a) b) 0.625	a) b) 125	500-1000	3	Max 1 application 12 months
	N/S-EU (residue zone)	Lettuce (soil bound)	G	Aphids	Foliar spray	BBCH 12-49	a) b) 2	10	a) 0.625 b) 1,25	a) 125 b) 250	200-1000	3	Max 2 applications per 12 months

* 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

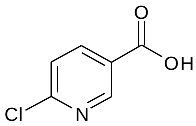
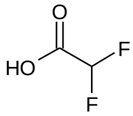
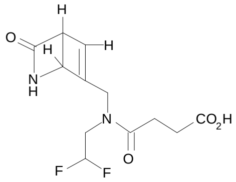
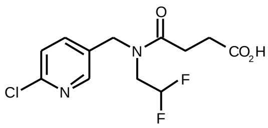
8.2 Metabolites considered in the assessment

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

Metabolite	Molar mass	Chemical structure	Maximum observed occurrence in compartments	Exposure assessment required due to
Br_2CA (= AE F108565 = RU23441; CAS # 53179-78-5)	298.0 g/mol		Soil: 23% (aerobic), 52% (anaerobic) Water/sediment: 13.3% *	PEC_{soil} PEC_{gw} PEC_{sw} PEC_{sed}

*: Value was stated in the DAR (max formed in the outdoor microcosm study, M-200619-01-1) but not stated in the final LoEP.

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

Metabolite	Molar mass	Chemical structure	Maximum observed occurrence in compartments	Exposure assessment required due to
6-CNA 6-Chloronicotinic acid	157.6 g/mol		Soil: 17.1%	PEC_{soil} PEC_{gw} PEC_{sw} PEC_{sed}
DFA Difluoroacetic acid	96.0 g/mol		Soil: 33.9% Water/Sediment: 6.9%	PEC_{soil} PEC_{gw} PEC_{sw} PEC_{sed}
BYI 02960-azabicyclo-succinamide	288.3 g/mol		Water (plus light): 25.9%	PEC_{sw} PEC_{sed}
BYI 02960-succinamide	306.7 g/mol		Water (plus light): 39.6%	PEC_{sw} PEC_{sed}

zRMS comments:

Deltamethrin
Information regarding soil metabolites of deltamethrin is in line with the Review Report for deltamethrin 6504/VI/99-final of 2002, which is still valid LoEP.
With regard to the maximum occurrence of metabolite Br_2CA in water it is noted that according to the LoEP its maximum formation in aquatic systems could not be determined due to position of ^{14}C-labelling. No clear information may be also obtained from the DAR of 1998 or Addendum of 2002, since residues of metabolite Br_2CA are not expressed in terms of %AR, but as concentrations in water or sediment. In summary of the outdoor microcosm study by Schanné & van der Kolk (2001) and Schanné (2001a and 2001b) available in Addendum of 2002, the maximum occurrence of Br_2CA is reported as 20% AR, while in the LoEP prepared by the RMS (working document of 2002) it is indicted that in higher-tier studies (micro-mesocosms and natural ponds) metabolite Br_2CA was found at 23 and 53%. It should be, however, noted that none of these values was eventually reported in the Review Report of 2002 and metabolite was considered neither in exposure nor risk assessment.
It is noted that maximum occurrence of Br_2CA at 13.3% AR has been already agreed in the course of the zonal evaluations of at least two formulations of the same Applicant (Multirose, evaluated by AT as zRMS in 2016 and Decis 15 EW evaluated by BE as the zRMS in 2018) and for this reason this value is also agreed for DLT+FPF EC 85 for consistency.

Flupyradifurone
Information regarding metabolites of flupyradifurone is in line with EU agreed endpoints as reported in EFSA Journal 2015;13(2):4020.

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)

8.3.1.1 Deltamethrin and its metabolites

The aerobic degradation of deltamethrin has been evaluated; full details of these studies are provided in the respective EU Monograph Annex B8 and related documents and summarised in the conclusions of the EU Review Report in the LoEP (6504/VI/99-final) on deltamethrin, and in particular Appendices I and II thereof, as finalised in the Standing Committee on the Food Chain and Animal Health on 18 October 2002. No additional studies have been taken into account since additional data was not required as a result of the review.

The aerobic degradation of deltamethrin has been evaluated; full details of these studies are provided in the respective EU Monograph Annex B8 and related documents and summarised in the EU Review Report (6504/VI/99-final). No additional studies have been performed.

Triggering endpoints

Table 8.3-1: Summary of aerobic degradation rates for deltamethrin - laboratory studies (triggering endpoints)

Deltamethrin, Laboratory studies, aerobic conditions, triggering endpoints		
25 °C, first order kinetics: mean (n = 12)	18, 20, 22, 23, 25, 25, 26, 28, 30, 30, 34, 35 d 26 d	Y/ EU Review Report (6504/VI/99-final)

Table 8.3-2: Summary of aerobic degradation rates for Br_2CA metabolite - laboratory studies (triggering endpoints)

Br_2CA metabolite, Laboratory studies, aerobic conditions, triggering endpoints		
25 °C, first order kinetics: mean (n = 7) intrinsic degradation rate of Br_2CA alone, calculated by compartmental analysis from studies on deltamethrin	0.7, 0.7, 0.8, 1.1, 1.6, 1.9, 9.1 d 2.3 d	Y/ EU Review Report (6504/VI/99-final)
Mean from parent applied study (n = 1)	21 d	Y/ EU Review Report (6504/VI/99-final)

Modelling endpoints

Taken into account a worst case scenario ~~maximum DT_{50} of deltamethrin from the field trials of 28.3 days (M-221665-01-1, Schaefer 2003) for PEC soil and~~ 28.0 days (EU Review Report (6504/VI/99-final) for PEC sw in Step 1+2 and the mean value of lab studies of 26 days for PECgw and PECsw for Step 3+4. For the metabolite Br2CA as a worst case scenario maximum value of 21 days (EU Review Report (6504/VI/99-final)) has been used for PECsoil and PECsw Step 1 + 2. For the metabolite Br_2CA as a worst-case scenario maximum value of 21 days (EU Review Report (6504/VI/99-final)) has been used for PECsoil and PECsw Step 1+2.

zRMS comments:
Triggering endpoints provided by the Applicant in Tables 8.3-1 and 8.3-2 above is in line with data reported in the Review Report for deltamethrin (6504/VI/99-final of 2002). Modelling endpoints described above are in general in line with values reported in the with the EU Review Report (6504/VI/99-final). Nevertheless for PEC_{SOIL} calculation the DT_{50} of deltamethrin of 28 days was used as the maximum field value available from the EU review.

8.3.1.2 Flupyradifurone and its metabolites

The aerobic degradation of flupyradifurone has been evaluated, full details of these studies are provided in the respective EU DAR and related documents and summarised in the EFSA conclusion (EFSA Journal 2015;13(2):4020, 101 pp.) no additional studies have been performed.

Triggering endpoints (parent compound)

Table 8.3-3: Summary of aerobic degradation rates for flupyradifurone - laboratory studies (triggering endpoints)

Flupyradifurone, laboratory studies, aerobic conditions, triggering endpoints									
Soil name	**Soil type (acc. USDA)**	**pH (x)**	**T (°C)**	**MWHC (%)**	**DT50 (d)**	**DT90 (d)**	**Chi2 (%)**	**Kinetic model**	**Evaluated on EU level y/n/Reference**
AX	Sandy loam	6.4	20	55	63.4	443.3	1.2	DFOP	Y/ EFSA Journal 2015;13(2):4020
AX	Sandy loam	6.1	20	55	62.2	390.6	1.6	DFOP	Y/ EFSA Journal 2015;13(2):4020
AX	Loam sand	6.2	20	55	62.0	538.1	1.6	DFOP	Y/ EFSA Journal 2015;13(2):4020
AX Geo mean					62.5	453.3			
HF	Silt loam	6.5	20	55	52.4	209.3	0.6	DFOP	Y/ EFSA Journal 2015;13(2):4020
HF	Silt loam	6.5	20	55	33.2	229.5	1.7	DFOP	Y/ EFSA Journal 2015;13(2):4020
HF	Silt loam	6.5	20	55	34.1	329.8	2.3	DFOP	Y/ EFSA Journal 2015;13(2):4020
HF	Silt loam	6.5	20	55	33.0	221.3	2.0	DFOP	Y/ EFSA Journal 2015;13(2):4020
HF Geo mean					37.4	243.3			
HN	Loam	5.4	20	55	120.0	489.7	1.2	DFOP	Y/ EFSA Journal 2015;13(2):4020
HN	Silt loam	4.8	20	55	98.3	462.5	2.0	DFOP	Y/ EFSA Journal 2015;13(2):4020
HN Geo mean					108.6	475.9			
DD	Clay loam	7.4	20	55	56.4	265.1	1.7	DFOP	Y/ EFSA Journal 2015;13(2):4020
DD	Silty clay	7.1	20	55	49.3	303.1	2.3	DFOP	Y/ EFSA Journal 2015;13(2):4020
DD	Clay loam	7.1	20	55	33.9	649.1	1.9	DFOP	Y/ EFSA Journal 2015;13(2):4020
DD geo mean					45.5	373.7			
SF	Silt loam	6.5	20	pF2-2.5	228	757	1.3	SFO	Y/ EFSA Journal 2015;13(2):4020
SF	Silt loam	6.5	20	pF2-2.5	242	898	0.7	DFOP	Y/ EFSA Journal 2015;13(2):4020
SF geo mean					234.9	824.5 ~~234.9~~			
S	Sandy loam	7.0	20	pF2-2.5	58.3	273	1.1	DFOP	Y/ EFSA Journal 2015;13(2):4020
S	Sandy loam	7.0	20	pF2-2.5	56.3*	324**	1.8	FOMC	Y/ EFSA Journal 2015;13(2):4020
S geo mean					57.3#	299#			
						pH-dependency: y/n	n		

(x): measured in $CaCl_2$
Ax = Laacher Hof, HF = Hofchen an Hohenseh, HN = Hanscheiderhof, DD = Dollendorf II, SF = Springfield, S = Sanger soil
* DT_{50} value based on FOMC , ** DT_{90} value based on DFOP
# Geomean of two DT_{50} values, 1 based on DFOP, 1 based on FOMC. In EFSA 2015, a geomean of 56.8 days is stated which is incorrect, the agreed individual DT_{50} values are correct hence the geomean is 57.3 days.
# Geomean of the two DT_{90} values listed above (both DFOP). In EFSA 2015 an incorrect value of 522.5 days is given.

Modelling endpoints (parent compound)

Table 8.3 -4: Summary of aerobic degradation rates for flupyradifurone - laboratory studies (modelling endpoints)

Flupyradifurone, laboratory studies, aerobic conditions, modelling end-points							
Soil name	**Soil type (acc. USDA)**	**DT_{50} (d) 20°C/pF2**	**k_1**	**k_2**	**g**	**Kinetic model**	**Evaluated on EU level y/n/Reference**
AX	Sandy loam	169.1 [1)]	0.0438	0.0041	0.3822	DFOP	Y/ EFSA Journal 2015;13(2):4020
AX	Sandy loam	141.5 [1)]	0.0650	0.0049	0.3312	DFOP	Y/ EFSA Journal 2015;13(2):4020
AX	Loam sand	210.3 [1)]	0.0546	0.0033	0.4023	DFOP	Y/ EFSA Journal 2015;13(2):4020
AX Geo mean		171.3 [1)]					
HF	Silt loam	54.4	-	-	-	SFO	Y/ EFSA Journal 2015;13(2):4020
HF	Silt loam	40.5	-	-	-	SFO	Y/ EFSA Journal 2015;13(2):4020
HF	Silt loam	43.0	-	-	-	SFO	Y/ EFSA Journal 2015;13(2):4020
HF	Silt loam	90.0	-	-	-	SFO	Y/ EFSA Journal 2015;13(2):4020
HF Geo mean		54.0					
HN	Loam	157.5 [1)]	0.1031	0.0044	0.1571	DFOP	Y/ EFSA Journal 2015;13(2):4020
HN	Silt loam	157.5 [1)]	0.1079	0.0044	0.2280	DFOP	Y/ EFSA Journal 2015;13(2):4020
HN Geo mean		157.5 ~~108.6~~					
DD	Clay loam	60.1	-	-	-	SFO	Y/ EFSA Journal 2015;13(2):4020
DD	Silty clay	55.1	-	-	-	SFO	Y/ EFSA Journal 2015;13(2):4020
DD	Clay loam	38.6	-	-	-	SFO	Y/ EFSA Journal 2015;13(2):4020
DD geo mean		50.4					
SF	Silt loam	166.4	-	-	-	SFO	Y/ EFSA Journal 2015;13(2):4020
SF	Silt loam	179.7	-	-	-	SFO	Y/ EFSA Journal 2015;13(2):4020
SF geo mean		172.9 ~~234.9~~					
S	Sandy loam	55.5	-	-	-	SFO	Y/ EFSA Journal 2015;13(2):4020
S	Sandy loam	58.8	-	-	-	SFO	Y/ EFSA Journal 2015;13(2):4020
S geo mean		57.1 ~~56.8~~					
Geometric mean / Median (n = 6)		94.8 / 107.3					
pH-dependency: y/n		n					

[1)] DFOP slow phase DT_{50}

Ax = Laacher Hof, HF = Hofchen an Hohenseh, HN = Hanscheiderhof, DD = Dollendorf II, SF = Springfield, S = Sanger

Triggering endpoints (metabolite 6-CNA)

Table 8.3 -5: Summary of aerobic degradation rates for 6-CNA metabolite - laboratory studies (triggering endpoints)

6-CNA, laboratory studies, aerobic conditions, triggering endpoints											
Soil name	**Soil type (acc. USDA)**	**pH (x)**	**T (°C)**	**MWHC (%)**	**DT_{50} (d)**	**DT_{90} (d)**	**DT_{50} (d) 20°C pF2**	**f.f.**	**Chi^2 (%)**	**Kinetic model**	**Evaluated on EU level y/n/Reference**
Aldham's Farm	Sandy loam	5.8	20	45	2.9	9.7	2.9	-	8.5	SFO	Y/ EFSA Journal 2015;13(2):4020
Flint Hall Farm	Clay	7.4	20	45	2.2	7.4	2.2	-	6.9	SFO	Y/ EFSA Journal 2015;13(2):4020
Boarded Barns Farm	Loam	7.0	20	45	5.3	17.5	5.3	-	8.5	SFO	Y/ EFSA Journal 2015;13(2):4020
Hoefchen	Silt loam	6.5	20	55	3.1	10.4	-	-	17.0	FOMC-SFO	Y/ EFSA Journal 2015;13(2):4020
Sanger	Sandy loam	7.0	20	pF2-2.5	36.6	121	-	-	13.8	DFOP-SFO	Y/ EFSA Journal 2015;13(2):4020
pH-dependency: y/n					-						

(x): measured in $CaCl_2$
f.f.: formation fraction

Modelling endpoints (metabolite 6-CNA)

Table 8.3 -6: Summary of aerobic degradation rates for 6-CNA metabolite - laboratory studies (modelling endpoints)

6-CNA, laboratory studies, aerobic conditions, modelling endpoints						
Soil name	**Soil type (acc. USDA)**	**DT_{50} (d) 20°C, pF2**	**f.f.**	**Chi^2 (%)**	**Kinetic model**	**Evaluated on EU level y/n/Reference**
Aldham's Farm	Sandy loam	2.9	-	8.5	SFO	Y/ EFSA Journal 2015;13(2):4020
Flint Hall Farm	Clay	2.2	-	6.9	SFO	Y/ EFSA Journal 2015;13(2):4020
Boarded Barns Farm	Loam	5.3	-	8.5	SFO	Y/ EFSA Journal 2015;13(2):4020
Hoefchen	Silt loam	3.0	0.266	15.4	DFOP-SFO	Y/ EFSA Journal 2015;13(2):4020
Sanger	Sandy loam	22.4	0.694	15.1	SFO-SFO	Y/ EFSA Journal 2015;13(2):4020
Geometric mean (n = 5)		4.7	-			
Artithmetic mean (n = 2)		-	0.480			

f.f.: formation fraction

Triggering endpoints (metabolite DFA)

Table 8.3 -7: Summary of aerobic degradation rates for DFA metabolite - laboratory studies (triggering endpoints)

DFA, laboratory studies, aerobic conditions, triggering endpoints									
Soil name	**Soil type (acc. USDA)**	**pH (x)**	**T (°C)**	**MWHC %**	**DT_{50} (d)**	**DT_{90} (d)**	**Chi^2 (%)**	**Kinetic model**	**Evaluated on EU level y/n/Reference**
Dollendorf	Clay loam	7.1 ~~5.8~~	20	55	44.9	149.9	5.4	DFOP-SFO	Y/ EFSA Journal 2015;13(2):4020
Laacher Hof AXXa	Loamy sand	6.2 ~~7.4~~	20	55	73.6	244.5	8.4	SFO-SFO	Y/ EFSA Journal 2015;13(2):4020
Hoefchen	Silt loam	6.5 ~~7.0~~	20	55	67.4	223.9	7.4	FOMC-SFO	Y/ EFSA Journal 2015;13(2):4020
Geometric mean / Median (n = 3)					60.6 / 67.4				
pH-dependency: y/n					-				

(x): measured in $CaCl_2$
f.f.: formation fraction

Modelling endpoints (metabolite DFA)

Table 8.3 -8: Summary of aerobic degradation rates for DFA metabolite - laboratory studies: modelling endpoints

DFA, laboratory studies, aerobic conditions											
Soil name	**Soil type (acc. USDA)**	**pH (x)**	**T (°C)**	**MWHC %**	**DT_{50} (d)**	**DT_{90} (d)**	**DT_{50} (d) 20°C pF2**	**f.f.**	**Chi² (%)**	**Kinetic model**	**Evaluated on EU level y/n/ Reference**
Dollendorf	Clay loam	7.1 ~~5.8~~	20	55	32.0	106.2	32.0	0.909	5.2	SFO-SFO	Y/ EFSA Journal 2015;13(2):4020
Laacher Hof AXXa	Loamy sand	6.2 ~~7.4~~	20	55	73.6	244.5	73.6	0.590	8.4	SFO-SFO	Y/ EFSA Journal 2015;13(2):4020
Hoefchen	Silt loam	6.5 ~~7.0~~	20	55	37.8	125.7	37.8	1.00	4.0	SFO-SFO	Y/ EFSA Journal 2015;13(2):4020
Geometric mean / Median (n = 3)							44.7 / 37.8				
Artithmetic mean (n = 3)							-	0.833			

(x): measured in $CaCl_2$
f.f.: formation fraction

zRMS comments:
Soil degradation data for flupyradifurone and its metabolites are in line with EU agreed endpoints reported in EFSA Journal 2015;13(2):4020. Some typing errors were corrected by the zRMS in tables above, but with no impact on the calculated mean/median values.

8.3.2 Anaerobic degradation in soil (KCP 9.1.1.1)

8.3.2.1 Deltamethrin and its metabolites

The anaerobic degradation of deltamethrin has been evaluated; full details of these studies are provided in the respective EU Monograph Annex B8 and related documents and summarised in the conclusions of the EU Review Report (6504/VI/99-final) on deltamethrin, and in particular Appendices I and II thereof, as finalised in the Standing Committee on the Food Chain and Animal Health on 18 October 2002. No additional studies have been performed since additional data was not required as a result of the review.

Table 8.3 -9: Summary of anaerobic degradation rates for deltamethrin - laboratory studies (triggering endpoints)

Deltamethrin, Laboratory studies, anaerobic conditions, triggering endpoints									
Soil name	**Soil type (acc. USDA)**	**pH ($CaCl_2$)**	**T (°C)**	**MWHC (%)**	**DT_{50} (d)**	**DT_{90} (d)**	**Chi² (%)**	**Kinetic model**	**Evaluated on EU level y/n/ Reference**
Casa Grand (n =2)	Sandy loam	8.1	25	flooded	34 *	n.l.	n.l.	SFO	Y/ EU Review Report (6504/VI/99-final)
Dubbs (n = 3)	Fine sandy loam	5.9	25	flooded	90 *	n.l.	n.l.	SFO	Y/ EU Review Report (6504/VI/99-final)
Arithmetic mean / Median (n = 5)					68				Y/ EU Review Report (6504/VI/99-final)
pH-dependency: y/n					no				Y/ EU Review Report (6504/VI/99-final)

*: DT_{50} values listed are the geometric means from multiple values for each soil at 25 ºC.
n.l.: not listed in LoEP; not relevant for risk assessment.

zRMS comments:
Anaerobic soil degradation data for deltamethrin presented in Table 8.3-9 are in line with the EU Review Report (6504/VI/99-final). It is noted that in the Review Report single values are provided as follows: 32, 36, 69, 100 and 105 days. The mean value given in the LoEP is the same as value given in Table 8.3-9 above.

8.3.2.2 Flupyradifurone and its metabolites

The anaerobic degradation of flupyradifurone has been evaluated, full details of these studies are provided in the respective EU DAR and related documents and summarised in the EFSA conclusion (EFSA Journal 2015;13(2):4020, 101 pp.) no additional studies have been performed.

Table 8.3-10: Summary of anaerobic degradation rates for flupyradifurone - laboratory studies

Flupyradifurone, laboratory studies, anaerobic conditions									
Soil name	**Soil type (acc. USDA)**	**pH (x)**	**T (°C)**	**MWHC [1)] (%)**	**DT_{50} (d)**	**DT_{90} (d)**	**Chi^2 (%)**	**Kinetic model**	**Evaluated on EU level y/n/Reference**
Hoefchen	Silt loam	6.4	20	55	581.8	>1000	1.4	SFO	Y/ EFSA Journal 2015;13(2):4020
Hoefchen	Silt loam	6.4	20	55	693.2	>1000	1.3	SFO	Y/ EFSA Journal 2015;13(2):4020
Hoefchen	Silt loam	6.4	20	55	631.0	>1000	0.9	SFO	Y/ EFSA Journal 2015;13(2):4020
Sanger	Loamy sand	6.7	20	55	152	506	11.9	SFO	Y/ EFSA Journal 2015;13(2):4020
Springfield	Sandy clay loam	6.5	20	55	>1000	>1000	n.r.	n.r. [2)]	Y/ EFSA Journal 2015;13(2):4020
Geometric mean / Median (n = 3 soil sources)					458.4 ~~/ 633.7~~				
pH-dependency: y/n					-				

(x) = measured in $CaCl_2$
1): MWHC % before flooding to create anaerobic conditions
2): no degradation observed

zRMS comments:
Anaerobic soil degradation data for flupyradifurone presented in Table 8.3-10 are in general in line with EU agreed endpoints reported in EFSA Journal 2015;13(2):4020. It is noted that DT_{50} of 633.7 days indicated as the median value in Table 8.3-10 is actually the geometric mean DT_{50} calculated for Hoefchen soil.

8.4 Field studies (KCP 9.1.1.2)

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

8.4.1.1 Deltamethrin and its metabolites

The degradation of deltamethrin in terrestrial field dissipation studies has been evaluated; full details of these studies are provided in the respective EU Monograph Annex B8 and related documents and summarised in the conclusions of the EU Review Report (6504/VI/99-final) on deltamethrin, and in particular Appendices I and II thereof, as finalised in the Standing Committee on the Food Chain and Animal Health on 18 October 2002. No additional experimental studies have been performed since additional data was not required as a result of the review.
The list of endpoints stated as DT_{50f} the following estimated values: 2-3 weeks for study in Minnesota (UA), both cropped and bare soil, 1 – 4 weeks at 4 locations in Germany on bare soil. The list of endpoints stated as DT_{90f} the following estimated values: > 4 month for study in Minnesota (UA), both cropped and bare soil, 1 – 3 months at 4 locations in Germany on bare soil, overall estimate < 1 year.

zRMS comments:
Information on the field degradation data for deltamethrin and its metabolites presented above is in line with the EU Review Report (6504/VI/99-final).

8.4.1.2 Flupyradifurone and its metabolites

The field dissipation of flupyradifurone has been evaluated, full details of these studies are provided in the respective EU DAR and related documents and summarised in the EFSA conclusion (EFSA Journal 2015;13(2):4020, 101 pp.) no additional studies have been performed.

Triggering endpoints

Table 8.4-1: Summary of aerobic degradation rates for flupyradifurone - field studies: triggering endpoints

Flupyradifurone, Field studies – Triggering endpoints									
Soil type (acc. USDA)	**Location**	**pH (x)**	**Depth (cm)**	**$DissT_{50}$ (d) actual**	**DT_{90} (d) actual**	**Kinetic parameters**	**St. (x^2)**	**Method of calculation**	**Evaluated on EU level y/n/Reference**
Sandy loam	Monheim, GER	6.3	0 - 30	41.0	749	k_1 0.0547 k_2 0.0021 g 0.5144	7.5	DFOP	Y/ EFSA Journal 2015;13(2):4020
Clay loam	Great Chishill UK	5.8	0 - 30	251	>1000	k_1 31.6805 k_2 0.0015 g 0.2716	7.5	DFOP	Y/ EFSA Journal 2015;13(2):4020
Silt loam	Burscheid, GER	6.3	0 - 30	42.8	484	k_1 0.0646 k_2 0.0035 g 0.4518	6.3	DFOP	Y/ EFSA Journal 2015;13(2):4020
Clay loam	Albaro, ITA	7.4	0 - 30	8.3	279	k_1 0.1984 k_2 0.0050 g 0.5989	7.1	DFOP	Y/ EFSA Journal 2015;13(2):4020
Loam	Vilobi d'Onyar, ESP	5.9	0 - 30	22.6	215	k_1 0.3350 k_2 0.0084 g 0.3960	6.6	DFOP	Y/ EFSA Journal 2015;13(2):4020
Loam	Hanscheider Hof, GER	5.5	0 - 30	39.0	579	k_1 0.0295 k_2 0.0019 g 0.6993	11.3	DFOP	Y/ EFSA Journal 2015;13(2):4020
			Maximum (n = 6)	251	>1000				
			pH-dependency: y/n	n					

(x): measured in $CaCl_2$

zRMS comments:
Field degradation data for flupyradifurone are in line with EU agreed endpoints reported in EFSA Journal 2015;13(2):4020.

8.4.2 Soil accumulation testing (KCP 9.1.1.2.2)

It has been acknowledged in the respective EU Monograph and related documents and was concluded in the EU Review Report (6504/VI/99-final) that field soil accumulation studies are not requested for deltamethrin. No additional studies have been performed.

~~The accumulation of flupyradifurone has been evaluated, full details of these studies are provided in the respective EU DAR and related documents and summarised in the EFSA conclusion (EFSA Journal 2015;13(2):4020, 101 pp.) no additional studies have been performed.~~

zRMS comments:
Studies on accumulation of deltamethrin in soil were not required in the course of the EU Review Report (6504/VI/99-final) and are also deemed not necessary for this zonal evaluation. With regard to flupyradifurone no accumulation studies were performed in the course of the EU review and the following is stated in the DAR (Vol. 3, B.8 of December 2014): *No field accumulation studies have been performed as the accumulation of BYI 02960 can be calculated from the degradation data obtained. The results of modelling, considering specific application rates and crops are presented in the PEC_{soil} calculations for the representative uses.*

Based on that, information provided in the Applicants' text above has been struck through as being not confirmed by the data available from the EU review. Nevertheless, no soil accumulation studies were deemed necessary since potential for accumulation may be addressed in the soil exposure assessment (see point 8.7.2.2 for details).

8.5 Mobility in soil (KCP 9.1.2)

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

8.5.1 Laboratory studies (KCP 9.1.2.1)

8.5.1.1 Deltamethrin and its metabolites

The adsorption/desorption of deltamethrin and its metabolites has been evaluated; full details of these studies are provided in the respective EU Monograph and related documents and summarised in the EU Review Report (6504/VI/99-final). No additional studies are submitted within this dRR.

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

Deltamethrin							
Soil name	**Soil type (USDA)**	**OC (%)**	**pH ($CaCl_2$)**	**K_f (mL/g)**	**K_{foc} (mL/g)**	**1/n (-)**	**Evaluated on EU level y/n/ Reference**
Arizona I	Sandy loam	0.06	8.5	9600	16,300,000	0.77	Y/ EU Review Report (6504/VI/99-final)
Arizona II	Sandy loam	0.23	8.1	30000	12,800,000	1.20	Y/ EU Review Report (6504/VI/99-final)
Arizona III	Clay	0.23	7.6	26700	11,400,000	0.74	Y/ EU Review Report (6504/VI/99-final)
Mississipi	Silty clay loam	0.81	6.5	3790	460,000	1.01	Y/ EU Review Report (6504/VI/99-final)
				Arithmetic mean (n = 4)	10,240,000	0.93	Y/ EU Review Report (6504/VI/99-final)
				pH-dependency y/n	n		Y/ EU Review Report (6504/VI/99-final)

*: medium not specified.

Table 8.5-2: Summary of soil adsorption/desorption for Br_2CA metabolite

Br_2CA metabolite,							
Soil name	**Soil type (USDA)**	**OC (%)**	**pH ($CaCl_2$)***	**K_f (mL/g)**	**K_{foc} (mL/g)**	**1/n (-)**	**Evaluated on EU level y/n/ Reference**
Mississipi	Silty clay loam	0.81	6.5	0.355	43.7	0.96	Y/ EU Review Report (6504/VI/99-final)
USA	Sandy loam	2.56	6.4	0.587	23.0	0.89	Y/ EU Review Report (6504/VI/99-final)
Michigan	Clay loam	2.65	6.8	0.267	10.1	0.83	Y/ EU Review Report (6504/VI/99-final)
				Arithmetic mean (n = 3)	25.6	0.89	Y/ EU Review Report (6504/VI/99-final)
				pH-dependency y/n	n		Y/ EU Review Report (6504/VI/99-final)

*: medium not specified.

zRMS comments:

Soil sorption data for deltamethrin and metabolite Br_2CA presented in Tables 8.5-1 and 8.5-2 are in line with EU agreed endpoints reported in EU Review Report (6504/VI/99-final).

It is noted that neither in the LoEP nor in the DAR information on 1/n values may be found. Nevertheless, arithmetic mean 1/n of 0.93 and 0.89 for deltamethrin and Br_2CA, respectively, have been already agreed in the course of the zonal evaluations of at least two formulations of the same Applicant (Multirose, evaluated by AT as zRMS in 2016 and Decis 15 EW evaluated by BE as the zRMS in 2018) and for this reason they are also agreed for purposes of evaluation of DLT+FPF EC 85 for consistency.

It is further noted that post-Annex I inclusion the Koc values for deltamethrin were re-evaluated by the RMS (SE) and it was proposed to replace the mean Koc of 10 240 000 mL/g with new value of 408 250 mL/g. Details of the calculation and underlying data are given in the letter of KEMI to the European Commission of March 2008. However, it is not known if the newly proposed value was agreed and for this reason the zRMS is of the opinion that the Koc as reported in the Review Report should be used.

8.5.1.2 Flupyradifurone and its metabolites

The adsorption/desorption of flupyradifurone has been evaluated, full details of these studies are provided in the respective EU DAR and related documents and summarised in the EFSA conclusion (EFSA Journal 2015;13(2):4020, 101 pp.). No additional studies have been performed.

Time dependant sorption parameters were evaluated in the DAR but were not included in the EFSA conclusion, the studies and parameters derived from these studies can be found in the Flupyradifurone DAR (Draft Assessment Report – public version – flupyradifurone, December 2014, Volume 3 B8, pages 152 to 172). EFSA has recently published an opinion on the derivation of TDS parameters for the use in groundwater risk assessment (Scientific Opinion about the Guidance of the Chemical Regulation Directorate (UK) on how aged sorption studies for pesticides should be conducted, analysed and used in regulatory assessments. EFSA Journal 2018;16(8):5382, 86 pp. https://doi.org/10.2903/j.efsa.2018.5382, flupyradifurone was one of the compounds used in this opinion (designated ECPA-07 in the opinion) and the parameters derived in the EFSA opinion are used for risk assessment.

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

Flupyradifurone							
Soil name	**Soil type (USDA)**	**OC (%)**	**pH ($CaCl_2$)**	**K_f (mL/g)**	**K_{foc} (mL/g)**	**1/n (-)**	**Evaluated on EU level y/n/Reference**
Laacher Hof AXXa	Sandy loam*	2.1	6.2	2.077	98.9	0.8445	Y/ EFSA Journal 2015;13(2):4020
Hoefchen	Loam*	2.4	6.6	2.213	92.2	0.8682	Y/ EFSA Journal 2015;13(2):4020
Hanscheider Hof	Loam*	2.2	5.3	2.354	107.0	0.8643	Y/ EFSA Journal 2015;13(2):4020
Dollendorf II	Loam*	5.1	7.2	3.822	74.9	0.8648	Y/ EFSA Journal 2015;13(2):4020
Sanger	Sandy loam	0.7	6.8	0.597	85.2	0.9021	Y/ EFSA Journal 2015;13(2):4020
Springfield	Silt loam	1.9	6.5	2.512	132.2	0.8505	Y/ EFSA Journal 2015;13(2):4020
				Arithmetic mean (n = 6)	98.4	0.8657	Y/ EFSA Journal 2015;13(2):4020
				pH-dependency y/n	n		

* Soils used for determination of 1/n in the time dependent sorption

Table 8.5-4: Time dependant sorption parameters of flupyradifurone

Flupyradifurone						
Soil[A]	***k*** $_{des}$ **(1/d)**	**f** $_{ne}$ **(-)**	**DegT** $_{50,eq}$ **(d)**	**K** $_{om,eq}$ **(L/kg)**	**1/n (-)**	**Evaluated on EU level y/n/ Reference**
AXXa (A)	0.032	0.752	55.692	42.668	0.845	Y/ EFSA Journal 2018;16(8):5382 (page 75, Table C.7)
Hoefchen (B)	0.037	0.313	45.41	46.664	0.868	Y/ EFSA Journal 2018;16(8):5382 (page 75, Table C.7)
Hanscheider Hof (C)	0.037	0.698	80.962	61.156	0.864	Y/ EFSA Journal 2018;16(8):5382 (page 75, Table C.7)
Dollendorf II (D)	0.027	0.473	50.199	39.873	0.865	Y/ EFSA Journal 2018;16(8):5382 (page 75, Table C.7)

[A] Notation of soils in brackets as in EFSA (2018, Table C.7)

Table 8.5-5: Summary on degradation and adsorption results obtained in lower-tier, aged sorption studies and with combining both for flupyradifurone (EFSA Journal 2018;16(8):5382, Table C.8)

Soil type (origin, label)	**DegT50eq (days) Batch**[A]	**DegT50eq (days) TDS**	**DegT50eq (days) Combined**	**K** $_{om,eq}$ **(mL/g) Batch**	**K** $_{om,eq}$ **(mL/g) TDS**	**1/n Batch**	**k** $_{des}$ **(days** $^{-1}$ **) TDS**	**f** $_{ne}$ **TDS**
Sandy loam (AX, FUR)	56.1		56.1					
Sandy loam (AX, PYM)		55.7	55.7	57.3	42.7	0.84	0.032	0.752
Loamy sand (AX, ETH)	59.6		59.6					
AX geometric mean			57.1					
Silt loam (HF, PYR)	32.1		32.1					
Silt loam (HF, PYM)		45.4	45.4	53.5	46.7	0.87	0.037	0.313
Silt loam (HF, FUR)	34.7		34.7					
Silt loam (HF, ETH)	33.8		33.8					
HF geometric mean			36.2					
Loam (HN, FUR)	75.0		75.0					
Silt loam (HN, PYM)		80.9	80.9	62.1	61.2	0.86	0.037	0.698
HN geometric mean			77.9					
Clay loam (DD, FUR)	41.5		41.5					
Silty loam (DD, PYM)		50.2	50.2	43.5	39.9	0.86	0.027	0.473
Clay loam (DD, ETH)	28.6		28.6					
DD geometric mean			39.1					
Silt loam (SF, FUR)	131,1		131,1					
Silt loam (SF, PYR)	122.4		122.4	76.7		0.85		
SF geometric mean			126.7					
Sandy loam (S, FUR)	10.9		10.9					
Sandy loam (S, PYR)	43.3		43.3	49.5		0.9		
S geometric mean			21.7					
All geometric mean			50.9	56.2[B]			0.033	0.53
All arithmetic mean						0.86		

PYM (= pyrindinyl-methyl-^{14}C-label), PYR (= pyridine-2,6-^{14}C-label), FUR (= furanone-4-^{14}C-label) and ETH (= ethyl-1-^{14}C-label);

AX = Laacher Hof AXXa, HF = Hoefchen, HN = Hanscheider Hof, DD = Dollendorf II, SF = Springfield, S = Sanger

Table C.8. of EFSA opinion on the aged sorption guidance (EFSA, 2018) refers to the values in this table with soil AX=A, HF=B, HN=C, DD=D, SF=E, S=F

TDS: time dependant sorption.

[A] Calculated from lower-tier DegT50 on the basis of option 3. i.e. refitting the lower-tier residue data

[B] Calculated using the lower-tier data only; the Kom,eq fitted in the aged sorption experiment is not used in the leaching assessment.

Table 8.5-6: Summary of soil adsorption/desorption for metabolite 6-CNA

Metabolite 6-CNA							
Soil Name	**Soil Type (USDA)**	**OC* (%)**	**pH ($CaCl_2$)**	**K_f (mL/g)**	**K_{foc} (mL/g)**	**1/n (-)**	**Evaluated on EU level y/n/Reference**
Loamy Sand	Loamy Sand	2.54 ~~1.47~~	6.2	1.027	70	1.0069	Y/ EFSA Journal 2015;13(2):4020
Silt Loam	Silt loam	0.76 ~~0.44~~	6.6	0.569	129	0.9706	Y/ EFSA Journal 2015;13(2):4020
Clay	Clay	2.05 ~~1.19~~	7.5	0.833	70	0.8941	Y/ EFSA Journal 2015;13(2):4020
Clay Loam	Clay loam	1.41 ~~0.82~~	8.3	0.690	84	0.9262	Y/ EFSA Journal 2015;13(2):4020
				Arithmetic mean (n = 4)	88.3	0.9495	
				pH-dependency: y/n	n		

* In the LoEP the respective %OM values were incorrectly included in the %OC column.

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

Metabolite DFA							
Soil Name	**Soil Type (USDA)**	**OC (%)**	**pH ($CaCl_2$)**	**K_f (mL/g)**	**K_{foc} (mL/g)**	**1/n (-)**	**Evaluated on EU level y/n/Reference**
Hoefchen	Silt loam	2.4	6.5	1.74	9.5	0.9053	Y/ EFSA Journal 2015;13(2):4020
Hanscheider Hof	Loam	2.9	5.8	1.07	7.8	0.8013	Y/ EFSA Journal 2015;13(2):4020
Dollendorf II	Clay loam	4.5	7.4	1.78	8.2	0.9579	Y/ EFSA Journal 2015;13(2):4020
Sanger, CA	Sandy loam	0.5	6.0	0.594	6.7	0.6902	Y/ EFSA Journal 2015;13(2):4020
Springfield, NE	Silty clay loam	1.7	6.5	0.274	1.7	0.8194	Y/ EFSA Journal 2015;13(2):4020
				Arithmetic mean (n = 5)	6.8	0.8348	
				pH-dependency: y/n	n		

zRMS comments:

Soil mobility data for flupyradifurone and its metabolites are in line with EU agreed endpoints reported in EFSA Journal 2015;13(2):4020.

It is noted that for metabolite 6-CNA the Applicant changed the OC content of tested soils stating that in the LoEP respective %OM values were incorrectly included in the %OC column. In absence of the study report the zRMS cannot verify this information, however in the DAR (Vol. 3, B.8 of December 2014) the %OC content is given as in the LoEP. Respective correction was thus made by the zRMS noting that full verification would be possible only based on information in the study report. Nevertheless, this issue has no impact on input parameters considered in the subsequent exposure assessment.

The information on time-dependent sorption and summary of degradation and adsorption results obtained for flupyradifurone in lower-tier, aged sorption studies and with combination of both is in line with data reported in EFSA Journal 2018;16(8):5382 and may be used for higher tier groundwater modelling, as already agreed for one of the formulations of the same Applicant (Flupyradifurone FS 480) during the interzonal evaluation performed by Finland as the izRMS (for details, see final Core Assessment, Part B, Section 8 of September 2019). Please note that during this evaluation the Applicant used slightly different values, while values reported in Tables 8.5-4 and 8.5-5 are fully in line with these given in EFSA (2018).

8.5.2 Lysimeter studies (KCP 9.1.2.2)

Lysimeter studies for deltamethrin or flupyradifurone were not required for EU registration; no additional studies have been performed.

zRMS comments:

Information on lysimeter studies for both active compounds is in line with conclusions derived at the EU level.

8.5.3 Field leaching studies (KCP 9.1.2.3)

Field leaching studies for deltamethrin or flupyradifurone were not required for EU registration; no additional studies have been performed.

zRMS comments:
Information on field leaching studies for both active compounds is in line with conclusions derived at the EU level.

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

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

8.6.1.1 Deltamethrin and its metabolites

The degradation of deltamethrin in water/sediment systems has been evaluated; full details of these studies are provided in the respective EU Monograph and related documents and summarised in the conclusions of the EU Review Report (6504/VI/99-final) on deltamethrin, and in particular Appendices I and II thereof, as finalised in the Standing Committee on the Food Chain and Animal Health on 18 October 2002. No additional experimental studies have been performed since additional data was not required as a result of the review.

When entering the water column, deltamethrin disappears very rapidly by partitioning to the sediment, suspended organic matter and biota. A worst case DT_{50} of 17 hours was stated for the water phase in the list of endpoints.

Reliable DT_{50} values for dissipation from the sediment (5 to 14 days) could be determined in one of the pond studies while in the water/sediment study report the total system DT_{50} values of 40 days and 85 to 90 days are given (EU Review Report (6504/VI/99-final)). The water/sediment study was therefore re-evaluated (see in Appendix 2 report M-553324-02-1 by Schad and Zerbe, 2016, new data in the document “Deltamethrin – core information for surface water risk assessment”) in order to derive reliable input parameters for the calculation of PEC_{sw} and PEC_{sed} values. The EU Monograph on deltamethrin and EU Review Report on deltamethrin were fully taken into account. In actual calculations according to FOCUS, 2015: Generic guidance for FOCUS surface water Scenarios, version 1.4, May 2015. EU Document, 367 pp. instead of 17 hours a default value of 1000 days has been used for deltamethrin for water phase and 90 days for deltamethrin for the sediment as a worst case. No DT_{50} values for the metabolite Br_2CA have been stated therefore a default value of 1000 days has been used.

zRMS comments:
Information on degradation of deltamethrin and its metabolite in water/sediment systems presented above is in line with EU Review Report (6504/VI/99-final) and with the most recent version of the *Generic guidance for FOCUS surface water scenarios* (May 2015). The guidance clearly indicates that in case it is not possible to derive specific DT_{50} values for the individual phases (water and sediment), the geometric mean DT_{50} for the whole system is recommended to be used in the exposure evaluation of the surface water scenarios. However, as deltamethrin Kfoc is >2000 mL/g, the whole system geometric mean DT_{50} should be used as input for the sediment phase, while default DT_{50} of 1000 days should be used for the water phase. Please note that this approach has been followed in the course of the renewal process of deltamethrin and is considered to be relevant also for this zonal evaluation.

8.6.1.2 Flupyradifurone and its metabolites

The degradation of flupyradifurone in water/sediment systems has been evaluated, full details of these studies are provided in the respective EU DAR and related documents and summarised in the EFSA conclusion (EFSA Journal 2015;13(2):4020, 101 pp.); no additional studies have been performed.

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

Flupyradifurone Distribution in water decreased to 11.4% (Sandy loam), 22.3% (Loamy sand), 14.1-14.3% (Loam) and 35.6-36.8% (Sand) at termination of the studies. Maximum sediment: 59.4% (Sandy loam) at 59 d, 49.5% (Loamy sand) at termination, 58.3-58.7% (Loam) after 45-60 d and 37.6-38.9 % (Sand) at termination.									
Water/ sediment system	**pH water/ sed.**	**$DegT_{50}$ whole syst. (d)**	**$DegT_{90}$ whole syst. (d)**	**Kinetic fit**	**$DissT_{50}$ water (d)**	**$DissT_{90}$ water (d)**	**Kinetic fit**	**$DissT_{50}$ sed. (d)***	**Evaluated on EU level y/n/Reference**
Sandy loam	7.4 / 5.2	193.1	641.3	SFO	8.5	174.6	FOMC	-	Y/ EFSA Journal 2015;13(2):4020
Loamy sand	7.7 / 6.7	246.9	820.1	SFO	34.5	181.8	DFOP	-	Y/ EFSA Journal 2015;13(2):4020
Loam	6.5 / 4.8	208.2	691.6	SFO	48.5	161.0	DFOP	-	Y/ EFSA Journal 2015;13(2):4020
Sand	6.9 / 6.8	246.1	817.4	SFO	123.8	411.2	DFOP	-	Y/ EFSA Journal 2015;13(2):4020
Loam	6.5 / 4.8	202.4	672.2	SFO	50.2	116.9	DFOP	-	Y/ EFSA Journal 2015;13(2):4020
Sand	6.9 / 6.8	285.0	946.9	SFO	117.5	390.3	DFOP	-	Y/ EFSA Journal 2015;13(2):4020
Geometric mean (n = 6)		228.1	757.7						

* not calculated

Table 8.6-2: Summary of observed metabolites

DFA Water/sediment system	Max. in water/sediment: 6.9% after 120 d (Angler Wieher, ethyl label). Max. in water: 6.0% after 120 d (Angler Wieher, ethyl label). Max. in sediment: 0.9% after 120 d (Angler Wieher, ethyl label).	Evaluated on EU level Y/ EFSA Journal 2015;13(2):4020
BYI 02960-succinamide	Max. 39.6% in water (photolytic degradation)	Y/ EFSA Journal 2015;13(2):4020
BYI 02960-azabicyclo-succinamide	Max. 25.9% in water (photolytic degradation)	Y/ EFSA Journal 2015;13(2):4020

Table 8.6-3: Summary of degradation in water/sediment of flupyradifurone metabolite DFA

DFA **Distribution in water decrease to 32.3% (Loam) at termination of the study and 72.3% (Loamy sand) at 79 d. Maximum sediment: 25.2% (Loam) and 16.5% (Loamy sand) both after 79 d.**									
Water/ sediment system	**pH water/ sed.**	**$DegT_{50}$ whole syst. (d)**	**$DegT_{90}$ whole syst. (d)**	**Kinetic fit**	**$DissT_{50}$ water (d)**	**$DissT_{90}$ water (d)**	**Kinetic fit**	**$DissT_{50}$ sed. (d)***	**Evaluated on EU level y/n/Reference**
Loam	6.9/5.2	109.0	362.2	SFO	75.3	250.3	DFOP	-	Y/ EFSA Journal 2015;13(2):4020
Loamy sand	7.5/7.0	567.2	>1000	SFO	371.5	>1000	SFO	-	Y/ EFSA Journal 2015;13(2):4020
Geometric mean (n = 6)		248.6	601.8						

* not calculated

zRMS comments:

Information on degradation of flupyradifurone and its metabolite DFA in water/sediment systems presented in Tables 8.6-1 to 8.6-3 above is in line with data reported in EFSA Journal 2015;13(2):4020.

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

8.7.1 Justification for new endpoints

No deviations from EU agreed endpoints for deltamethrin.
No deviations from EU agreed endpoints for flupyradifurone.

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

PEC_{soil} reports provided by the applicant are listed in Appendix 3.1.

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

Use No.	~~105, 219, 254, 335, 354, 373~~	119, 120, 216, 218, 263, 264, 349, 350, 368, 369, 387, 388	106,108, 110, 112, 114, 116, 203, 205, 207, 209, 211, 213, 255, 256, 257, 258, 260, 336, 338, 340, 342, 344, 346, 355, 357, 359, 361, 363, 365, 374, 376, 378, 380, 382, 384
Crop	~~Sunflower~~	Spring cereals	Spring cereals
Application rate (g as/ha)	~~Deltamethrin: 7.5~~ ~~Flupyradifurone: 56.2~~	Deltamethrin: 7.5 Flupyradifurone: 56.2	Deltamethrin: 5 Flupyradifurone: 37.5
Number of applications/interval	~~2/14~~	1/-	2/14
Crop interception (%)	~~2 × 50~~	80	2 × 80
Depth of soil layer (relevant for plateau concentration) (cm)	~~20 (tillage)~~	20 (tillage)	20 (tillage)

Table 8.7-2: (continued) - Input parameters related to application for PEC_{soil} calculations

Use No.	107, 109, 111, 113, 115, 117, 204, 206, 208, 210, 212, 214, 259, 261, 337, 339, 341, 343, 345, 347, 356, 358, 360, 362, 364, 366, 375, 377, 379, 381, 383, 385	118, 121, 215, 217, 262, 265, 348, 351, 367, 370, 386, 389	103, 104, 201, 202, 252, 253, 352, 353, 371, 372
Crop	Spring cereals	Maize	Vines
Application rate (g as/ha)	Deltamethrin: 7.5 Flupyradifurone: 56.2	Deltamethrin: 7.5 Flupyradifurone: 56.2	Deltamethrin: 4 Flupyradifurone: 30
Number of applications/interval	2/14	1/-	2/14
Crop interception (%)	2 × 80	75	2 × 60
Depth of soil layer (relevant for plateau concentration) (cm)	20 (tillage)	20 (tillage)	5 cm

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
Deltamethrin	505.2	100	28 (maximum field DT_{50})	Y/ EU review report 6504/VI/99-final (2002)
Br_2CA	298.0	23	21 (maximum first-order, lab. DT_{50}, n = 1)	Y/ EU review report 6504/VI/99-final (2002)
Flupyradifurone	288.7	100	0.02 (fast), 462 (slow) (DFOP, k_1 = 34.66, ~~k_1 = 31.6805~~, k_2 = 0.0015, g = 0.2716, maximum field, not-normalised, n = 6)	Y/ EFSA Journal 2015;13(2):4020

Compound	Molecular weight (g/mol)	Max. occurrence (%)	DT50 (days)	Value in accordance to EU endpoint y/n/ Reference
6-CNA	157.6	17.1	36.6 (SFO, maximum lab., not-normalised, n = 5)	Y/ EFSA Journal 2015;13(2):4020
DFA	96.0	33.9	73.6 (SFO, maximum lab., not-normalised, n = 3)	Y/ EFSA Journal 2015;13(2):4020

zRMS comments:

The application pattern presented in Table 8.7-1 and assumed in soil exposure calculation is in general in line with the critical Central Zone GAP presented in Table 8.1-1, with exception of the use of DLT+FPF EC 85 in sunflower, which was withdrawn by the Applicant. The information referring to this use was thus struck through in Table 8.7-1 above.

Input parameters presented in Table 8.7-2 for deltamethrin and metabolite Br_2CA considered in Applicants' soil exposure assessment for deltamethrin are in agreement with values reported in the Review Report for deltamethrin (6504/VI/99-final of 2002).

Input parameters for flupyradifurone and its metabolites are in general in line with EU agreed parameters defined for soil exposure calculations in EFSA Journal 2015;13(2):4020 with exception of k1 value, which was corrected by the zRMS to comply with the LoEP. It should be, however, noted that the k1 value provided by the Applicant in Table 8.7-2 is also reported in the LoEP (see page 50 of EFSA Journal 2015;13(2):4020), but was not indicated as an input for calculation of the PEC_{SOIL} (EU agreed input parameters are given on page 52 of the LoEP).

8.7.2.1 Deltamethrin and metabolites

PEC_{soil} of deltamethrin

Table 8.7-3: PEC_{soil} for deltamethrin on sunflower 1, 2×7.5 g a.s./ha, 2×50% interception, 14 d app. interval

PEC_{soil} (mg/kg)		Sunflower 1			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		0.005	-	0.009	-
Short term	24h	0.005	0.005	0.008	0.008
	2d	0.005	0.005	0.008	0.008
	4d	0.005	0.005	0.008	0.008
Long term	7d	0.004	0.005	0.007	0.008
	14d	0.004	0.004	0.006	0.007
	21d	0.003	0.004	0.005	0.007
	28d	0.003	0.004	0.004	0.006
	42d	0.002	0.003	0.003	0.005
	50d	0.001	0.003	0.002	0.005
	100d	<0.001	0.002	<0.001	0.003
Plateau concentration (20 cm) after year 0		<0.001	-	<0.001	-
$PEC_{accumulation}$ (PEC_{act} +$PEC_{soil\ plateau}$)		0.005		0.009	

Table 8.7-4: PEC_{soil} for deltamethrin on sorghum 1, 1×7.5 g a.s./ha, 80% interception

PEC_{soil} (mg/kg)		Sorghum 1			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		0.002	-	0.002	-
Short term	24h	0.002	0.002	0.002	0.002
	2d	0.002	0.002	0.002	0.002
	4d	0.002	0.002	0.002	0.002
Long term	7d	0.002	0.002	0.002	0.002
	14d	0.001	0.002	0.001	0.002
	21d	0.001	0.002	0.001	0.002
	28d	0.001	0.001	0.001	0.001
	42d	<0.001	0.001	<0.001	0.001
	50d	<0.001	0.001	<0.001	0.001
	100d	<0.001	< 0.001	<0.001	< 0.001
Plateau concentration (20 cm) after year 0		<0.001	-	<0.001	-
$PEC_{accumulation}$ (PEC_{act} +$PEC_{soil\ plateau}$)		0.002		0.002	

Table 8.7-5: PEC_{soil} for deltamethrin on cereals 1, 2×5 g a.s./ha, 2×80% interception, 14 d app. interval

PEC_{soil} (mg/kg)		Cereals 1			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		0.001	-	0.002	-
Short term	24h	0.001	0.001	0.002	0.002
	2d	0.001	0.001	0.002	0.002
	4d	0.001	0.001	0.002	0.002
Long term	7d	0.001	0.001	0.002	0.002
	14d	<0.001	0.001	0.002	0.002
	21d	<0.001	0.001	0.001	0.002
	28d	<0.001	< 0.001	0.001	0.002
	42d	<0.001	< 0.001	<0.001	0.001
	50d	<0.001	< 0.001	<0.001	0.001
	100d	<0.001	< 0.001	<0.001	< 0.001
Plateau concentration (20 cm) after year 0		<0.001	-	<0.001	-
$PEC_{accumulation}$ (PEC_{act} +$PEC_{soil\ plateau}$)		0.001		0.002	

Table 8.7-6: PEC_{soil} for deltamethrin on cereals 2, 2×7.5 g a.s./ha, 2×80% interception, 14 d app. interval

PEC_{soil} (mg/kg)		Cereals 2			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		0.002	-	0.003	-
Short term	24h	0.002	0.002	0.003	0.003
	2d	0.002	0.002	0.003	0.003
	4d	0.002	0.002	0.003	0.003
Long term	7d	0.002	0.002	0.003	0.003
	14d	0.001	0.002	0.002	0.003
	21d	0.001	0.002	0.002	0.003
	28d	0.001	0.001	0.002	0.002
	42d	<0.001	0.001	0.001	0.002
	50d	<0.001	0.001	<0.001	0.002
	100d	<0.001	< 0.001	<0.001	0.001
Plateau concentration (20 cm) after year 0		<0.001	-	<0.001	-
$PEC_{accumulation}$ (PEC_{act} +$PEC_{soil\ plateau}$)		0.002		0.003	

Table 8.7-7: PEC$_{soil}$ for deltamethrin on maize 1, 1×7.5 g a.s./ha, 75% interception

PEC$_{soil}$ (mg/kg)		Maize 1			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		0.003	-	0.003	-
Short term	24h	0.002	0.002	0.002	0.002
	2d	0.002	0.002	0.002	0.002
	4d	0.002	0.002	0.002	0.002
Long term	7d	0.002	0.002	0.002	0.002
	14d	0.002	0.002	0.002	0.002
	21d	0.001	0.002	0.001	0.002
	28d	0.001	0.002	0.001	0.002
	42d	<0.001	0.002	<0.001	0.002
	50d	<0.001	0.001	<0.001	0.001
	100d	<0.001	< 0.001	<0.001	< 0.001
Plateau concentration (20 cm) after year 0		<0.001	-	<0.001	-
PEC$_{accumulation}$ (PEC$_{act}$ +PEC$_{soil\ plateau}$)		0.003		0.003	

Table 8.7-8: PEC$_{soil}$ for deltamethrin on grape 1, 2×4 g a.s./ha, 2×60% interception, 14 d app. interval

PEC$_{soil}$ (mg/kg)		Grape 1			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		0.002	-	0.004	-
Short term	24h	0.002	0.002	0.004	0.004
	2d	0.002	0.002	0.003	0.004
	4d	0.002	0.002	0.003	0.003
Long term	7d	0.002	0.002	0.003	0.003
	14d	0.002	0.002	0.003	0.003
	21d	0.001	0.002	0.002	0.003
	28d	0.001	0.002	0.002	0.003
	42d	<0.001	0.001	0.001	0.002
	50d	<0.001	0.001	0.001	0.002
	100d	<0.001	< 0.001	<0.001	0.001
Plateau concentration (5 cm) after year 0		<0.001	-	<0.001	-
PEC$_{accumulation}$ (PEC$_{act}$ +PEC$_{soil\ plateau}$)		0.002		0.004	

PEC$_{soil}$ of metabolite Br2CA

~~**Table 8.7-9: PEC$_{soil}$ for Br2CA on sunflower 1, 2×7.5 g a.s./ha, 2×50% interception, 14 d app. interval**~~

~~PEC$_{soil}$ (mg/kg)~~		~~Sunflower 1~~			
		~~Single application~~		~~Multiple applications~~	
		~~Actual~~	~~TWA~~	~~Actual~~	~~TWA~~
~~Initial~~		~~<0.001~~	~~-~~	~~0.001~~	~~-~~
~~Short term~~	~~24h~~	~~<0.001~~	~~< 0.001~~	~~0.001~~	~~0.001~~
	~~2d~~	~~<0.001~~	~~< 0.001~~	~~0.001~~	~~0.001~~
	~~4d~~	~~<0.001~~	~~< 0.001~~	~~<0.001~~	~~0.001~~
~~Long term~~	~~7d~~	~~<0.001~~	~~< 0.001~~	~~<0.001~~	~~< 0.001~~
	~~14d~~	~~<0.001~~	~~< 0.001~~	~~<0.001~~	~~< 0.001~~
	~~21d~~	~~<0.001~~	~~< 0.001~~	~~<0.001~~	~~< 0.001~~
	~~28d~~	~~<0.001~~	~~< 0.001~~	~~<0.001~~	~~< 0.001~~
	~~42d~~	~~<0.001~~	~~< 0.001~~	~~<0.001~~	~~< 0.001~~
	~~50d~~	~~<0.001~~	~~< 0.001~~	~~<0.001~~	~~< 0.001~~
	~~100d~~	~~<0.001~~	~~< 0.001~~	~~<0.001~~	~~< 0.001~~
~~Plateau concentration (20 cm) after year 0~~		~~<0.001~~	~~-~~	~~<0.001~~	~~-~~
~~PEC$_{accumulation}$ (PEC$_{act}$ +PEC$_{soil\ plateau}$)~~		~~<0.001~~		~~0.001~~	

Table 8.7-10: PEC_{soil} for Br2CA on sorghum 1, 1×7.5 g a.s./ha, 80% interception

PEC_{soil} (mg/kg)		Sorghum 1			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		<0.001	-	<0.001	-
Short term	24h	<0.001	< 0.001	<0.001	< 0.001
	2d	<0.001	< 0.001	<0.001	< 0.001
	4d	<0.001	< 0.001	<0.001	< 0.001
Long term	7d	<0.001	< 0.001	<0.001	< 0.001
	14d	<0.001	< 0.001	<0.001	< 0.001
	21d	<0.001	< 0.001	<0.001	< 0.001
	28d	<0.001	< 0.001	<0.001	< 0.001
	42d	<0.001	< 0.001	<0.001	< 0.001
	50d	<0.001	< 0.001	<0.001	< 0.001
	100d	<0.001	< 0.001	<0.001	< 0.001
Plateau concentration (20 cm) after year 0		<0.001	-	<0.001	-
$PEC_{accumulation}$ (PEC_{act} +$PEC_{soil\ plateau}$)		<0.001		<0.001	

Table 8.7-11: PEC_{soil} for Br2CA on cereals 1, 2×5 g a.s./ha, 2×80% interception, 14 d app. interval

PEC_{soil} (mg/kg)		Cereals 1			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		<0.001	-	<0.001	-
Short term	24h	<0.001	< 0.001	<0.001	< 0.001
	2d	<0.001	< 0.001	<0.001	< 0.001
	4d	<0.001	< 0.001	<0.001	< 0.001
Long term	7d	<0.001	< 0.001	<0.001	< 0.001
	14d	<0.001	< 0.001	<0.001	< 0.001
	21d	<0.001	< 0.001	<0.001	< 0.001
	28d	<0.001	< 0.001	<0.001	< 0.001
	42d	<0.001	< 0.001	<0.001	< 0.001
	50d	<0.001	< 0.001	<0.001	< 0.001
	100d	<0.001	< 0.001	<0.001	< 0.001
Plateau concentration (20 cm) after year 0		<0.001	-	<0.001	-
$PEC_{accumulation}$ (PEC_{act} +$PEC_{soil\ plateau}$)		<0.001		<0.001	

Table 8.7-12: PEC_{soil} for Br2CA on cereals 2, 2×7.5 g a.s./ha, 2×80% interception, 14 d app. interval

PEC_{soil} (mg/kg)		Cereals 2			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		<0.001	-	<0.001	-
Short term	24h	<0.001	< 0.001	<0.001	< 0.001
	2d	<0.001	< 0.001	<0.001	< 0.001
	4d	<0.001	< 0.001	<0.001	< 0.001
Long term	7d	<0.001	< 0.001	<0.001	< 0.001
	14d	<0.001	< 0.001	<0.001	< 0.001
	21d	<0.001	< 0.001	<0.001	< 0.001
	28d	<0.001	< 0.001	<0.001	< 0.001
	42d	<0.001	< 0.001	<0.001	< 0.001
	50d	<0.001	< 0.001	<0.001	< 0.001
	100d	<0.001	< 0.001	<0.001	< 0.001
Plateau concentration (20 cm) after year 0		<0.001	-	<0.001	-
$PEC_{accumulation}$ (PEC_{act} +$PEC_{soil\ plateau}$)		<0.001		<0.001	

Table 8.7-13: PEC$_{soil}$ for Br2CA on maize 1, 1×7.5 g a.s./ha, 75% interception

PEC$_{soil}$ (mg/kg)		Maize 1			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		<0.001	-	<0.001	-
Short term	24h	<0.001	< 0.001	<0.001	< 0.001
	2d	<0.001	< 0.001	<0.001	< 0.001
	4d	<0.001	< 0.001	<0.001	< 0.001
Long term	7d	<0.001	< 0.001	<0.001	< 0.001
	14d	<0.001	< 0.001	<0.001	< 0.001
	21d	<0.001	< 0.001	<0.001	< 0.001
	28d	<0.001	< 0.001	<0.001	< 0.001
	42d	<0.001	< 0.001	<0.001	< 0.001
	50d	<0.001	< 0.001	<0.001	< 0.001
	100d	<0.001	< 0.001	<0.001	< 0.001
Plateau concentration (20 cm) after year 0		<0.001	-	<0.001	-
PEC$_{accumulation}$ (PEC$_{act}$ +PEC$_{soil\ plateau}$)		<0.001		<0.001	

Table 8.7-14: PEC$_{soil}$ for Br2CA on grape 1, 2×4 g a.s./ha, 2×60% interception, 14 d app. interval

PEC$_{soil}$ (mg/kg)		Grape 1			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		<0.001	-	<0.001	-
Short term	24h	<0.001	< 0.001	<0.001	< 0.001
	2d	<0.001	< 0.001	<0.001	< 0.001
	4d	<0.001	< 0.001	<0.001	< 0.001
Long term	7d	<0.001	< 0.001	<0.001	< 0.001
	14d	<0.001	< 0.001	<0.001	< 0.001
	21d	<0.001	< 0.001	<0.001	< 0.001
	28d	<0.001	< 0.001	<0.001	< 0.001
	42d	<0.001	< 0.001	<0.001	< 0.001
	50d	<0.001	< 0.001	<0.001	< 0.001
	100d	<0.001	< 0.001	<0.001	< 0.001
Plateau concentration (5 cm) after year 0		<0.001	-	<0.001	-
PEC$_{accumulation}$ (PEC$_{act}$ +PEC$_{soil\ plateau}$)		<0.001		<0.001	

zRMS comments:

The soil exposure for deltamethrin and metabolite Br_2CA has been independently validated by the zRMS using FOCUS methods and EU agreed endpoints. The pseudo-application rates of metabolite were derived with consideration of the parent rate, molar ratio and peak occurrence in soil. The calculated PEC$_{SOIL}$ values were in good agreement with these obtained by the Applicant. Therefore, results reported in tables above may be used for the soil risk assessment purposes.

Since use in sunflower was withdrawn by the Applicant, the soil exposure for this use presented in Tables 8.7-3 and 8.7-9 was struck through as no longer relevant.

8.7.2.2 Flupyradifurone and metabolites

PEC$_{soil}$ of flupyradifurone

~~Table 8.7-15: PEC$_{soil}$ for flupyradifurone on sunflower 1, 2×56.2 g a.s./ha, 2×50% interception, 14 d app. interval~~

~~PEC$_{soil}$ (mg/kg)~~		~~Sunflower 1~~			
		~~Single application~~		~~Multiple applications~~	
		~~Actual~~	~~TWA~~	~~Actual~~	~~TWA~~
~~Initial~~		~~0.037~~	~~-~~	~~0.064~~	~~-~~
~~Short term~~	~~24h~~	~~0.027~~	~~0.032~~	~~0.054~~	~~0.059~~
	~~2d~~	~~0.027~~	~~0.031~~	~~0.054~~	~~0.057~~
	~~4d~~	~~0.027~~	~~0.029~~	~~0.054~~	~~0.056~~
~~Long term~~	~~7d~~	~~0.027~~	~~0.028~~	~~0.053~~	~~0.055~~
	~~14d~~	~~0.027~~	~~0.028~~	~~0.053~~	~~0.054~~
	~~21d~~	~~0.026~~	~~0.027~~	~~0.052~~	~~0.054~~
	~~28d~~	~~0.026~~	~~0.027~~	~~0.052~~	~~0.053~~
	~~42d~~	~~0.026~~	~~0.027~~	~~0.051~~	~~0.053~~
	~~50d~~	~~0.025~~	~~0.026~~	~~0.050~~	~~0.052~~
	~~100d~~	~~0.023~~	~~0.025~~	~~0.046~~	~~0.050~~
~~Plateau concentration (20 cm) after year 5~~		~~0.009~~	~~-~~	~~0.019~~	~~-~~
~~PEC$_{accumulation}$ (PEC$_{act}$ +PEC$_{soil\ plateau}$)~~		~~0.047~~		~~0.083~~	

Table 8.7-16: PEC$_{soil}$ for flupyradifurone on sorghum 1, 1×56.2 g a.s./ha, 80% interception

PEC$_{soil}$ (mg/kg)		**Sorghum 1**			
		Single application			
		Actual	**TWA**		
Initial		0.015	-		
Short term	24h	0.011	0.013		
	2d	0.011	0.012		
	4d	0.011	0.012		
Long term	7d	0.011	0.011		
	14d	0.011	0.011		
	21d	0.011	0.011		
	28d	0.010	0.011		
	42d	0.010	0.011		
	50d	0.010	0.011		
	100d	0.009	0.010		
Plateau concentration (20 cm) after year 5		0.004	-		
PEC$_{accumulation}$ (PEC$_{act}$ +PEC$_{soil\ plateau}$)		0.019			

Table 8.7-17: PEC$_{soil}$ for flupyradifurone on cereals 1, 2×37.5 g a.s./ha, 2×80% interception, 14 d app. interval

PEC$_{soil}$ (mg/kg)		**Cereals 1**			
		Single application		**Multiple applications**	
		Actual	**TWA**	**Actual**	**TWA**
Initial		0.010	-	0.017	-
Short term	24h	0.007	0.009	0.014	0.016
	2d	0.007	0.008	0.014	0.015
	4d	0.007	0.008	0.014	0.015
Long term	7d	0.007	0.008	0.014	0.015
	14d	0.007	0.007	0.014	0.014
	21d	0.007	0.007	0.014	0.014
	28d	0.007	0.007	0.014	0.014
	42d	0.007	0.007	0.014	0.014
	50d	0.007	0.007	0.013	0.014
	100d	0.006	0.007	0.012	0.013
Plateau concentration (20 cm) after year 5		0.002	-	0.005	-
PEC$_{accumulation}$ (PEC$_{act}$ +PEC$_{soil\ plateau}$)		0.012		0.022	

Table 8.7-18: PEC$_{soil}$ for flupyradifurone on cereals 2, 2×56.2 g a.s./ha, 2×80% interception, 14 d app. interval

PEC$_{soil}$ (mg/kg)		Cereals 2			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		0.015	-	0.026	-
Short term	24h	0.011	0.013	0.022	0.024
	2d	0.011	0.012	0.022	0.023
	4d	0.011	0.012	0.021	0.022
Long term	7d	0.011	0.011	0.021	0.022
	14d	0.011	0.011	0.021	0.022
	21d	0.011	0.011	0.021	0.021
	28d	0.010	0.011	0.021	0.021
	42d	0.010	0.011	0.020	0.021
	50d	0.010	0.011	0.020	0.021
	100d	0.009	0.010	0.019	0.020
Plateau concentration (20 cm) after year 5		0.004	-	0.008	-
PEC$_{accumulation}$ (PEC$_{act}$ +PEC$_{soil\ plateau}$)		0.019		0.033	

Table 8.7-19: PEC$_{soil}$ for flupyradifurone on maize 1, 1×56.2 g a.s./ha, 75% interception

PEC$_{soil}$ (mg/kg)		Maize 1			
		Single application			
		Actual	TWA		
Initial		0.019	-		
Short term	24h	0.014	0.016		
	2d	0.014	0.015		
	4d	0.014	0.015		
Long term	7d	0.014	0.014		
	14d	0.013	0.014		
	21d	0.013	0.014		
	28d	0.013	0.014		
	42d	0.013	0.013		
	50d	0.013	0.013		
	100d	0.012	0.013		
Plateau concentration (20 cm) after year 5		0.005	-		
PEC$_{accumulation}$ (PEC$_{act}$ +PEC$_{soil\ plateau}$)		0.023			

Table 8.7-20: PEC$_{soil}$ for flupyradifurone on grape 1, 2×30 g a.s./ha, 2×60% interception, 14 d app. interval

PEC$_{soil}$ (mg/kg)		Grape 1			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		0.016	-	0.027	-
Short term	24h	0.012	0.014	0.023	0.025
	2d	0.012	0.013	0.023	0.024
	4d	0.012	0.012	0.023	0.024
Long term	7d	0.012	0.012	0.023	0.023
	14d	0.011	0.012	0.023	0.023
	21d	0.011	0.012	0.022	0.023
	28d	0.011	0.012	0.022	0.023
	42d	0.011	0.011	0.022	0.022
	50d	0.011	0.011	0.021	0.022
	100d	0.010	0.011	0.020	0.021
Plateau concentration (5 cm) after year 5		0.016	-	0.032	-
PEC$_{accumulation}$ (PEC$_{act}$ +PEC$_{soil\ plateau}$)		0.032		0.060	

PEC_{soil} of metabolites

Table 8.7-21: PEC_{soil} for difluoroacetic acid on sunflower 1, 2×56.2 g a.s./ha, 2×50% interception, 14 d app. interval

PEC_{soil} (mg/kg)		Sunflower 1			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		0.004	-	0.008	-
Short term	24h	0.004	0.004	0.008	0.008
	2d	0.004	0.004	0.008	0.008
	4d	0.004	0.004	0.008	0.008
Long term	7d	0.004	0.004	0.007	0.008
	14d	0.004	0.004	0.007	0.007
	21d	0.003	0.004	0.007	0.007
	28d	0.003	0.004	0.006	0.007
	42d	0.003	0.003	0.005	0.007
	50d	0.003	0.003	0.005	0.006
	100d	0.002	0.003	0.003	0.005
Plateau concentration (20 cm) after year 1		<0.001	-	<0.001	-
$PEC_{accumulation}$ (PEC_{act} +$PEC_{soil\ plateau}$)		0.004		0.008	

Table 8.7-22: PEC_{soil} for 6-chloronicotinic acid on sunflower 1, 2×56.2 g a.s./ha, 2×50% interception, 14 d app. interval

PEC_{soil} (mg/kg)		Sunflower 1			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		0.003	-	0.006	-
Short term	24h	0.003	0.003	0.006	0.006
	2d	0.003	0.003	0.006	0.006
	4d	0.003	0.003	0.006	0.006
Long term	7d	0.003	0.003	0.005	0.006
	14d	0.003	0.003	0.005	0.005
	21d	0.002	0.003	0.004	0.005
	28d	0.002	0.003	0.004	0.005
	42d	0.002	0.002	0.003	0.004
	50d	0.001	0.002	0.002	0.004
	100d	<0.001	0.002	<0.001	0.003
Plateau concentration (20 cm) after year 1		<0.001	-	<0.001	-
$PEC_{accumulation}$ (PEC_{act} +$PEC_{soil\ plateau}$)		0.003		0.006	

Table 8.7-23: PEC_{soil} for difluoroacetic acid on sorghum 1, 1×56.2 g a.s./ha, 80% interception

PEC_{soil} (mg/kg)		Sorghum 1			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		0.002	-	0.002	-
Short term	24h	0.002	0.002	0.002	0.002
	2d	0.002	0.002	0.002	0.002
	4d	0.002	0.002	0.002	0.002
Long term	7d	0.002	0.002	0.002	0.002
	14d	0.001	0.002	0.001	0.002
	21d	0.001	0.002	0.001	0.002
	28d	0.001	0.001	0.001	0.001
	42d	0.001	0.001	0.001	0.001
	50d	0.001	0.001	0.001	0.001
	100d	<0.001	0.001	<0.001	0.001
Plateau concentration (20 cm) after year 1		<0.001	-	<0.001	-
$PEC_{accumulation}$ (PEC_{act} +$PEC_{soil\ plateau}$)		0.002		0.002	

Table 8.7-24: PEC$_{soil}$ for 6-chloronicotinic acid on sorghum 1, 1×56.2 g a.s./ha, 80% interception

PEC$_{soil}$ (mg/kg)		Sorghum 1			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		0.001	-	0.001	-
Short term	24h	0.001	0.001	0.001	0.001
	2d	0.001	0.001	0.001	0.001
	4d	0.001	0.001	0.001	0.001
Long term	7d	0.001	0.001	0.001	0.001
	14d	0.001	0.001	0.001	0.001
	21d	<0.001	0.001	<0.001	0.001
	28d	<0.001	0.001	<0.001	0.001
	42d	<0.001	< 0.001	<0.001	< 0.001
	50d	<0.001	< 0.001	<0.001	< 0.001
	100d	<0.001	< 0.001	<0.001	< 0.001
Plateau concentration (20 cm) after year 1		<0.001	-	<0.001	-
PEC$_{accumulation}$ (PEC$_{act}$ +PEC$_{soil\ plateau}$)		0.001		0.001	

Table 8.7-25: PEC$_{soil}$ for difluoroacetic acid on cereals 1, 2×37.5 g a.s./ha, 2×80% interception, 14 d app. interval

PEC$_{soil}$ (mg/kg)		Cereals 1			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		0.001	-	0.002	-
Short term	24h	0.001	0.001	0.002	0.002
	2d	0.001	0.001	0.002	0.002
	4d	0.001	0.001	0.002	0.002
Long term	7d	0.001	0.001	0.002	0.002
	14d	<0.001	0.001	0.002	0.002
	21d	<0.001	0.001	0.002	0.002
	28d	<0.001	< 0.001	0.002	0.002
	42d	<0.001	< 0.001	0.001	0.002
	50d	<0.001	< 0.001	0.001	0.002
	100d	<0.001	< 0.001	<0.001	0.001
Plateau concentration (20 cm) after year 1		<0.001	-	<0.001	-
PEC$_{accumulation}$ (PEC$_{act}$ +PEC$_{soil\ plateau}$)		0.001		0.002	

Table 8.7-26: PEC$_{soil}$ for 6-chloronicotinic acid on cereals 1, 2×37.5 g a.s./ha, 2×80% interception, 14 d app. interval

PEC$_{soil}$ (mg/kg)		Cereals 1			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		<0.001	-	0.002	-
Short term	24h	<0.001	< 0.001	0.002	0.002
	2d	<0.001	< 0.001	0.002	0.002
	4d	<0.001	< 0.001	0.002	0.002
Long term	7d	<0.001	< 0.001	0.001	0.002
	14d	<0.001	< 0.001	0.001	0.001
	21d	<0.001	< 0.001	0.001	0.001
	28d	<0.001	< 0.001	<0.001	0.001
	42d	<0.001	< 0.001	<0.001	0.001
	50d	<0.001	< 0.001	<0.001	0.001
	100d	<0.001	< 0.001	<0.001	< 0.001
Plateau concentration (20 cm) after year 1		<0.001	-	<0.001	-
PEC$_{accumulation}$ (PEC$_{act}$ +PEC$_{soil\ plateau}$)		<0.001		0.002	

Table 8.7-27: PEC_{soil} for difluoroacetic acid on cereals 2, 2×56.2 g a.s./ha, 2×80% interception, 14 d app. interval

PEC_{soil} (mg/kg)		Cereals 2			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		0.002	-	0.003	-
Short term	24h	0.002	0.002	0.003	0.003
	2d	0.002	0.002	0.003	0.003
	4d	0.002	0.002	0.003	0.003
Long term	7d	0.002	0.002	0.003	0.003
	14d	0.001	0.002	0.003	0.003
	21d	0.001	0.002	0.003	0.003
	28d	0.001	0.001	0.002	0.003
	42d	0.001	0.001	0.002	0.003
	50d	0.001	0.001	0.002	0.003
	100d	<0.001	0.001	0.001	0.002
Plateau concentration (20 cm) after year 1		<0.001	-	<0.001	-
$PEC_{accumulation}$ (PEC_{act} +$PEC_{soil\ plateau}$)		0.002		0.003	

Table 8.7-28: PEC_{soil} for 6-chloronicotinic acid on cereals 2, 2×56.2 g a.s./ha, 2×80% interception, 14 d app. interval

PEC_{soil} (mg/kg)		Cereals 2			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		0.001	-	0.002	-
Short term	24h	0.001	0.001	0.002	0.002
	2d	0.001	0.001	0.002	0.002
	4d	0.001	0.001	0.002	0.002
Long term	7d	0.001	0.001	0.002	0.002
	14d	0.001	0.001	0.002	0.002
	21d	<0.001	0.001	0.002	0.002
	28d	<0.001	0.001	0.001	0.002
	42d	<0.001	< 0.001	0.001	0.002
	50d	<0.001	< 0.001	<0.001	0.002
	100d	<0.001	< 0.001	<0.001	0.001
Plateau concentration (20 cm) after year 1		<0.001	-	<0.001	-
$PEC_{accumulation}$ (PEC_{act} +$PEC_{soil\ plateau}$)		0.001		0.002	

Table 8.7-29: PEC_{soil} for difluoroacetic acid on maize 1, 1×56.2 g a.s./ha, 75% interception

PEC_{soil} (mg/kg)		Maize 1			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		0.002	-	0.002	-
Short term	24h	0.002	0.002	0.002	0.002
	2d	0.002	0.002	0.002	0.002
	4d	0.002	0.002	0.002	0.002
Long term	7d	0.002	0.002	0.002	0.002
	14d	0.002	0.002	0.002	0.002
	21d	0.002	0.002	0.002	0.002
	28d	0.002	0.002	0.002	0.002
	42d	0.001	0.002	0.001	0.002
	50d	0.001	0.002	0.001	0.002
	100d	<0.001	0.001	<0.001	0.001
Plateau concentration (20 cm) after year 1		<0.001	-	<0.001	-
$PEC_{accumulation}$ (PEC_{act} +$PEC_{soil\ plateau}$)		0.002		0.002	

Table 8.7-30: PEC$_{soil}$ for 6-chloronicotinic acid on maize 1, 1×56.2 g a.s./ha, 75% interception

PEC$_{soil}$ (mg/kg)		Maize 1			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		0.002	-	0.002	-
Short term	24h	0.002	0.002	0.002	0.002
	2d	0.002	0.002	0.002	0.002
	4d	0.002	0.002	0.002	0.002
Long term	7d	0.002	0.002	0.002	0.002
	14d	0.001	0.002	0.001	0.002
	21d	0.001	0.001	0.001	0.001
	28d	0.001	0.001	0.001	0.001
	42d	<0.001	0.001	<0.001	0.001
	50d	<0.001	0.001	<0.001	0.001
	100d	<0.001	< 0.001	<0.001	< 0.001
Plateau concentration (20 cm) after year 1		<0.001	-	<0.001	-
PEC$_{accumulation}$ (PEC$_{act}$ +PEC$_{soil\ plateau}$)		0.002		0.002	

Table 8.7-31: PEC$_{soil}$ for difluoroacetic acid on grape 1, 2×30 g a.s./ha, 2×60% interception, 14 d app. interval

PEC$_{soil}$ (mg/kg)		Grape 1			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		0.002	-	0.003	-
Short term	24h	0.002	0.002	0.003	0.003
	2d	0.002	0.002	0.003	0.003
	4d	0.002	0.002	0.003	0.003
Long term	7d	0.002	0.002	0.003	0.003
	14d	0.002	0.002	0.003	0.003
	21d	0.001	0.002	0.003	0.003
	28d	0.001	0.002	0.003	0.003
	42d	0.001	0.001	0.002	0.003
	50d	0.001	0.001	0.002	0.003
	100d	<0.001	0.001	0.001	0.002
Plateau concentration (5 cm) after year 1		<0.001	-	<0.001	-
PEC$_{accumulation}$ (PEC$_{act}$ +PEC$_{soil\ plateau}$)		0.002		0.003	

Table 8.7-32: PEC$_{soil}$ for 6-chloronicotinic acid on grape 1, 2×30 g a.s./ha, 2×60% interception, 14 d app. interval

PEC$_{soil}$ (mg/kg)		Grape 1			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		0.001	-	0.003	-
Short term	24h	0.001	0.001	0.003	0.003
	2d	0.001	0.001	0.003	0.003
	4d	0.001	0.001	0.002	0.003
Long term	7d	0.001	0.001	0.002	0.002
	14d	0.001	0.001	0.002	0.002
	21d	0.001	0.001	0.002	0.002
	28d	<0.001	0.001	0.002	0.002
	42d	<0.001	0.001	0.001	0.002
	50d	<0.001	< 0.001	0.001	0.002
	100d	<0.001	< 0.001	<0.001	0.001
Plateau concentration (5 cm) after year 1		<0.001	-	<0.001	-
PEC$_{accumulation}$ (PEC$_{act}$ +PEC$_{soil\ plateau}$)		0.001		0.003	

zRMS comments:

The soil exposure for flupyradifurone and its metabolites has been independently validated by the zRMS using FOCUS methods and EU agreed endpoints. The pseudo-application rates of metabolites were derived with consideration of the parent rate, molar ratio and peak occurrence in soil. The calculated PEC_{SOIL} values were in good agreement with these obtained by the Applicant. Therefore, results reported in tables above may be used for the soil risk assessment purposes.

Since use in sunflower was withdrawn by the Applicant, the soil exposure for this use presented in 8.7-15, 8.7-21 and 8.7-22was struck through as no longer relevant.

8.7.2.3 PEC_{soil} of DLT+FPF EC 85

PEC_{soil} is calculated using a standard approach with 5 cm mixing depth and soil density of 1.5 kg/L. All loadings are considered to occur in a single pseudo-application (interception is considered for individual applications). No degradation data is available for the product. Therefore, TWA, plateau, and accumulation concentrations are not calculated, and tillage depth is not relevant here.

Table 8.7-33: PECsoil for DLT+FPF EC 85 on various crops

Active substance/ preparation	Application rate (g/ha)	PECact (mg/kg)	PECtwa21 d (mg/kg)	Tillage depth (cm)	PECsoil,plateau (mg/kg)	PECaccu = PECact + PECsoil,plateau (mg/kg)
~~DLT+FPF EC 85~~	~~2 × 867.75 [a)]~~	~~1.157~~	-	-	-	-
DLT+FPF EC 85	1 × 867.75 [b)]	0.231				
DLT+FPF EC 85	2 × 578.5 [c)]	0.309				
DLT+FPF EC 85	2 × 867.75 [d)]	0.463				
DLT+FPF EC 85	1 × 867.75 [e)]	0.289	-	-	-	-
DLT+FPF EC 85	2 × 462.8 [f)]	0.494	-	-	-	-

Based on a product density of 1.157 kg/L
~~[a)] Sunflower 1, 2 x 0.75 L prod./ha, 14 d interval, considering a crop interception of 2 × 50%~~
[b)] Sorghum 1, 1 x 0.75 L prod./ha, considering a crop interception of 1 × 80%
[c)] Cereals 2, 2 x 0.5 L prod./ha, 14 d interval, considering a crop interception of 2 × 80%
[d)] Cereals 1, 2 x 0.75 L prod./ha, 14 d interval, considering a crop interception of 2 × 80%
[e)] Maize 1, 1 x 0.75 L prod./ha, considering a crop interception of 1 × 75%
[f)] Grapes 1, 2 x 0.4 L prod./ha, 14 d interval, considering a crop interception of 2 × 60%

zRMS comments:

Soil exposure calculated by the Applicant for the formulated product is agreed by the zRMS and may be used in the risk assessment for soil organisms.

Since use in sunflower was withdrawn by the Applicant, the soil exposure for this use presented in table above was struck through as no longer relevant.

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

8.8.1 Justification for new endpoints

Table 8.8-1: Justification for new endpoints

Compound	Parameter	EU Endpoint	Used endpoint	Justification
Br2CA	Water solubility (mg/L)	Not stated	9000 at 20°C	See Wiche & Bogdoll, 2012 Bayer Document No.: M-435779-01-1, Appendix 2
Br2CA	Saturated vapour pressure (Pa)	Not stated	2.3E-03 at 20°C	See Dornhagen, 2012, Bayer Document No.: M-438493-01-1, Appendix 2

No deviations from EU agreed endpoints for flupyradifurone at Tier 1.
Tier 2 (TDS) has been applied according to the recent EFSA opinion on TDS (see statement M-642729-03-1, Appendix 3) where flupyradifurone was one of the example compounds for which TDS parameters were derived and these parameters have been implemented.

zRMS comments:

No endpoints for water solubility and vapour pressure of deltamethrin metabolite Br_2CA are available in the Review Report (6504/VI/99-final of 2002) and for this reason consideration of values reported in Table 8.8-1 are agreed by the zRMS, especially provided values have been already agreed in the course of the zonal evaluation of another deltamethrin formulation of the same Applicant (Decis 15 EW evaluated by BE as the zRMS in 2018). Furthermore, both these values were also agreed by the RMS in the course of the ongoing EU renewal process of deltamethrin (LoEP amended in 2019 is available on EFSA DMS).

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

PEC_{gw} reports provided by the applicant are listed in Appendix 3.2.

Table 8.8-2: Input parameters related to application for PECgw calculations (Tier1 & Tier2)

Use No.	~~105, 219, 254, 335, 354, 373~~	119, 120, 216, 218, 263, 264, 349, 350, 368, 369, 387, 388	118, 121, 215, 217, 262, 265, 348, 351, 367, 370, 386, 389	103, 104, 201, 202, 252, 253, 352, 353, 371, 372
Crop	~~Sunflower (early/late) (BBCH 31-69)~~	Sorghum* (early/late) (BBCH 51-75)	Maize (early/late) (BBCH 51-75)	Vines (early/late) (BBCH 57-81)
Application rate (g as/ha)	~~Deltamethrin: 7.5 Flupyradifurone: 56.2~~	Deltamethrin: 7.5 Flupyradifurone: 56.2	Deltamethrin: 7.5 Flupyradifurone: 56.2	Deltamethrin: 4 Flupyradifurone: 30
Number of applications/interval (d)	~~2/14~~	1/-	1/-	2/14
Relative application date	~~Absolute dates are given in table below~~	Absolute dates are given in table below	Absolute dates are given in table below	Absolute dates are given in table below
Crop interception (%)	~~2 × 50 / 2 × 75~~	90 / 80	75 / 75	2 × 60 / 2 × 75
Frequency of application	~~Annual~~	Annual	Annual	Annual
Models used for calculation	~~FOCUS PEARL v4.4.4, FOCUS PELMO v5.5.3, FOCUS MACRO v5.5.4~~	FOCUS PEARL v4.4.4, FOCUS PELMO v5.5.3, FOCUS MACRO v5.5.4	FOCUS PEARL v4.4.4, FOCUS PELMO v5.5.3, FOCUS MACRO v5.5.4	FOCUS PEARL v4.4.4, FOCUS PELMO v5.5.3, FOCUS MACRO v5.5.4

*FOCUS crop: spring cereals

Table 8.8-2: (Cont.) - Input parameters related to application for PECgw calculations

Use No.	106, 110, 114, 203, 207, 211, 255, 257, 258, 336, 340, 344, 355, 359, 363, 374, 378, 382	107, 111, 115, 204, 208, 212, 259, 337, 341, 345, 356, 360, 364, 375, 379, 383	108, 112, 116, 205, 209, 213, 256, 260, 338, 342, 346, 357, 361, 365, 376, 380, 384	109, 113, 117, 206, 210, 214, 261, 339, 343, 347, 358, 362, 366, 377, 381, 385
Crop	Spring cereals 1 (early/late) (BBCH 41-83)	Spring cereals 2 (early/late) (BBCH 41-83)	Winter cereals 1 (early/late) (BBCH 41-83)	Winter cereals 2 (early/late) (BBCH 41-83)
Application rate (g as/ha)	Deltamethrin: 5 Flupyradifurone: 37.5	Deltamethrin: 7.5 Flupyradifurone: 56.2	Deltamethrin: 5 Flupyradifurone: 37.5	Deltamethrin: 7.5 Flupyradifurone: 56.2
Number of applications/interval (d)	2/14	2/14	2/14	2/14
Relative application date	Absolute dates are given in table below	Absolute dates are given in table below	Absolute dates are given in table below	Absolute dates are given in table below
Crop interception (%)	2 × 90 / 2 × 80	2 × 90 / 2 × 80	2 × 90 / 2 × 80	2 × 90 / 2 × 80
Frequency of application	Annual	Annual	Annual	Annual
Models used for calculation	FOCUS PEARL v4.4.4, FOCUS PELMO v5.5.3, FOCUS MACRO v5.5.4	FOCUS PEARL v4.4.4, FOCUS PELMO v5.5.3, FOCUS MACRO v5.5.4	FOCUS PEARL v4.4.4, FOCUS PELMO v5.5.3, FOCUS MACRO v5.5.4	FOCUS PEARL v4.4.4, FOCUS PELMO v5.5.3, FOCUS MACRO v5.5.4

Application dates

Table 8.8-3: Application dates used for groundwater risk assessment

Crop	Scenario	Application dates (absolute)
~~Sunflower, early (BBCH 31-69)~~ ~~DLT: 7.5 g as/ha~~ ~~FPF: 56.2 g as/ha~~	~~Piacenza~~	~~13 May (133)~~
	~~Sevilla~~	~~15 Apr (105)~~
~~Sunflower, late (BBCH 31-69)~~ ~~DLT: 7.5 g as/ha~~ ~~FPF: 56.2 g as/ha~~	~~Piacenza~~	~~04 Jul (185)~~
	~~Sevilla~~	~~10 Jun (161)~~
Spring cereals (Sorghum), early (BBCH 51-75) DLT: 7.5 g as/ha FPF: 56.2 g as/ha	Chateaudun	25 May (145)
	Hamburg	24 May (144)
	Jokioinen	23 Jun (174)
	Kremsmuenster	24 May (144)
	Okehampton	13 May (133)
	Porto	25 May (145)
Spring cereals, late (BBCH 51-75) DLT: 7.5 g as/ha FPF: 56.2 g as/ha	Chateaudun	30 Jun (181)
	Hamburg	13 Jul (194)
	Jokioinen	28 Jul (209)
	Kremsmuenster	13 Jul (194)
	Okehampton	06 Jul (187)
	Porto	30 Jun (181)
Maize, early (BBCH 51-75) DLT: 7.5 g as/ha FPF: 56.2 g as/ha	Chateaudun	15 Jul (196)
	Hamburg	05 Jul (186)
	Kremsmuenster	05 Jul (186)
	Okehampton	30 Jun (181)
	Piacenza	08 Jul (189)
	Porto	15 Jul (196)
	Sevilla	16 May (136)

Crop	Scenario	Application dates (absolute)
	Thiva	30 May (150)
Maize, late (BBCH 51-75) DLT: 7.5 g as/ha FPF: 56.2 g as/ha	Chateaudun	08 Sep (251)
	Hamburg	25 Aug (237)
	Kremsmuenster	25 Aug (237)
	Okehampton	26 Aug (238)
	Piacenza	15 Sep (258)
	Porto	08 Sep (251)
	Sevilla	08 Jul (189)
	Thiva	31 Jul (212)
Vines, early (BBCH 57-81) DLT: 4 g as/ha FPF: 30 g as/ha	Chateaudun	09 Jun (160)
	Hamburg	13 Jun (164)
	Kremsmuenster	13 Jun (164)
	Piacenza	09 Jun (160)
	Porto	02 Jun (153)
	Sevilla	14 May (134)
	Thiva	15 May (135)
Vines, late (BBCH 57-81) DLT: 4 g as/ha FPF: 30 g as/ha	Chateaudun	06 Sep (249)
	Hamburg	29 Aug (241)
	Kremsmuenster	29 Aug (241)
	Piacenza	06 Sep (249)
	Porto	20 Aug (232)
	Sevilla	01 Sep (244)
	Thiva	17 Aug (229)
Spring cereals 1, early (BBCH 41-83) DLT: 5 g as/ha FPF: 37.5 g as/ha	Chateaudun	06 May (126)
	Hamburg	12 May (132)
	Jokioinen	14 Jun (165)
	Kremsmuenster	11 May (131)
	Okehampton	03 May (123)
	Porto	06 May (126)
Spring cereals 1 late (BBCH 41-83) DLT: 5 g as/ha FPF: 37.5 g as/ha	Chateaudun	27 Jun (178)
	Hamburg	19 Jul (200)
	Jokioinen	29 Jul (210)
	Kremsmuenster	19 Jul (200)
	Okehampton	16 Jul (197)
	Porto	27 Jun (178)
Spring cereals 2, early (BBCH 41-83) DLT: 7.5 g as/ha FPF: 56.2 g as/ha	Chateaudun	06 May (126)
	Hamburg	12 May (132)
	Jokioinen	14 Jun (165)
	Kremsmuenster	11 May (131)
	Okehampton	03 May (123)
	Porto	06 May (126)
Spring cereals 2, late (BBCH 41-83) DLT: 7.5 g as/ha FPF: 56.2 g as/ha	Chateaudun	27 Jun (178)
	Hamburg	19 Jul (200)
	Jokioinen	29 Jul (210)
	Kremsmuenster	19 Jul (200)
	Okehampton	16 Jul (197)
	Porto	27 Jun (178)
Winter cereals 1, early (BBCH 41-83)	Chateaudun	02 May (122)
	Hamburg	14 May (134)

Crop	Scenario	Application dates (absolute)
DLT: 5 g as/ha FPF: 37.5 g as/ha	Jokioinen	29 May (149)
	Kremsmuenster	09 May (129)
	Okehampton	30 Apr (120)
	Piacenza	07 Apr (97)
	Porto	04 Mar (63)
	Sevilla	25 Jan (25)
	Thiva	13 Feb (44)
Winter cereals 1, late (BBCH 41-83) DLT: 5 g as/ha FPF: 37.5 g as/ha	Chateaudun	21 Jun (172)
	Hamburg	11 Jul (192)
	Jokioinen	20 Jul (201)
	Kremsmuenster	12 Jul (193)
	Okehampton	30 Jun (181)
	Piacenza	05 Jun (156)
	Porto	02 Jun (153)
	Sevilla	26 Apr (116)
	Thiva	26 May (146)
Winter cereals 2, early (BBCH 41-83) DLT: 7.5 g as/ha FPF: 56.2 g as/ha	Chateaudun	02 May (122)
	Hamburg	14 May (134)
	Jokioinen	29 May (149)
	Kremsmuenster	09 May (129)
	Okehampton	30 Apr (120)
	Piacenza	07 Apr (97)
	Porto	04 Mar (63)
	Sevilla	25 Jan (25)
	Thiva	13 Feb (44)
Winter cereals 2, late (BBCH 41-83) DLT: 7.5 g as/ha FPF: 56.2 g as/ha	Chateaudun	21 Jun (172)
	Hamburg	11 Jul (192)
	Jokioinen	20 Jul (201)
	Kremsmuenster	12 Jul (193)
	Okehampton	30 Jun (181)
	Piacenza	05 Jun (156)
	Porto	02 Jun (153)
	Sevilla	26 Apr (116)
	Thiva	26 May (146)

zRMS comments:

The application pattern assumed in simulations is in general in line with the critical Central Zone GAP presented in Table 8.1-1, with exception of the use of DLT+FPF EC 85 in sunflower, which was withdrawn by the Applicant. The information referring to this use was thus struck through in Tables 8.8-2 and 8.8-3 above.

Crop interception assumed for remaining crops corresponds with BBCH stages at which product is intended to be applied. Absolute application dates presented in Table 8.8-3 were checked by the zRMS using AppDate ver. 3.06 tool and are considered acceptable.

8.8.2.1 Deltamethrin and metabolites

Table 8.8-4: Input parameters related to active substance deltamethrin and metabolite for PECgw calculations

Compound	Deltamethrin	Br2CA	Value in accordance with EU endpoint y/n/ Reference
Molecular weight (g/mol)	505.2	298.0	Y/ EU review report 6504/VI/99-final (2002)
Water solubility (mg/L)	0.0002 at 25°C	9000 at 20°C*	Y/ EU review report 6504/VI/99-final (2002) *N/ See justification
Saturated vapour pressure (Pa)	1.24×10^{-8} at 25°C	2.3E-03 at 20°C*	Y/ EU review report 6504/VI/99-final (2002) *N/ See justification
DT_{50} in soil (d) lab	26	2.3	Y/ EU review report 6504/VI/99-final (2002)
Transformation rate	0.0266595	0.3013683	FOCUS PELMO calculation
K_{foc} (mL/g)/K_{fom}	10240000.0 / 5939675.0 (arithmetic mean, n = 4)	25.6 / 14.9 (arithmetic mean, n = 3)	Y/ EU review report 6504/VI/99-final (2002)
1/n	0.93 (arith. mean; n = 4)	0.89 (arith. mean; n = 3)	Y/ EU review report 6504/VI/99-final (2002)
Plant uptake factor	0.0	0.0	default
Formation fraction	-	1 (formed from deltamethrin)	worst case assumption

PEC_{gw} of deltamethrin

~~**Table 8.8-5: PEC_{gw} for deltamethrin and its metabolite on sunflower 1, early (with FOCUS PEARL/PELMO/MACRO) – 2×7.5 g a.s./ha, 2×50% interception, 14 d app. interval**~~

~~Crop~~	~~Scenario~~	~~80th percentile PEC_{gw} at 1 m soil depth (µg/L)~~					
		~~Deltamethrin~~					
		~~PEARL~~	~~PELMO~~	~~PEARL~~	~~PELMO~~	~~PEARL~~	~~PELMO~~
~~Sunflower 1, early~~	~~Piacenza~~	~~<0.001~~	~~<0.001~~				
	~~Sevilla~~	~~<0.001~~	~~<0.001~~				
		~~MACRO~~		~~MACRO~~		~~MACRO~~	
	~~Châteaudun~~						

~~**Table 8.8-6: PEC_{gw} for deltamethrin and its metabolite on sunflower 1, late (with FOCUS PEARL/PELMO/MACRO) – 2×7.5 g a.s./ha, 2×75% interception, 14 d app. interval**~~

~~Crop~~	~~Scenario~~	~~80th percentile PEC_{gw} at 1 m soil depth (µg/L)~~					
		~~Deltamethrin~~					
		~~PEARL~~	~~PELMO~~	~~PEARL~~	~~PELMO~~	~~PEARL~~	~~PELMO~~
~~Sunflower 1, late~~	~~Piacenza~~	~~<0.001~~	~~<0.001~~				
	~~Sevilla~~	~~<0.001~~	~~<0.001~~				
		~~MACRO~~		~~MACRO~~		~~MACRO~~	
	~~Châteaudun~~						

Table 8.8-7: PEC$_{gw}$ for deltamethrin and its metabolite on sorghum 1, early (with FOCUS PEARL/PELMO/MACRO) – 1×7.5 g a.s./ha, 90% interception

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)					
		Deltamethrin					
		PEARL	PELMO	PEARL	PELMO	PEARL	PELMO
Sorghum 1, early	Chateaudun	<0.001	<0.001				
	Hamburg	<0.001	<0.001				
	Jokioinen	<0.001	<0.001				
	Kremsmuenster	<0.001	<0.001				
	Okehampton	<0.001	<0.001				
	Porto	<0.001	<0.001				

Table 8.8-8: PEC$_{gw}$ for deltamethrin and its metabolite on sorghum 1, late (with FOCUS PEARL/PELMO/MACRO) – 1×7.5 g a.s./ha, 80% interception

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)					
		Deltamethrin					
		PEARL	PELMO	PEARL	PELMO	PEARL	PELMO
Sorghum 1, late	Chateaudun	<0.001	<0.001				
	Hamburg	<0.001	<0.001				
	Jokioinen	<0.001	<0.001				
	Kremsmuenster	<0.001	<0.001				
	Okehampton	<0.001	<0.001				
	Porto	<0.001	<0.001				

Table 8.8-9: PEC$_{gw}$ for deltamethrin and its metabolite on maize 1, early (with FOCUS PEARL/PELMO/MACRO) – 1×7.5 g a.s./ha, 75% interception

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)					
		Deltamethrin					
		PEARL	PELMO	PEARL	PELMO	PEARL	PELMO
Maize 1, early	Chateaudun	<0.001	<0.001				
	Hamburg	<0.001	<0.001				
	Kremsmuenster	<0.001	<0.001				
	Okehampton	<0.001	<0.001				
	Piacenza	<0.001	<0.001				
	Porto	<0.001	<0.001				
	Sevilla	<0.001	<0.001				
	Thiva	<0.001	<0.001				

Table 8.8-10: PEC$_{gw}$ for deltamethrin and its metabolite on maize 1, late (with FOCUS PEARL/PELMO/MACRO) – 1×7.5 g a.s./ha, 75% interception

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)		
		Deltamethrin		
		PEARL	PELMO	
Maize 1, late	Chateaudun	<0.001	<0.001	
	Hamburg	<0.001	<0.001	
	Kremsmuenster	<0.001	<0.001	
	Okehampton	<0.001	<0.001	
	Piacenza	<0.001	<0.001	
	Porto	<0.001	<0.001	
	Sevilla	<0.001	<0.001	
	Thiva	<0.001	<0.001	

Table 8.8-11: PEC_{gw} for deltamethrin and its metabolite on grape 1, early (with FOCUS PEARL/PELMO/MACRO) – 2×4 g a.s./ha, 2×60% interception, 14 d app. interval

Crop	Scenario	80^{th} percentile PEC_{gw} at 1 m soil depth (µg/L)		
		Deltamethrin		
		PEARL	PELMO	
Grape 1, early	Chateaudun	<0.001	<0.001	
	Hamburg	<0.001	<0.001	
	Kremsmuenster	<0.001	<0.001	
	Piacenza	<0.001	<0.001	
	Porto	<0.001	<0.001	
	Sevilla	<0.001	<0.001	
	Thiva	<0.001	<0.001	

Table 8.8-12: PEC_{gw} for deltamethrin and its metabolite on grape 1, late (with FOCUS PEARL/PELMO/MACRO) – 2×4 g a.s./ha, 2×75% interception, 14 d app. interval

Crop	Scenario	80^{th} percentile PEC_{gw} at 1 m soil depth (µg/L)		
		Deltamethrin		
		PEARL	PELMO	
Grape 1, late	Chateaudun	<0.001	<0.001	
	Hamburg	<0.001	<0.001	
	Kremsmuenster	<0.001	<0.001	
	Piacenza	<0.001	<0.001	
	Porto	<0.001	<0.001	
	Sevilla	<0.001	<0.001	
	Thiva	<0.001	<0.001	

Table 8.8-13: PEC_{gw} for deltamethrin and its metabolite on spring cereals 1, early (with FOCUS PEARL/PELMO/MACRO) – 2×5 g a.s./ha, 2×90% interception, 14 d app. interval

Crop	Scenario	80^{th} percentile PEC_{gw} at 1 m soil depth (µg/L)		
		Deltamethrin		
		PEARL	PELMO	
Spring cereals 1, early	Chateaudun	<0.001	<0.001	
	Hamburg	<0.001	<0.001	
	Jokioinen	<0.001	<0.001	
	Kremsmuenster	<0.001	<0.001	
	Okehampton	<0.001	<0.001	
	Porto	<0.001	<0.001	

Table 8.8-14: PEC_{gw} for deltamethrin and its metabolite on spring cereals 1, late (with FOCUS PEARL/PELMO/MACRO) – 2×5 g a.s./ha, 2×80% interception, 14 d app. interval

Crop	Scenario	80^{th} percentile PEC_{gw} at 1 m soil depth (µg/L)		
		Deltamethrin		
		PEARL	PELMO	
Spring cereals 1, late	Chateaudun	<0.001	<0.001	
	Hamburg	<0.001	<0.001	
	Jokioinen	<0.001	<0.001	
	Kremsmuenster	<0.001	<0.001	
	Okehampton	<0.001	<0.001	
	Porto	<0.001	<0.001	

Table 8.8-15: PEC$_{gw}$ for deltamethrin and its metabolite on spring cereals 2, early (with FOCUS PEARL/PELMO/MACRO) – 2×7.5 g a.s./ha, 2×90% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)		
		Deltamethrin		
		PEARL	PELMO	
Spring cereals 2, early	Chateaudun	<0.001	<0.001	
	Hamburg	<0.001	<0.001	
	Jokioinen	<0.001	<0.001	
	Kremsmuenster	<0.001	<0.001	
	Okehampton	<0.001	<0.001	
	Porto	<0.001	<0.001	

Table 8.8-16: PEC$_{gw}$ for deltamethrin and its metabolite on spring cereals 2, late (with FOCUS PEARL/PELMO/MACRO) – 2×7.5 g a.s./ha, 2×80% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)		
		Deltamethrin		
		PEARL	PELMO	
Spring cereals 2, late	Chateaudun	<0.001	<0.001	
	Hamburg	<0.001	<0.001	
	Jokioinen	<0.001	<0.001	
	Kremsmuenster	<0.001	<0.001	
	Okehampton	<0.001	<0.001	
	Porto	<0.001	<0.001	

Table 8.8-17: PEC$_{gw}$ for deltamethrin and its metabolite on winter cereals 1, early (with FOCUS PEARL/PELMO/MACRO) – 2×5 g a.s./ha, 2×90% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)		
		Deltamethrin		
		PEARL	PELMO	
Winter cereals 1, early	Chateaudun	<0.001	<0.001	
	Hamburg	<0.001	<0.001	
	Jokioinen	<0.001	<0.001	
	Kremsmuenster	<0.001	<0.001	
	Okehampton	<0.001	<0.001	
	Piacenza	<0.001	<0.001	
	Porto	<0.001	<0.001	
	Sevilla	<0.001	<0.001	
	Thiva	<0.001	<0.001	

Table 8.8-18: PEC_{gw} for deltamethrin and its metabolite on winter cereals 1, late (with FOCUS PEARL/PELMO/MACRO) – 2×5 g a.s./ha, 2×80% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)		
		Deltamethrin		
		PEARL	PELMO	
Winter cereals 1, late	Chateaudun	<0.001	<0.001	
	Hamburg	<0.001	<0.001	
	Jokioinen	<0.001	<0.001	
	Kremsmuenster	<0.001	<0.001	
	Okehampton	<0.001	<0.001	
	Piacenza	<0.001	<0.001	
	Porto	<0.001	<0.001	
	Sevilla	<0.001	<0.001	
	Thiva	<0.001	<0.001	

Table 8.8-19: PEC_{gw} for deltamethrin and its metabolite on winter cereals 2, early (with FOCUS PEARL/PELMO/MACRO) – 2×7.5 g a.s./ha, 2×90% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)		
		Deltamethrin		
		PEARL	PELMO	
Winter cereals 2, early	Chateaudun	<0.001	<0.001	
	Hamburg	<0.001	<0.001	
	Jokioinen	<0.001	<0.001	
	Kremsmuenster	<0.001	<0.001	
	Okehampton	<0.001	<0.001	
	Piacenza	<0.001	<0.001	
	Porto	<0.001	<0.001	
	Sevilla	<0.001	<0.001	
	Thiva	<0.001	<0.001	

Table 8.8-20: PEC_{gw} for deltamethrin and its metabolite on winter cereals 2, late (with FOCUS PEARL/PELMO/MACRO) – 2×7.5 g a.s./ha, 2×80% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)		
		Deltamethrin		
		PEARL	PELMO	
Winter cereals 2, late	Chateaudun	<0.001	<0.001	
	Hamburg	<0.001	<0.001	
	Jokioinen	<0.001	<0.001	
	Kremsmuenster	<0.001	<0.001	
	Okehampton	<0.001	<0.001	
	Piacenza	<0.001	<0.001	
	Porto	<0.001	<0.001	
	Sevilla	<0.001	<0.001	
	Thiva	<0.001	<0.001	

PEC_{gw} of metabolite Br_2CA

~~**Table 8.8-21: PEC_{gw} for deltamethrin and its metabolite on sunflower 1, early (with FOCUS PEARL/PELMO/MACRO) – 2×7.5 g a.s./ha, 2×50% interception, 14 d app. interval**~~

~~Crop~~	~~Scenario~~	~~80th percentile PEC_{gw} at 1 m soil depth (μg/L)~~					
		~~Br2CA~~					
		~~PEARL~~	~~PELMO~~	~~PEARL~~	~~PELMO~~	~~PEARL~~	~~PELMO~~
~~Sunflower 1, early~~	~~Piacenza~~	~~<0.001~~	~~<0.001~~				
	~~Sevilla~~	~~<0.001~~	~~<0.001~~				
		~~MACRO~~		~~MACRO~~		~~MACRO~~	
	~~Châteaudun~~						

~~**Table 8.8-22: PEC_{gw} for deltamethrin and its metabolite on sunflower 1, late (with FOCUS PEARL/PELMO/MACRO) – 2×7.5 g a.s./ha, 2×75% interception, 14 d app. interval**~~

~~Crop~~	~~Scenario~~	~~80th percentile PEC_{gw} at 1 m soil depth (μg/L)~~					
		~~Br2CA~~					
		~~PEARL~~	~~PELMO~~	~~PEARL~~	~~PELMO~~	~~PEARL~~	~~PELMO~~
~~Sunflower 1, late~~	~~Piacenza~~	~~<0.001~~	~~<0.001~~				
	~~Sevilla~~	~~<0.001~~	~~<0.001~~				
		~~MACRO~~		~~MACRO~~		~~MACRO~~	
	~~Châteaudun~~						

Table 8.8-23: PEC_{gw} for deltamethrin and its metabolite on sorghum 1, early (with FOCUS PEARL/PELMO/MACRO) – 1×7.5 g a.s./ha, 90% interception

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (μg/L)	
		Br_2CA	
		PEARL	PELMO
Sorghum 1, early	Chateaudun	<0.001	<0.001
	Hamburg	<0.001	<0.001
	Jokioinen	<0.001	<0.001
	Kremsmuenster	<0.001	<0.001
	Okehampton	<0.001	<0.001
	Porto	<0.001	<0.001

Table 8.8-24: PEC_{gw} for deltamethrin and its metabolite on sorghum 1, late (with FOCUS PEARL/PELMO/MACRO) – 1×7.5 g a.s./ha, 80% interception

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (μg/L)	
		Br_2CA	
		PEARL	PELMO
Sorghum 1, late	Chateaudun	<0.001	<0.001
	Hamburg	<0.001	<0.001
	Jokioinen	<0.001	<0.001
	Kremsmuenster	<0.001	<0.001
	Okehampton	<0.001	<0.001
	Porto	<0.001	<0.001

Table 8.8-25: PEC$_{gw}$ for deltamethrin and its metabolite on maize 1, early (with FOCUS PEARL/PELMO/MACRO) – 1×7.5 g a.s./ha, 75% interception

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)		
		Br_2CA		
		PEARL	PELMO	
Maize 1, early	Chateaudun	<0.001	<0.001	
	Hamburg	<0.001	<0.001	
	Kremsmuenster	<0.001	<0.001	
	Okehampton	<0.001	<0.001	
	Piacenza	<0.001	<0.001	
	Porto	<0.001	<0.001	
	Sevilla	<0.001	<0.001	
	Thiva	<0.001	<0.001	

Table 8.8-26: PEC$_{gw}$ for deltamethrin and its metabolite on maize 1, late (with FOCUS PEARL/PELMO/MACRO) – 1×7.5 g a.s./ha, 75% interception

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)		
		Br_2CA		
		PEARL	PELMO	
Maize 1, late	Chateaudun	<0.001	<0.001	
	Hamburg	<0.001	<0.001	
	Kremsmuenster	<0.001	<0.001	
	Okehampton	<0.001	<0.001	
	Piacenza	<0.001	<0.001	
	Porto	<0.001	<0.001	
	Sevilla	<0.001	<0.001	
	Thiva	<0.001	<0.001	

Table 8.8-27: PEC$_{gw}$ for deltamethrin and its metabolite on grape 1, early (with FOCUS PEARL/PELMO/MACRO) – 2×4 g a.s./ha, 2×60% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)		
		Br_2CA		
		PEARL	PELMO	
Grape 1, early	Chateaudun	<0.001	<0.001	
	Hamburg	<0.001	<0.001	
	Kremsmuenster	<0.001	<0.001	
	Piacenza	<0.001	<0.001	
	Porto	<0.001	<0.001	
	Sevilla	<0.001	<0.001	
	Thiva	<0.001	<0.001	

Table 8.8-28: PEC_{gw} for deltamethrin and its metabolite on grape 1, late (with FOCUS PEARL/PELMO/MACRO) – 2×4 g a.s./ha, 2×75% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)	
		Br_2CA	
		PEARL	PELMO
Grape 1, late	Chateaudun	<0.001	<0.001
	Hamburg	<0.001	<0.001
	Kremsmuenster	<0.001	<0.001
	Piacenza	<0.001	<0.001
	Porto	<0.001	<0.001
	Sevilla	<0.001	<0.001
	Thiva	<0.001	<0.001

Table 8.8-29: PEC_{gw} for deltamethrin and its metabolite on spring cereals 1, early (with FOCUS PEARL/PELMO/MACRO) – 2×5 g a.s./ha, 2×90% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)	
		Br_2CA	
		PEARL	PELMO
Spring cereals 1, early	Chateaudun	<0.001	<0.001
	Hamburg	<0.001	<0.001
	Jokioinen	<0.001	<0.001
	Kremsmuenster	<0.001	<0.001
	Okehampton	<0.001	<0.001
	Porto	<0.001	<0.001

Table 8.8-30: PEC_{gw} for deltamethrin and its metabolite on spring cereals 1, late (with FOCUS PEARL/PELMO/MACRO) – 2×5 g a.s./ha, 2×80% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)	
		Br_2CA	
		PEARL	PELMO
Spring cereals 1, late	Chateaudun	<0.001	<0.001
	Hamburg	<0.001	<0.001
	Jokioinen	<0.001	<0.001
	Kremsmuenster	<0.001	<0.001
	Okehampton	<0.001	<0.001
	Porto	<0.001	<0.001

Table 8.8-31: PEC_{gw} for deltamethrin and its metabolite on spring cereals 2, early (with FOCUS PEARL/PELMO/MACRO) – 2×7.5 g a.s./ha, 2×90% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)	
		Br_2CA	
		PEARL	PELMO
Spring cereals 2, early	Chateaudun	<0.001	<0.001
	Hamburg	<0.001	<0.001
	Jokioinen	<0.001	<0.001
	Kremsmuenster	<0.001	<0.001
	Okehampton	<0.001	<0.001
	Porto	<0.001	<0.001

Table 8.8-32: PEC$_{gw}$ for deltamethrin and its metabolite on spring cereals 2, late (with FOCUS PEARL/PELMO/MACRO) – 2×7.5 g a.s./ha, 2×80% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)		
		Br_2CA		
		PEARL	PELMO	
Spring cereals 2, late	Chateaudun	<0.001	<0.001	
	Hamburg	<0.001	<0.001	
	Jokioinen	<0.001	<0.001	
	Kremsmuenster	<0.001	<0.001	
	Okehampton	<0.001	<0.001	
	Porto	<0.001	<0.001	

Table 8.8-33: PEC$_{gw}$ for deltamethrin and its metabolite on winter cereals 1, early (with FOCUS PEARL/PELMO/MACRO) – 2×5 g a.s./ha, 2×90% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)		
		Br_2CA		
		PEARL	PELMO	
Winter cereals 1, early	Chateaudun	<0.001	<0.001	
	Hamburg	<0.001	<0.001	
	Jokioinen	<0.001	<0.001	
	Kremsmuenster	<0.001	<0.001	
	Okehampton	<0.001	<0.001	
	Piacenza	<0.001	<0.001	
	Porto	<0.001	<0.001	
	Sevilla	<0.001	<0.001	
	Thiva	<0.001	<0.001	

Table 8.8-34: PEC$_{gw}$ for deltamethrin and its metabolite on winter cereals 1, late (with FOCUS PEARL/PELMO/MACRO) – 2×5 g a.s./ha, 2×80% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)		
		Br_2CA		
		PEARL	PELMO	
Winter cereals 1, late	Chateaudun	<0.001	<0.001	
	Hamburg	<0.001	<0.001	
	Jokioinen	<0.001	<0.001	
	Kremsmuenster	<0.001	<0.001	
	Okehampton	<0.001	<0.001	
	Piacenza	<0.001	<0.001	
	Porto	<0.001	<0.001	
	Sevilla	<0.001	<0.001	
	Thiva	<0.001	<0.001	

Table 8.8-35: PEC$_{gw}$ for deltamethrin and its metabolite on winter cereals 2, early (with FOCUS PEARL/PELMO/MACRO) – 2×7.5 g a.s./ha, 2×90% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)		
		Br_2CA		
		PEARL	PELMO	
Winter cereals 2, early	Chateaudun	<0.001	<0.001	
	Hamburg	<0.001	<0.001	
	Jokioinen	<0.001	<0.001	
	Kremsmuenster	<0.001	<0.001	
	Okehampton	<0.001	<0.001	
	Piacenza	<0.001	<0.001	
	Porto	<0.001	<0.001	
	Sevilla	<0.001	<0.001	
	Thiva	<0.001	<0.001	

Table 8.8-36: PEC$_{gw}$ for deltamethrin and its metabolite on winter cereals 2, late (with FOCUS PEARL/PELMO/MACRO) – 2×7.5 g a.s./ha, 2×80% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)		
		Br_2CA		
		PEARL	PELMO	
Winter cereals 2, late	Chateaudun	<0.001	<0.001	
	Hamburg	<0.001	<0.001	
	Jokioinen	<0.001	<0.001	
	Kremsmuenster	<0.001	<0.001	
	Okehampton	<0.001	<0.001	
	Piacenza	<0.001	<0.001	
	Porto	<0.001	<0.001	
	Sevilla	<0.001	<0.001	
	Thiva	<0.001	<0.001	

zRMS comments:

The groundwater modelling provided by the Applicant was based on the EU agreed input parameters with exception of the water solubility and vapour pressure of the metabolite Br_2CA, which were not available from the EU review. Nevertheless, as already indicated in the zRMS comment in point 8.8.1 above, values considered by the Applicant were already used in the course of the zonal evaluation of one of deltamethrin formulations of the same Applicant and were also agreed by the RMS in the course of the not finalised yet EU renewal process (LoEP amended in 2019 is available on EFSA DMS). Taking this into account, consideration of these values for the exposure assessment following application of DLT+FPF EC 85 was justified.

The groundwater modelling for deltamethrin and Br_2CA was independently validated by the zRMS with consideration of the same input parameters using FOCUS PEARL 4.4.4 and FOCUS PELMO 5.5.3. The same results were obtained (PEC$_{GW}$ in all scenarios and for both crops <0.001 µg/L for both compounds).

Since PEC$_{GW}$ values calculated with FOCUS PEARL and FOCUS PELMO were all <0.001 µg/L, in line with indications of the Working Document of the Central Zone in area of Section 8[1] additional simulations using FOCUS MACRO are deemed not necessary.

Overall, based on the performed modelling no unacceptable leaching of deltamethrin or metabolite Br_2CA is expected following application of DLT+FPF EC 85 according to the intended use pattern.

Since use in sunflower was withdrawn by the Applicant, the groundwater exposure for this use presented in Tables 8.8-5, 8.8-6, 8.8-21 and 8.8-22 was struck through as no longer relevant.

[1] Working Document of the Central Zone in the Authorisation of Plant Protection Products, Section 8, Environmental Fate and Behaviour, Version 1, rev. 1, June 2018

Please note that additional groundwater modelling may be required by the concerned Member States that do not accept simulations performed according to FOCUS recommendations.

8.8.2.2 Flupyradifurone and metabolites

Table 8.8-37: Input parameters related to active substance flupyradifurone and metabolites for PEC_{gw} calculations (Tier 1)

Compound	Flupyradifurone	6-CNA	DFA	Value in accordance with EU endpoint y/n/ Reference
Molecular weight (g/mol)	288.7	157.6 (452.33, PELMO[A])	96.0	Y/ EFSA Journal 2015;13(2):4020
Water solubility (mg/L):	3200	1430	500000	Y/ EFSA Journal 2015;13(2):4020
Saturated vapour pressure (Pa):	9.1×10^{-7}	1×10^{-10}	1×10^{-10}	Y/ EFSA Journal 2015;13(2):4020
DT_{50} in soil (d)	94.8 (geomean, normalisation to pF2, 20°C with Q_{10} of 2.58, n = 6)	4.7 (geomean, lab, normalisation to pF2, 20°C with Q_{10} of 2.58, n = 5)	44.7 (geomean, lab, normalisation to pF2, 20°C with Q_{10} of 2.58, n = 3)	Y/ EFSA Journal 2015;13(2):4020
Transformation rate	to DFA: 0.006078[B] to 6-CNA: 0.001218[B]	0.14748	0.01551	Y/ DAR, Volume 3 B8 (page 237)[C]
K_{foc} (mL/g)/K_{fom}	98.4 / 57.1 (arithmetic mean, n = 6)	88.0 / 51.0 (arithmetic mean, n = 4)	6.8 / 3.9 (arithmetic mean, n = 5)	Y/ EFSA Journal 2015;13(2):4020
1/n	0.866 (arithmetic mean, n = 6)	0.950 (arithmetic mean, n = 4)	0.835 (arithmetic mean, n = 5)	Y/ EFSA Journal 2015;13(2):4020
Plant uptake factor	0.0 and 0.5 [D] (retained for cMS information)	0.0 ~~and 0.5 [D]~~	0.0 ~~and 0.5[D]~~	[D]Y/ EFSA Journal 2015;13(2):4020
Formation fraction	-	0.48 from parent	0.83 from parent	Y/ EFSA Journal 2015;13(2):4020

[A] Pseudo-molecular mass to account for sum of formations >1 in FOCUS PELMO model

[B] Split degradation rates

[C] Table B.8.6.3-04, Table B.8.6.3-05 in DAR: European Commission, 2014: Flupyradifurone, Draft assessment Report and Proposed Decision of the Netherlands, Vol 3, Annex B, B.8 fate and behavior, December 2014

[D] PECgw performed with Plant uptake factor (PUF/TSCF) 0.0 (as a worst case) and 0.5 as indicated in the EFSA Journal 2015;13(2):4020. Please note that calculations based on TSCF of 0.5 were retained for cMS information only since zRMS is of the opinion that available data are not sufficient to derive the exact TSCF value for flupyradifurone. See commenting box below for more details.

Table 8.8-38: Input parameters related to active substance flupyradifurone and metabolites for PEC_{gw} calculations (Tier 2/TDS[D])

Compound	Flupyradifurone	6-CNA	DFA	Value in accordance with EU endpoint y/n/ Reference
Molecular weight (g/mol)	288.7	157.6 (452.33, PELMO[A])	96.0	Y/ EFSA Journal 2015;13(2):4020
Water solubility (mg/L):	3200	1430	500000	Y/ EFSA Journal 2015;13(2):4020
Saturated vapour pressure (Pa):	9.1×10^{-7}	1×10^{-10}	1×10^{-10}	Y/ EFSA Journal 2015;13(2):4020
DT_{50} in soil (d)	50.9[E] (geomean, lab, normalisation to pF2, 20°C with Q_{10} of 2.58, n = 6)	4.7 (geomean, lab, normalisation to pF2, 20°C with Q_{10} of 2.58, n = 5)	44.7 (geomean, lab, normalisation to pF2, 20°C with Q_{10} of 2.58, n = 3)	Y/ EFSA Journal 2018;16(8):5382, Table C.8 Y/ EFSA Journal 2015;13(2):4020
Transformation rate k (1/d) for FOCUS PELMO	to DFA: 0.011344[G, B] to 6-CNA: 0.002274[G, B]	0.14748	0.01551	Y/ DAR, Volume 3 B8 (page 237)[F]
TDS parameter for FOCUS PEARL: k_{des} (1/d) f_{ne}	 0.033 (geometric mean, n = 4) 0.53 (arithmetic mean, n = 4)	-	-	Y/ EFSA Journal 2018;16(8):5382, Table C.8
TDS parameter for FOCUS MACRO: SORPRATE (1/d) FRACEQ	 0.0114[C] (recalculated from k_{des}) 0.346[C] (recalculated from f_{ne})	-	-	-
K_{foc} (mL/g)/K_{fom}	96.9 / 56.2 (geometric mean, n = 6)	88.0 / 51.0 (arithmetic mean, n = 4)	6.8 / 3.9 (arithmetic mean, n = 5)	Y/ EFSA Journal 2018;16(8):5382, Table C.8 Y/ EFSA Journal 2015;13(2):4020
1/n	0.86 (arithmetic mean, n = 6)	0.950 (arithmetic mean, n = 4)	0.835 (arithmetic mean, n = 5)	Y/ EFSA Journal 2018;16(8):5382, Table C.8 Y/ EFSA Journal 2015;13(2):4020
Plant uptake factor	0.0 and 0.5 [H] (retained for cMS information)	0.0 ~~and 0.5 [H]~~	0.0 ~~and 0.5 [H]~~	Y/ EFSA Journal 2015;13(2):4020
Formation fraction	-	0.48 from parent	0.83 from parent	Y/ EFSA Journal 2015;13(2):4020

[A] Pseudo-molecular mass to account for sum of formations >1 in FOCUS PELMO model
[B] Split degradation rates
[C] SORPRATE = $k_{des} \times f_{ne} /(1+ f_{ne})$, FRACEQ = $f_{ne} /(1+ f_{ne})$
[D] Time dependent sorption or aged sorption
[E] From EFSA (2018) opinion on TDS, there denoted as DegT50eq
[F] Table B.8.6.3-04 in DAR: European Commission, 2014: Flupyradifurone, Draft assessment Report and Proposed Decision of the Netherlands, Vol 3, Annex B, B.8 fate and behavior, December 2014
[G] Calculated from formation fraction and DegT50eq
[H] PECgw performed with Plant uptake factor (PUF/TSCF) 0.0 (as a worst case) and 0.5 as indicated in the EFSA Journal 2015;13(2):4020. Please note that calculations based on TSCF of 0.5 were retained for cMS information only since zRMS is of the opinion that available data are not sufficient to derive the exact TSCF value for flupyradifurone. See commenting box below for more details.

Tier 1

PEC_{gw} of flupyradifurone (PUF/TSCF = 0)

~~**Table 8.8-39:** PEC_{gw} for flupyradifurone and its metabolites on sunflower 1, early (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×50% interception, 14 d app. interval~~

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)					
		Flupyradifurone					
		PEARL	PELMO	PEARL	PELMO	PEARL	PELMO
Sunflower 1, early	Piacenza	0.458	0.569				
	Sevilla	0.013	0.005				
		MACRO		MACRO		MACRO	
	Châteaudun	0.142					

~~**Table 8.8-40:** PEC_{gw} for flupyradifurone and its metabolites on sunflower 1, late (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×75% interception, 14 d app. interval~~

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)					
		Flupyradifurone					
		PEARL	PELMO	PEARL	PELMO	PEARL	PELMO
Sunflower 1, late	Piacenza	0.204	0.221				
	Sevilla	0.002	0.001				
		MACRO		MACRO		MACRO	
	Châteaudun	0.034					

Table 8.8-41: **PEC_{gw} for flupyradifurone and its metabolites on sorghum 1, early (with FOCUS PEARL/PELMO/MACRO) – 1×56.2 g a.s./ha, 90% interception**

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)	
		Flupyradifurone	
		PEARL	PELMO
Sorghum 1, early	Chateaudun	0.002	0.001
	Hamburg	0.029	0.021
	Jokioinen	0.004	0.004
	Kremsmuenster	0.016	0.014
	Okehampton	0.021	0.019
	Porto	0.008	0.009
		MACRO	
	Châteaudun	0.002	

Table 8.8-42: **PEC_{gw} for flupyradifurone and its metabolites on sorghum 1, late (with FOCUS PEARL/PELMO/MACRO) – 1×56.2 g a.s./ha, 80% interception**

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)	
		Flupyradifurone	
		PEARL	PELMO
Sorghum 1, late	Chateaudun	0.006	0.004
	Hamburg	0.088	0.063
	Jokioinen	0.015	0.014
	Kremsmuenster	0.049	0.045
	Okehampton	0.063	0.058
	Porto	0.031	0.033
		MACRO	
	Châteaudun	0.010	

Table 8.8-43: PEC$_{gw}$ for flupyradifurone and its metabolites on maize 1, early (with FOCUS PEARL/PELMO/MACRO) – 1×56.2 g a.s./ha, 75% interception

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Maize 1, early	Chateaudun	0.050	0.028	
	Hamburg	**0.110**	0.080	
	Kremsmuenster	0.063	0.064	
	Okehampton	0.097	0.087	
	Piacenza	0.079	0.082	
	Porto	0.044	0.045	
	Sevilla	<0.001	<0.001	
	Thiva	0.025	0.015	
		MACRO		
	Châteaudun	0.027		

Values in **bold** exceed the threshold concentration of 0.1 µg/L.

Table 8.8-44: PEC$_{gw}$ for flupyradifurone and its metabolites on maize 1, late (with FOCUS PEARL/PELMO/MACRO) – 1×56.2 g a.s./ha, 75% interception

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Maize 1, late	Chateaudun	0.046	0.028	
	Hamburg	**0.115**	0.092	
	Kremsmuenster	0.069	0.069	
	Okehampton	**0.109**	**0.103**	
	Piacenza	**0.106**	0.099	
	Porto	0.057	0.060	
	Sevilla	<0.001	<0.001	
	Thiva	0.018	0.009	
		MACRO		
	Châteaudun	0.033		

Values in **bold** exceed the threshold concentration of 0.1 µg/L.

Table 8.8-45: PEC$_{gw}$ for flupyradifurone and its metabolites on grape 1, early (with FOCUS PEARL/PELMO/MACRO) – 2×30 g a.s./ha, 2×60% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Grape 1, early	Chateaudun	**0.173**	**0.158**	
	Hamburg	**0.196**	**0.219**	
	Kremsmuenster	**0.145**	**0.180**	
	Piacenza	**0.157**	**0.167**	
	Porto	0.078	**0.104**	
	Sevilla	0.088	0.022	
	Thiva	0.075	0.058	
		MACRO		
	Châteaudun	0.058		

Values in **bold** exceed the threshold concentration of 0.1 µg/L.

Table 8.8-46: PEC$_{gw}$ for flupyradifurone and its metabolites on grape 1, late (with FOCUS PEARL/PELMO/MACRO) – 2×30 g a.s./ha, 2×75% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Grape 1, late	Chateaudun	**0.104**	**0.104**	
	Hamburg	**0.113**	**0.129**	
	Kremsmuenster	0.081	**0.101**	
	Piacenza	**0.129**	**0.139**	
	Porto	0.061	0.083	
	Sevilla	0.058	0.012	
	Thiva	0.048	0.036	
		MACRO		
	Châteaudun	0.052		

Values in **bold** exceed the threshold concentration of 0.1 µg/L.

Table 8.8-47: PEC$_{gw}$ for flupyradifurone and its metabolites on spring cereals 1, early (with FOCUS PEARL/PELMO/MACRO) – 2×37.5 g a.s./ha, 2×90% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Spring cereals 1, early	Chateaudun	0.003	0.002	
	Hamburg	0.045	0.032	
	Jokioinen	0.007	0.006	
	Kremsmuenster	0.025	0.022	
	Okehampton	0.032	0.029	
	Porto	0.012	0.014	
		MACRO		
	Châteaudun	0.004		

Table 8.8-48: PEC$_{gw}$ for flupyradifurone and its metabolites on spring cereals 1, late (with FOCUS PEARL/PELMO/MACRO) – 2×37.5 g a.s./ha, 2×80% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Spring cereals 1, late	Chateaudun	0.011	0.006	
	Hamburg	**0.136**	**0.101**	
	Jokioinen	0.027	0.025	
	Kremsmuenster	0.076	0.071	
	Okehampton	0.098	0.096	
	Porto	0.050	0.052	
		MACRO		
	Châteaudun	0.017		

Values in **bold** exceed the threshold concentration of 0.1 µg/L.

Table 8.8-49: PEC$_{gw}$ for flupyradifurone and its metabolites on spring cereals 2, early (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×90% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Spring cereals 2, early	Chateaudun	0.006	0.003	
	Hamburg	0.083	0.059	
	Jokioinen	0.015	0.013	
	Kremsmuenster	0.047	0.043	
	Okehampton	0.059	0.054	
	Porto	0.024	0.027	
		MACRO		
	Châteaudun	0.007		

Table 8.8-50: PEC$_{gw}$ for flupyradifurone and its metabolites on spring cereals 2, late (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×80% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Spring cereals 2, late	Chateaudun	0.024	0.013	
	Hamburg	**0.246**	**0.187**	
	Jokioinen	0.055	0.051	
	Kremsmuenster	**0.136**	**0.127**	
	Okehampton	**0.175**	**0.172**	
	Porto	0.089	0.095	
		MACRO		
	Châteaudun	0.033		

Values in **bold** exceed the threshold concentration of 0.1 µg/L.

Table 8.8-51: PEC$_{gw}$ for flupyradifurone and its metabolites on winter cereals 1, early (with FOCUS PEARL/PELMO/MACRO) – 2×37.5 g a.s./ha, 2×90% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Winter cereals 1, early	Chateaudun	0.004	0.002	
	Hamburg	0.037	0.038	
	Jokioinen	0.006	0.009	
	Kremsmuenster	0.024	0.026	
	Okehampton	0.036	0.037	
	Piacenza	0.017	0.020	
	Porto	0.011	0.020	
	Sevilla	<0.001	<0.001	
	Thiva	0.001	0.001	
		MACRO		
	Châteaudun	0.003		

Table 8.8-52: PEC_{gw} for flupyradifurone and its metabolites on winter cereals 1, late (with FOCUS PEARL/PELMO/MACRO) – 2×37.5 g a.s./ha, 2×80% interception, 14 d app. interval

Crop	Scenario	80[th] percentile PEC_{gw} at 1 m soil depth (µg/L)	
		Flupyradifurone	
		PEARL	PELMO
Winter cereals 1, late	Chateaudun	0.014	0.009
	Hamburg	**0.111**	**0.115**
	Jokioinen	0.026	0.037
	Kremsmuenster	0.071	0.079
	Okehampton	**0.100**	**0.109**
	Piacenza	0.049	0.061
	Porto	0.033	0.056
	Sevilla	<0.001	<0.001
	Thiva	0.006	0.002
		MACRO	
	Châteaudun	0.017	

Values in **bold** exceed the threshold concentration of 0.1 µg/L.

Table 8.8-53: PEC_{gw} for flupyradifurone and its metabolites on winter cereals 2, early (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×90% interception, 14 d app. interval

Crop	Scenario	80[th] percentile PEC_{gw} at 1 m soil depth (µg/L)	
		Flupyradifurone	
		PEARL	PELMO
Winter cereals 2, early	Chateaudun	0.008	0.005
	Hamburg	0.067	0.068
	Jokioinen	0.014	0.019
	Kremsmuenster	0.045	0.048
	Okehampton	0.066	0.068
	Piacenza	0.031	0.037
	Porto	0.020	0.037
	Sevilla	<0.001	<0.001
	Thiva	0.003	0.001
		MACRO	
	Châteaudun	0.007	

Table 8.8-54: PEC_{gw} for flupyradifurone and its metabolites on winter cereals 2, late (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×80% interception, 14 d app. interval

Crop	Scenario	80[th] percentile PEC_{gw} at 1 m soil depth (µg/L)	
		Flupyradifurone	
		PEARL	PELMO
Winter cereals 2, late	Chateaudun	0.028	0.018
	Hamburg	**0.208**	**0.211**
	Jokioinen	0.053	0.073
	Kremsmuenster	**0.126**	**0.139**
	Okehampton	**0.178**	**0.195**
	Piacenza	0.088	**0.109**
	Porto	0.061	**0.102**
	Sevilla	<0.001	<0.001
	Thiva	0.015	0.004
		MACRO	
	Châteaudun	0.033	

Values in **bold** exceed the threshold concentration of 0.1 µg/L.

PEC_{gw} of flupyradifurone (PUF/TSCF = 0.5), retained for information of the concerned Member States that do accept consideration of Briggs equation for TSCF refinement. Please note that below results were not validated by the zRMS in additional modelling and for this reason they are given in grey letters, in order to distinguish fully validated from non-validated information.

~~**Table 8.8-55: PEC_{gw} for flupyradifurone and its metabolites on sunflower 1, early (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×50% interception, 14 d app. interval**~~

~~Crop~~	~~Scenario~~	~~80th percentile PEC_{gw} at 1 m soil depth (µg/L)~~					
		~~Flupyradifurone~~					
		~~PEARL~~	~~PELMO~~	~~PEARL~~	~~PELMO~~	~~PEARL~~	~~PELMO~~
~~Sunflower 1, early~~	~~Piacenza~~	~~0.337~~	~~0.408~~				
	~~Sevilla~~	~~0.008~~	~~0.002~~				
		~~MACRO~~		~~MACRO~~		~~MACRO~~	
	~~Châteaudun~~	~~0.106~~					

~~**Table 8.8-56: PEC_{gw} for flupyradifurone and its metabolites on sunflower 1, late (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×75% interception, 14 d app. interval**~~

~~Crop~~	~~Scenario~~	~~80th percentile PEC_{gw} at 1 m soil depth (µg/L)~~					
		~~Flupyradifurone~~					
		~~PEARL~~	~~PELMO~~	~~PEARL~~	~~PELMO~~	~~PEARL~~	~~PELMO~~
~~Sunflower 1, late~~	~~Piacenza~~	~~0.158~~	~~0.168~~				
	~~Sevilla~~	~~0.001~~	~~<0.001~~				
		~~MACRO~~		~~MACRO~~		~~MACRO~~	
	~~Châteaudun~~	~~0.026~~					

Table 8.8-57: PEC_{gw} for flupyradifurone and its metabolites on sorghum 1, early (with FOCUS PEARL/PELMO/MACRO) – 1×56.2 g a.s./ha, 90% interception

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Sorghum 1, early	Chateaudun	0.001	0.001	
	Hamburg	0.021	0.014	
	Jokioinen	0.003	0.003	
	Kremsmuenster	0.013	0.010	
	Okehampton	0.017	0.014	
	Porto	0.007	0.006	
		MACRO		
	Châteaudun	0.002		

Table 8.8-58: PEC_{gw} for flupyradifurone and its metabolites on sorghum 1, late (with FOCUS PEARL/PELMO/MACRO) – 1×56.2 g a.s./ha, 80% interception

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Sorghum 1, late	Chateaudun	0.005	0.002	
	Hamburg	0.062	0.043	
	Jokioinen	0.012	0.010	
	Kremsmuenster	0.038	0.031	
	Okehampton	0.051	0.042	
	Porto	0.027	0.023	
		MACRO		
	Châteaudun	0.009		

Table 8.8-59: PEC_{gw} for flupyradifurone and its metabolites on maize 1, early (with FOCUS PEARL/PELMO/MACRO) – 1×56.2 g a.s./ha, 75% interception

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Maize 1, early	Chateaudun	0.038	0.017	
	Hamburg	0.078	0.056	
	Kremsmuenster	0.052	0.046	
	Okehampton	0.079	0.064	
	Piacenza	0.063	0.063	
	Porto	0.036	0.033	
	Sevilla	<0.001	<0.001	
	Thiva	0.014	0.007	
		MACRO		
	Châteaudun	0.022		

Table 8.8-60: PEC_{gw} for flupyradifurone and its metabolites on maize 1, late (with FOCUS PEARL/PELMO/MACRO) – 1×56.2 g a.s./ha, 75% interception

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Maize 1, late	Chateaudun	0.036	0.017	
	Hamburg	0.085	0.066	
	Kremsmuenster	0.057	0.049	
	Okehampton	0.089	0.078	
	Piacenza	0.087	0.077	
	Porto	0.049	0.046	
	Sevilla	<0.001	<0.001	
	Thiva	0.010	0.004	
		MACRO		
	Châteaudun	0.028		

Table 8.8-61: PEC_{gw} for flupyradifurone and its metabolites on grape 1, early (with FOCUS PEARL/PELMO/MACRO) – 2×30 g a.s./ha, 2×60% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Grape 1, early	Chateaudun	0.129	0.100	
	Hamburg	0.162	0.159	
	Kremsmuenster	0.128	0.137	
	Piacenza	0.121	0.128	
	Porto	0.066	0.074	
	Sevilla	0.054	0.010	
	Thiva	0.050	0.028	
		MACRO		
	Châteaudun	0.042		

Table 8.8-62: PEC$_{gw}$ for flupyradifurone and its metabolites on grape 1, late (with FOCUS PEARL/PELMO/MACRO) – 2×30 g a.s./ha, 2×75% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Grape 1, late	Chateaudun	0.078	0.063	
	Hamburg	0.097	0.095	
	Kremsmuenster	0.072	0.075	
	Piacenza	0.102	0.107	
	Porto	0.054	0.061	
	Sevilla	0.038	0.005	
	Thiva	0.033	0.015	
		MACRO		
	Châteaudun	0.041		

Table 8.8-63: PEC$_{gw}$ for flupyradifurone and its metabolites on spring cereals 1, early (with FOCUS PEARL/PELMO/MACRO) – 2×37.5 g a.s./ha, 2×90% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Spring cereals 1, early	Chateaudun	0.002	0.001	
	Hamburg	0.031	0.022	
	Jokioinen	0.005	0.004	
	Kremsmuenster	0.020	0.016	
	Okehampton	0.026	0.021	
	Porto	0.011	0.009	
		MACRO		
	Châteaudun	0.003		

Table 8.8-64: PEC$_{gw}$ for flupyradifurone and its metabolites on spring cereals 1, late (with FOCUS PEARL/PELMO/MACRO) – 2×37.5 g a.s./ha, 2×80% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Spring cereals 1, late	Chateaudun	0.009	0.004	
	Hamburg	0.094	0.068	
	Jokioinen	0.022	0.018	
	Kremsmuenster	0.060	0.048	
	Okehampton	0.079	0.068	
	Porto	0.044	0.037	
		MACRO		
	Châteaudun	0.015		

Table 8.8-65: PEC$_{gw}$ for flupyradifurone and its metabolites on spring cereals 2, early (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×90% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Spring cereals 2, early	Chateaudun	0.005	0.002	
	Hamburg	0.056	0.040	
	Jokioinen	0.012	0.009	
	Kremsmuenster	0.036	0.030	
	Okehampton	0.047	0.039	
	Porto	0.020	0.017	
		MACRO		
	Châteaudun	0.006		

Table 8.8-66: PEC$_{gw}$ for flupyradifurone and its metabolites on spring cereals 2, late (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×80% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Spring cereals 2, late	Chateaudun	0.019	0.008	
	Hamburg	0.169	0.125	
	Jokioinen	0.045	0.036	
	Kremsmuenster	0.107	0.086	
	Okehampton	0.141	0.121	
	Porto	0.081	0.066	
		MACRO		
	Châteaudun	0.029		

Table 8.8-67: PEC$_{gw}$ for flupyradifurone and its metabolites on winter cereals 1, early (with FOCUS PEARL/PELMO/MACRO) – 2×37.5 g a.s./ha, 2×90% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Winter cereals 1, early	Chateaudun	0.003	0.001	
	Hamburg	0.028	0.025	
	Jokioinen	0.005	0.006	
	Kremsmuenster	0.020	0.018	
	Okehampton	0.029	0.025	
	Piacenza	0.014	0.014	
	Porto	0.009	0.014	
	Sevilla	<0.001	<0.001	
	Thiva	<0.001	<0.001	
		MACRO		
	Châteaudun	0.003		

Table 8.8-68: PEC$_{gw}$ for flupyradifurone and its metabolites on winter cereals 1, late (with FOCUS PEARL/PELMO/MACRO) – 2×37.5 g a.s./ha, 2×80% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Winter cereals 1, late	Chateaudun	0.011	0.005	
	Hamburg	0.085	0.074	
	Jokioinen	0.020	0.024	
	Kremsmuenster	0.057	0.053	
	Okehampton	0.081	0.074	
	Piacenza	0.042	0.039	
	Porto	0.028	0.036	
	Sevilla	<0.001	<0.001	
	Thiva	0.004	0.001	
		MACRO		
	Châteaudun	0.014		

Table 8.8-69: PEC$_{gw}$ for flupyradifurone and its metabolites on winter cereals 2, early (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×90% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Winter cereals 2, early	Chateaudun	0.006	0.003	
	Hamburg	0.050	0.045	
	Jokioinen	0.010	0.013	
	Kremsmuenster	0.036	0.033	
	Okehampton	0.053	0.046	
	Piacenza	0.026	0.025	
	Porto	0.017	0.026	
	Sevilla	<0.001	<0.001	
	Thiva	0.001	0.001	
		MACRO		
	Châteaudun	0.006		

Table 8.8-70: PEC$_{gw}$ for flupyradifurone and its metabolites on winter cereals 2, late (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×80% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)		
		Flupyradifurone		PEARL PELMO PEARL PELMO MACRO MACRO
		PEARL	PELMO	
Winter cereals 2, late	Chateaudun	0.022	0.010	
	Hamburg	0.153	0.133	
	Jokioinen	0.040	0.049	
	Kremsmuenster	0.102	0.093	
	Okehampton	0.143	0.132	
	Piacenza	0.075	0.071	
	Porto	0.051	0.065	
	Sevilla	<0.001	<0.001	
	Thiva	0.009	0.002	
		MACRO		
	Châteaudun	0.027		

Conclusion Tier 1

Several PEC_{gw} values are above the trigger value indicating a need for further refinement. Therefore, Tier 2 calculations considering time dependent sorption will be presented below for flupyradifurone.

PEC_{gw} of metabolites (PUF/TSCF = 0)

~~**Table 8.8-71:** PEC_{gw} for flupyradifurone and its metabolites on sunflower 1, early (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×50% interception, 14 d app. interval~~

~~Crop~~	~~Scenario~~	~~80th percentile PECgw at 1 m soil depth (µg/L)~~					
		~~Difluoroacetic acid~~		~~6-chloronicotinic acid~~			
		~~PEARL~~	~~PELMO~~	~~PEARL~~	~~PELMO~~	~~PEARL~~	~~PELMO~~
~~Sunflower 1, early~~	~~Piacenza~~	~~1.114~~	~~1.034~~	~~0.009~~	~~0.011~~		
	~~Sevilla~~	~~0.466~~	~~0.532~~	~~<0.001~~	~~<0.001~~		
		~~MACRO~~		~~MACRO~~		~~MACRO~~	
	~~Châteaudun~~	~~0.929~~		~~0.003~~			

~~**Table 8.8-72:** PEC_{gw} for flupyradifurone and its metabolites on sunflower 1, late (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×75% interception, 14 d app. interval~~

~~Crop~~	~~Scenario~~	~~80th percentile PECgw at 1 m soil depth (µg/L)~~					
		~~Difluoroacetic acid~~		~~6-chloronicotinic acid~~			
		~~PEARL~~	~~PELMO~~	~~PEARL~~	~~PELMO~~	~~PEARL~~	~~PELMO~~
~~Sunflower 1, late~~	~~Piacenza~~	~~0.578~~	~~0.480~~	~~0.004~~	~~0.005~~		
	~~Sevilla~~	~~0.234~~	~~0.230~~	~~<0.001~~	~~<0.001~~		
		~~MACRO~~		~~MACRO~~		~~MACRO~~	
	~~Châteaudun~~	~~0.399~~		~~<0.001~~			

Table 8.8-73: PEC_{gw} for flupyradifurone and its metabolites on sorghum 1, early (with FOCUS PEARL/PELMO/MACRO) – 1×56.2 g a.s./ha, 90% interception

Crop	Scenario	80th percentile PECgw at 1 m soil depth (µg/L)				
		Difluoroacetic acid		6-chloronicotinic acid		
		PEARL	PELMO	PEARL	PELMO	
Sorghum 1, early	Chateaudun	0.063	0.050	<0.001	<0.001	
	Hamburg	0.192	0.151	<0.001	0.001	
	Jokioinen	0.128	0.123	<0.001	<0.001	
	Kremsmuenster	0.097	0.096	<0.001	<0.001	
	Okehampton	0.100	0.097	<0.001	0.001	
	Porto	0.068	0.070	<0.001	<0.001	
		MACRO		MACRO		
	Châteaudun	0.055		<0.001		

Table 8.8-74: PEC_{gw} for flupyradifurone and its metabolites on sorghum 1, late (with FOCUS PEARL/PELMO/MACRO) – 1×56.2 g a.s./ha, 80% interception

Crop	Scenario	80th percentile PECgw at 1 m soil depth (µg/L)				
		Difluoroacetic acid		6-chloronicotinic acid		
		PEARL	PELMO	PEARL	PELMO	
Sorghum 1, late	Chateaudun	0.151	0.123	<0.001	<0.001	
	Hamburg	0.439	0.351	0.002	0.002	
	Jokioinen	0.308	0.292	<0.001	0.001	
	Kremsmuenster	0.219	0.219	0.001	0.001	
	Okehampton	0.225	0.217	0.002	0.002	
	Porto	0.157	0.167	0.001	0.001	
		MACRO		MACRO		
	Châteaudun	0.136		<0.001		

Table 8.8-75: PEC$_{gw}$ for flupyradifurone and its metabolites on maize 1, early (with FOCUS PEARL/PELMO/MACRO) – 1×56.2 g a.s./ha, 75% interception

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)				
		Difluoroacetic acid		6-chloronicotinic acid		
		PEARL	PELMO	PEARL	PELMO	
Maize 1, early	Chateaudun	0.270	0.243	0.001	0.001	
	Hamburg	0.507	0.427	0.002	0.002	
	Kremsmuenster	0.266	0.273	0.002	0.002	
	Okehampton	0.293	0.288	0.002	0.002	
	Piacenza	0.246	0.228	0.002	0.002	
	Porto	0.173	0.186	0.001	0.002	
	Sevilla	0.101	0.087	<0.001	<0.001	
	Thiva	0.232	0.193	<0.001	<0.001	
		MACRO		MACRO		
	Châteaudun	0.213		<0.001		

Table 8.8-76: PEC$_{gw}$ for flupyradifurone and its metabolites on maize 1, late (with FOCUS PEARL/PELMO/MACRO) – 1×56.2 g a.s./ha, 75% interception

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)				
		Difluoroacetic acid		6-chloronicotinic acid		
		PEARL	PELMO	PEARL	PELMO	
Maize 1, late	Chateaudun	0.265	0.242	0.001	0.001	
	Hamburg	0.508	0.444	0.002	0.002	
	Kremsmuenster	0.268	0.281	0.002	0.002	
	Okehampton	0.308	0.307	0.003	0.003	
	Piacenza	0.263	0.220	0.002	0.002	
	Porto	0.182	0.191	0.002	0.002	
	Sevilla	0.113	0.091	<0.001	<0.001	
	Thiva	0.204	0.169	<0.001	<0.001	
		MACRO		MACRO		
	Châteaudun	0.216		<0.001		

Table 8.8-77: PEC$_{gw}$ for flupyradifurone and its metabolites on grape 1, early (with FOCUS PEARL/PELMO/MACRO) – 2×30 g a.s./ha, 2×60% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)				
		Difluoroacetic acid		6-chloronicotinic acid		
		PEARL	PELMO	PEARL	PELMO	
Grape 1, early	Chateaudun	0.587	0.527	0.004	0.004	
	Hamburg	0.642	0.755	0.004	0.005	
	Kremsmuenster	0.403	0.497	0.003	0.004	
	Piacenza	0.422	0.382	0.003	0.004	
	Porto	0.280	0.331	0.002	0.003	
	Sevilla	0.395	0.341	0.002	0.001	
	Thiva	0.352	0.388	0.002	0.002	
		MACRO		MACRO		
	Châteaudun	0.412		0.001		

Table 8.8-78: PEC_{gw} for flupyradifurone and its metabolites on grape 1, late (with FOCUS PEARL/PELMO/MACRO) – 2×30 g a.s./ha, 2×75% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)				
		Difluoroacetic acid		6-chloronicotinic acid		
		PEARL	PELMO	PEARL	PELMO	
Grape 1, late	Chateaudun	0.357	0.351	0.003	0.003	
	Hamburg	0.380	0.459	0.002	0.003	
	Kremsmuenster	0.246	0.304	0.002	0.003	
	Piacenza	0.288	0.279	0.003	0.003	
	Porto	0.187	0.232	0.002	0.003	
	Sevilla	0.243	0.222	0.002	<0.001	
	Thiva	0.228	0.281	0.001	0.001	
		MACRO		MACRO		
	Châteaudun	0.269		0.001		

Table 8.8-79: PEC_{gw} for flupyradifurone and its metabolites on spring cereals 1, early (with FOCUS PEARL/PELMO/MACRO) – 2×37.5 g a.s./ha, 2×90% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)				
		Difluoroacetic acid		6-chloronicotinic acid		
		PEARL	PELMO	PEARL	PELMO	
Spring cereals 1, early	Chateaudun	0.088	0.069	<0.001	<0.001	
	Hamburg	0.268	0.208	0.001	0.001	
	Jokioinen	0.183	0.171	<0.001	<0.001	
	Kremsmuenster	0.135	0.133	<0.001	0.001	
	Okehampton	0.138	0.133	<0.001	0.001	
	Porto	0.092	0.096	<0.001	0.001	
		MACRO		MACRO		
	Châteaudun	0.077		<0.001		

Table 8.8-80: PEC_{gw} for flupyradifurone and its metabolites on spring cereals 1, late (with FOCUS PEARL/PELMO/MACRO) – 2×37.5 g a.s./ha, 2×80% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)				
		Difluoroacetic acid		6-chloronicotinic acid		
		PEARL	PELMO	PEARL	PELMO	
Spring cereals 1, late	Chateaudun	0.215	0.176	<0.001	<0.001	
	Hamburg	0.614	0.495	0.003	0.003	
	Jokioinen	0.432	0.412	<0.001	0.001	
	Kremsmuenster	0.308	0.306	0.002	0.002	
	Okehampton	0.315	0.307	0.002	0.002	
	Porto	0.219	0.232	0.002	0.002	
		MACRO		MACRO		
	Châteaudun	0.194		<0.001		

Table 8.8-81: PEC$_{gw}$ for flupyradifurone and its metabolites on spring cereals 2, early (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×90% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)				
		Difluoroacetic acid		6-chloronicotinic acid		
		PEARL	PELMO	PEARL	PELMO	
Spring cereals 2, early	Chateaudun	0.142	0.113	<0.001	<0.001	
	Hamburg	0.429	0.330	0.002	0.002	
	Jokioinen	0.303	0.282	<0.001	0.001	
	Kremsmuenster	0.215	0.210	0.001	0.001	
	Okehampton	0.217	0.208	0.002	0.002	
	Porto	0.147	0.153	<0.001	0.001	
		MACRO		MACRO		
	Châteaudun	0.124		<0.001		

Table 8.8-82: PEC$_{gw}$ for flupyradifurone and its metabolites on spring cereals 2, late (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×80% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)				
		Difluoroacetic acid		6-chloronicotinic acid		
		PEARL	PELMO	PEARL	PELMO	
Spring cereals 2, late	Chateaudun	0.344	0.283	<0.001	<0.001	
	Hamburg	0.972	0.787	0.005	0.004	
	Jokioinen	0.705	0.669	0.002	0.002	
	Kremsmuenster	0.483	0.483	0.003	0.003	
	Okehampton	0.492	0.478	0.004	0.004	
	Porto	0.345	0.361	0.003	0.003	
		MACRO		MACRO		
	Châteaudun	0.311		<0.001		

Table 8.8-83: PEC$_{gw}$ for flupyradifurone and its metabolites on winter cereals 1, early (with FOCUS PEARL/PELMO/MACRO) – 2×37.5 g a.s./ha, 2×90% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)				
		Difluoroacetic acid		6-chloronicotinic acid		
		PEARL	PELMO	PEARL	PELMO	
Winter cereals 1, early	Chateaudun	0.097	0.082	<0.001	<0.001	
	Hamburg	0.211	0.226	<0.001	0.001	
	Jokioinen	0.205	0.223	<0.001	<0.001	
	Kremsmuenster	0.125	0.137	<0.001	0.001	
	Okehampton	0.134	0.140	<0.001	0.001	
	Piacenza	0.084	0.113	<0.001	0.001	
	Porto	0.079	0.098	<0.001	0.001	
	Sevilla	0.018	0.029	<0.001	<0.001	
	Thiva	0.059	0.041	<0.001	<0.001	
		MACRO		MACRO		
	Châteaudun	0.080		<0.001		

Table 8.8-84: PEC$_{gw}$ for flupyradifurone and its metabolites on winter cereals 1, late (with FOCUS PEARL/PELMO/MACRO) – 2×37.5 g a.s./ha, 2×80% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)			
		Difluoroacetic acid		6-chloronicotinic acid	
		PEARL	PELMO	PEARL	PELMO
Winter cereals 1, late	Chateaudun	0.234	0.205	<0.001	<0.001
	Hamburg	0.489	0.528	0.002	0.003
	Jokioinen	0.507	0.531	<0.001	0.001
	Kremsmuenster	0.279	0.319	0.002	0.002
	Okehampton	0.297	0.322	0.002	0.003
	Piacenza	0.193	0.273	0.001	0.002
	Porto	0.202	0.234	0.001	0.002
	Sevilla	0.049	0.068	<0.001	<0.001
	Thiva	0.168	0.126	<0.001	<0.001
		MACRO		MACRO	
	Châteaudun	0.204		<0.001	

Table 8.8-85: PEC$_{gw}$ for flupyradifurone and its metabolites on winter cereals 2, early (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×90% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)			
		Difluoroacetic acid		6-chloronicotinic acid	
		PEARL	PELMO	PEARL	PELMO
Winter cereals 2, early	Chateaudun	0.157	0.134	<0.001	<0.001
	Hamburg	0.340	0.357	0.001	0.002
	Jokioinen	0.341	0.365	<0.001	0.001
	Kremsmuenster	0.199	0.216	0.001	0.001
	Okehampton	0.209	0.220	0.002	0.002
	Piacenza	0.132	0.179	<0.001	0.001
	Porto	0.126	0.156	<0.001	0.001
	Sevilla	0.031	0.049	<0.001	<0.001
	Thiva	0.098	0.069	<0.001	<0.001
		MACRO		MACRO	
	Châteaudun	0.130		<0.001	

Table 8.8-86: PEC$_{gw}$ for flupyradifurone and its metabolites on winter cereals 2, late (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×80% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)			
		Difluoroacetic acid		6-chloronicotinic acid	
		PEARL	PELMO	PEARL	PELMO
Winter cereals 2, late	Chateaudun	0.374	0.330	<0.001	0.001
	Hamburg	0.780	0.828	0.004	0.005
	Jokioinen	0.837	0.846	0.002	0.002
	Kremsmuenster	0.440	0.501	0.003	0.003
	Okehampton	0.460	0.499	0.004	0.005
	Piacenza	0.303	0.427	0.002	0.003
	Porto	0.324	0.369	0.002	0.003
	Sevilla	0.083	0.113	<0.001	<0.001
	Thiva	0.275	0.208	<0.001	<0.001
		MACRO		MACRO	
	Châteaudun	0.329		<0.001	

PEC$_{gw}$ of metabolites (PUF/TSCF = 0.5), retained for information of the concerned Member States that do accept consideration of Briggs equation for TSCF refinement. Please note that below results were not validated by the zRMS in additional modelling and for this reason they are given in grey letters, in order to distinguish fully validated from non-validated information.

~~**Table 8.8-87:** PEC$_{gw}$ for flupyradifurone and its metabolites on sunflower 1, early (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×50% interception, 14 d app. interval~~

~~Crop~~	~~Scenario~~	~~80[th] percentile PEC$_{gw}$ at 1 m soil depth (µg/L)~~					
		~~Difluoroacetic acid~~		~~6-chloronicotinic acid~~			
		~~PEARL~~	~~PELMO~~	~~PEARL~~	~~PELMO~~	~~PEARL~~	~~PELMO~~
~~Sunflower 1, early~~	~~Piacenza~~	~~1.033~~	~~0.900~~	~~0.007~~	~~0.008~~		
	~~Sevilla~~	~~0.386~~	~~0.363~~	~~<0.001~~	~~<0.001~~		
		~~MACRO~~		~~MACRO~~		~~MACRO~~	
	~~Châteaudun~~	~~0.857~~		~~0.003~~			

~~**Table 8.8-88:** PEC$_{gw}$ for flupyradifurone and its metabolites on sunflower 1, late (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×75% interception, 14 d app. interval~~

~~Crop~~	~~Scenario~~	~~80[th] percentile PEC$_{gw}$ at 1 m soil depth (µg/L)~~					
		~~Difluoroacetic acid~~		~~6-chloronicotinic acid~~			
		~~PEARL~~	~~PELMO~~	~~PEARL~~	~~PELMO~~	~~PEARL~~	~~PELMO~~
~~Sunflower 1, late~~	~~Piacenza~~	~~0.547~~	~~0.429~~	~~0.004~~	~~0.004~~		
	~~Sevilla~~	~~0.214~~	~~0.183~~	~~<0.001~~	~~<0.001~~		
		~~MACRO~~		~~MACRO~~		~~MACRO~~	
	~~Châteaudun~~	~~0.372~~		~~<0.001~~			

Table 8.8-89: PEC$_{gw}$ for flupyradifurone and its metabolites on sorghum 1, early (with FOCUS PEARL/PELMO/MACRO) – 1×56.2 g a.s./ha, 90% interception

Crop	Scenario	80[th] percentile PEC$_{gw}$ at 1 m soil depth (µg/L)				
		Difluoroacetic acid		6-chloronicotinic acid		
		PEARL	PELMO	PEARL	PELMO	
Sorghum 1, early	Chateaudun	0.059	0.041	<0.001	<0.001	
	Hamburg	0.181	0.127	<0.001	<0.001	
	Jokioinen	0.124	0.108	<0.001	<0.001	
	Kremsmuenster	0.093	0.085	<0.001	<0.001	
	Okehampton	0.095	0.084	<0.001	<0.001	
	Porto	0.064	0.057	<0.001	<0.001	
		MACRO		MACRO		
	Châteaudun	0.051		<0.001		

Table 8.8-90: PEC$_{gw}$ for flupyradifurone and its metabolites on sorghum 1, late (with FOCUS PEARL/PELMO/MACRO) – 1×56.2 g a.s./ha, 80% interception

Crop	Scenario	80[th] percentile PEC$_{gw}$ at 1 m soil depth (µg/L)				
		Difluoroacetic acid		6-chloronicotinic acid		
		PEARL	PELMO	PEARL	PELMO	
Sorghum 1, late	Chateaudun	0.145	0.102	<0.001	<0.001	
	Hamburg	0.417	0.294	0.001	0.001	
	Jokioinen	0.300	0.258	<0.001	<0.001	
	Kremsmuenster	0.211	0.191	0.001	0.001	
	Okehampton	0.215	0.188	0.001	0.001	
	Porto	0.151	0.140	<0.001	0.001	
		MACRO		MACRO		
	Châteaudun	0.130		<0.001		

Table 8.8-91: PEC_{gw} for flupyradifurone and its metabolites on maize 1, early (with FOCUS PEARL/PELMO/MACRO) – 1×56.2 g a.s./ha, 75% interception

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)			
		Difluoroacetic acid		6-chloronicotinic acid	
		PEARL	PELMO	PEARL	PELMO
Maize 1, early	Chateaudun	0.253	0.206	0.001	0.001
	Hamburg	0.482	0.365	0.002	0.002
	Kremsmuenster	0.257	0.242	0.001	0.001
	Okehampton	0.280	0.253	0.002	0.002
	Piacenza	0.233	0.207	0.002	0.002
	Porto	0.162	0.158	0.001	0.001
	Sevilla	0.080	0.060	<0.001	<0.001
	Thiva	0.204	0.150	<0.001	<0.001
		MACRO		MACRO	
	Châteaudun	0.190		<0.001	

Table 8.8-92: PEC_{gw} for flupyradifurone and its metabolites on maize 1, late (with FOCUS PEARL/PELMO/MACRO) – 1×56.2 g a.s./ha, 75% interception

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)			
		Difluoroacetic acid		6-chloronicotinic acid	
		PEARL	PELMO	PEARL	PELMO
Maize 1, late	Chateaudun	0.250	0.197	<0.001	0.001
	Hamburg	0.486	0.386	0.002	0.002
	Kremsmuenster	0.259	0.240	0.001	0.001
	Okehampton	0.296	0.274	0.002	0.002
	Piacenza	0.251	0.192	0.002	0.002
	Porto	0.174	0.166	0.001	0.002
	Sevilla	0.102	0.071	<0.001	<0.001
	Thiva	0.180	0.129	<0.001	<0.001
		MACRO		MACRO	
	Châteaudun	0.201		<0.001	

Table 8.8-93: PEC_{gw} for flupyradifurone and its metabolites on grape 1, early (with FOCUS PEARL/PELMO/MACRO) – 2×30 g a.s./ha, 2×60% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)			
		Difluoroacetic acid		6-chloronicotinic acid	
		PEARL	PELMO	PEARL	PELMO
Grape 1, early	Chateaudun	0.556	0.467	0.003	0.002
	Hamburg	0.626	0.675	0.004	0.004
	Kremsmuenster	0.396	0.452	0.003	0.003
	Piacenza	0.399	0.350	0.003	0.003
	Porto	0.265	0.280	0.002	0.002
	Sevilla	0.358	0.281	0.002	<0.001
	Thiva	0.324	0.321	0.001	0.001
		MACRO		MACRO	
	Châteaudun	0.366		0.001	

Table 8.8-94: **PEC_{gw} for flupyradifurone and its metabolites on grape 1, late (with FOCUS PEARL/PELMO/MACRO) – 2×30 g a.s./ha, 2×75% interception, 14 d app. interval**

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)			
		Difluoroacetic acid		6-chloronicotinic acid	
		PEARL	PELMO	PEARL	PELMO
Grape 1, late	Chateaudun	0.341	0.305	0.002	0.002
	Hamburg	0.373	0.411	0.002	0.002
	Kremsmuenster	0.242	0.275	0.002	0.002
	Piacenza	0.277	0.251	0.002	0.003
	Porto	0.182	0.199	0.002	0.002
	Sevilla	0.227	0.181	0.001	<0.001
	Thiva	0.215	0.220	<0.001	0.001
		MACRO		MACRO	
	Châteaudun	0.250		0.001	

Table 8.8-95: **PEC_{gw} for flupyradifurone and its metabolites on spring cereals 1, early (with FOCUS PEARL/PELMO/MACRO) – 2×37.5 g a.s./ha, 2×90% interception, 14 d app. interval**

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)			
		Difluoroacetic acid		6-chloronicotinic acid	
		PEARL	PELMO	PEARL	PELMO
Spring cereals 1, early	Chateaudun	0.083	0.057	<0.001	<0.001
	Hamburg	0.253	0.174	<0.001	0.001
	Jokioinen	0.177	0.152	<0.001	<0.001
	Kremsmuenster	0.130	0.118	<0.001	0.001
	Okehampton	0.130	0.114	<0.001	0.001
	Porto	0.085	0.078	<0.001	<0.001
		MACRO		MACRO	
	Châteaudun	0.070		<0.001	

Table 8.8-96: **PEC_{gw} for flupyradifurone and its metabolites on spring cereals 1, late (with FOCUS PEARL/PELMO/MACRO) – 2×37.5 g a.s./ha, 2×80% interception, 14 d app. interval**

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)			
		Difluoroacetic acid		6-chloronicotinic acid	
		PEARL	PELMO	PEARL	PELMO
Spring cereals 1, late	Chateaudun	0.205	0.144	<0.001	<0.001
	Hamburg	0.585	0.409	0.002	0.002
	Jokioinen	0.420	0.362	<0.001	0.001
	Kremsmuenster	0.296	0.262	0.002	0.001
	Okehampton	0.301	0.261	0.002	0.002
	Porto	0.210	0.193	0.001	0.001
		MACRO		MACRO	
	Châteaudun	0.185		<0.001	

Table 8.8-97: PEC$_{gw}$ for flupyradifurone and its metabolites on spring cereals 2, early (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×90% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)			
		Difluoroacetic acid		6-chloronicotinic acid	
		PEARL	PELMO	PEARL	PELMO
Spring cereals 2, early	Chateaudun	0.133	0.092	<0.001	<0.001
	Hamburg	0.403	0.275	0.001	0.001
	Jokioinen	0.293	0.248	<0.001	<0.001
	Kremsmuenster	0.205	0.185	<0.001	0.001
	Okehampton	0.204	0.176	0.001	0.001
	Porto	0.135	0.123	<0.001	0.001
		MACRO		MACRO	
	Châteaudun	0.112		<0.001	

Table 8.8-98: PEC$_{gw}$ for flupyradifurone and its metabolites on spring cereals 2, late (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×80% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)			
		Difluoroacetic acid		6-chloronicotinic acid	
		PEARL	PELMO	PEARL	PELMO
Spring cereals 2, late	Chateaudun	0.329	0.232	<0.001	<0.001
	Hamburg	0.924	0.647	0.004	0.003
	Jokioinen	0.680	0.585	0.001	0.001
	Kremsmuenster	0.466	0.409	0.003	0.002
	Okehampton	0.468	0.406	0.003	0.003
	Porto	0.330	0.298	0.002	0.002
		MACRO		MACRO	
	Châteaudun	0.295		<0.001	

Table 8.8-99: PEC$_{gw}$ for flupyradifurone and its metabolites on winter cereals 1, early (with FOCUS PEARL/PELMO/MACRO) – 2×37.5 g a.s./ha, 2×90% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)			
		Difluoroacetic acid		6-chloronicotinic acid	
		PEARL	PELMO	PEARL	PELMO
Winter cereals 1, early	Chateaudun	0.092	0.069	<0.001	<0.001
	Hamburg	0.202	0.189	<0.001	0.001
	Jokioinen	0.199	0.199	<0.001	<0.001
	Kremsmuenster	0.121	0.122	<0.001	0.001
	Okehampton	0.128	0.121	<0.001	0.001
	Piacenza	0.080	0.095	<0.001	<0.001
	Porto	0.074	0.081	<0.001	0.001
	Sevilla	0.015	0.021	<0.001	<0.001
	Thiva	0.051	0.032	<0.001	<0.001
		MACRO		MACRO	
	Châteaudun	0.083		<0.001	

Table 8.8-100: PEC_{gw} for flupyradifurone and its metabolites on winter cereals 1, late (with FOCUS PEARL/PELMO/MACRO) – 2×37.5 g a.s./ha, 2×80% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)			
		Difluoroacetic acid		6-chloronicotinic acid	
		PEARL	PELMO	PEARL	PELMO
Winter cereals 1, late	Chateaudun	0.225	0.169	<0.001	<0.001
	Hamburg	0.473	0.442	0.002	0.002
	Jokioinen	0.493	0.470	<0.001	0.001
	Kremsmuenster	0.272	0.275	0.001	0.001
	Okehampton	0.286	0.273	0.002	0.002
	Piacenza	0.188	0.224	0.001	0.001
	Porto	0.190	0.196	<0.001	0.001
	Sevilla	0.044	0.051	<0.001	<0.001
	Thiva	0.155	0.107	<0.001	<0.001
		MACRO		MACRO	
	Châteaudun	0.208		0.001	

Table 8.8-101: PEC_{gw} for flupyradifurone and its metabolites on winter cereals 2, early (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×90% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)			
		Difluoroacetic acid		6-chloronicotinic acid	
		PEARL	PELMO	PEARL	PELMO
Winter cereals 2, early	Chateaudun	0.148	0.111	<0.001	<0.001
	Hamburg	0.324	0.299	0.001	0.001
	Jokioinen	0.330	0.324	<0.001	0.001
	Kremsmuenster	0.192	0.191	<0.001	0.001
	Okehampton	0.199	0.189	0.001	0.001
	Piacenza	0.126	0.150	<0.001	0.001
	Porto	0.118	0.126	<0.001	0.001
	Sevilla	0.026	0.035	<0.001	<0.001
	Thiva	0.085	0.052	<0.001	<0.001
		MACRO		MACRO	
	Châteaudun	0.132		<0.001	

Table 8.8-102: PEC_{gw} for flupyradifurone and its metabolites on winter cereals 2, late (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×80% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)			
		Difluoroacetic acid		6-chloronicotinic acid	
		PEARL	PELMO	PEARL	PELMO
Winter cereals 2, late	Chateaudun	0.359	0.270	<0.001	<0.001
	Hamburg	0.754	0.689	0.003	0.003
	Jokioinen	0.813	0.747	0.001	0.002
	Kremsmuenster	0.427	0.429	0.002	0.002
	Okehampton	0.443	0.419	0.003	0.003
	Piacenza	0.294	0.350	0.002	0.002
	Porto	0.309	0.300	0.002	0.002
	Sevilla	0.075	0.085	<0.001	<0.001
	Thiva	0.253	0.175	<0.001	<0.001
		MACRO		MACRO	
	Châteaudun	0.325		0.002	

Conclusion Tier 1

All PEC_{gw} values for metabolite 6-chloronicotinic acid are below the trigger. However, several PEC_{gw} values for the metabolite difluoroacetic acid are above the trigger of 0.1 µg/L. Therefore, reference is made to the Tier 2 calculations based on time dependent sorption presented below.

Tier 2 (TDS)

PEC_{gw} of flupyradifurone (PUF/TSCF = 0)

~~Table 8.8-103: PEC_{gw} for flupyradifurone and its metabolites on sunflower 1, early (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×50% interception, 14 d app. interval~~

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)					
		Flupyradifurone					
		PEARL	PELMO	PEARL	PELMO	PEARL	PELMO
Sunflower 1, early	Piacenza	0.029	0.048				
	Sevilla	<0.001	<0.001				
		MACRO		MACRO		MACRO	
	Châteaudun	0.002					

~~Table 8.8-104: PEC_{gw} for flupyradifurone and its metabolites on sunflower 1, late (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×75% interception, 14 d app. interval~~

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)					
		Flupyradifurone					
		PEARL	PELMO	PEARL	PELMO	PEARL	PELMO
Sunflower 1, late	Piacenza	0.010	0.014				
	Sevilla	<0.001	<0.001				
		MACRO		MACRO		MACRO	
	Châteaudun	<0.001					

Table 8.8-105: PEC_{gw} for flupyradifurone and its metabolites on sorghum 1, early (with FOCUS PEARL/PELMO/MACRO) – 1×56.2 g a.s./ha, 90% interception

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Sorghum 1, early	Chateaudun	<0.001	<0.001	
	Hamburg	<0.001	0.001	
	Jokioinen	<0.001	<0.001	
	Kremsmuenster	<0.001	<0.001	
	Okehampton	<0.001	0.001	
	Porto	<0.001	<0.001	
		MACRO		
	Châteaudun	<0.001		

Table 8.8-106: PEC_{gw} for flupyradifurone and its metabolites on sorghum 1, late (with FOCUS PEARL/PELMO/MACRO) – 1×56.2 g a.s./ha, 80% interception

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Sorghum 1, late	Chateaudun	<0.001	<0.001	
	Hamburg	0.003	0.002	
	Jokioinen	<0.001	<0.001	
	Kremsmuenster	0.001	0.001	
	Okehampton	0.002	0.002	
	Porto	<0.001	0.001	
		MACRO		
	Châteaudun	<0.001		

Table 8.8-107: PEC_{gw} for flupyradifurone and its metabolites on maize 1, early (with FOCUS PEARL/PELMO/MACRO) – 1×56.2 g a.s./ha, 75% interception

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Maize 1, early	Chateaudun	<0.001	<0.001	
	Hamburg	0.004	0.002	
	Kremsmuenster	0.002	0.002	
	Okehampton	0.003	0.003	
	Piacenza	0.003	0.004	
	Porto	<0.001	0.001	
	Sevilla	<0.001	<0.001	
	Thiva	<0.001	<0.001	
		MACRO		
	Châteaudun	<0.001		

Table 8.8-108: PEC_{gw} for flupyradifurone and its metabolites on maize 1, late (with FOCUS PEARL/PELMO/MACRO) – 1×56.2 g a.s./ha, 75% interception

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Maize 1, late	Chateaudun	<0.001	<0.001	
	Hamburg	0.004	0.003	
	Kremsmuenster	0.002	0.002	
	Okehampton	0.005	0.004	
	Piacenza	0.006	0.006	
	Porto	0.001	0.002	
	Sevilla	<0.001	<0.001	
	Thiva	<0.001	<0.001	
		MACRO		
	Châteaudun	<0.001		

Table 8.8-109: PEC_{gw} for flupyradifurone and its metabolites on grape 1, early (with FOCUS PEARL/PELMO/MACRO) – 2×30 g a.s./ha, 2×60% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Grape 1, early	Chateaudun	0.005	0.003	
	Hamburg	0.009	0.009	
	Kremsmuenster	0.006	0.008	
	Piacenza	0.007	0.011	
	Porto	0.002	0.004	
	Sevilla	<0.001	<0.001	
	Thiva	<0.001	<0.001	
		MACRO		
	Châteaudun	<0.001		

Table 8.8-110: PEC_{gw} for flupyradifurone and its metabolites on grape 1, late (with FOCUS PEARL/PELMO/MACRO) – 2×30 g a.s./ha, 2×75% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Grape 1, late	Chateaudun	0.002	0.002	
	Hamburg	0.005	0.005	
	Kremsmuenster	0.003	0.004	
	Piacenza	0.008	0.010	
	Porto	0.001	0.003	
	Sevilla	<0.001	<0.001	
	Thiva	<0.001	<0.001	
		MACRO		
	Châteaudun	<0.001		

Table 8.8-111: PEC_{gw} for flupyradifurone and its metabolites on spring cereals 1, early (with FOCUS PEARL/PELMO/MACRO) – 2×37.5 g a.s./ha, 2×90% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Spring cereals 1, early	Chateaudun	<0.001	<0.001	
	Hamburg	0.001	0.001	
	Jokioinen	<0.001	<0.001	
	Kremsmuenster	<0.001	0.001	
	Okehampton	<0.001	0.001	
	Porto	<0.001	<0.001	
		MACRO		
	Châteaudun	<0.001		

Table 8.8-112: PEC_{gw} for flupyradifurone and its metabolites on spring cereals 1, late (with FOCUS PEARL/PELMO/MACRO) – 2×37.5 g a.s./ha, 2×80% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Spring cereals 1, late	Chateaudun	<0.001	<0.001	
	Hamburg	0.005	0.003	
	Jokioinen	<0.001	<0.001	
	Kremsmuenster	0.002	0.002	
	Okehampton	0.003	0.003	
	Porto	<0.001	0.001	
		MACRO		
	Châteaudun	<0.001		

Table 8.8-113: **PEC_{gw} for flupyradifurone and its metabolites on spring cereals 2, early (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×90% interception, 14 d app. interval**

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Spring cereals 2, early	Chateaudun	<0.001	<0.001	
	Hamburg	0.002	0.002	
	Jokioinen	<0.001	<0.001	
	Kremsmuenster	<0.001	0.001	
	Okehampton	0.002	0.002	
	Porto	<0.001	0.001	
		MACRO		
	Châteaudun	<0.001		

Table 8.8-114: **PEC_{gw} for flupyradifurone and its metabolites on spring cereals 2, late (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×80% interception, 14 d app. interval**

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Spring cereals 2, late	Chateaudun	<0.001	<0.001	
	Hamburg	0.011	0.006	
	Jokioinen	<0.001	<0.001	
	Kremsmuenster	0.004	0.004	
	Okehampton	0.008	0.006	
	Porto	0.002	0.003	
		MACRO		
	Châteaudun	<0.001		

Table 8.8-115: **PEC_{gw} for flupyradifurone and its metabolites on winter cereals 1, early (with FOCUS PEARL/PELMO/MACRO) – 2×37.5 g a.s./ha, 2×90% interception, 14 d app. interval**

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Winter cereals 1, early	Chateaudun	<0.001	<0.001	
	Hamburg	<0.001	0.001	
	Jokioinen	<0.001	<0.001	
	Kremsmuenster	<0.001	0.001	
	Okehampton	<0.001	0.001	
	Piacenza	<0.001	0.001	
	Porto	<0.001	0.001	
	Sevilla	<0.001	<0.001	
	Thiva	<0.001	<0.001	
		MACRO		
	Châteaudun	<0.001		

Table 8.8-116: PEC_{gw} for flupyradifurone and its metabolites on winter cereals 1, late (with FOCUS PEARL/PELMO/MACRO) – 2×37.5 g a.s./ha, 2×80% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Winter cereals 1, late	Chateaudun	<0.001	<0.001	
	Hamburg	0.004	0.004	
	Jokioinen	<0.001	<0.001	
	Kremsmuenster	0.002	0.002	
	Okehampton	0.003	0.004	
	Piacenza	0.001	0.002	
	Porto	<0.001	0.002	
	Sevilla	<0.001	<0.001	
	Thiva	<0.001	<0.001	
		MACRO		
	Châteaudun	<0.001		

Table 8.8-117: PEC_{gw} for flupyradifurone and its metabolites on winter cereals 2, early (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×90% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Winter cereals 2, early	Chateaudun	<0.001	<0.001	
	Hamburg	0.002	0.002	
	Jokioinen	<0.001	<0.001	
	Kremsmuenster	<0.001	0.001	
	Okehampton	0.002	0.003	
	Piacenza	<0.001	0.001	
	Porto	<0.001	0.001	
	Sevilla	<0.001	<0.001	
	Thiva	<0.001	<0.001	
		MACRO		
	Châteaudun	<0.001		

Table 8.8-118: PEC_{gw} for flupyradifurone and its metabolites on winter cereals 2, late (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×80% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Winter cereals 2, late	Chateaudun	<0.001	<0.001	
	Hamburg	0.009	0.007	
	Jokioinen	<0.001	0.001	
	Kremsmuenster	0.004	0.005	
	Okehampton	0.007	0.008	
	Piacenza	0.003	0.004	
	Porto	0.001	0.003	
	Sevilla	<0.001	<0.001	
	Thiva	<0.001	<0.001	
		MACRO		
	Châteaudun	<0.001		

PEC_{gw} of flupyradifurone (PUF/TSCF = 0.5), retained for information of the concerned Member States that do accept consideration of Briggs equation for TSCF refinement. Please note that below results were not validated by the zRMS in additional modelling and for this reason they are given in grey letters, in order to distinguish fully validated from non-validated information.

~~**Table 8.8-119: PEC_{gw} for flupyradifurone and its metabolites on sunflower 1, early (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×50% interception, 14 d app. interval**~~

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)					
		Flupyradifurone					
		PEARL	PELMO	PEARL	PELMO	PEARL	PELMO
Sunflower 1, early	Piacenza	0.022	0.037				
	Sevilla	<0.001	<0.001				
		MACRO		MACRO		MACRO	
	Châteaudun	0.001					

~~**Table 8.8-120: PEC_{gw} for flupyradifurone and its metabolites on sunflower 1, late (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×75% interception, 14 d app. interval**~~

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)					
		Flupyradifurone					
		PEARL	PELMO	PEARL	PELMO	PEARL	PELMO
Sunflower 1, late	Piacenza	0.008	0.011				
	Sevilla	<0.001	<0.001				
		MACRO		MACRO		MACRO	
	Châteaudun	<0.001					

Table 8.8-121: PEC_{gw} for flupyradifurone and its metabolites on sorghum 1, early (with FOCUS PEARL/PELMO/MACRO) – 1×56.2 g a.s./ha, 90% interception

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)	
		Flupyradifurone	
		PEARL	PELMO
Sorghum 1, early	Chateaudun	<0.001	<0.001
	Hamburg	<0.001	<0.001
	Jokioinen	<0.001	<0.001
	Kremsmuenster	<0.001	<0.001
	Okehampton	<0.001	0.001
	Porto	<0.001	<0.001
		MACRO	
	Châteaudun	<0.001	

Table 8.8-122: PEC_{gw} for flupyradifurone and its metabolites on sorghum 1, late (with FOCUS PEARL/PELMO/MACRO) – 1×56.2 g a.s./ha, 80% interception

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)	
		Flupyradifurone	
		PEARL	PELMO
Sorghum 1, late	Chateaudun	<0.001	<0.001
	Hamburg	0.002	0.001
	Jokioinen	<0.001	<0.001
	Kremsmuenster	<0.001	0.001
	Okehampton	0.001	0.001
	Porto	<0.001	0.001
		MACRO	
	Châteaudun	<0.001	

Table 8.8-123: PEC$_{gw}$ for flupyradifurone and its metabolites on maize 1, early (with FOCUS PEARL/PELMO/MACRO) – 1×56.2 g a.s./ha, 75% interception

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Maize 1, early	Chateaudun	<0.001	<0.001	
	Hamburg	0.003	0.002	
	Kremsmuenster	0.001	0.001	
	Okehampton	0.003	0.002	
	Piacenza	0.003	0.003	
	Porto	<0.001	0.001	
	Sevilla	<0.001	<0.001	
	Thiva	<0.001	<0.001	
		MACRO		
	Châteaudun	<0.001		

Table 8.8-124: PEC$_{gw}$ for flupyradifurone and its metabolites on maize 1, late (with FOCUS PEARL/PELMO/MACRO) – 1×56.2 g a.s./ha, 75% interception

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Maize 1, late	Chateaudun	<0.001	<0.001	
	Hamburg	0.003	0.002	
	Kremsmuenster	0.002	0.001	
	Okehampton	0.004	0.003	
	Piacenza	0.005	0.005	
	Porto	0.001	0.002	
	Sevilla	<0.001	<0.001	
	Thiva	<0.001	<0.001	
		MACRO		
	Châteaudun	<0.001		

Table 8.8-125: PEC$_{gw}$ for flupyradifurone and its metabolites on grape 1, early (with FOCUS PEARL/PELMO/MACRO) – 2×30 g a.s./ha, 2×60% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Grape 1, early	Chateaudun	0.003	0.002	
	Hamburg	0.008	0.007	
	Kremsmuenster	0.006	0.007	
	Piacenza	0.006	0.008	
	Porto	0.002	0.003	
	Sevilla	<0.001	<0.001	
	Thiva	<0.001	<0.001	
		MACRO		
	Châteaudun	<0.001		

Table 8.8-126: PEC$_{gw}$ for flupyradifurone and its metabolites on grape 1, late (with FOCUS PEARL/PELMO/MACRO) – 2×30 g a.s./ha, 2×75% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)	
		Flupyradifurone	
		PEARL	PELMO
Grape 1, late	Chateaudun	0.002	0.001
	Hamburg	0.004	0.004
	Kremsmuenster	0.003	0.003
	Piacenza	0.006	0.008
	Porto	0.001	0.003
	Sevilla	<0.001	<0.001
	Thiva	<0.001	<0.001
		MACRO	
	Châteaudun	<0.001	

Table 8.8-127: PEC$_{gw}$ for flupyradifurone and its metabolites on spring cereals 1, early (with FOCUS PEARL/PELMO/MACRO) – 2×37.5 g a.s./ha, 2×90% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)	
		Flupyradifurone	
		PEARL	PELMO
Spring cereals 1, early	Chateaudun	<0.001	<0.001
	Hamburg	<0.001	0.001
	Jokioinen	<0.001	<0.001
	Kremsmuenster	<0.001	<0.001
	Okehampton	<0.001	0.001
	Porto	<0.001	<0.001
		MACRO	
	Châteaudun	<0.001	

Table 8.8-128: PEC$_{gw}$ for flupyradifurone and its metabolites on spring cereals 1, late (with FOCUS PEARL/PELMO/MACRO) – 2×37.5 g a.s./ha, 2×80% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)	
		Flupyradifurone	
		PEARL	PELMO
Spring cereals 1, late	Chateaudun	<0.001	<0.001
	Hamburg	0.004	0.002
	Jokioinen	<0.001	<0.001
	Kremsmuenster	0.002	0.001
	Okehampton	0.003	0.002
	Porto	<0.001	0.001
		MACRO	
	Châteaudun	<0.001	

Table 8.8-129: PEC$_{gw}$ for flupyradifurone and its metabolites on spring cereals 2, early (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×90% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Spring cereals 2, early	Chateaudun	<0.001	<0.001	
	Hamburg	0.002	0.001	
	Jokioinen	<0.001	<0.001	
	Kremsmuenster	<0.001	0.001	
	Okehampton	0.001	0.001	
	Porto	<0.001	0.001	
		MACRO		
	Châteaudun	<0.001		

Table 8.8-130: PEC$_{gw}$ for flupyradifurone and its metabolites on spring cereals 2, late (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×80% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Spring cereals 2, late	Chateaudun	<0.001	<0.001	
	Hamburg	0.009	0.005	
	Jokioinen	<0.001	<0.001	
	Kremsmuenster	0.004	0.003	
	Okehampton	0.006	0.005	
	Porto	0.002	0.002	
		MACRO		
	Châteaudun	<0.001		

Table 8.8-131: PEC$_{gw}$ for flupyradifurone and its metabolites on winter cereals 1, early (with FOCUS PEARL/PELMO/MACRO) – 2×37.5 g a.s./ha, 2×90% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Winter cereals 1, early	Chateaudun	<0.001	<0.001	
	Hamburg	<0.001	0.001	
	Jokioinen	<0.001	<0.001	
	Kremsmuenster	<0.001	0.001	
	Okehampton	<0.001	0.001	
	Piacenza	<0.001	<0.001	
	Porto	<0.001	<0.001	
	Sevilla	<0.001	<0.001	
	Thiva	<0.001	<0.001	
		MACRO		
	Châteaudun	<0.001		

Table 8.8-132: PEC$_{gw}$ for flupyradifurone and its metabolites on winter cereals 1, late (with FOCUS PEARL/PELMO/MACRO) – 2×37.5 g a.s./ha, 2×80% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Winter cereals 1, late	Chateaudun	<0.001	<0.001	
	Hamburg	0.003	0.003	
	Jokioinen	<0.001	<0.001	
	Kremsmuenster	0.002	0.002	
	Okehampton	0.003	0.003	
	Piacenza	0.001	0.001	
	Porto	<0.001	0.001	
	Sevilla	<0.001	<0.001	
	Thiva	<0.001	<0.001	
		MACRO		
	Châteaudun	<0.001		

Table 8.8-133: PEC$_{gw}$ for flupyradifurone and its metabolites on winter cereals 2, early (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×90% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Winter cereals 2, early	Chateaudun	<0.001	<0.001	
	Hamburg	0.002	0.001	
	Jokioinen	<0.001	<0.001	
	Kremsmuenster	<0.001	0.001	
	Okehampton	0.002	0.002	
	Piacenza	<0.001	0.001	
	Porto	<0.001	0.001	
	Sevilla	<0.001	<0.001	
	Thiva	<0.001	<0.001	
		MACRO		
	Châteaudun	<0.001		

Table 8.8-134: PEC$_{gw}$ for flupyradifurone and its metabolites on winter cereals 2, late (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×80% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)		
		Flupyradifurone		
		PEARL	PELMO	
Winter cereals 2, late	Chateaudun	<0.001	<0.001	
	Hamburg	0.007	0.005	
	Jokioinen	<0.001	0.001	
	Kremsmuenster	0.004	0.003	
	Okehampton	0.006	0.006	
	Piacenza	0.003	0.003	
	Porto	0.001	0.002	
	Sevilla	<0.001	<0.001	
	Thiva	<0.001	<0.001	
		MACRO		
	Châteaudun	<0.001		

Conclusion Tier 2

Based on higher tier calculations (i.e. time dependent sorption), all PEC_{gw} values for flupyradifurone are below the trigger value indicating an acceptable risk if the product is used according to the intended use pattern for the current formulation as specified above.

PEC_{gw} of metabolites (PUF/TSCF = 0)

~~**Table 8.8-135:** PEC_{gw} for flupyradifurone and its metabolites on sunflower 1, early (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×50% interception, 14 d app. interval~~

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)					
		Difluoroacetic acid		6-chloronicotinic acid			
		PEARL	PELMO	PEARL	PELMO	PEARL	PELMO
Sunflower 1, early	Piacenza	0.955	0.932	0.002	0.003		
	Sevilla	0.371	0.445	<0.001	<0.001		
		MACRO		MACRO		MACRO	
	Châteaudun	0.758		<0.001			

~~**Table 8.8-136:** PEC_{gw} for flupyradifurone and its metabolites on sunflower 1, late (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×75% interception, 14 d app. interval~~

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)					
		Difluoroacetic acid		6-chloronicotinic acid			
		PEARL	PELMO	PEARL	PELMO	PEARL	PELMO
Sunflower 1, late	Piacenza	0.477	0.424	<0.001	0.001		
	Sevilla	0.199	0.195	<0.001	<0.001		
		MACRO		MACRO		MACRO	
	Châteaudun	0.320		<0.001			

Table 8.8-137: PEC_{gw} for flupyradifurone and its metabolites on sorghum 1, early (with FOCUS PEARL/PELMO/MACRO) – 1×56.2 g a.s./ha, 90% interception

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)			
		Difluoroacetic acid		6-chloronicotinic acid	
		PEARL	PELMO	PEARL	PELMO
Sorghum 1, early	Chateaudun	0.053	0.042	<0.001	<0.001
	Hamburg	0.162	0.133	<0.001	<0.001
	Jokioinen	0.115	0.112	<0.001	<0.001
	Kremsmuenster	0.085	0.085	<0.001	<0.001
	Okehampton	0.090	0.089	<0.001	<0.001
	Porto	0.060	0.061	<0.001	<0.001
		MACRO		MACRO	
	Châteaudun	0.046		<0.001	

Table 8.8-138: PEC_{gw} for flupyradifurone and its metabolites on sorghum 1, late (with FOCUS PEARL/PELMO/MACRO) – 1×56.2 g a.s./ha, 80% interception

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)			
		Difluoroacetic acid		6-chloronicotinic acid	
		PEARL	PELMO	PEARL	PELMO
Sorghum 1, late	Chateaudun	0.127	0.105	<0.001	<0.001
	Hamburg	0.391	0.312	<0.001	<0.001
	Jokioinen	0.278	0.269	<0.001	<0.001
	Kremsmuenster	0.193	0.196	<0.001	<0.001
	Okehampton	0.207	0.200	<0.001	<0.001
	Porto	0.141	0.149	<0.001	<0.001
		MACRO		MACRO	
	Châteaudun	0.114		<0.001	

Table 8.8-139: PEC$_{gw}$ for flupyradifurone and its metabolites on maize 1, early (with FOCUS PEARL/PELMO/MACRO) – 1×56.2 g a.s./ha, 75% interception

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)				
		Difluoroacetic acid		6-chloronicotinic acid		
		PEARL	PELMO	PEARL	PELMO	
Maize 1, early	Chateaudun	0.237	0.209	<0.001	<0.001	
	Hamburg	0.457	0.381	<0.001	<0.001	
	Kremsmuenster	0.244	0.244	<0.001	<0.001	
	Okehampton	0.265	0.262	<0.001	<0.001	
	Piacenza	0.217	0.210	<0.001	<0.001	
	Porto	0.152	0.165	<0.001	<0.001	
	Sevilla	0.082	0.071	<0.001	<0.001	
	Thiva	0.185	0.154	<0.001	<0.001	
		MACRO		MACRO		
	Châteaudun	0.181		<0.001		

Table 8.8-140: PEC$_{gw}$ for flupyradifurone and its metabolites on maize 1, late (with FOCUS PEARL/PELMO/MACRO) – 1×56.2 g a.s./ha, 75% interception

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)				
		Difluoroacetic acid		6-chloronicotinic acid		
		PEARL	PELMO	PEARL	PELMO	
Maize 1, late	Chateaudun	0.221	0.209	<0.001	<0.001	
	Hamburg	0.459	0.404	<0.001	<0.001	
	Kremsmuenster	0.243	0.253	<0.001	<0.001	
	Okehampton	0.282	0.285	<0.001	<0.001	
	Piacenza	0.241	0.204	<0.001	<0.001	
	Porto	0.166	0.179	<0.001	<0.001	
	Sevilla	0.102	0.080	<0.001	<0.001	
	Thiva	0.154	0.138	<0.001	<0.001	
		MACRO		MACRO		
	Châteaudun	0.187		<0.001		

Table 8.8-141: PEC$_{gw}$ for flupyradifurone and its metabolites on grape 1, early (with FOCUS PEARL/PELMO/MACRO) – 2×30 g a.s./ha, 2×60% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)				
		Difluoroacetic acid		6-chloronicotinic acid		
		PEARL	PELMO	PEARL	PELMO	
Grape 1, early	Chateaudun	0.501	0.451	<0.001	<0.001	
	Hamburg	0.572	0.666	<0.001	0.001	
	Kremsmuenster	0.371	0.443	<0.001	0.001	
	Piacenza	0.348	0.328	<0.001	0.001	
	Porto	0.228	0.264	<0.001	<0.001	
	Sevilla	0.320	0.269	<0.001	<0.001	
	Thiva	0.273	0.308	<0.001	<0.001	
		MACRO		MACRO		
	Châteaudun	0.349		<0.001		

Table 8.8-142: PEC$_{gw}$ for flupyradifurone and its metabolites on grape 1, late (with FOCUS PEARL/PELMO/MACRO) – 2×30 g a.s./ha, 2×75% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)				
		Difluoroacetic acid		6-chloronicotinic acid		
		PEARL	PELMO	PEARL	PELMO	
Grape 1, late	Chateaudun	0.299	0.299	<0.001	<0.001	
	Hamburg	0.346	0.411	<0.001	<0.001	
	Kremsmuenster	0.224	0.274	<0.001	<0.001	
	Piacenza	0.260	0.257	<0.001	0.001	
	Porto	0.169	0.208	<0.001	<0.001	
	Sevilla	0.208	0.179	<0.001	<0.001	
	Thiva	0.185	0.230	<0.001	<0.001	
		MACRO		MACRO		
	Châteaudun	0.231		<0.001		

Table 8.8-143: PEC$_{gw}$ for flupyradifurone and its metabolites on spring cereals 1, early (with FOCUS PEARL/PELMO/MACRO) – 2×37.5 g a.s./ha, 2×90% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)				
		Difluoroacetic acid		6-chloronicotinic acid		
		PEARL	PELMO	PEARL	PELMO	
Spring cereals 1, early	Chateaudun	0.073	0.059	<0.001	<0.001	
	Hamburg	0.227	0.184	<0.001	<0.001	
	Jokioinen	0.164	0.157	<0.001	<0.001	
	Kremsmuenster	0.120	0.119	<0.001	<0.001	
	Okehampton	0.125	0.122	<0.001	<0.001	
	Porto	0.081	0.083	<0.001	<0.001	
		MACRO		MACRO		
	Châteaudun	0.063		<0.001		

Table 8.8-144: PEC$_{gw}$ for flupyradifurone and its metabolites on spring cereals 1, late (with FOCUS PEARL/PELMO/MACRO) – 2×37.5 g a.s./ha, 2×80% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)				
		Difluoroacetic acid		6-chloronicotinic acid		
		PEARL	PELMO	PEARL	PELMO	
Spring cereals 1, late	Chateaudun	0.181	0.151	<0.001	<0.001	
	Hamburg	0.553	0.440	<0.001	<0.001	
	Jokioinen	0.399	0.382	<0.001	<0.001	
	Kremsmuenster	0.274	0.279	<0.001	<0.001	
	Okehampton	0.293	0.283	<0.001	<0.001	
	Porto	0.196	0.207	<0.001	<0.001	
		MACRO		MACRO		
	Châteaudun	0.163		<0.001		

Table 8.8-145: PEC_{gw} for flupyradifurone and its metabolites on spring cereals 2, early (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×90% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)			
		Difluoroacetic acid		6-chloronicotinic acid	
		PEARL	PELMO	PEARL	PELMO
Spring cereals 2, early	Chateaudun	0.119	0.095	<0.001	<0.001
	Hamburg	0.370	0.292	<0.001	<0.001
	Jokioinen	0.271	0.254	<0.001	<0.001
	Kremsmuenster	0.191	0.190	<0.001	<0.001
	Okehampton	0.196	0.188	<0.001	<0.001
	Porto	0.128	0.132	<0.001	<0.001
		MACRO		MACRO	
	Châteaudun	0.102		<0.001	

Table 8.8-146: PEC_{gw} for flupyradifurone and its metabolites on spring cereals 2, late (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×80% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)			
		Difluoroacetic acid		6-chloronicotinic acid	
		PEARL	PELMO	PEARL	PELMO
Spring cereals 2, late	Chateaudun	0.290	0.244	<0.001	<0.001
	Hamburg	0.881	0.692	<0.001	0.001
	Jokioinen	0.643	0.623	<0.001	<0.001
	Kremsmuenster	0.433	0.436	<0.001	<0.001
	Okehampton	0.454	0.441	<0.001	0.001
	Porto	0.310	0.326	<0.001	<0.001
		MACRO		MACRO	
	Châteaudun	0.261		<0.001	

Table 8.8-147: PEC_{gw} for flupyradifurone and its metabolites on winter cereals 1, early (with FOCUS PEARL/PELMO/MACRO) – 2×37.5 g a.s./ha, 2×90% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)			
		Difluoroacetic acid		6-chloronicotinic acid	
		PEARL	PELMO	PEARL	PELMO
Winter cereals 1, early	Chateaudun	0.081	0.070	<0.001	<0.001
	Hamburg	0.187	0.192	<0.001	<0.001
	Jokioinen	0.186	0.194	<0.001	<0.001
	Kremsmuenster	0.111	0.125	<0.001	<0.001
	Okehampton	0.119	0.123	<0.001	<0.001
	Piacenza	0.072	0.094	<0.001	<0.001
	Porto	0.065	0.083	<0.001	<0.001
	Sevilla	0.014	0.023	<0.001	<0.001
	Thiva	0.046	0.032	<0.001	<0.001
		MACRO		MACRO	
	Châteaudun	0.066		<0.001	

Table 8.8-148: PEC$_{gw}$ for flupyradifurone and its metabolites on winter cereals 1, late (with FOCUS PEARL/PELMO/MACRO) – 2×37.5 g a.s./ha, 2×80% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)			
		Difluoroacetic acid		6-chloronicotinic acid	
		PEARL	PELMO	PEARL	PELMO
Winter cereals 1, late	Chateaudun	0.195	0.175	<0.001	<0.001
	Hamburg	0.435	0.470	<0.001	<0.001
	Jokioinen	0.460	0.494	<0.001	<0.001
	Kremsmuenster	0.250	0.286	<0.001	<0.001
	Okehampton	0.269	0.297	<0.001	<0.001
	Piacenza	0.165	0.238	<0.001	<0.001
	Porto	0.162	0.214	<0.001	<0.001
	Sevilla	0.040	0.055	<0.001	<0.001
	Thiva	0.138	0.104	<0.001	<0.001
		MACRO		MACRO	
	Châteaudun	0.168		<0.001	

Table 8.8-149: PEC$_{gw}$ for flupyradifurone and its metabolites on winter cereals 2, early (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×90% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)			
		Difluoroacetic acid		6-chloronicotinic acid	
		PEARL	PELMO	PEARL	PELMO
Winter cereals 2, early	Chateaudun	0.131	0.113	<0.001	<0.001
	Hamburg	0.299	0.310	<0.001	<0.001
	Jokioinen	0.306	0.322	<0.001	<0.001
	Kremsmuenster	0.178	0.197	<0.001	<0.001
	Okehampton	0.188	0.196	<0.001	<0.001
	Piacenza	0.114	0.150	<0.001	<0.001
	Porto	0.104	0.130	<0.001	<0.001
	Sevilla	0.024	0.038	<0.001	<0.001
	Thiva	0.076	0.054	<0.001	<0.001
		MACRO		MACRO	
	Châteaudun	0.106		<0.001	

Table 8.8-150: PEC$_{gw}$ for flupyradifurone and its metabolites on winter cereals 2, late (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×80% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)			
		Difluoroacetic acid		6-chloronicotinic acid	
		PEARL	PELMO	PEARL	PELMO
Winter cereals 2, late	Chateaudun	0.312	0.281	<0.001	<0.001
	Hamburg	0.698	0.743	<0.001	0.001
	Jokioinen	0.759	0.790	<0.001	<0.001
	Kremsmuenster	0.396	0.446	<0.001	<0.001
	Okehampton	0.422	0.463	<0.001	0.001
	Piacenza	0.258	0.378	<0.001	<0.001
	Porto	0.260	0.332	<0.001	<0.001
	Sevilla	0.069	0.092	<0.001	<0.001
	Thiva	0.226	0.171	<0.001	<0.001
		MACRO		MACRO	
	Châteaudun	0.270		<0.001	

PEC$_{gw}$ of metabolites (PUF/TSCF = 0.5), retained for information of the concerned Member States that do accept consideration of Briggs equation for TSCF refinement. Please note that below results were not validated by the zRMS in additional modelling and for this reason they are given in grey letters, in order to distinguish fully validated from non-validated information.

~~**Table 8.8-151:** **PEC$_{gw}$ for flupyradifurone and its metabolites on sunflower 1, early (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×50% interception, 14 d app. interval**~~

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)					
		Difluoroacetic acid		6-chloronicotinic acid			
		PEARL	PELMO	PEARL	PELMO	PEARL	PELMO
Sunflower 1, early	Piacenza	0.918	0.858	0.001	0.002		
	Sevilla	0.332	0.350	<0.001	<0.001		
		MACRO		MACRO		MACRO	
	Châteaudun	0.724		<0.001			

~~**8.8-152:** **PEC$_{gw}$ for flupyradifurone and its metabolites on sunflower 1, late (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×75% interception, 14 d app. interval**~~

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)					
		Difluoroacetic acid		6-chloronicotinic acid			
		PEARL	PELMO	PEARL	PELMO	PEARL	PELMO
Sunflower 1, late	Piacenza	0.463	0.398	<0.001	0.001		
	Sevilla	0.189	0.176	<0.001	<0.001		
		MACRO		MACRO		MACRO	
	Châteaudun	0.307		<0.001			

Table 8.8-153: **PEC$_{gw}$ for flupyradifurone and its metabolites on sorghum 1, early (with FOCUS PEARL/PELMO/MACRO) – 1×56.2 g a.s./ha, 90% interception**

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)			
		Difluoroacetic acid		6-chloronicotinic acid	
		PEARL	PELMO	PEARL	PELMO
Sorghum 1, early	Chateaudun	0.051	0.038	<0.001	<0.001
	Hamburg	0.158	0.120	<0.001	<0.001
	Jokioinen	0.114	0.104	<0.001	<0.001
	Kremsmuenster	0.084	0.079	<0.001	<0.001
	Okehampton	0.087	0.082	<0.001	<0.001
	Porto	0.058	0.054	<0.001	<0.001
		MACRO		MACRO	
	Châteaudun	0.043		<0.001	

Table 8.8-154: **PEC$_{gw}$ for flupyradifurone and its metabolites on sorghum 1, late (with FOCUS PEARL/PELMO/MACRO) – 1×56.2 g a.s./ha, 80% interception**

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)			
		Difluoroacetic acid		6-chloronicotinic acid	
		PEARL	PELMO	PEARL	PELMO
Sorghum 1, late	Chateaudun	0.125	0.095	<0.001	<0.001
	Hamburg	0.381	0.283	<0.001	<0.001
	Jokioinen	0.275	0.251	<0.001	<0.001
	Kremsmuenster	0.189	0.180	<0.001	<0.001
	Okehampton	0.203	0.182	<0.001	<0.001
	Porto	0.138	0.134	<0.001	<0.001
		MACRO		MACRO	
	Châteaudun	0.111		<0.001	

Table 8.8-155: PEC_{gw} for flupyradifurone and its metabolites on maize 1, early (with FOCUS PEARL/PELMO/MACRO) – 1×56.2 g a.s./ha, 75% interception

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)			
		Difluoroacetic acid		6-chloronicotinic acid	
		PEARL	PELMO	PEARL	PELMO
Maize 1, early	Chateaudun	0.231	0.191	<0.001	<0.001
	Hamburg	0.444	0.349	<0.001	<0.001
	Kremsmuenster	0.240	0.226	<0.001	<0.001
	Okehampton	0.259	0.243	<0.001	<0.001
	Piacenza	0.212	0.198	<0.001	<0.001
	Porto	0.147	0.149	<0.001	<0.001
	Sevilla	0.071	0.056	<0.001	<0.001
	Thiva	0.174	0.134	<0.001	<0.001
		MACRO		MACRO	
	Châteaudun	0.170		<0.001	

Table 8.8-156: PEC_{gw} for flupyradifurone and its metabolites on maize 1, late (with FOCUS PEARL/PELMO/MACRO) – 1×56.2 g a.s./ha, 75% interception

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)			
		Difluoroacetic acid		6-chloronicotinic acid	
		PEARL	PELMO	PEARL	PELMO
Maize 1, late	Chateaudun	0.216	0.187	<0.001	<0.001
	Hamburg	0.449	0.368	<0.001	<0.001
	Kremsmuenster	0.240	0.232	<0.001	<0.001
	Okehampton	0.277	0.264	<0.001	<0.001
	Piacenza	0.236	0.192	<0.001	<0.001
	Porto	0.162	0.166	<0.001	<0.001
	Sevilla	0.097	0.070	<0.001	<0.001
	Thiva	0.147	0.121	<0.001	<0.001
		MACRO		MACRO	
	Châteaudun	0.181		<0.001	

Table 8.8-157: PEC_{gw} for flupyradifurone and its metabolites on grape 1, early (with FOCUS PEARL/PELMO/MACRO) – 2×30 g a.s./ha, 2×60% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)			
		Difluoroacetic acid		6-chloronicotinic acid	
		PEARL	PELMO	PEARL	PELMO
Grape 1, early	Chateaudun	0.489	0.425	<0.001	<0.001
	Hamburg	0.564	0.625	<0.001	0.001
	Kremsmuenster	0.368	0.422	<0.001	0.001
	Piacenza	0.340	0.312	<0.001	0.001
	Porto	0.223	0.242	<0.001	<0.001
	Sevilla	0.305	0.245	<0.001	<0.001
	Thiva	0.263	0.276	<0.001	<0.001
		MACRO		MACRO	
	Châteaudun	0.327		<0.001	

Table 8.8-158: PEC$_{gw}$ for flupyradifurone and its metabolites on grape 1, late (with FOCUS PEARL/PELMO/MACRO) – 2×30 g a.s./ha, 2×75% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)			
		Difluoroacetic acid		6-chloronicotinic acid	
		PEARL	PELMO	PEARL	PELMO
Grape 1, late	Chateaudun	0.295	0.280	<0.001	<0.001
	Hamburg	0.344	0.389	<0.001	<0.001
	Kremsmuenster	0.222	0.260	<0.001	<0.001
	Piacenza	0.258	0.246	<0.001	0.001
	Porto	0.167	0.195	<0.001	<0.001
	Sevilla	0.202	0.167	<0.001	<0.001
	Thiva	0.181	0.207	<0.001	<0.001
		MACRO		MACRO	
	Châteaudun	0.222		<0.001	

Table 8.8-159: PEC$_{gw}$ for flupyradifurone and its metabolites on spring cereals 1, early (with FOCUS PEARL/PELMO/MACRO) – 2×37.5 g a.s./ha, 2×90% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)			
		Difluoroacetic acid		6-chloronicotinic acid	
		PEARL	PELMO	PEARL	PELMO
Spring cereals 1, early	Chateaudun	0.071	0.052	<0.001	<0.001
	Hamburg	0.220	0.166	<0.001	<0.001
	Jokioinen	0.161	0.145	<0.001	<0.001
	Kremsmuenster	0.117	0.111	<0.001	<0.001
	Okehampton	0.121	0.112	<0.001	<0.001
	Porto	0.077	0.073	<0.001	<0.001
		MACRO		MACRO	
	Châteaudun	0.059		<0.001	

Table 8.8-160: PEC$_{gw}$ for flupyradifurone and its metabolites on spring cereals 1, late (with FOCUS PEARL/PELMO/MACRO) – 2×37.5 g a.s./ha, 2×80% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)			
		Difluoroacetic acid		6-chloronicotinic acid	
		PEARL	PELMO	PEARL	PELMO
Spring cereals 1, late	Chateaudun	0.178	0.136	<0.001	<0.001
	Hamburg	0.541	0.399	<0.001	<0.001
	Jokioinen	0.394	0.352	<0.001	<0.001
	Kremsmuenster	0.270	0.257	<0.001	<0.001
	Okehampton	0.287	0.259	<0.001	<0.001
	Porto	0.193	0.187	<0.001	<0.001
		MACRO		MACRO	
	Châteaudun	0.158		<0.001	

Table 8.8-161: PEC$_{gw}$ for flupyradifurone and its metabolites on spring cereals 2, early (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×90% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)				
		Difluoroacetic acid		6-chloronicotinic acid		
		PEARL	PELMO	PEARL	PELMO	
Spring cereals 2, early	Chateaudun	0.115	0.085	<0.001	<0.001	
	Hamburg	0.357	0.262	<0.001	<0.001	
	Jokioinen	0.266	0.237	<0.001	<0.001	
	Kremsmuenster	0.187	0.176	<0.001	<0.001	
	Okehampton	0.190	0.172	<0.001	<0.001	
	Porto	0.122	0.116	<0.001	<0.001	
		MACRO		MACRO		
	Châteaudun	0.096		<0.001		

Table 8.8-162: PEC$_{gw}$ for flupyradifurone and its metabolites on spring cereals 2, late (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×80% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)				
		Difluoroacetic acid		6-chloronicotinic acid		
		PEARL	PELMO	PEARL	PELMO	
Spring cereals 2, late	Chateaudun	0.285	0.218	<0.001	<0.001	
	Hamburg	0.862	0.624	<0.001	<0.001	
	Jokioinen	0.634	0.575	<0.001	<0.001	
	Kremsmuenster	0.426	0.400	<0.001	<0.001	
	Okehampton	0.445	0.402	<0.001	<0.001	
	Porto	0.303	0.292	<0.001	<0.001	
		MACRO		MACRO		
	Châteaudun	0.253		<0.001		

Table 8.8-163: PEC$_{gw}$ for flupyradifurone and its metabolites on winter cereals 1, early (with FOCUS PEARL/PELMO/MACRO) – 2×37.5 g a.s./ha, 2×90% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC$_{gw}$ at 1 m soil depth (µg/L)				
		Difluoroacetic acid		6-chloronicotinic acid		
		PEARL	PELMO	PEARL	PELMO	
Winter cereals 1, early	Chateaudun	0.078	0.063	<0.001	<0.001	
	Hamburg	0.183	0.175	<0.001	<0.001	
	Jokioinen	0.184	0.182	<0.001	<0.001	
	Kremsmuenster	0.109	0.117	<0.001	<0.001	
	Okehampton	0.116	0.114	<0.001	<0.001	
	Piacenza	0.070	0.085	<0.001	<0.001	
	Porto	0.063	0.074	<0.001	<0.001	
	Sevilla	0.012	0.019	<0.001	<0.001	
	Thiva	0.042	0.028	<0.001	<0.001	
		MACRO		MACRO		
	Châteaudun	0.062		<0.001		

Table 8.8-164: PEC_{gw} for flupyradifurone and its metabolites on winter cereals 1, late (with FOCUS PEARL/PELMO/MACRO) – 2×37.5 g a.s./ha, 2×80% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)			
		Difluoroacetic acid		6-chloronicotinic acid	
		PEARL	PELMO	PEARL	PELMO
Winter cereals 1, late	Chateaudun	0.192	0.158	<0.001	<0.001
	Hamburg	0.428	0.425	<0.001	<0.001
	Jokioinen	0.455	0.461	<0.001	<0.001
	Kremsmuenster	0.247	0.265	<0.001	<0.001
	Okehampton	0.265	0.272	<0.001	<0.001
	Piacenza	0.163	0.212	<0.001	<0.001
	Porto	0.159	0.191	<0.001	<0.001
	Sevilla	0.038	0.047	<0.001	<0.001
	Thiva	0.134	0.096	<0.001	<0.001
		MACRO		MACRO	
	Châteaudun	0.164		<0.001	

Table 8.8-165: PEC_{gw} for flupyradifurone and its metabolites on winter cereals 2, early (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×90% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)			
		Difluoroacetic acid		6-chloronicotinic acid	
		PEARL	PELMO	PEARL	PELMO
Winter cereals 2, early	Chateaudun	0.127	0.102	<0.001	<0.001
	Hamburg	0.292	0.279	<0.001	<0.001
	Jokioinen	0.301	0.301	<0.001	<0.001
	Kremsmuenster	0.175	0.184	<0.001	<0.001
	Okehampton	0.183	0.179	<0.001	<0.001
	Piacenza	0.111	0.135	<0.001	<0.001
	Porto	0.100	0.116	<0.001	<0.001
	Sevilla	0.022	0.031	<0.001	<0.001
	Thiva	0.071	0.046	<0.001	<0.001
		MACRO		MACRO	
	Châteaudun	0.101		<0.001	

Table 8.8-166: PEC_{gw} for flupyradifurone and its metabolites on winter cereals 2, late (with FOCUS PEARL/PELMO/MACRO) – 2×56.2 g a.s./ha, 2×80% interception, 14 d app. interval

Crop	Scenario	80th percentile PEC_{gw} at 1 m soil depth (µg/L)			
		Difluoroacetic acid		6-chloronicotinic acid	
		PEARL	PELMO	PEARL	PELMO
Winter cereals 2, late	Chateaudun	0.307	0.252	<0.001	<0.001
	Hamburg	0.686	0.668	<0.001	<0.001
	Jokioinen	0.749	0.737	<0.001	<0.001
	Kremsmuenster	0.391	0.411	<0.001	<0.001
	Okehampton	0.415	0.420	<0.001	0.001
	Piacenza	0.255	0.336	<0.001	<0.001
	Porto	0.254	0.295	<0.001	<0.001
	Sevilla	0.066	0.078	<0.001	<0.001
	Thiva	0.220	0.158	<0.001	<0.001
		MACRO		MACRO	
	Châteaudun	0.262		<0.001	

Conclusion Tier 2

All PEC_{gw} values for metabolite 6-chloronicotinic acid are below the trigger. However, several PECgw values for the metabolite difluoroacetic acid are above the trigger of 0.1 µg/L. Therefore, reference is made to the dRR B10 (Assessment of the relevance of metabolites in groundwater).

zRMS comments:

Tier 1

All input parameters for flupyradifurone and its metabolites considered by the Applicant at the Tier 1 groundwater modelling were in line with the EU agreed endpoints reported in EFSA Journal 2015;13(2):4020.

It is however, noted that groundwater modelling for flupyradifurone and its metabolites was performed with consideration TSCF of 0.5, in line with decision taken during the EU review. However, according to the most up-to-date versions of the FOCUS guidance documents, in Tier 1 simulations the TSCF value must be set to 0 for all compounds, regardless if they are systemic or not.

Analysis of the groundwater modelling reports demonstrated that for metabolites difluoroacetic acid and 6-chloronicotinic acid TSCF of 0 was used in line with the EU endpoints and not 0.5 as indicated in Table 8.8-37. Respective correction was thus made in Table 8.8-37.

For purposes of the first zonal evaluation of DLT+FPF EC 85 for uses in oilseed rape, the Applicant submitted additional data and arguments for consideration of TSCF of 0.5 as relevant for flupyradifurone. Nevertheless, the detailed analysis of the provided position paper by the zRMS demonstrated that there are no specific data enabling for refinement of this parameter and that TSCF of 0 should be considered for flupyradifurone. The same conclusion is applicable for this evaluation performed for purposes of the label extension. For the full discussion regarding this issue, please refer to the main Core Assessment for DLT+FPF EC 85 of March 2022.

As in the main Core Assessment from March 2022, the results of groundwater modelling performed with consideration of TSCF of 0.5 were retained for information of the concerned Member States that do accept consideration of the Briggs equation, which resulted with TSCF of 0.683 for flupyradifurone, so in such situation TSCF of 0.5 could be considered to represent worst case (detailed information may be found in the Core Assessment of March 2022). Please note that results with TSCF of 0.5 were not validated by the zRMS in additional groundwater modelling and for this reason results reported in Tables: 8.8-57 to 8.8-70 and 8.8-89 to 8.8-102 are displayed in grey letters.

The groundwater modelling provided by the Applicant with consideration of TSCF of 0 was independently validated by the zRMS with consideration of the same input parameters and using FOCUS PEARL 4.4.4 and FOCUS PELMO 5.5.3. The same results in all scenarios and for all uses were obtained.

Based on the Tier 1 groundwater modelling performed with TSCF of 0, unacceptable leaching of flupyradifurone at >0.1 µg/L was demonstrated for some scenarios following application to majority of crops:

- maize at 56.2 g a.s./ha at BBCH 51-75 (both application early and late),
- vines at 2x30 g a.s./ha at BBCH 57-81 (for both application early and late),
- spring cereals at 2x37.5 g a.s./ha and 2x56.2 g a.s./ha at BBCH 41-83 for late application,
- winter cereals at 2x37.5 g a.s./ha and 2x56.2 g a.s./ha at BBCH 41-83 for late application.

PEC_{GW} for metabolite DFA were in general above 0.1 µg/L in all scenarios and for all crops and above 0.75 µg/L (threshold relevant for toxicologically non-relevant metabolites) for application in:

- vines at 2x30 g a.s./ha at BBCH 57-81 for early application, with PEC_{GW} of 0.755 µg/L in Hamburg scenario (FOCUS PELMO)
- spring cereals at 2x56.25 g a.s./ha at BBCH 41-83 for late application, with PEC_{GW} of 0.972 µg/L in Hamburg scenario (FOCUS PEARL)
- winter cereals at 2x56.25 g a.s./ha at BBCH 41-83 for late application, with PEC_{GW} of 0.846 µg/L in Jokioinen scenario (FOCUS PELMO)

No unacceptable leaching of metabolite 6-CA following application according to the intended use pattern is expected based on Tier 1 simulations.

For flupyradifurone and metabolite DFA conclusion will be derived based on Tier 2 modelling (see below).

Since use in sunflower was withdrawn by the Applicant, the groundwater exposure presented in Tables 8.8-39, 8.8-40, 8.8-55, 8.8-56, 8.8-71, 8.8-72, 8.8-87 and 8.8-88 was struck through as no longer relevant.

Tier 2

All input parameters for metabolites DFA and 6-CA considered by the Applicant at the Tier 2 groundwater modelling were in line with the EU agreed endpoints reported in EFSA Journal 2015;13(2):4020.

For flupyradifurone time dependent sorption parameters were used, which were validated by the PPR-panel during preparation of the *Scientific Opinion about the Guidance of the Chemical Regulation Directorate (UK) on how aged sorption studies for pesticides should be conducted, analysed and used in regulatory assessments* (EFSA Journal 2018;16(8):5382). Dataset for flupyradifurone (denoted as ECPA-07) has been evaluated as a part of the EFSA exercise and the above presented modelling has been performed with consideration of parameters fully in line with these reported in EFSA Journal 2018;16(8):5382. It is also noted that consideration of the time dependent sorption in higher tier groundwater modelling was already agreed for one of the formulations of the same Applicant (Flupyradifurone FS 480) during the interzonal evaluation performed by Finland as the izRMS (for details, see final Core Assessment, Part B, Section 8 of September 2019). The same approach is fully applicable for evaluation of DLT+FPF EC 85.

Analysis of the groundwater modelling reports demonstrated that for metabolites difluoroacetic acid and 6-chloronicotinic acid TSCF of 0 was used in line with the EU endpoints and not 0.5 as indicated in Table 8.8-38. Respective correction was thus made in Table 8.8-38.

As in case of the Tier 1 modelling, the Applicant performed calculations with consideration of TSCF of 0.5, which is not agreed by the zRMS. For detailed discussion regarding this parameter, please refer to part of the zRMS comment on Tier 1 simulations. Nevertheless, results of calculations performed with TSCF of 0.5 were retained for information of the concerned Member States that do accept refinement of TSCF using Briggs equation. Please note that results with TSCF of 0.5 were not validated by the zRMS in additional groundwater modelling and for this reason information reported in Tables: 8.8-121 to 8.8-134 and 8.8-153 to 8.8-166 are given in grey letters.

The groundwater modelling provided by the Applicant with consideration of TSCF of 0 was independently validated by the zRMS with consideration of the same input parameters and using FOCUS PEARL 4.4.4 and FOCUS PELMO 5.5.3. The same results of PEC_{GW} in all scenarios and for all uses were obtained.

All PEC_{GW} values calculated by the Applicant for flupyradifurone at Tier 2 for TSCF of 0 were far below the threshold concentration of 0.1 µg/L indicating acceptable groundwater exposure.

PEC_{GW} for metabolite DFA were in general above 0.1 µg/L in all scenarios and for all crops and above 0.75 µg/L (threshold relevant for toxicologically non-relevant metabolites) for application in:

- spring cereals at 2x56.25 g a.s./ha at BBCH 41-83 for late application, with maximum PEC_{GW} of 0.881 µg/L in Hamburg scenario (FOCUS PEARL)
- winter cereals at 2x56.25 g a.s./ha at BBCH 41-83 for late application, with maximum PEC_{GW} of 0.790 µg/L in Jokioinen scenario (FOCUS PELMO)

PEC_{GW} values for metabolite 6-CA were <0.1 µg/L already at Tier 1.

Overall, based on the performed modelling no unacceptable leaching of flupyradifurone and metabolite 6-CA is expected following application of DLT+FPF EC 85 according to the intended use pattern. However, some PEC_{GW} values for the metabolite DFA were above the trigger of 0.75 µg/L (relevant for toxicologically non-relevant metabolites. Therefore, relevance assessment for this compound was performed in the Core Assessment, Part B, Section 10 and demonstrated acceptable risk to consumers.

Since use in sunflower was withdrawn by the Applicant, the groundwater exposure presented in Tables 8.8-103, 8.8-104, 8.8-119, 8.8-120, 8.8-135, 8.8-136, 8.8-151 and 8.8-152 was struck through as no longer relevant.

Please note that additional groundwater modelling may be required by the concerned Member States that do not accept simulations performed according to FOCUS recommendations.

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

8.9.1 Justification for new endpoints

Table 8.9-1: Justification for new endpoints

Compound	Parameter	EU Endpoint	Used endpoint	Justification
Deltamethrin	Water solubility (mg/L)	0.0002 at 25°C	Step 3+4: 0.001	Minimum limited to 0.001 mg/L in SWASH
Deltamethrin	K_{foc} (mL/g)	10240000.0 (arithmetic mean, n = 4)	459999.4 (minimum, n = 4) (used for FOCUS Step 3+4 calculations)	For the FOCUS STEP 3+4 calculations the minimum Koc value 459999.4 mL/g was used, as SWASH cannot handle Koc values above approximately 1000000 mL/g. Using this reduced Koc value guarantees conservative predictions with regard to run-off exposure (as well as drainflow exposure).
Deltamethrin	Freundlich Exponent 1/n	0.74 - 1.2	0.93	Arithmetic mean
Br_2CA	Water solubility (mg/L)	Not stated	9000 at 20°C	See Wiche & Bogdoll, 2012 Bayer Document No.: M-435779-01-1, Appendix 2
Br_2CA	K_{foc} (mL/g)	26 (mean, n = 3)	25.6	Rounded value in list of endpoints, an unrounded value was used for calculations.
Br_2CA	Maximum occurrence observed (% molar basis with respect to the parent)	Not stated	Water/sediment: 13.3	Maximum formed in the outdoor microcosm study (please refer to Schad & Zerbe (2016, M-553324-02-1), Appendix 3)

No deviations from EU agreed endpoints for flupyradifurone.

zRMS comments:

Deltamethrin

Adjustment of the endpoints due to limitations of the respective FOCUS models is agreed by the zRMS.

It is noted that Koc of 460000 mL/g used in simulations is in good agreement with Koc of 408 250 mL/g derived by the RMS (SE) post-Annex I inclusion and indicated in the letter of KEMI to the European Commission of March 2008 as being more relevant for the exposure assessment purposes. Although it is not known if the new value proposed by the RMS was agreed, in opinion of the zRMS consideration of Koc of 460 000 mL/g is acceptable, especially FOCUS SWASH cannot handle Koc values >1000000 mL/g. The considered value is still high and assures sufficiently conservative assessment of exposure resulting from run-off and drain flow events.

With regard to 1/n considered for deltamethrin it is noted that neither in the LoEP nor in the DAR information on 1/n value may be found. Nevertheless, arithmetic mean 1/n of 0.93 has been already agreed in the course of the zonal evaluations of at least two formulations of the same Applicant (Multirose, evaluated by AT as zRMS in 2016 and Decis 15 EW evaluated by BE as the zRMS in 2018) and for this reason it is also agreed for purposes of evaluation of DLT+FPF EC 85 for consistency.

Metabolite Br_2CA

No endpoints for water solubility and vapour pressure of deltamethrin metabolite Br_2CA are available in the Review Report (6504/VI/99-final of 2002) and for this reason consideration of values reported in Table 8.9-1 is agreed by the zRMS, especially provided values have been already agreed in the course of the zonal evaluation of another deltamethrin formulation of the same Applicant (Decis 15 EW evaluated by BE as the zRMS in 2018). Furthermore,

both these values were also agreed by the RMS in the course of the ongoing EU renewal process of deltamethrin (LoEP amended in 2019 is available on EFSA DMS).
The unrounded Koc of 25.6 mL/g is confirmed to be correct and relevant for the exposure assessment.

With regard to the maximum occurrence of metabolite Br_2CA in water it is noted that according to the LoEP its maximum formation in aquatic systems could not be determined due to position of ^{14}C-labelling. No clear information may be also obtained from the DAR of 1998 or Addendum of 2002, since residues of metabolite Br_2CA are not expressed in terms of %AR, but as concentrations in water or sediment. In summary of the outdoor microcosm study by Schanné & van der Kolk (2001) and Schanné (2001a and 2001b) available in Addendum of 2002, the maximum occurrence of Br_2CA is reported as 20% AR, while in the LoEP prepared by the RMS (working document of 2002) it is indicted that in higher-tier studies (micro-mesocosms and natural ponds) metabolite Br_2CA was found at 23 and 53%. It should be, however, noted that none of these values was eventually reported in the Review Report of 2002 and metabolite was considered neither in exposure nor risk assessment.

It is noted that maximum occurrence of Br_2CA at 13.3% AR has been already agreed in the course of the zonal evaluations of at least two formulations of the same Applicant (Multirose, evaluated by AT as zRMS in 2016 and Decis 15 EW evaluated by BE as the zRMS in 2018) and for this reason this value is also agreed for DLT+FPF EC 85 for consistency.

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

PEC_{sw} reports provided by the applicant are listed in Appendix 3.3.

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

Plant protection product	DLT+FPF EC 85	DLT+FPF EC 85	DLT+FPF EC 85	DLT+FPF EC 85
Use No.	~~105, 219, 254, 335, 354, 373~~	119, 120, 216, 218, 263, 264, 349, 350, 368, 369, 387, 388	106, 110, 114, 203, 207, 211, 255, 257, 258, 336, 340, 344, 355, 359, 363, 374, 378, 382	107, 111, 115, 204, 208, 212, 259, 337, 341, 345, 356, 360, 364, 375, 379, 383
Crop	~~Sunflower (early/late), BBCH 31-69~~	Sorghum BBCH 51-75	Spring cereals 1 BBCH 41-83	Spring cereals 2 BBCH 41-83
Application rate (kg as/ha)	~~Deltamethrin: 0.0075 Flupyradifurone: 0.0562~~	Deltamethrin: 0.0075 Flupyradifurone: 0.0562	Deltamethrin: 0.005 Flupyradifurone: 0.0375	Deltamethrin: 0.0075 Flupyradifurone: 0.0562
Number of applications/ interval (d)	~~2/14~~	1/-	2/14	2/14
Application window	~~Spring (Mar. - May) Summer (Jun. - Sep.)~~	Spring N-EU, S-EU (Mar. - May)	Spring N-EU, S-EU (Mar. - May)	Spring N-EU, S-EU (Mar. - May)
Application method	~~Ground spray~~	Ground spray	Ground spray	Ground spray
CAM (Chemical application method)	~~2 – appln foliar linear~~	2 - appln foliar linear	2 - appln foliar linear	2 - appln foliar linear
Soil depth (cm)	~~4~~	4	4	4
Models used for calculation	~~FOCUS SWASH v5.3, FOCUS PRZM v4.3.1, FOCUS MACRO v5.5.4, FOCUS TOXSWA v5.5.3~~	FOCUS STEPS 1-2 v3.2 FOCUS SWASH v5.3, FOCUS PRZM v4.3.1, FOCUS MACRO v5.5.4, FOCUS TOXSWA 5.5.3	FOCUS STEPS 1-2 v3.2 FOCUS SWASH v5.3, FOCUS PRZM v4.3.1, FOCUS MACRO v5.5.4, FOCUS TOXSWA 5.5.3	FOCUS STEPS 1-2 v3.2 FOCUS SWASH v5.3, FOCUS PRZM v4.3.1, FOCUS MACRO v5.5.4, FOCUS TOXSWA 5.5.3

Table 8.9-2: (cont.) Input parameters related to application for $PEC_{SW/SED}$ calculations

Plant protection product	DLT+FPF EC 85	DLT+FPF EC 85	DLT+FPF EC 85	DLT+FPF EC 85
Use No.	108, 112, 116, 205, 209, 213, 256, 260, 338, 342, 346, 357, 361, 365, 376, 380, 384	109, 113, 117, 206, 210, 214, 261, 339, 343, 347, 358, 362, 366, 377, 381, 385	118, 121, 215, 217, 262, 265, 348, 351, 367, 370, 386, 389	103, 104, 201, 202, 252, 253, 352, 353, 371, 372
Crop	Winter cereals 1 (early/late), BBCH 41-83	Winter cereals 2 (early/late), BBCH 41-83	Maize BBCH 51-75	Grape (early/late), BBCH 57-81
Application rate (kg as/ha)	Deltamethrin: 0.005 Flupyradifurone: 0.0375	Deltamethrin: 0.0075 Flupyradifurone: 0.0562	Deltamethrin: 0.0075 Flupyradifurone: 0.0562	Deltamethrin: 0.004 Flupyradifurone: 0.03
Number of applications/ interval (d)	2/14	2/14	1/-	2/14
Application window	Spring N-EU, S-EU (Mar. - May)	Spring N-EU, S-EU (Mar. - May)	Spring N-EU, S-EU (Mar. - May)	Spring N-EU, S-EU (Mar. - May) Summer N-EU, S-EU (Jun. - Sep.)
Application method	Ground spray	Ground spray	Ground spray	Air blast ~~Ground spray~~
CAM (Chemical application method)	2 - appln foliar linear	2 - appln foliar linear	2 - appln foliar linear	2 - appln foliar linear
Soil depth (cm)	4	4	4	4
Models used for calculation	FOCUS STEPS 1-2 v3.2 FOCUS SWASH v5.3, FOCUS PRZM v4.3.1, FOCUS MACRO v5.5.4, FOCUS TOXSWA 5.5.3	FOCUS STEPS 1-2 v3.2 FOCUS SWASH v5.3, FOCUS PRZM v4.3.1, FOCUS MACRO v5.5.4, FOCUS TOXSWA 5.5.3	FOCUS STEPS 1-2 v3.2 FOCUS SWASH v5.3, FOCUS PRZM v4.3.1, FOCUS MACRO v5.5.4, FOCUS TOXSWA 5.5.3	FOCUS STEPS 1-2 v3.2 FOCUS SWASH v5.3, FOCUS PRZM v4.3.1, FOCUS MACRO v5.5.4, FOCUS TOXSWA 5.5.3

Table 8.9-3: FOCUS Step 3 Scenario related input parameters for PECsw/sed calculations for the application of DLT+FPF EC 85

Crop	Scenario	Application window used in modelling
~~Sunflower (early), BBCH 31-69~~ ~~Deltamethrin: 2×0.0075 kg as/ha~~ ~~Flupyradifurone: 2×0.0562 kg as/ha~~	~~D5 Pond/Stream~~	~~27-May - 10-Jul~~
	~~R1 Pond/Stream~~	~~25-May - 08-Jul~~
	~~R3 Stream~~	~~12-May - 25-Jun~~
	~~R4 Stream~~	~~30-Apr - 13-Jun~~
~~Sunflower (late), BBCH 31-69~~ ~~Deltamethrin: 2×0.0075 kg as/ha~~ ~~Flupyradifurone: 2×0.0562 kg as/ha~~	~~D5 Pond/Stream~~	~~12-Jun - 26-Jul~~
	~~R1 Pond/Stream~~	~~08-Jun - 22-Jul~~
	~~R3 Stream~~	~~07-Jun - 21-Jul~~
	~~R4 Stream~~	~~25-May - 08-Jul~~
Sorghum Deltamethrin: 0.0075 kg as/ha Flupyradifurone: 0.0562 kg as/ha	D1 Ditch/Stream	18-Jun - 18-Jul
	D3 Ditch	24-May - 23-Jun
	D4 Pond/Stream	09-Jun - 09-Jul
	D5 Pond/Stream	04-May - 03-Jun
	R4 Stream	04-May - 03-Jun
Spring cereals 1 Deltamethrin: 2×0.005 kg as/ha Flupyradifurone: 2×0.0375 kg as/ha	D1 Ditch/Stream	08-Jun - 22-Jul
	D3 Ditch	12-May - 25-Jun
	D4 Pond/Stream	30-May - 13-Jul
	D5 Pond/Stream	22-Apr - 05-Jun
	R4 Stream	22-Apr - 05-Jun
Spring cereals 2 Deltamethrin: 2×0.0075 kg as/ha Flupyradifurone: 2×0.0562 kg as/ha	D1 Ditch/Stream	08-Jun - 22-Jul
	D3 Ditch	12-May - 25-Jun
	D4 Pond/Stream	30-May - 13-Jul
	D5 Pond/Stream	22-Apr - 05-Jun
	R4 Stream	22-Apr - 05-Jun
Winter cereals 1 (early) Deltamethrin: 2×0.005 kg as/ha Flupyradifurone: 2×0.0375 kg as/ha	D1 Ditch/Stream	27-Apr - 10-Jun
	D2 Ditch/Stream	06-May - 19-Jun
	D3 Ditch	22-May - 05-Jul
	D4 Pond/Stream	22-Apr - 05-Jun

Crop	Scenario	Application window used in modelling
	D5 Pond/Stream	06-Apr - 20-May
	D6 Ditch	03-Mar - 16-Apr
	R1 Pond/Stream	11-May - 24-Jun
	R3 Stream	07-Apr - 21-May
	R4 Stream	06-Mar - 19-Apr
Winter cereals 1 (late) Deltamethrin: 2×0.005 kg as/ha Flupyradifurone: 2×0.0375 kg as/ha	D1 Ditch/Stream	13-Jun - 27-Jul
	D2 Ditch/Stream	25-May - 08-Jul
	D3 Ditch	02-Jun - 16-Jul
	D4 Pond/Stream	08-Jun - 22-Jul
	D5 Pond/Stream	02-May - 15-Jun
	D6 Ditch	17-Apr - 31-May
	R1 Pond/Stream	18-May - 01-Jul
	R3 Stream	18-Apr - 01-Jun
	R4 Stream	02-May - 15-Jun
Winter cereals 2 (early) Deltamethrin: 2×0.0075 kg as/ha Flupyradifurone: 2×0.0562 kg as/ha	D1 Ditch/Stream	27-Apr - 10-Jun
	D2 Ditch/Stream	06-May - 19-Jun
	D3 Ditch	22-May - 05-Jul
	D4 Pond/Stream	22-Apr - 05-Jun
	D5 Pond/Stream	06-Apr - 20-May
	D6 Ditch	03-Mar - 16-Apr
	R1 Pond/Stream	11-May - 24-Jun
	R3 Stream	07-Apr - 21-May
	R4 Stream	06-Mar - 19-Apr
Winter cereals 2 (late) Deltamethrin: 2×0.0075 kg as/ha Flupyradifurone: 2×0.0562 kg as/ha	D1 Ditch/Stream	13-Jun - 27-Jul
	D2 Ditch/Stream	25-May - 08-Jul
	D3 Ditch	02-Jun - 16-Jul
	D4 Pond/Stream	08-Jun - 22-Jul
	D5 Pond/Stream	02-May - 15-Jun
	D6 Ditch	17-Apr - 31-May
	R1 Pond/Stream	18-May - 01-Jul
	R3 Stream	18-Apr - 01-Jun
	R4 Stream	02-May - 15-Jun
Maize Deltamethrin: 0.0075 kg as/ha Flupyradifurone: 0.0562 kg as/ha	D3 Ditch	12-Jul - 11-Aug
	D4 Pond/Stream	19-Jul - 18-Aug
	D5 Pond/Stream	26-Jun - 26-Jul
	D6 Ditch	30-May - 29-Jun
	R1 Pond/Stream	10-Jul - 09-Aug
	R2 Stream	15-Jul - 14-Aug
	R3 Stream	30-Jun - 30-Jul
	R4 Stream	27-May - 26-Jun
Grape (early) Deltamethrin: 2×0.004 kg as/ha Flupyradifurone: 2×0.03 kg as/ha	D6 Ditch	24-Mar - 07-May
	R1 Pond/Stream	29-May - 12-Jul
	R2 Stream	02-Jun - 16-Jul
	R3 Stream	09-Jun - 23-Jul
	R4 Stream	24-May - 07-Jul
Grape (late) Deltamethrin: 2×0.004 kg as/ha Flupyradifurone: 2×0.03 kg as/ha	D6 Ditch	02-Jul - 15-Aug
	R1 Pond/Stream	24-Jul - 06-Sep
	R2 Stream	21-Jul - 03-Sep
	R3 Stream	07-Aug - 20-Sep
	R4 Stream	10-Jul - 23-Aug

zRMS comments:

The application pattern assumed in simulations is in line with the Central Zone GAP presented in Table 8.1-1.

Information presented in Table 8.9-2 above were amended in order to comply with information provided in the modelling reports.

Application dates used for Step 3 and 4 simulations were checked by the zRMS using AppDate ver. 3.06 tool and are considered acceptable.

As the formulation is intended to be applied to grape, performed simulations must cover all scenarios relevant for the Central Zone and when scenarios are not defined for the given crop, simulations must be performed with consideration of the surrogate crop. Taking into account crops available for FOCUS modelling, pome fruit seems to be most relevant surrogate crop for grape. Additional modelling was performed by the zRMS with consideration of application to pome fruits at BBCH 57-81. The application periods were selected using the AppDate tool, with consideration of 14 days application interval. The new application dates for both multiple and single application for early and late application are presented in table below.

Crop	**Scenario**	**Application windows for summer uses**	
		Multiple application	**Single application**
Pome fruit (early) Deltamethrin: 2×0.004 kg as/ha Flupyradifurone: 2×0.03 kg as/ha	D3	6 June – 20 July	6 June – 6 July
	D4	11 June – 25 July	11 June – 11 July
	D5	12 May – 25 June	12 May – 11 June
Pome fruit (late) Deltamethrin: 2×0.004 kg as/ha Flupyradifurone: 2×0.03 kg as/ha	D3	24 July – 6 September	24 July – 23 August
	D4	25 July – 7 September	25 July – 24 August
	D5	29 June – 12 August	29 June – 29 July

Since use in sunflower was withdrawn by the Applicant, the information referring to this use presented in Tables 8.9-2 and 8.9-3 was struck through as no longer relevant.

8.9.2.1 Deltamethrin and metabolites

Table 8.9-4: Input parameters related to active substance deltamethrin and metabolite for PECsw/sed calculations STEP 1/2 and 3(/4) (if necessary)

Compound	**Deltamethrin**	**Br_2CA**	**Value in accordance to EU endpoint y/n/ Reference**
Molecular weight (g/mol)	505.2	298.0	Y/ EU review report 6504/VI/99-final (2002)
Saturated vapour pressure (Pa)	1.24×10^{-8} at 25°C	not required for Step 1+2	Y/ EU review report 6504/VI/99-final (2002)
Water solubility (mg/L)	Step 1+2: 0.0002 at 25°C Step 3+4: 0.001 at 25°C*	9000 at 20°C*	Y/ EU review report 6504/VI/99-final (2002) *N/ See justification
Diffusion coefficient in water (m²/d)	4.3×10^{-5}	not required for Step 1+2	default
Diffusion coefficient in air (m²/d)	0.43	not required for Step 1+2	default
K_{foc} (mL/g)	Step 1+2: 10240000 (arithmetic mean, n = 4) Step 3+4: 459999.4*	25.6* (arithmetic mean, n = 3)	Y/ EU review report 6504/VI/99-final (2002) *N/ See justification
Freundlich Exponent 1/n	0.93 (arithmetic mean)	not required for Step 1+2	N/ See justification
Plant Uptake	0.0	not required for Step 1+2	default
Wash-Off factor from Crop (1/m)	50	not required for Step 1+2	-
$DT_{50,soil}$ (d)	Step 1+2: 28 (field) Step 3+4: 26 (lab.)	21	Y/ EU review report 6504/VI/99-final (2002)
$DT_{50,water}$ (d)	Step 1+2: 90 Step 3+4: 1000 (default)	1000 (default)	N ~~Y/ EU review report 6504/VI/99-final (2002)~~
$DT_{50,sed}$ (d)	Step 1+2: 90 Step 3+4: 90	1000 (default)	N ~~Y/ EU review report 6504/VI/99-final (2002)~~
$DT_{50,whole\ system}$ (d)	Step 1+2: 90	1000 (default)	N ~~Y/ EU review report~~

Compound	Deltamethrin	Br_2CA	Value in accordance to EU endpoint y/n/ Reference
			~~6504/VI/99-final (2002)~~
Maximum occurrence observed (% molar basis with respect to the parent)	-	Soil: 23 Water/sediment: 13.3 Total system: -	N/ See justification
Formation fraction in soil:	-	-	

PECsw/sed

Deltamethrin

FOCUS Steps 1-2

~~**Table 8.9-5: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for deltamethrin following single/multiple application(s) of DLT+FPF EC 85 to sunflower (modelling use sunflower 1 -- spring -- 2×7.5g a.s./ha, 14d int.)**~~

~~Scenario FOCUS~~	~~Waterbody~~	~~Max PEC_{sw} (µg/L)*~~	~~Dominant entry route~~	~~21d-$PEC_{sw,twa}$ (µg/L)**~~	~~Max PEC_{sed} (µg/kg)*~~
~~Step 1~~	~~–~~	~~0.138~~	~~RunOff~~	~~0.004~~	~~38.2~~
~~Step 2~~					
~~Northern Europe~~	~~Mar. - May (Spring)~~	~~0.069 *~~	~~Erosion~~	~~0.003~~	~~3.73~~
~~Southern Europe~~	~~Mar. - May (Spring)~~	~~0.069 *~~	~~Erosion~~	~~0.003~~	~~6.63~~

~~* Single applications are marked.~~
~~** TWA interval as required by ecotox~~

~~**Table 8.9-6: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for deltamethrin following single/multiple application(s) of DLT+FPF EC 85 to sunflower (modelling use sunflower 1 -- summer -- 2×7.5g a.s./ha, 14d int.)**~~

~~Scenario FOCUS~~	~~Waterbody~~	~~Max PEC_{sw} (µg/L)*~~	~~Dominant entry route~~	~~21d-$PEC_{sw,twa}$ (µg/L)**~~	~~Max PEC_{sed} (µg/kg)*~~
~~Step 1~~	~~–~~	~~0.138~~	~~RunOff~~	~~0.004~~	~~38.2~~
~~Step 2~~					
~~Northern Europe~~	~~Jun. - Sep. (Summer)~~	~~0.069 *~~	~~Erosion~~	~~0.003~~	~~2.29~~
~~Southern Europe~~	~~Jun. - Sep. (Summer)~~	~~0.069 *~~	~~Erosion~~	~~0.003~~	~~3.01~~

~~* Single applications are marked.~~
~~** TWA interval as required by ecotox~~

Table 8.9-7: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for deltamethrin following single application(s) of DLT+FPF EC 85 to sorghum (modelling use sorghum 1 -- spring -- 1×7.5g a.s./ha)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	0.069	RunOff	0.002	19.1
Step 2					
Northern Europe	Mar. - May (Spring)	0.069 *	Erosion	0.003	1.51 *
Southern Europe	Mar. - May (Spring)	0.069 *	Erosion	0.003	2.53 *

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-8: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for deltamethrin following single/multiple application(s) of DLT+FPF EC 85 to spring cereals (modelling use spring cereals 1 -- spring -- 2×5g a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	0.092	RunOff	0.002	25.5
Step 2					
Northern Europe	Mar. - May (Spring)	0.046 *	Erosion	0.002	1.72
Southern Europe	Mar. - May (Spring)	0.046 *	Erosion	0.002	2.88

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-9: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for deltamethrin following single/multiple application(s) of DLT+FPF EC 85 to spring cereals (modelling use spring cereals 2 -- spring -- 2×7.5g a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	0.138	RunOff	0.004	38.2
Step 2					
Northern Europe	Mar. - May (Spring)	0.069 *	Erosion	0.003	2.58
Southern Europe	Mar. - May (Spring)	0.069 *	Erosion	0.003	4.31

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-10: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for deltamethrin following single/multiple application(s) of DLT+FPF EC 85 to winter cereals (modelling use winter cereals 1 -- spring -- 2×5g a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	0.092	RunOff	0.002	25.5
Step 2					
Northern Europe	Mar. - May (Spring)	0.046 *	Erosion	0.002	1.72
Southern Europe	Mar. - May (Spring)	0.046 *	Erosion	0.002	2.88

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-11: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for deltamethrin following single/multiple application(s) of DLT+FPF EC 85 to winter cereals (modelling use winter cereals 2 -- spring -- 2×7.5g a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	0.138	RunOff	0.004	38.2
Step 2					
Northern Europe	Mar. - May (Spring)	0.069 *	Erosion	0.003	2.58
Southern Europe	Mar. - May (Spring)	0.069 *	Erosion	0.003	4.31

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-12: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for deltamethrin following single application(s) of DLT+FPF EC 85 to maize (modelling use maize 1 -- spring -- 1×7.5g a.s./ha)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*		Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*	
Step 1	-	0.069		RunOff	0.002	19.1	
Step 2							
Northern Europe	Mar. - May (Spring)	0.069	*	Erosion	0.003	1.51	*
Southern Europe	Mar. - May (Spring)	0.069	*	Erosion	0.003	2.53	*

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-13: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for deltamethrin following single/multiple application(s) of DLT+FPF EC 85 to grape (modelling use grape 1 -- spring -- 2×4g a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*		Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	0.072		RunOff	0.002	20.4
Step 2						
Northern Europe	Mar. - May (Spring)	0.036	*	Erosion	0.002	1.69
Southern Europe	Mar. - May (Spring)	0.036	*	Erosion	0.002	2.93

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-14: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for deltamethrin following single/multiple application(s) of DLT+FPF EC 85 to grape (modelling use grape 1 -- summer -- 2×4g a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*		Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	0.072		RunOff	0.002	20.4
Step 2						
Northern Europe	Jun. - Sep. (Summer)	0.036	*	Erosion	0.002	1.69
Southern Europe	Jun. - Sep. (Summer)	0.036	*	Erosion	0.002	2.31

* Single applications are marked.
** TWA interval as required by ecotox

FOCUS Step 3

~~**Table 8.9-15: FOCUS Step 3 PEC_{sw} and PEC_{sed} for deltamethrin following single/multiple application(s) of DLT+FPF EC 85 to sunflower (modelling use sunflower 1 -- early -- 2×0.0075 kg a.s./ha, 14d int.)**~~

~~Scenario FOCUS~~	~~Waterbody~~	~~Max PEC_{sw} (µg/L)*~~		~~Dominant entry route~~	~~21d-$PEC_{sw,twa}$ (µg/L)**~~	~~Max PEC_{sed} (µg/kg)*~~
~~Step 3~~						
~~D5~~	~~Pond~~	~~0.002~~		~~Spray drift~~	~~<0.001~~	~~0.045~~
~~D5~~	~~Stream~~	~~0.035~~	~~*~~	~~Spray drift~~	~~<0.001~~	~~0.085~~
~~R1~~	~~Pond~~	~~0.002~~	~~*~~	~~Spray drift~~	~~<0.001~~	~~0.065~~
~~R1~~	~~Stream~~	~~0.027~~	~~*~~	~~Spray drift~~	~~<0.001~~	~~1.18~~
~~R3~~	~~Stream~~	~~0.038~~	~~*~~	~~Spray drift~~	~~<0.001~~	~~0.403~~
~~R4~~	~~Stream~~	~~0.027~~	~~*~~	~~Spray drift~~	~~<0.001~~	~~1.56~~

~~* Single applications are marked.~~
~~** TWA interval as required by ecotox~~

~~**Table 8.9-16: FOCUS Step 3 PEC_{sw} and PEC_{sed} for deltamethrin following single/multiple application(s) of DLT+FPF EC 85 to sunflower (modelling use sunflower 1 -- late -- 2×0.0075 kg a.s./ha, 14d int.)**~~

~~Scenario FOCUS~~	~~Waterbody~~	~~Max PEC_{sw} (µg/L)*~~	~~Dominant entry route~~	~~21d-$PEC_{sw,twa}$ (µg/L)**~~	~~Max PEC_{sed} (µg/kg)*~~
~~Step 3~~					
~~D5~~	~~Pond~~	~~0.002 *~~	~~Spray drift~~	~~<0.001~~	~~0.043~~
~~D5~~	~~Stream~~	~~0.038 *~~	~~Spray drift~~	~~<0.001~~	~~0.113~~
~~R1~~	~~Pond~~	~~0.002 *~~	~~Spray drift~~	~~<0.001~~	~~0.088~~
~~R1~~	~~Stream~~	~~0.027 *~~	~~Spray drift~~	~~<0.001~~	~~1.80~~
~~R3~~	~~Stream~~	~~0.038 *~~	~~Spray drift~~	~~<0.001~~	~~0.862~~
~~R4~~	~~Stream~~	~~0.027 *~~	~~Spray drift~~	~~<0.001~~	~~1.62~~

~~* Single applications are marked.~~
~~** TWA interval as required by ecotox~~

Table 8.9-17: FOCUS Step 3 PEC_{sw} and PEC_{sed} for deltamethrin following single application(s) of DLT+FPF EC 85 to sorghum (modelling use sorghum 1 -- 1 -- 0.0075 kg a.s./ha)

Scenario FOCUS	**Waterbody**	**Max PEC_{sw} (µg/L)***	**Dominant entry route**	**21d-$PEC_{sw,twa}$ (µg/L)****	**Max PEC_{sed} (µg/kg)***
Step 3					
D1	Ditch	0.048 *	Spray drift	0.004	0.304 *
D1	Stream	0.042 *	Spray drift	<0.001	0.191 *
D3	Ditch	0.048 *	Spray drift	0.001	0.220 *
D4	Pond	0.002 *	Spray drift	<0.001	0.028 *
D4	Stream	0.041 *	Spray drift	<0.001	0.102 *
D5	Pond	0.002 *	Spray drift	<0.001	0.029 *
D5	Stream	0.041 *	Spray drift	<0.001	0.043 *
R4	Stream	0.031 *	Spray drift	<0.001	0.518 *

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-18: FOCUS Step 3 PEC_{sw} and PEC_{sed} for deltamethrin following single/multiple application(s) of DLT+FPF EC 85 to spring cereals (modelling use spring cereals 1 -- 1 -- 2×0.005 kg a.s./ha, 14d int.)

Scenario FOCUS	**Waterbody**	**Max PEC_{sw} (µg/L)***	**Dominant entry route**	**21d-$PEC_{sw,twa}$ (µg/L)****	**Max PEC_{sed} (µg/kg)***
Step 3					
D1	Ditch	0.032 *	Spray drift	0.003	0.348
D1	Stream	0.028 *	Spray drift	<0.001	0.146
D3	Ditch	0.032 *	Spray drift	0.001	0.182
D4	Pond	0.001 *	Spray drift	<0.001	0.030
D4	Stream	0.026 *	Spray drift	<0.001	0.061
D5	Pond	0.001	Spray drift	<0.001	0.031
D5	Stream	0.028 *	Spray drift	<0.001	0.028
R4	Stream	0.021 *	Spray drift	<0.001	0.654

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-19: FOCUS Step 3 PEC_{sw} and PEC_{sed} for deltamethrin following single/multiple application(s) of DLT+FPF EC 85 to spring cereals (modelling use spring cereals 2 -- 1 -- 2×0.0075 kg a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 3					
D1	Ditch	0.048 *	Spray drift	0.005	0.522
D1	Stream	0.042 *	Spray drift	0.001	0.219
D3	Ditch	0.048 *	Spray drift	0.002	0.272
D4	Pond	0.002 *	Spray drift	<0.001	0.044
D4	Stream	0.039 *	Spray drift	<0.001	0.092
D5	Pond	0.002	Spray drift	<0.001	0.047
D5	Stream	0.041 *	Spray drift	<0.001	0.042
R4	Stream	0.031 *	Spray drift	<0.001	0.980

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-20: FOCUS Step 3 PEC_{sw} and PEC_{sed} for deltamethrin following single/multiple application(s) of DLT+FPF EC 85 to winter cereals (modelling use winter cereals 1 -- early -- 2×0.005 kg a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 3					
D1	Ditch	0.032 *	Spray drift	0.003	0.355
D1	Stream	0.028 *	Spray drift	<0.001	0.138
D2	Ditch	0.032 *	Spray drift	0.002	0.269
D2	Stream	0.028 *	Spray drift	0.001	0.178 *
D3	Ditch	0.032 *	Spray drift	<0.001	0.164
D4	Pond	0.001 *	Spray drift	<0.001	0.031
D4	Stream	0.025 *	Spray drift	<0.001	0.034
D5	Pond	0.001	Spray drift	<0.001	0.032
D5	Stream	0.025 *	Spray drift	<0.001	0.030
D6	Ditch	0.032 *	Spray drift	0.002	0.189
R1	Pond	0.001	Spray drift	<0.001	0.039
R1	Stream	0.021 *	Spray drift	<0.001	0.373
R3	Stream	0.029 *	Spray drift	<0.001	0.144
R4	Stream	0.021 *	Spray drift	<0.001	0.402

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-21: FOCUS Step 3 PEC_{sw} and PEC_{sed} for deltamethrin following single/multiple application(s) of DLT+FPF EC 85 to winter cereals (modelling use winter cereals 1 -- late -- 2×0.005 kg a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*		Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*	
Step 3							
D1	Ditch	0.032	*	Spray drift	0.003	0.348	
D1	Stream	0.028	*	Spray drift	<0.001	0.146	
D2	Ditch	0.032	*	Spray drift	0.003	0.321	
D2	Stream	0.028	*	Spray drift	0.002	0.174	
D3	Ditch	0.032	*	Spray drift	0.001	0.185	
D4	Pond	0.001		Spray drift	<0.001	0.030	
D4	Stream	0.027	*	Spray drift	<0.001	0.075	
D5	Pond	0.001		Spray drift	<0.001	0.031	
D5	Stream	0.030	*	Spray drift	<0.001	0.094	
D6	Ditch	0.032	*	Spray drift	0.003	0.330	
R1	Pond	0.001		Spray drift	<0.001	0.036	
R1	Stream	0.021	*	Spray drift	<0.001	0.343	
R3	Stream	0.029	*	Spray drift	<0.001	0.085	*
R4	Stream	0.021	*	Spray drift	<0.001	0.444	

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-22: FOCUS Step 3 PEC_{sw} and PEC_{sed} for deltamethrin following single/multiple application(s) of DLT+FPF EC 85 to winter cereals (modelling use winter cereals 2 -- early -- 2×0.0075 kg a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*		Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*	
Step 3							
D1	Ditch	0.048	*	Spray drift	0.005	0.532	
D1	Stream	0.042	*	Spray drift	0.001	0.207	
D2	Ditch	0.048	*	Spray drift	0.004	0.403	
D2	Stream	0.043	*	Spray drift	0.002	0.268	*
D3	Ditch	0.048	*	Spray drift	0.001	0.246	
D4	Pond	0.002	*	Spray drift	<0.001	0.046	
D4	Stream	0.037	*	Spray drift	<0.001	0.051	
D5	Pond	0.002		Spray drift	<0.001	0.047	
D5	Stream	0.038	*	Spray drift	<0.001	0.045	
D6	Ditch	0.047	*	Spray drift	0.003	0.283	
R1	Pond	0.002		Spray drift	<0.001	0.059	
R1	Stream	0.031	*	Spray drift	<0.001	0.559	
R3	Stream	0.044	*	Spray drift	<0.001	0.216	
R4	Stream	0.031	*	Spray drift	<0.001	0.602	

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-23: FOCUS Step 3 PEC_{sw} and PEC_{sed} for deltamethrin following single/multiple application(s) of DLT+FPF EC 85 to winter cereals (modelling use winter cereals 2 -- late -- 2×0.0075 kg a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 3					
D1	Ditch	0.048 *	Spray drift	0.005	0.522
D1	Stream	0.042 *	Spray drift	0.001	0.219
D2	Ditch	0.048 *	Spray drift	0.004	0.481
D2	Stream	0.041 *	Spray drift	0.003	0.262
D3	Ditch	0.048 *	Spray drift	0.002	0.277
D4	Pond	0.002	Spray drift	<0.001	0.045
D4	Stream	0.041 *	Spray drift	<0.001	0.113
D5	Pond	0.002	Spray drift	<0.001	0.047
D5	Stream	0.044 *	Spray drift	<0.001	0.142
D6	Ditch	0.048 *	Spray drift	0.005	0.496
R1	Pond	0.002	Spray drift	<0.001	0.053
R1	Stream	0.031 *	Spray drift	<0.001	0.515
R3	Stream	0.044 *	Spray drift	<0.001	0.128 *
R4	Stream	0.031 *	Spray drift	<0.001	0.665

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-24: FOCUS Step 3 PEC_{sw} and PEC_{sed} for deltamethrin following single application(s) of DLT+FPF EC 85 to maize (modelling use maize 1 -- 1 -- 0.0075 kg a.s./ha)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 3					
D3	Ditch	0.039 *	Spray drift	<0.001	0.173 *
D4	Pond	0.002 *	Spray drift	<0.001	0.027 *
D4	Stream	0.035 *	Spray drift	<0.001	0.072 *
D5	Pond	0.002 *	Spray drift	<0.001	0.027 *
D5	Stream	0.038 *	Spray drift	<0.001	0.118 *
D6	Ditch	0.039 *	Spray drift	<0.001	0.117 *
R1	Pond	0.002 *	Spray drift	<0.001	0.047 *
R1	Stream	0.027 *	Spray drift	<0.001	0.885 *
R2	Stream	0.037 *	Spray drift	<0.001	1.43 *
R3	Stream	0.038 *	Spray drift	<0.001	0.693 *
R4	Stream	0.027 *	Spray drift	<0.001	0.759 *

* Single applications are marked.
** TWA interval as required by ecotox

Remark from Applicant: As the formulation is intended to be applied to grape, according to indications of the Working document of the Central Zone in the authorization of plant protection products, Section 8, Environmental fate and behaviour (Version 1 rev. 1, June 2018) performed simulations must cover all scenarios relevant for the Central Zone. As some required scenarios (D3, D4 and D5) are not defined for vines, simulations were be performed with consideration of the surrogate crop and **pome fruit** seems to be most relevant surrogate crop for vines. Therefore, new PEC calculations (for details refer to **M-832152-01-1**) have been performed using pome fruit as surrogate crop but **considering the drift rates relevant for grape**.

Table 8.9-25: FOCUS Step 3 PEC_{sw} and PEC_{sed} for deltamethrin following single/multiple application(s) of DLT+FPF EC 85 to grape (modelling use grape 1 -- early -- 2×0.004 kg a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*		Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*	
Step 3							
D3***	Ditch	0.0683 *		Spray drift	0.0037	0.4495	
D4***	Pond	0.0027		Spray drift	0.0006	0.0710	
D4***	Stream	0.0658 *		Spray drift	0.0008	0.1843	
D5***	Pond	0.0027		Spray drift	0.0006	0.0724	
D5***	Stream	0.0711 *		Spray drift	0.0012	0.2353	
D6	Ditch	0.068	*	Spray drift	0.005	0.603	
R1	Pond	0.003		Spray drift	<0.001	0.070	
R1	Stream	0.050	*	Spray drift	<0.001	0.118	
R2	Stream	0.068	*	Spray drift	<0.001	0.087	*
R3	Stream	0.071	*	Spray drift	<0.001	0.197	*
R4	Stream	0.049	*	Spray drift	<0.001	0.108	

* Single applications are marked.
** TWA interval as required by ecotox
***pome fruit as surrogate crop used for calculation

Table 8.9-26: FOCUS Step 3 PEC_{sw} and PEC_{sed} for deltamethrin following single/multiple application(s) of DLT+FPF EC 85 to grape (modelling use grape 1 -- late -- 2×0.004 kg a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*		Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*	
Step 3							
D3***	Ditch	0.0685 *		Spray drift	0.0041	0.4880	
D4***	Pond	0.0025		Spray drift	0.0005	0.0704	
D4***	Stream	0.0659 *		Spray drift	0.0005	0.1763	
D5***	Pond	0.0026		Spray drift	0.0006	0.0711	
D5***	Stream	0.0711 *		Spray drift	0.0012	0.2323	
D6	Ditch	0.069	*	Spray drift	0.007	0.686	
R1	Pond	0.003		Spray drift	<0.001	0.070	
R1	Stream	0.049	*	Spray drift	<0.001	0.116	
R2	Stream	0.068	*	Spray drift	<0.001	0.088	
R3	Stream	0.071	*	Spray drift	<0.001	0.222	
R4	Stream	0.050	*	Spray drift	<0.001	0.114	*

* Single applications are marked.
** TWA interval as required by ecotox
***pome fruit as surrogate crop used for calculation

FOCUS Step 4 PEC$_{sw}$

Table 8.9-27: PECsw° values for deltamethrin, following single/multiple applications(s) of DLT+FPF EC 85 to sunflower according to the Central EU zone GAP according to surface water Step 4 (modelling use sunflower 1 -- early -- 2×0.0075 kg a.s./ha, 14d int.)

PECsw° (µg/L)	Scenario	Step 4 deltamethrin							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No-spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	D5 Pond	*0.002*	*0.001*	*0.001*	*<0.001*	*0.001*	*<0.001*		
50 %		*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*		
75 %		*<0.001*	*<0.001*	<0.001	<0.001	<0.001	<0.001		
90 %		*<0.001*	*<0.001*	*<0.001*	<0.001	*<0.001*	<0.001		
None	D5 Stream	0.035	0.015	0.008	0.004	0.008	0.004		
50 %		0.018	0.007	0.004	0.002	0.004	0.002		
75 %		0.009	0.004	0.002	0.001	0.002	0.001		
90 %		0.004	0.001	<0.001	<0.001	<0.001	<0.001		
None	R1 Pond	0.002	0.001	0.001	<0.001	0.001	<0.001		
50 %		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
75 %		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
90 %		<0.001	*<0.001*	<0.001	<0.001	<0.001	<0.001		
None	R1 Stream	0.027	0.011	0.006	0.003	0.006	0.003		
50 %		0.014	0.006	0.003	0.002	0.003	0.002		
75 %		0.007	0.003	0.002	<0.001	0.002	<0.001		
90 %		0.003	0.001	<0.001	<0.001	<0.001	<0.001		
None	R3 Stream	0.038	0.016	0.009	0.004	0.009	0.004		
50 %		0.019	0.008	0.004	0.002	0.004	0.002		
75 %		0.010	0.004	0.002	0.001	0.002	0.001		
90 %		0.004	0.002	<0.001	<0.001	<0.001	<0.001		
None	R4 Stream	0.027	0.011	0.006	0.003	0.006	0.003		
50 %		0.013	0.006	0.003	0.002	0.003	0.002		
75 %		0.007	0.003	0.001	<0.001	0.001	<0.001		
90 %		0.003	0.001	<0.001	<0.001	<0.001	<0.001		

* Maximum values coming from multiple applications are marked in italics
° PECsw values including suspended solids are reported

Table 8.9-28: PECsw° values for deltamethrin, following single/multiple applications(s) of DLT+FPF EC 85 to sunflower according to the Central EU zone GAP according to surface water Step 4 (modelling use sunflower 1 -- late -- 2×0.0075 kg a.s./ha, 14d int.)

PECsw° (µg/L)	Scenario	Step 4 deltamethrin							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No-spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	D5 Pond	0.002	0.001	0.001	<0.001	0.001	<0.001		
50 %		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
75 %		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
90 %		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
None	D5 Stream	0.038	0.016	0.009	0.004	0.009	0.004		

PECsw° (µg/L)	Scenario	Step 4 deltamethrin							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
50 %		0.019	0.008	0.004	0.002	0.004	0.002		
75 %		0.010	0.004	0.002	0.001	0.002	0.001		
90 %		0.004	0.002	<0.001	<0.001	<0.001	<0.001		
None	R1 Pond	0.002	0.001	0.001	<0.001	0.001	<0.001		
50 %		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
75 %		*<0.001*	<0.001	<0.001	<0.001	<0.001	<0.001		
90 %		*<0.001*	*<0.001*	<0.001	<0.001	<0.001	<0.001		
None	R1 Stream	0.027	0.011	0.006	0.003	0.006	0.003		
50 %		0.014	0.006	0.003	0.002	0.003	0.002		
75 %		0.007	0.003	0.002	<0.001	0.002	<0.001		
90 %		0.003	0.001	<0.001	<0.001	<0.001	<0.001		
None	R3 Stream	0.038	0.016	0.009	0.004	0.009	0.004		
50 %		0.019	0.008	0.004	0.002	0.004	0.002		
75 %		0.010	0.004	0.002	0.001	0.002	0.001		
90 %		0.004	0.002	<0.001	<0.001	<0.001	<0.001		
None	R4 Stream	0.027	0.011	0.006	0.003	0.006	0.003		
50 %		0.013	0.006	0.003	0.002	0.003	0.002		
75 %		0.007	0.003	0.001	<0.001	0.001	<0.001		
90 %		0.003	0.001	<0.001	<0.001	<0.001	<0.001		

* Maximum values coming from multiple applications are marked in italics
° PECsw values including suspended solids are reported

Table 8.9-29: PECsw° values for deltamethrin, following single application of DLT+FPF EC 85 to sorghum according to the Central EU zone GAP according to surface water Step 4 (modelling use sorghum 1 -- 1 -- 0.0075 kg a.s./ha)

PECsw° (µg/L)	**Scenario**	**Step 4 deltamethrin**							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	D1 Ditch	0.048	0.013	0.007	0.004	0.007	0.004		
50 %		0.024	0.007	0.003	0.002	0.003	0.002		
75 %		0.012	0.003	0.002	<0.001	0.002	<0.001		
90 %		0.005	0.001	<0.001	<0.001	<0.001	<0.001		
None	D1 Stream	0.042	0.015	0.008	0.004	0.008	0.004		
50 %		0.021	0.008	0.004	0.002	0.004	0.002		
75 %		0.011	0.004	0.002	0.001	0.002	0.001		
90 %		0.004	0.002	<0.001	<0.001	<0.001	<0.001		
None	D3 Ditch	0.048	0.013	0.007	0.004	0.007	0.004		
50 %		0.024	0.006	0.003	0.002	0.003	0.002		
75 %		0.012	0.003	0.002	<0.001	0.002	<0.001		
90 %		0.005	0.001	<0.001	<0.001	<0.001	<0.001		
None	D4 Pond	0.002	0.001	0.001	<0.001	0.001	<0.001		
50 %		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
75 %		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
90 %		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
None	D4 Stream	0.041	0.015	0.008	0.004	0.008	0.004		
50 %		0.021	0.007	0.004	0.002	0.004	0.002		
75 %		0.010	0.004	0.002	0.001	0.002	0.001		
90 %		0.004	0.001	<0.001	<0.001	<0.001	<0.001		
None	D5 Pond	0.002	0.001	0.001	<0.001	0.001	<0.001		
50 %		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
75 %		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
90 %		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
None	D5 Stream	0.041	0.015	0.008	0.004	0.008	0.004		
50 %		0.021	0.008	0.004	0.002	0.004	0.002		
75 %		0.010	0.004	0.002	0.001	0.002	0.001		
90 %		0.004	0.002	<0.001	<0.001	<0.001	<0.001		
None	R4 Stream	0.031	0.011	0.006	0.003	0.006	0.003		
50 %		0.016	0.006	0.003	0.002	0.003	0.002		
75 %		0.008	0.003	0.002	<0.001	0.002	<0.001		
90 %		0.003	0.001	<0.001	<0.001	<0.001	<0.001		

° PECsw values including suspended solids are reported

Table 8.9-30: PECsw° values for deltamethrin, following single/multiple applications(s) of DLT+FPF EC 85 to spring cereals according to the Central EU zone GAP according to surface water Step 4 (modelling use spring cereals 1 -- 1 -- 2×0.005 kg a.s./ha, 14d int.)

PECsw° (µg/L)	**Scenario**	**Step 4 deltamethrin**							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	D1 Ditch	0.032	0.009	0.005	0.002	0.005	0.002		
50 %		0.016	0.004	0.002	0.001	0.002	0.001		
75 %		0.008	0.002	0.001	<0.001	0.001	<0.001		
90 %		0.003	<0.001	<0.001	<0.001	<0.001	<0.001		
None	D1 Stream	0.028	0.010	0.005	0.003	0.005	0.003		
50 %		0.014	0.005	0.003	0.001	0.003	0.001		
75 %		0.007	0.003	0.001	<0.001	0.001	<0.001		
90 %		0.003	0.001	<0.001	<0.001	<0.001	<0.001		
None	D3 Ditch	0.032	0.009	0.005	0.002	0.005	0.002		
50 %		0.016	0.004	0.002	0.001	0.002	0.001		
75 %		0.008	0.002	0.001	<0.001	0.001	<0.001		
90 %		0.003	<0.001	<0.001	<0.001	<0.001	<0.001		
None	D4 Pond	0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
50 %		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
75 %		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
90 %		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
None	D4 Stream	0.026	0.009	0.005	0.003	0.005	0.003		
50 %		0.013	0.005	0.003	0.001	0.003	0.001		
75 %		0.006	0.002	0.001	<0.001	0.001	<0.001		
90 %		0.003	<0.001	<0.001	<0.001	<0.001	<0.001		
None	D5 Pond	*0.001*	<0.001	<0.001	<0.001	<0.001	<0.001		
50 %		*<0.001*	*<0.001*	<0.001	<0.001	<0.001	<0.001		
75 %		*<0.001*	<0.001	*<0.001*	*<0.001*	*<0.001*	*<0.001*		
90 %		*<0.001*	<0.001	<0.001	<0.001	<0.001	<0.001		
None	D5 Stream	0.028	0.010	0.005	0.003	0.005	0.003		
50 %		0.014	0.005	0.003	0.001	0.003	0.001		
75 %		0.007	0.003	0.001	<0.001	0.001	<0.001		
90 %		0.003	<0.001	<0.001	<0.001	<0.001	<0.001		
None	R4 Stream	0.021	0.008	0.004	0.002	0.004	0.002		
50 %		0.010	0.004	0.002	0.001	0.002	0.001		
75 %		0.005	0.002	0.001	<0.001	0.001	<0.001		
90 %		0.002	<0.001	<0.001	<0.001	<0.001	<0.001		

* Maximum values coming from multiple applications are marked in italics
° PECsw values including suspended solids are reported

Table 8.9-31: PECsw° values for deltamethrin, following single/multiple applications(s) of DLT+FPF EC 85 to spring cereals according to the Central EU zone GAP according to surface water Step 4 (modelling use spring cereals 2 -- 1 -- 2×0.0075 kg a.s./ha, 14d int.)

PECsw° (µg/L)	**Scenario**	**Step 4 deltamethrin**							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	D1 Ditch	0.048	0.013	0.007	0.004	0.007	0.004		
50 %		0.024	0.007	0.003	0.002	0.003	0.002		
75 %		0.012	0.003	0.002	<0.001	0.002	<0.001		
90 %		0.005	0.001	<0.001	<0.001	<0.001	<0.001		
None	D1 Stream	0.042	0.015	0.008	0.004	0.008	0.004		
50 %		0.021	0.008	0.004	0.002	0.004	0.002		
75 %		0.011	0.004	0.002	0.001	0.002	0.001		
90 %		0.004	0.002	<0.001	<0.001	<0.001	<0.001		
None	D3 Ditch	0.048	0.013	0.007	0.004	0.007	0.004		
50 %		0.024	0.006	0.003	0.002	0.003	0.002		
75 %		0.012	0.003	0.002	<0.001	0.002	<0.001		
90 %		0.005	0.001	<0.001	<0.001	<0.001	<0.001		
None	D4 Pond	0.002	0.001	0.001	<0.001	0.001	<0.001		
50 %		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
75 %		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
90 %		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
None	D4 Stream	0.039	0.014	0.008	0.004	0.008	0.004		
50 %		0.019	0.007	0.004	0.002	0.004	0.002		
75 %		0.010	0.004	0.002	<0.001	0.002	<0.001		
90 %		0.004	0.001	<0.001	<0.001	<0.001	<0.001		
None	D5 Pond	*0.002*	*0.001*	0.001	<0.001	0.001	<0.001		
50 %		*<0.001*	*<0.001*	<0.001	<0.001	<0.001	<0.001		
75 %		*<0.001*	<0.001	<0.001	<0.001	<0.001	<0.001		
90 %		<0.001	*<0.001*	<0.001	<0.001	<0.001	<0.001		
None	D5 Stream	0.041	0.015	0.008	0.004	0.008	0.004		
50 %		0.021	0.008	0.004	0.002	0.004	0.002		
75 %		0.010	0.004	0.002	0.001	0.002	0.001		
90 %		0.004	0.002	<0.001	<0.001	<0.001	<0.001		
None	R4 Stream	0.031	0.011	0.006	0.003	0.006	0.003		
50 %		0.016	0.006	0.003	0.002	0.003	0.002		
75 %		0.008	0.003	0.002	<0.001	0.002	<0.001		
90 %		0.003	0.001	<0.001	<0.001	<0.001	<0.001		

* Maximum values coming from multiple applications are marked in italics
° PECsw values including suspended solids are reported

Table 8.9-32: PECsw° values for deltamethrin, following single/multiple applications(s) of DLT+FPF EC 85 to winter cereals according to the Central EU zone GAP according to surface water Step 4 (modelling use winter cereals 1 -- early -- 2×0.005 kg a.s./ha, 14d int.)

PECsw° (µg/L)	**Scenario**	**Step 4 deltamethrin**							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	D1 Ditch	0.032	0.009	0.005	0.002	0.005	0.002		
50 %		0.016	0.004	0.002	0.001	0.002	0.001		
75 %		0.008	0.002	0.001	<0.001	0.001	<0.001		
90 %		0.003	<0.001	<0.001	<0.001	<0.001	<0.001		
None	D1 Stream	0.028	0.010	0.005	0.003	0.005	0.003		
50 %		0.014	0.005	0.003	0.001	0.003	0.001		
75 %		0.007	0.003	0.001	<0.001	0.001	<0.001		
90 %		0.003	0.001	<0.001	<0.001	<0.001	<0.001		
None	D2 Ditch	0.032	0.009	0.005	0.002	0.005	0.002		
50 %		0.016	0.004	0.002	0.001	0.002	0.001		
75 %		0.008	0.002	0.001	<0.001	0.001	<0.001		
90 %		0.003	<0.001	<0.001	<0.001	<0.001	<0.001		
None	D2 Stream	0.028	0.010	0.005	0.003	0.005	0.003		
50 %		0.014	0.005	0.003	0.001	0.003	0.001		
75 %		0.007	0.003	0.001	<0.001	0.001	<0.001		
90 %		0.003	0.001	<0.001	<0.001	<0.001	<0.001		
None	D3 Ditch	0.032	0.009	0.005	0.002	0.005	0.002		
50 %		0.016	0.004	0.002	0.001	0.002	0.001		
75 %		0.008	0.002	0.001	<0.001	0.001	<0.001		
90 %		0.003	<0.001	<0.001	<0.001	<0.001	<0.001		
None	D4 Pond	0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
50 %		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
75 %		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
90 %		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
None	D4 Stream	0.025	0.009	0.005	0.002	0.005	0.002		
50 %		0.012	0.005	0.002	0.001	0.002	0.001		
75 %		0.006	0.002	0.001	<0.001	0.001	<0.001		
90 %		0.002	<0.001	<0.001	<0.001	<0.001	<0.001		
None	D5 Pond	*0.001*	*<0.001*	*<0.001*	<0.001	*<0.001*	<0.001		
50 %		*<0.001*	*<0.001*	*<0.001*	<0.001	*<0.001*	<0.001		
75 %		*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*		
90 %		*<0.001*	*<0.001*	<0.001	<0.001	<0.001	<0.001		
None	D5 Stream	0.025	0.009	0.005	0.003	0.005	0.003		
50 %		0.013	0.005	0.002	0.001	0.002	0.001		
75 %		0.006	0.002	0.001	<0.001	0.001	<0.001		
90 %		0.003	<0.001	<0.001	<0.001	<0.001	<0.001		
None	D6 Ditch	0.032	0.009	0.005	0.002	0.005	0.002		
50 %		0.016	0.004	0.002	0.001	0.002	0.001		
75 %		0.008	0.002	0.001	<0.001	0.001	<0.001		
90 %		0.003	<0.001	<0.001	<0.001	<0.001	<0.001		

PECsw° (µg/L)	Scenario	Step 4 deltamethrin							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	R1 Pond	*0.001*	*<0.001*	*<0.001*	<0.001	*<0.001*	<0.001		
50 %		*<0.001*	*<0.001*	<0.001	<0.001	<0.001	<0.001		
75 %		*<0.001*	<0.001	*<0.001*	*<0.001*	*<0.001*	*<0.001*		
90 %		*<0.001*	*<0.001*	<0.001	<0.001	<0.001	<0.001		
None	R1 Stream	0.021	0.008	0.004	0.002	0.004	0.002		
50 %		0.010	0.004	0.002	0.001	0.002	0.001		
75 %		0.005	0.002	0.001	<0.001	0.001	<0.001		
90 %		0.002	<0.001	<0.001	<0.001	<0.001	<0.001		
None	R3 Stream	0.029	0.011	0.006	0.003	0.006	0.003		
50 %		0.015	0.005	0.003	0.001	0.003	0.001		
75 %		0.007	0.003	0.001	<0.001	0.001	<0.001		
90 %		0.003	0.001	<0.001	<0.001	<0.001	<0.001		
None	R4 Stream	0.021	0.008	0.004	0.002	0.004	0.002		
50 %		0.010	0.004	0.002	0.001	0.002	0.001		
75 %		0.005	0.002	0.001	<0.001	0.001	<0.001		
90 %		0.002	<0.001	<0.001	<0.001	<0.001	<0.001		

* Maximum values coming from multiple applications are marked in italics
° PECsw values including suspended solids are reported

Table 8.9-33: PECsw° values for deltamethrin, following single/multiple applications(s) of DLT+FPF EC 85 to winter cereals according to the Central EU zone GAP according to surface water Step 4 (modelling use winter cereals 1 -- late -- 2×0.005 kg a.s./ha, 14d int.)

PECsw° (µg/L)	Scenario	Step 4 deltamethrin							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	D1 Ditch	0.032	0.009	0.005	0.002	0.005	0.002		
50 %		0.016	0.004	0.002	0.001	0.002	0.001		
75 %		0.008	0.002	0.001	<0.001	0.001	<0.001		
90 %		0.003	<0.001	<0.001	<0.001	<0.001	<0.001		
None	D1 Stream	0.028	0.010	0.005	0.003	0.005	0.003		
50 %		0.014	0.005	0.003	0.001	0.003	0.001		
75 %		0.007	0.003	0.001	<0.001	0.001	<0.001		
90 %		0.003	0.001	<0.001	<0.001	<0.001	<0.001		
None	D2 Ditch	0.032	0.009	0.005	0.002	0.005	0.002		
50 %		0.016	0.004	0.002	0.001	0.002	0.001		
75 %		0.008	0.002	0.001	<0.001	0.001	<0.001		
90 %		0.003	<0.001	<0.001	<0.001	<0.001	<0.001		
None	D2 Stream	0.028	0.010	0.005	0.003	0.005	0.003		
50 %		0.014	0.005	0.003	0.001	0.003	0.001		
75 %		0.007	0.003	0.001	<0.001	0.001	<0.001		
90 %		0.003	<0.001	<0.001	<0.001	<0.001	<0.001		

PECsw° (µg/L)	Scenario	Step 4 deltamethrin							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	D3 Ditch	0.032	0.009	0.005	0.002	0.005	0.002		
50 %		0.016	0.004	0.002	0.001	0.002	0.001		
75 %		0.008	0.002	0.001	<0.001	0.001	<0.001		
90 %		0.003	<0.001	<0.001	<0.001	<0.001	<0.001		
None	D4 Pond	*0.001*	*<0.001*	*<0.001*	<0.001	*<0.001*	<0.001		
50 %		*<0.001*	*<0.001*	*<0.001*	<0.001	*<0.001*	<0.001		
75 %		*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*		
90 %		*<0.001*	*<0.001*	<0.001	<0.001	<0.001	<0.001		
None	D4 Stream	0.027	0.010	0.005	0.003	0.005	0.003		
50 %		0.014	0.005	0.003	0.001	0.003	0.001		
75 %		0.007	0.002	0.001	<0.001	0.001	<0.001		
90 %		0.003	<0.001	<0.001	<0.001	<0.001	<0.001		
None	D5 Pond	*0.001*	*<0.001*	*<0.001*	<0.001	*<0.001*	<0.001		
50 %		*<0.001*	*<0.001*	<0.001	<0.001	<0.001	<0.001		
75 %		*<0.001*	<0.001	*<0.001*	*<0.001*	*<0.001*	*<0.001*		
90 %		*<0.001*	*<0.001*	<0.001	<0.001	<0.001	<0.001		
None	D5 Stream	0.030	0.011	0.006	0.003	0.006	0.003		
50 %		0.015	0.005	0.003	0.001	0.003	0.001		
75 %		0.007	0.003	0.001	<0.001	0.001	<0.001		
90 %		0.003	0.001	<0.001	<0.001	<0.001	<0.001		
None	D6 Ditch	0.032	0.009	0.005	0.002	0.005	0.002		
50 %		0.016	0.004	0.002	0.001	0.002	0.001		
75 %		0.008	0.002	0.001	<0.001	0.001	<0.001		
90 %		0.003	<0.001	<0.001	<0.001	<0.001	<0.001		
None	R1 Pond	*0.001*	*<0.001*	*<0.001*	<0.001	*<0.001*	<0.001		
50 %		*<0.001*	*<0.001*	*<0.001*	<0.001	*<0.001*	<0.001		
75 %		*<0.001*	<0.001	*<0.001*	*<0.001*	*<0.001*	*<0.001*		
90 %		*<0.001*	*<0.001*	<0.001	<0.001	<0.001	<0.001		
None	R1 Stream	0.021	0.008	0.004	0.002	0.004	0.002		
50 %		0.010	0.004	0.002	0.001	0.002	0.001		
75 %		0.005	0.002	0.001	<0.001	0.001	<0.001		
90 %		0.002	<0.001	<0.001	<0.001	<0.001	<0.001		
None	R3 Stream	0.029	0.011	0.006	0.003	0.006	0.003		
50 %		0.015	0.005	0.003	0.001	0.003	0.001		
75 %		0.007	0.003	0.001	<0.001	0.001	<0.001		
90 %		0.003	0.001	<0.001	<0.001	<0.001	<0.001		
None	R4 Stream	0.021	0.008	0.004	0.002	0.004	0.002		
50 %		0.010	0.004	0.002	0.001	0.002	0.001		
75 %		0.005	0.002	0.001	<0.001	0.001	<0.001		
90 %		0.002	<0.001	<0.001	<0.001	<0.001	<0.001		

* Maximum values coming from multiple applications are marked in italics
° PECsw values including suspended solids are reported

Table 8.9-34: PECsw° values for deltamethrin, following single/multiple applications(s) of DLT+FPF EC 85 to winter cereals according to the Central EU zone GAP according to surface water Step 4 (modelling use winter cereals 2 -- early -- 2×0.0075 kg a.s./ha, 14d int.)

PECsw° (µg/L)	**Scenario**	**Step 4 deltamethrin**							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	D1 Ditch	0.048	0.013	0.007	0.004	0.007	0.004		
50 %		0.024	0.007	0.003	0.002	0.003	0.002		
75 %		0.012	0.003	0.002	<0.001	0.002	<0.001		
90 %		0.005	0.001	<0.001	<0.001	<0.001	<0.001		
None	D1 Stream	0.042	0.015	0.008	0.004	0.008	0.004		
50 %		0.021	0.008	0.004	0.002	0.004	0.002		
75 %		0.010	0.004	0.002	0.001	0.002	0.001		
90 %		0.004	0.002	<0.001	<0.001	<0.001	<0.001		
None	D2 Ditch	0.048	0.013	0.007	0.004	0.007	0.004		
50 %		0.024	0.007	0.003	0.002	0.003	0.002		
75 %		0.012	0.003	0.002	<0.001	0.002	<0.001		
90 %		0.005	0.001	<0.001	<0.001	<0.001	<0.001		
None	D2 Stream	0.043	0.016	0.008	0.004	0.008	0.004		
50 %		0.021	0.008	0.004	0.002	0.004	0.002		
75 %		0.011	0.004	0.002	0.001	0.002	0.001		
90 %		0.004	0.002	<0.001	<0.001	<0.001	<0.001		
None	D3 Ditch	0.048	0.013	0.007	0.004	0.007	0.004		
50 %		0.024	0.006	0.003	0.002	0.003	0.002		
75 %		0.012	0.003	0.002	<0.001	0.002	<0.001		
90 %		0.005	0.001	<0.001	<0.001	<0.001	<0.001		
None	D4 Pond	0.002	0.001	0.001	<0.001	0.001	<0.001		
50 %		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
75 %		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
90 %		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
None	D4 Stream	0.037	0.014	0.007	0.004	0.007	0.004		
50 %		0.019	0.007	0.004	0.002	0.004	0.002		
75 %		0.009	0.003	0.002	<0.001	0.002	<0.001		
90 %		0.004	0.001	<0.001	<0.001	<0.001	<0.001		
None	D5 Pond	*0.002*	*0.001*	*0.001*	*<0.001*	*0.001*	*<0.001*		
50 %		*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*		
75 %		*<0.001*	*<0.001*	<0.001	<0.001	<0.001	<0.001		
90 %		*<0.001*	*<0.001*	*<0.001*	<0.001	*<0.001*	<0.001		
None	D5 Stream	0.038	0.014	0.007	0.004	0.007	0.004		
50 %		0.019	0.007	0.004	0.002	0.004	0.002		
75 %		0.009	0.003	0.002	<0.001	0.002	<0.001		
90 %		0.004	0.001	<0.001	<0.001	<0.001	<0.001		
None	D6 Ditch	0.047	0.013	0.007	0.004	0.007	0.004		
50 %		0.024	0.006	0.003	0.002	0.003	0.002		
75 %		0.012	0.003	0.002	<0.001	0.002	<0.001		
90 %		0.005	0.001	<0.001	<0.001	<0.001	<0.001		

PECsw° (µg/L)	**Scenario**	**Step 4 deltamethrin**							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	R1 Pond	*0.002*	*0.001*	*0.001*	<0.001	*0.001*	<0.001		
50 %		*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	<0.001		
75 %		*<0.001*	*<0.001*	<0.001	<0.001	<0.001	<0.001		
90 %		*<0.001*	*<0.001*	*<0.001*	<0.001	*<0.001*	<0.001		
None	R1 Stream	0.031	0.011	0.006	0.003	0.006	0.003		
50 %		0.016	0.006	0.003	0.002	0.003	0.002		
75 %		0.008	0.003	0.002	<0.001	0.002	<0.001		
90 %		0.003	0.001	<0.001	<0.001	<0.001	<0.001		
None	R3 Stream	0.044	0.016	0.009	0.004	0.009	0.004		
50 %		0.022	0.008	0.004	0.002	0.004	0.002		
75 %		0.011	0.004	0.002	0.001	0.002	0.001		
90 %		0.004	0.002	<0.001	<0.001	<0.001	<0.001		
None	R4 Stream	0.031	0.011	0.006	0.003	0.006	0.003		
50 %		0.016	0.006	0.003	0.002	0.003	0.002		
75 %		0.008	0.003	0.002	<0.001	0.002	<0.001		
90 %		0.003	0.001	<0.001	<0.001	<0.001	<0.001		

* Maximum values coming from multiple applications are marked in italics
° PECsw values including suspended solids are reported

Table 8.9-35: PECsw° values for deltamethrin, following single/multiple applications(s) of DLT+FPF EC 85 to winter cereals according to the Central EU zone GAP according to surface water Step 4 (modelling use winter cereals 2 -- late -- 2×0.0075 kg a.s./ha, 14d int.)

PECsw° (µg/L)	**Scenario**	**Step 4 deltamethrin**							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	D1 Ditch	0.048	0.013	0.007	0.004	0.007	0.004		
50 %		0.024	0.007	0.003	0.002	0.003	0.002		
75 %		0.012	0.003	0.002	<0.001	0.002	<0.001		
90 %		0.005	0.001	<0.001	<0.001	<0.001	<0.001		
None	D1 Stream	0.042	0.015	0.008	0.004	0.008	0.004		
50 %		0.021	0.008	0.004	0.002	0.004	0.002		
75 %		0.011	0.004	0.002	0.001	0.002	0.001		
90 %		0.004	0.002	<0.001	<0.001	<0.001	<0.001		
None	D2 Ditch	0.048	0.013	0.007	0.004	0.007	0.004		
50 %		0.024	0.007	0.003	0.002	0.003	0.002		
75 %		0.012	0.003	0.002	<0.001	0.002	<0.001		
90 %		0.005	0.001	<0.001	<0.001	<0.001	<0.001		
None	D2 Stream	0.041	0.015	0.008	0.004	0.008	0.004		
50 %		0.021	0.008	0.004	0.002	0.004	0.002		
75 %		0.010	0.004	0.002	0.001	0.002	0.001		
90 %		0.004	0.002	<0.001	<0.001	<0.001	<0.001		

PECsw° (µg/L)	**Scenario**	**Step 4 deltamethrin**							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	D3 Ditch	0.048	0.013	0.007	0.004	0.007	0.004		
50 %		0.024	0.006	0.003	0.002	0.003	0.002		
75 %		0.012	0.003	0.002	<0.001	0.002	<0.001		
90 %		0.005	0.001	<0.001	<0.001	<0.001	<0.001		
None	D4 Pond	*0.002*	*0.001*	*0.001*	*<0.001*	*0.001*	*<0.001*		
50 %		*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*		
75 %		*<0.001*	*<0.001*	<0.001	<0.001	<0.001	<0.001		
90 %		*<0.001*	*<0.001*	*<0.001*	<0.001	*<0.001*	<0.001		
None	D4 Stream	0.041	0.015	0.008	0.004	0.008	0.004		
50 %		0.021	0.008	0.004	0.002	0.004	0.002		
75 %		0.010	0.004	0.002	0.001	0.002	0.001		
90 %		0.004	0.002	<0.001	<0.001	<0.001	<0.001		
None	D5 Pond	*0.002*	*0.001*	*0.001*	<0.001	*0.001*	<0.001		
50 %		*<0.001*	*<0.001*	*<0.001*	<0.001	*<0.001*	<0.001		
75 %		*<0.001*	*<0.001*	<0.001	<0.001	<0.001	<0.001		
90 %		*<0.001*	*<0.001*	<0.001	<0.001	<0.001	<0.001		
None	D5 Stream	0.044	0.016	0.009	0.004	0.009	0.004		
50 %		0.022	0.008	0.004	0.002	0.004	0.002		
75 %		0.011	0.004	0.002	0.001	0.002	0.001		
90 %		0.004	0.002	<0.001	<0.001	<0.001	<0.001		
None	D6 Ditch	0.048	0.013	0.007	0.004	0.007	0.004		
50 %		0.024	0.007	0.003	0.002	0.003	0.002		
75 %		0.012	0.003	0.002	<0.001	0.002	<0.001		
90 %		0.005	0.001	<0.001	<0.001	<0.001	<0.001		
None	R1 Pond	*0.002*	*0.001*	*0.001*	*<0.001*	*0.001*	*<0.001*		
50 %		*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*		
75 %		*<0.001*	*<0.001*	<0.001	<0.001	<0.001	<0.001		
90 %		*<0.001*	*<0.001*	*<0.001*	<0.001	*<0.001*	<0.001		
None	R1 Stream	0.031	0.011	0.006	0.003	0.006	0.003		
50 %		0.016	0.006	0.003	0.002	0.003	0.002		
75 %		0.008	0.003	0.002	<0.001	0.002	<0.001		
90 %		0.003	0.001	<0.001	<0.001	<0.001	<0.001		
None	R3 Stream	0.044	0.016	0.009	0.004	0.009	0.004		
50 %		0.022	0.008	0.004	0.002	0.004	0.002		
75 %		0.011	0.004	0.002	0.001	0.002	0.001		
90 %		0.004	0.002	<0.001	<0.001	<0.001	<0.001		
None	R4 Stream	0.031	0.011	0.006	0.003	0.006	0.003		
50 %		0.016	0.006	0.003	0.002	0.003	0.002		
75 %		0.008	0.003	0.002	<0.001	0.002	<0.001		
90 %		0.003	0.001	<0.001	<0.001	<0.001	<0.001		

* Maximum values coming from multiple applications are marked in italics
° PECsw values including suspended solids are reported

Table 8.9-36: PECsw° values for deltamethrin, following single application of DLT+FPF EC 85 to maize according to the Central EU zone GAP according to surface water Step 4 (modelling use maize 1 -- 1 -- 0.0075 kg a.s./ha)

PECsw° (µg/L)	**Scenario**	**Step 4 deltamethrin**							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	D3 Ditch	0.039	0.013	0.007	0.004	0.007	0.004		
50 %		0.020	0.006	0.003	0.002	0.003	0.002		
75 %		0.010	0.003	0.002	<0.001	0.002	<0.001		
90 %		0.004	0.001	<0.001	<0.001	<0.001	<0.001		
None	D4 Pond	0.002	0.001	0.001	<0.001	0.001	<0.001		
50 %		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
75 %		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
90 %		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
None	D4 Stream	0.035	0.015	0.008	0.004	0.008	0.004		
50 %		0.018	0.007	0.004	0.002	0.004	0.002		
75 %		0.009	0.004	0.002	0.001	0.002	0.001		
90 %		0.004	0.001	<0.001	<0.001	<0.001	<0.001		
None	D5 Pond	0.002	0.001	0.001	<0.001	0.001	<0.001		
50 %		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
75 %		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
90 %		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
None	D5 Stream	0.039	0.016	0.009	0.004	0.009	0.004		
50 %		0.019	0.008	0.004	0.002	0.004	0.002		
75 %		0.010	0.004	0.002	0.001	0.002	0.001		
90 %		0.004	0.002	<0.001	<0.001	<0.001	<0.001		
None	D6 Ditch	0.039	0.013	0.007	0.004	0.007	0.004		
50 %		0.019	0.006	0.003	0.002	0.003	0.002		
75 %		0.010	0.003	0.002	<0.001	0.002	<0.001		
90 %		0.004	0.001	<0.001	<0.001	<0.001	<0.001		
None	R1 Pond	0.002	0.001	0.001	<0.001	0.001	<0.001		
50 %		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
75 %		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
90 %		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
None	R1 Stream	0.027	0.011	0.006	0.003	0.006	0.003		
50 %		0.013	0.006	0.003	0.002	0.003	0.002		
75 %		0.007	0.003	0.001	<0.001	0.001	<0.001		
90 %		0.003	0.001	<0.001	<0.001	<0.001	<0.001		
None	R2 Stream	0.037	0.015	0.008	0.004	0.008	0.004		
50 %		0.018	0.008	0.004	0.002	0.004	0.002		
75 %		0.009	0.004	0.002	0.001	0.002	0.001		
90 %		0.004	0.002	<0.001	<0.001	<0.001	<0.001		
None	R3 Stream	0.038	0.016	0.009	0.004	0.009	0.004		
50 %		0.019	0.008	0.004	0.002	0.004	0.002		
75 %		0.010	0.004	0.002	0.001	0.002	0.001		
90 %		0.004	0.002	<0.001	<0.001	<0.001	<0.001		

PECsw° (µg/L)	Scenario	Step 4 deltamethrin							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	R4 Stream	0.027	0.011	0.006	0.003	0.006	0.003		
50 %		0.013	0.006	0.003	0.002	0.003	0.002		
75 %		0.007	0.003	0.001	<0.001	0.001	<0.001		
90 %		0.003	0.001	<0.001	<0.001	<0.001	<0.001		

° PECsw values including suspended solids are reported

Remark from Applicant: As the formulation is intended to be applied to grape, according to indications of the Working document of the Central Zone in the authorization of plant protection products, Section 8, Environmental fate and behaviour (Version 1 rev. 1, June 2018) performed simulations must cover all scenarios relevant for the Central Zone. As some required scenarios (D3, D4 and D5) are not defined for vines, simulations were be performed with consideration of the surrogate crop and **pome fruit** seems to be most relevant surrogate crop for vines. Therefore, new PEC calculations (for details refer to **M-832152-01-1**) have been performed using pome fruit as surrogate crop but **considering the drift rates relevant for grape**.

Table 8.9-37: PECsw° values for deltamethrin, following single/multiple applications(s) of DLT+FPF EC 85 to grape according to the Central EU zone GAP according to surface water Step 4 (modelling use grape 1 -- early -- 2×0.004 kg a.s./ha, 14d int.)

PECsw° (µg/L)	Scenario	Step 4 deltamethrin							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	D3 Ditch**	0.0683	0.0413	0.0149	0.0053				
50 %		0.0342	0.0206	0.0074	0.0026				
75 %		0.0171	0.0103	0.0037	0.0013				
90 %		0.0068	0.0041	0.0015	0.0005				
None	D4 Pond**	0.0027	0.0032	0.0018	0.0009				
50 %		0.0013	0.0016	0.0009	0.0004				
75 %		0.0007	0.0008	0.0004	0.0002				
90 %		0.0003	0.0003	0.0002	<0.0001				
None	D4 Stream**	0.0658	0.0478	0.0172	0.0061				
50 %		0.0329	0.0239	0.0086	0.0031				
75 %		0.0165	0.0120	0.0043	0.0015				
90 %		0.0066	0.0048	0.0017	0.0006				
None	D5 Pond**	0.0027	0.0032	0.0018	0.0009				
50 %		0.0013	0.0016	0.0009	0.0004				
75 %		0.0007	0.0008	0.0004	0.0002				
90 %		0.0003	0.0003	0.0002	<0.0001				
None	D5 Stream**	0.0711	0.0517	0.0186	0.0066				
50 %		0.0355	0.0258	0.0093	0.0033				
75 %		0.0178	0.0129	0.0046	0.0017				
90 %		0.0071	0.0052	0.0019	0.0007				
None	D6 Ditch	0.068	0.041	0.015	0.005	0.015	0.005		
50 %		0.034	0.021	0.007	0.003	0.007	0.003		

PECsw° (µg/L)	**Scenario**	**Step 4 deltamethrin**							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
75 %		0.017	0.010	0.004	0.001	0.004	0.001		
90 %		0.007	0.004	0.001	<0.001	0.001	<0.001		
None	R1 Pond	*0.003*	*0.003*	*0.002*	*<0.001*	*0.002*	*<0.001*		
50 %		*0.001*	*0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*		
75 %		*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*		
90 %		*<0.001*	*<0.001*	*<0.001*	<0.001	*<0.001*	<0.001		
None	R1 Stream	0.050	0.037	0.013	0.005	0.013	0.005		
50 %		0.025	0.018	0.007	0.002	0.007	0.002		
75 %		0.013	0.009	0.003	0.001	0.003	0.001		
90 %		0.005	0.004	0.001	<0.001	0.001	<0.001		
None	R2 Stream	0.068	0.049	0.018	0.006	0.018	0.006		
50 %		0.034	0.025	0.009	0.003	0.009	0.003		
75 %		0.017	0.012	0.004	0.002	0.004	0.002		
90 %		0.007	0.005	0.002	<0.001	0.002	<0.001		
None	R3 Stream	0.071	0.052	0.019	0.007	0.019	0.007		
50 %		0.035	0.026	0.009	0.003	0.009	0.003		
75 %		0.018	0.013	0.005	0.002	0.005	0.002		
90 %		0.007	0.005	0.002	<0.001	0.002	<0.001		
None	R4 Stream	0.049	0.036	0.013	0.005	0.013	0.005		
50 %		0.025	0.018	0.007	0.002	0.007	0.002		
75 %		0.012	0.009	0.003	0.001	0.003	0.001		
90 %		0.005	0.004	0.001	<0.001	0.001	<0.001		

* Maximum values coming from multiple applications are marked in italics
° PECsw values including suspended solids are reported
**pome fruit as surrogate crop used for calculation

Table 8.9-38: PECsw° values for deltamethrin, following single/multiple applications(s) of DLT+FPF EC 85 to grape according to the Central EU zone GAP according to surface water Step 4 (modelling use grape 1 -- late -- 2×0.004 kg a.s./ha, 14d int.)

PECsw° (µg/L)	**Scenario**	**Step 4 deltamethrin**							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	D3 Ditch**	0.0685	0.0413	0.0149	0.0053				
50 %		0.0342	0.0207	0.0074	0.0026				
75 %		0.0171	0.0103	0.0037	0.0013				
90 %		0.0068	0.0041	0.0015	0.0005				
None	D4 Pond**	0.0025	0.0029	0.0016	0.0008				
50 %		0.0012	0.0015	0.0008	0.0004				
75 %		0.0006	0.0007	0.0004	0.0002				
90 %		0.0002	0.0003	0.0002	0.0001				
None	D4 Stream**	0.0659	0.0479	0.0173	0.0061				

PECsw° (µg/L)	**Scenario**	**Step 4 deltamethrin**							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
50 %		0.0330	0.0240	0.0086	0.0031				
75 %		0.0165	0.0120	0.0043	0.0015				
90 %		0.0066	0.0048	0.0017	0.0006				
None	D5 Pond**	0.0026	0.0031	0.0018	0.0009				
50 %		0.0013	0.0016	0.0009	0.0004				
75 %		0.0007	0.0008	0.0004	0.0002				
90 %		0.0003	0.0003	0.0002	0.0001				
None	D5 Stream**	0.0711	0.0517	0.0186	0.0066				
50 %		0.0356	0.0259	0.0093	0.0033				
75 %		0.0178	0.0129	0.0047	0.0017				
90 %		0.0071	0.0052	0.0019	0.0007				
None	D6 Ditch	0.069	0.042	0.015	0.005	0.015	0.005		
50 %		0.034	0.021	0.008	0.003	0.008	0.003		
75 %		0.017	0.010	0.004	0.001	0.004	0.001		
90 %		0.007	0.004	0.001	<0.001	0.001	<0.001		
None	R1 Pond	*0.003*	*0.003*	*0.002*	*<0.001*	*0.002*	*<0.001*		
50 %		*0.001*	*0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*		
75 %		*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*		
90 %		*<0.001*	*<0.001*	*<0.001*	<0.001	*<0.001*	<0.001		
None	R1 Stream	0.049	0.036	0.013	0.005	0.013	0.005		
50 %		0.025	0.018	0.006	0.002	0.006	0.002		
75 %		0.012	0.009	0.003	0.001	0.003	0.001		
90 %		0.005	0.004	0.001	<0.001	0.001	<0.001		
None	R2 Stream	0.068	0.049	0.018	0.006	0.018	0.006		
50 %		0.034	0.025	0.009	0.003	0.009	0.003		
75 %		0.017	0.012	0.004	0.002	0.004	0.002		
90 %		0.007	0.005	0.002	<0.001	0.002	<0.001		
None	R3 Stream	0.071	0.052	0.019	0.007	0.019	0.007		
50 %		0.036	0.026	0.009	0.003	0.009	0.003		
75 %		0.018	0.013	0.005	0.002	0.005	0.002		
90 %		0.007	0.005	0.002	<0.001	0.002	<0.001		
None	R4 Stream	0.050	0.037	0.013	0.005	0.013	0.005		
50 %		0.025	0.018	0.007	0.002	0.007	0.002		
75 %		0.013	0.009	0.003	0.001	0.003	0.001		
90 %		0.005	0.004	0.001	<0.001	0.001	<0.001		

* Maximum values coming from multiple applications are marked in italics
° PECsw values including suspended solids are reported
**pome fruit as surrogate crop used for calculation

FOCUS Step 4 PEC_{sed}

FOCUS Step 4 PECsed values have been calculated and are contained in the PEC report, however, since these values are not required for risk assessment, they are omitted here.

Metabolite of deltamethrin

FOCUS Steps 1-2

Metabolite Br2CA

~~**Table 8.9-39: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for Br2CA following single/multiple application(s) of DLT+FPF EC 85 to sunflower (modelling use sunflower 1 -- spring -- 2×7.5g a.s./ha, 14d int.)**~~

~~Scenario FOCUS~~	~~Waterbody~~	~~Max PEC_{sw} (µg/L)*~~	~~Dominant entry route~~	~~21d-$PEC_{sw,twa}$ (µg/L)**~~	~~Max PEC_{sed} (µg/kg)*~~
~~Step 1~~	~~–~~	~~1.05~~	~~-~~	~~1.04~~	~~0.268~~
~~Step 2~~					
~~Northern Europe~~	~~Mar. - May (Spring)~~	~~0.086~~	~~-~~	~~0.085~~	~~0.022~~
~~Southern Europe~~	~~Mar. - May (Spring)~~	~~0.162~~	~~-~~	~~0.160~~	~~0.041~~

~~* Single applications are marked.~~
~~** TWA interval as required by ecotox~~

~~**Table 8.9-40: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for Br2CA following single/multiple application(s) of DLT+FPF EC 85 to sunflower (modelling use sunflower 1 -- summer -- 2×7.5g a.s./ha, 14d int.)**~~

~~Scenario FOCUS~~	~~Waterbody~~	~~Max PEC_{sw} (µg/L)*~~	~~Dominant entry route~~	~~21d-$PEC_{sw,twa}$ (µg/L)**~~	~~Max PEC_{sed} (µg/kg)*~~
~~Step 1~~	~~–~~	~~1.05~~	~~-~~	~~1.04~~	~~0.268~~
~~Step 2~~					
~~Northern Europe~~	~~Jun. - Sep. (Summer)~~	~~0.047~~	~~-~~	~~0.047~~	~~0.012~~
~~Southern Europe~~	~~Jun. - Sep. (Summer)~~	~~0.066~~	~~-~~	~~0.066~~	~~0.017~~

~~* Single applications are marked.~~
~~** TWA interval as required by ecotox~~

Table 8.9-41: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for Br2CA following single application(s) of DLT+FPF EC 85 to sorghum (modelling use sorghum 1 -- spring -- 1×7.5g a.s./ha)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	0.523	-	0.519	0.134
Step 2					
Northern Europe	Mar. - May (Spring)	0.033 *	-	0.033	0.008 *
Southern Europe	Mar. - May (Spring)	0.060 *	-	0.060	0.015 *

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-42: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for Br2CA following single/multiple application(s) of DLT+FPF EC 85 to spring cereals (modelling use spring cereals 1 -- spring -- 2×5g a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	0.697	-	0.692	0.178
Step 2					
Northern Europe	Mar. - May (Spring)	0.037	-	0.036	0.009
Southern Europe	Mar. - May (Spring)	0.067	-	0.067	0.017

* Single applications are marked.** TWA interval as required by ecotox

Table 8.9-43: **FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for Br2CA following single/multiple application(s) of DLT+FPF EC 85 to spring cereals (modelling use spring cereals 2 -- spring -- 2×7.5g a.s./ha, 14d int.)**

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	1.05	-	1.04	0.268
Step 2					
Northern Europe	Mar. - May (Spring)	0.055	-	0.055	0.014
Southern Europe	Mar. - May (Spring)	0.101	-	0.100	0.026

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-44: **FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for Br2CA following single/multiple application(s) of DLT+FPF EC 85 to winter cereals (modelling use winter cereals 1 -- spring -- 2×5g a.s./ha, 14d int.)**

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	0.697	-	0.692	0.178
Step 2					
Northern Europe	Mar. - May (Spring)	0.037	-	0.036	0.009
Southern Europe	Mar. - May (Spring)	0.067	-	0.067	0.017

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-45: **FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for Br2CA following single/multiple application(s) of DLT+FPF EC 85 to winter cereals (modelling use winter cereals 2 -- spring -- 2×7.5g a.s./ha, 14d int.)**

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	1.05	-	1.04	0.268
Step 2					
Northern Europe	Mar. - May (Spring)	0.055	-	0.055	0.014
Southern Europe	Mar. - May (Spring)	0.101	-	0.100	0.026

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-46: **FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for Br2CA following single application(s) of DLT+FPF EC 85 to maize (modelling use maize 1 -- spring -- 1×7.5g a.s./ha)**

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	0.523	-	0.519	0.134
Step 2					
Northern Europe	Mar. - May (Spring)	0.033 *	-	0.033	0.008 *
Southern Europe	Mar. - May (Spring)	0.060 *	-	0.060	0.015 *

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-47: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for Br2CA following single/multiple application(s) of DLT+FPF EC 85 to grape (modelling use grape 1 -- spring -- 2×4g a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	0.558	-	0.554	0.143
Step 2					
Northern Europe	Mar. - May (Spring)	0.038	-	0.037	0.010
Southern Europe	Mar. - May (Spring)	0.070	-	0.070	0.018

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-48: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for Br2CA following single/multiple application(s) of DLT+FPF EC 85 to grape (modelling use grape 1 -- summer -- 2×4g a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	0.558	-	0.554	0.143
Step 2					
Northern Europe	Jun. - Sep. (Summer)	0.038	-	0.037	0.010
Southern Europe	Jun. - Sep. (Summer)	0.054	-	0.053	0.014

* Single applications are marked.
** TWA interval as required by ecotox

zRMS comments:

The input parameters considered by the Applicant in surface water modelling for deltamethrin and metabolite Br_2CA presented in Table 8.9-4 are in general in line with EU agreed endpoints reported in the Review Report (6504/VI/99-final of 2002), with following exceptions:

- Although no reliable DT_{50} in water column could be derived based on the EU agreed water/sediment studies, the DT_{50} of 17 hours is an EU agreed endpoint and should be used in the exposure assessment. Nevertheless, consideration of DT_{50} of 90 days at Steps 1+2 represents worst case and is thus agreed by the zRMS.
- For simulations performed at Step 3+4 the water DT_{50} was set to 1000 days and the whole system DT_{50} was ascribed to the sediment compartment, in line with indications of FOCUS surface water guidance (2015) for substances with Koc >2000 mL/g. It is noted that for sediment phase the whole system median value of 65 days should have been used, however value considered by the Applicant represents worst case and is thus agreed by the zRMS
- For the whole system the maximum DT_{50} of 90 days was used instead of the EU agreed median DT_{50} of 65 days. Nevertheless, value considered by the Applicant represents worst case and is thus agreed by the zRMS.

As indicated in the commenting box in point 8.9.2, the application data assumed in simulations were agreed by the zRMS.

Step 4 simulations were performed in line with recommendations of the FOCUS work group on landscape and mitigation factors (2007).

Surface water modelling was independently validated by the zRMS using the same input parameters. Obtained values were in good agreement with those obtained by the Applicant and therefore surface water exposure for deltamethrin reported in Tables 8.9-7 to 8.9-14, 8.9-17 to 8.9-26, and 8.9-29 to 8.9 38 and for metabolite Br_2CA reported in Tables: 8.9-41 to 8.9-48 may be used in the aquatic risk assessment.

Since use in sunflower was withdrawn by the Applicant, the surface water exposure presented in Tables 8.9-5, 8.9-6, 8.9-15, 8.9-16, 8.9-27, 8.9-28, 8.9-39 and 8.9-40 was struck through as no longer relevant.

As the formulation is intended to be applied to grape, according to indications of the *Working document of the Central Zone in the authorization of plant protection products, Section 8, Environmental fate and behaviour* (Version 1 rev. 1, June 2018) performed simulations must cover all scenarios relevant for the Central Zone. As some required scenarios are not defined for vines, simulations must be performed with consideration of the surrogate crop and pome fruit seems to be most relevant surrogate crop for vines.

During the commenting period the Applicant performed additional modelling using pome fruit as surrogate crop but considering the drift rates relevant for grape (M-832152-01-1). The application windows used for the calculations are presented in the commenting box under the point 8.9.2. Additional surface water modelling was independently validated by the zRMS using the same input parameters and obtained results were in good agreement with values obtained by the Applicant. The previous calculations performed by the zRMS and presented below are struck through as not relevant.

~~In absence of simulations performed by the Applicant for the surrogate crop, additional modelling was performed by the zRMS with consideration of application to pome fruit at BBCH 57-81. The application windows are already presented in the commenting box under the point 8.9.2.~~

~~For BBCH 57 early application to pome/stone fruits was assumed, while for BBCH 81 late application was considered. Results for early application covered the calculation performed for late application which is confirmed by the same PEC_{SW} values.~~

~~Step 3 surface water exposure calculated by the zRMS for deltamethrin following multiple/single application of DLT+FPF EC 85 (early application) to pome fruits is presented in the table below.~~

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d $PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 3					
D3	Ditch	**0.147** *	Spray drift	0.005	0.723 *
D4	Pond	**0.007** *	Spray drift	0.001	0.112 *
D4	Stream	**0.147** *	Spray drift	0.001	0.383 *
D5	Pond	**0.007** *	Spray drift	0.001	0.115 *
D5	Stream	**0.159** *	Spray drift	0.001	0.487 *

~~* Single applications are marked.~~
~~** TWA interval as required by ecotox~~
~~Values in **bold** exceed the RAC of 0.0016 µg/L~~

~~As all the PEC_{SW} values derived at Step 3 exceed the lowest RAC, Step 4 modelling was also performed by the zRMS and its results are presented in the table below.~~

Nozzle reduction	Scenario	Step 4 deltamethrin PECsw (µg/L)					
	Vegetated strip (m)	None	None	None	None	None	None
	No spray buffer (m)	0 m	5 m	10 m	20 m	30 m	50 m
None	D3 Ditch	**0.147**	**0.099**	**0.044**	**0.014**	**0.007**	**0.003**
50 %		**0.073**					0.0014
75 %		**0.036**		**0.011**	**0.003**	**0.0017**	
90 %		**0.014**	**0.010**	**0.004**	<0.001	<0.001	
None	D4 Pond	**0.007**	**0.007**	**0.004**	**0.0019**	0.0011	0.0006
50 %		**0.003**					<0.001
75 %		<0.001		<0.001	<0.001	<0.001	
90 %		<0.001	<0.001	<0.001	<0.001	<0.001	
None	D4 Stream	**0.147**	**0.115**	**0.051**	0.016	**0.008**	**0.003**
50 %		**0.073**					0.00162
75 %		**0.037**		**0.013**	**0.004**	**0.0019**	

~~90 %~~		~~**0.014**~~	~~**0.011**~~	~~**0.005**~~	~~0.0016~~	~~<0.001~~	
~~None~~	~~D5 Pond~~	~~**0.007**~~	~~**0.007**~~	~~**0.004**~~	~~**0.0019**~~	~~0.0011~~	~~0.0006~~
~~50 %~~		~~**0.003**~~					~~<0.001~~
~~75 %~~		~~<0.001~~		~~<0.001~~	~~<0.001~~	~~<0.001~~	
~~90 %~~		~~<0.001~~	~~<0.001~~	~~<0.001~~	~~<0.001~~	~~<0.001~~	
~~None~~	~~D5 Stream~~	~~**0.159**~~	~~**0.124**~~	~~**0.055**~~	~~**0.016**~~	~~**0.008**~~	~~**0.003**~~
~~50 %~~		~~**0.079**~~					~~**0.0017**~~
~~75 %~~		~~**0.040**~~		~~**0.014**~~	~~**0.004**~~	~~**0.0021**~~	~~<0.001~~
~~90 %~~		~~**0.016**~~	~~**0.012**~~	~~**0.005**~~	~~**0.0017**~~	~~<0.001~~	

~~PEC values coming from single applications~~
~~Values in **bold** exceed the RAC of 0.0016 µg/L~~

~~It is noted that some RMM exceed the maximum acceptable drift reduction, but they are presented in order to show what mitigation measured would be necessary in order to achieve acceptable risk to aquatic organisms. They may be also useful for cMS that do accept wider buffer zones. Nevertheless, it should be pointed out that the additional calculations were performed by the zRMS for pome/stone fruits for which the spray drift values are much higher comparing to these relevant for vineyards. Therefore it would be possible to perform simulations for pome/stone fruits as surrogate crop, but with drift values manually reduced to the level relevant for vineyards. Therefore the Applicant may provide such calculations in order to more adequately address surface water exposure following uses in vines.~~

Please note that additional surface water modelling may be required by the Member States that do not accept simulations performed according to FOCUS recommendations.

8.9.2.2 Flupyradifurone and metabolites

Table 8.9-49: Input parameters related to active substance flupyradifurone and metabolites for PECsw/sed calculations STEP 1/2 and 3(/4) (if necessary)

Compound	Flupyra-difurone	6-CNA	DFA	BYI 02960-succinamide	BYI 02960-azabicyclo-succinamide	Value in accordance to EU endpoint y/n/ Reference
Molecular weight (g/mol)	288.7	157.6	96.0	306.7	288.3	Y/ EFSA Journal 2015;13(2):4020
Saturated vapour pressure (Pa)	9.1×10^{-7} at 20°C	not required for Step 1+2/	not required for Step 1+2/	not required for Step 1+2/	not required for Step 1+2/	Y/ EFSA Journal 2015;13(2):4020
Water solubility (mg/L)	3200	1430	500000	120000	180000	Y/ EFSA Journal 2015;13(2):4020
Diffusion coefficient in water (m²/d)	4.3×10^{-5}	not required for Step 1+2	not required for Step 1+2	not required for Step 1+2	not required for Step 1+2	default
Diffusion coefficient in air (m²/d)	0.43	not required for Step 1+2	not required for Step 1+2	not required for Step 1+2	not required for Step 1+2	default
K_{foc} (mL/g)	98.4 (arithmetic mean, n = 6)	88.0 (arithmetic mean, n = 4)	6.8 (arithmetic mean, n = 5)	0.0001	0.0001	Y/ EFSA Journal 2015;13(2):4020
Freundlich Exponent 1/n	0.866 (arithmetic mean, n = 6)	not required for Step 1+2	not required for Step 1+2	not required for Step 1+2	not required for Step 1+2	Y/ EFSA Journal 2015;13(2):4020
Plant Uptake	0.0 and 0.5 [1)] (retained for cMS information)	not required for Step 1+2	not required for Step 1+2	not required for Step 1+2	not required for Step 1+2	Y/ EFSA Journal 2015;13(2):4020
Wash-Off factor from Crop (1/mm)	0.05 (MACRO) 0.50 (PRZM)	not required for Step 1+2	not required for Step 1+2	not required for Step 1+2	not required for Step 1+2	default
$DT_{50,soil}$ (d)	94.8 (geomean, normalisation to	4.7 (geomean, lab,	44.7 (geomean, lab,	0.1 (default)	0.1 (default)	Y/ EFSA Journal 2015;13(2):4020

Compound	Flupyra-difurone	6-CNA	DFA	BYI 02960-succinamide	BYI 02960-azabicyclo-succinamide	Value in accordance to EU endpoint y/n/ Reference
	pF2, 20°C with Q_{10} of 2.58, n = 6)	normalisation to pF2, 20°C with Q_{10} of 2.58, n = 5)	normalisation to pF2, 20°C with Q_{10} of 2.58, n = 3)			
$DT_{50,water}$ (d)	228	1000 (default)	249	1000 (default)	1000 (default)	Y/ EFSA Journal 2015;13(2):4020
$DT_{50,sed}$ (d)	Step 1+2: 228 Step 3+4: 1000	1000 (default)	249	1000 (default)	1000 (default)	Y/ EFSA Journal 2015;13(2):4020
$DT_{50,whole\ system}$ (d)	228	1000	249	1000 (default)	1000 (default)	Y/ EFSA Journal 2015;13(2):4020
Maximum occurrence observed (% molar basis with respect to the parent)	-	Soil: 17.1 Water / Sediment: 0	Soil: 33.9 Water / Sediment: 6.9	Soil: 0 Water / Sediment: 39.6	Soil: 0 Water / Sediment: 25.9	Y/ EFSA Journal 2015;13(2):4020
Formation fraction in soil:	-	-	-	-	-	

[D] PECsw performed with Plant uptake factor (PUF/TSCF) 0.0 (as a worst case) and 0.5 as indicated in the EFSA Journal 2015;13(2):4020. Please note that calculations based on TSCF of 0.5 were retained for cMS information only since zRMS is of the opinion that available data are not sufficient to derive the exact TSCF value for flupyradifurone. See commenting box in point 8.8.2.2 for detailed discussion on TSCF.

PECsw/sed

Flupyradifurone

FOCUS Steps 1-2

~~**Table 8.9-50: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for flupyradifurone following single/multiple application(s) of DLT+FPF EC 85 to sunflower (modelling use sunflower 1 -- spring -- 2×56.2g a.s./ha, 14d int.)**~~

~~Scenario FOCUS~~	~~Waterbody~~	~~Max PEC_{sw} (µg/L)*~~	~~Dominant entry route~~	~~21d $PEC_{sw,twa}$ (µg/L)**~~	~~Max PEC_{sed} (µg/kg)*~~
~~Step 1~~	~~–~~	~~34.2~~	~~RunOff~~	~~33.0~~	~~33.4~~
~~Step 2~~					
~~Northern Europe~~	~~Mar. - May(Spring)~~	~~3.87~~	~~RunOff~~	~~3.72~~	~~3.77~~
~~Southern Europe~~	~~Mar. - May(Spring)~~	~~6.93~~	~~RunOff~~	~~6.69~~	~~6.77~~

~~* Single applications are marked.~~
~~** TWA interval as required by ecotox~~

~~**Table 8.9-51: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for flupyradifurone following single/multiple application(s) of DLT+FPF EC 85 to sunflower (modelling use sunflower 1 -- summer -- 2×56.2g a.s./ha, 14d int.)**~~

~~Scenario FOCUS~~	~~Waterbody~~	~~Max PEC_{sw} (µg/L)*~~	~~Dominant entry route~~	~~21d $PEC_{sw,tw a}$ (µg/L)**~~	~~Max PEC_{sed} (µg/kg)*~~
~~Step 1~~	~~–~~	~~34.2~~	~~RunOff~~	~~33.0~~	~~33.4~~
~~Step 2~~					
~~Northern Europe~~	~~Jun. - Sep.(Summer)~~	~~2.34~~	~~RunOff~~	~~2.24~~	~~2.27~~
~~Southern Europe~~	~~Jun. - Sep.(Summer)~~	~~3.11~~	~~RunOff~~	~~2.98~~	~~3.02~~

~~* Single applications are marked.~~
~~** TWA interval as required by ecotox~~

Table 8.9-52: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for flupyradifurone following single application(s) of DLT+FPF EC 85 to sorghum (modelling use sorghum 1 -- spring -- 1×56.2g a.s./ha)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	17.1	RunOff	16.5	16.7
Step 2					
Northern Europe	Mar. - May(Spring)	1.43 *	RunOff	1.37	1.39 *
Southern Europe	Mar. - May(Spring)	2.40 *	RunOff	2.31	2.34 *

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-53: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for flupyradifurone following single/multiple application(s) of DLT+FPF EC 85 to spring cereals (modelling use spring cereals 1 -- spring -- 2×37.5g a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	22.8	RunOff	22.0	22.3
Step 2					
Northern Europe	Mar. - May(Spring)	1.77	RunOff	1.69	1.71
Southern Europe	Mar. - May(Spring)	2.99	RunOff	2.88	2.92

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-54: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for flupyradifurone following single/multiple application(s) of DLT+FPF EC 85 to spring cereals (modelling use spring cereals 2 -- spring -- 2×56.2g a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	34.2	RunOff	33.0	33.4
Step 2					
Northern Europe	Mar. - May(Spring)	2.65	RunOff	2.54	2.57
Southern Europe	Mar. - May(Spring)	4.48	RunOff	4.31	4.37

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-55: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for flupyradifurone following single/multiple application(s) of DLT+FPF EC 85 to winter cereals (modelling use winter cereals 1 -- spring -- 2×37.5g a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	22.8	RunOff	22.0	22.3
Step 2					
Northern Europe	Mar. - May(Spring)	1.77	RunOff	1.69	1.71
Southern Europe	Mar. - May(Spring)	2.99	RunOff	2.88	2.92

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-56: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for flupyradifurone following single/multiple application(s) of DLT+FPF EC 85 to winter cereals (modelling use winter cereals 2 -- spring -- 2×56.2g a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	34.2	RunOff	33.0	33.4
Step 2					
Northern Europe	Mar. - May(Spring)	2.65	RunOff	2.54	2.57
Southern Europe	Mar. - May(Spring)	4.48	RunOff	4.31	4.37

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-57: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for flupyradifurone following single application(s) of DLT+FPF EC 85 to maize (modelling use maize 1 -- spring -- 1×56.2g a.s./ha)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	17.1	RunOff	16.5	16.7
Step 2					
Northern Europe	Mar. - May(Spring)	1.27 *	RunOff	1.22	1.23 *
Southern Europe	Mar. - May(Spring)	2.08 *	RunOff	2.00	2.02 *

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-58: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for flupyradifurone following single/multiple application(s) of DLT+FPF EC 85 to grape (modelling use grape 1 -- spring -- 2×30g a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	18.2	RunOff	17.6	17.8
Step 2					
Northern Europe	Mar. - May(Spring)	1.75	RunOff	1.68	1.70
Southern Europe	Mar. - May(Spring)	3.06	RunOff	2.95	2.98

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-59: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for flupyradifurone following single/multiple application(s) of DLT+FPF EC 85 to grape (modelling use grape 1 -- summer -- 2×30g a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	19.3	RunOff	18.5	18.7
Step 2					
Northern Europe	Jun. - Sep.(Summer)	2.57	Drift	2.45	2.48
Southern Europe	Jun. - Sep.(Summer)	3.23	RunOff	3.08	3.12

* Single applications are marked.
** TWA interval as required by ecotox

FOCUS Step 3 (PUF/TSCF = 0)

~~**Table 8.9-60: FOCUS Step 3 PEC$_{sw}$ and PEC$_{sed}$ for flupyradifurone following single/multiple application(s) of DLT+FPF EC 85 to sunflower (modelling use sunflower 1 -- early -- 2×0.0562 kg a.s./ha, 14d int.)**~~

~~Scenario FOCUS~~	~~Waterbody~~	~~Max PEC$_{sw}$ (µg/L)*~~		~~Dominant entry route~~	~~21d-PEC$_{sw,twa}$ (µg/L)**~~	~~Max PEC$_{sed}$ (µg/kg)*~~	
~~Step 3~~							
~~D5~~	~~Pond~~	~~0.487~~		~~Drainage~~	~~0.472~~	~~2.31~~	
~~D5~~	~~Stream~~	~~0.391~~		~~Spray drift~~	~~0.172~~	~~0.590~~	
~~R1~~	~~Pond~~	~~0.121~~		~~RunOff~~	~~0.109~~	~~0.421~~	
~~R1~~	~~Stream~~	~~1.41~~		~~RunOff~~	~~0.065~~	~~0.458~~	~~*~~
~~R3~~	~~Stream~~	~~1.98~~	~~*~~	~~RunOff~~	~~0.089~~	~~0.443~~	~~*~~
~~R4~~	~~Stream~~	~~1.96~~	~~*~~	~~RunOff~~	~~0.097~~	~~0.482~~	~~*~~

~~* Single applications are marked.~~
~~** TWA interval as required by ecotox~~

~~**Table 8.9-61: FOCUS Step 3 PEC$_{sw}$ and PEC$_{sed}$ for flupyradifurone following single/multiple application(s) of DLT+FPF EC 85 to sunflower (modelling use sunflower 1 -- late -- 2×0.0562 kg a.s./ha, 14d int.)**~~

~~Scenario FOCUS~~	~~Waterbody~~	~~Max PEC$_{sw}$ (µg/L)*~~	~~Dominant entry route~~	~~21d-PEC$_{sw,twa}$ (µg/L)**~~	~~Max PEC$_{sed}$ (µg/kg)*~~
~~Step 3~~					
~~D5~~	~~Pond~~	~~0.362~~	~~Drainage~~	~~0.349~~	~~1.64~~
~~D5~~	~~Stream~~	~~0.318~~	~~Spray drift~~	~~0.128~~	~~0.416~~
~~R1~~	~~Pond~~	~~0.289~~	~~RunOff~~	~~0.263~~	~~0.746~~
~~R1~~	~~Stream~~	~~1.62~~	~~RunOff~~	~~0.113~~	~~0.478~~
~~R3~~	~~Stream~~	~~1.85~~	~~RunOff~~	~~0.155~~	~~0.711~~
~~R4~~	~~Stream~~	~~2.24~~	~~RunOff~~	~~0.121~~	~~0.633~~

~~* Single applications are marked.~~
~~** TWA interval as required by ecotox~~

Table 8.9-62: FOCUS Step 3 PEC$_{sw}$ and PEC$_{sed}$ for flupyradifurone following single application(s) of DLT+FPF EC 85 to sorghum (modelling use sorghum 1 -- 1 -- 0.0562 kg a.s./ha)

Scenario FOCUS	Waterbody	Max PEC$_{sw}$ (µg/L)*		Dominant entry route	21d-PEC$_{sw,twa}$ (µg/L)**	Max PEC$_{sed}$ (µg/kg)*	
Step 3							
D1	Ditch	1.27	*	Drainage	1.13	3.28	*
D1	Stream	1.05	*	Drainage	0.694	1.74	*
D3	Ditch	0.362	*	Spray drift	0.027	0.143	*
D4	Pond	0.207	*	Drainage	0.202	0.777	*
D4	Stream	0.308	*	Spray drift	0.124	0.268	*
D5	Pond	0.140	*	Drainage	0.136	0.763	*
D5	Stream	0.337	*	Spray drift	0.048	0.186	*
R4	Stream	1.35	*	RunOff	0.083	0.354	*

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-63: FOCUS Step 3 PEC_{sw} and PEC_{sed} for flupyradifurone following single/multiple application(s) of DLT+FPF EC 85 to spring cereals (modelling use spring cereals 1 -- 1 -- 2×0.0375 kg a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*		Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*	
Step 3							
D1	Ditch	1.42		Drainage	1.26	4.02	
D1	Stream	1.09		Drainage	0.778	2.14	
D3	Ditch	0.240	*	Spray drift	0.033	0.134	
D4	Pond	0.327		Drainage	0.320	1.23	
D4	Stream	0.320		Spray drift	0.195	0.428	
D5	Pond	0.210		Drainage	0.204	1.10	
D5	Stream	0.225	*	Spray drift	0.069	0.270	
R4	Stream	0.888	*	RunOff	0.055	0.237	*

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-64: FOCUS Step 3 PEC_{sw} and PEC_{sed} for flupyradifurone following single/multiple application(s) of DLT+FPF EC 85 to spring cereals (modelling use spring cereals 2 -- 1 -- 2×0.0562 kg a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*		Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*	
Step 3							
D1	Ditch	2.18		Drainage	1.93	5.94	
D1	Stream	1.71		Drainage	1.19	3.16	
D3	Ditch	0.362	*	Spray drift	0.058	0.274	
D4	Pond	0.515		Drainage	0.504	1.92	
D4	Stream	0.486		Spray drift	0.306	0.670	
D5	Pond	0.323		Drainage	0.314	1.65	
D5	Stream	0.339	*	Spray drift	0.108	0.405	
R4	Stream	1.35	*	RunOff	0.083	0.354	*

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-65: FOCUS Step 3 PEC_{sw} and PEC_{sed} for flupyradifurone following single/multiple application(s) of DLT+FPF EC 85 to winter cereals (modelling use winter cereals 1 -- early -- 2×0.0375 kg a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*		Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*	
Step 3							
D1	Ditch	1.62		Drainage	1.24	4.24	
D1	Stream	1.03		Drainage	0.802	2.43	
D2	Ditch	3.87		Drainage	2.42	5.35	
D2	Stream	2.58		Drainage	1.45	3.30	
D3	Ditch	0.240	*	Spray drift	0.023	0.144	
D4	Pond	0.346		Drainage	0.338	1.28	
D4	Stream	0.329		Spray drift	0.209	0.412	
D5	Pond	0.225		Drainage	0.219	1.17	
D5	Stream	0.229		Spray drift	0.078	0.294	
D6	Ditch	0.255	*	Spray drift	0.059	0.201	
R1	Pond	0.118		RunOff	0.106	0.328	
R1	Stream	1.03	*	RunOff	0.048	0.264	*

R3	Stream	0.821 *	RunOff	0.044	0.297 *
R4	Stream	0.213	Spray drift	0.010	0.063

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-66: FOCUS Step 3 PEC_{sw} and PEC_{sed} for flupyradifurone following single/multiple application(s) of DLT+FPF EC 85 to winter cereals (modelling use winter cereals 1 -- late -- 2×0.0375 kg a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 3					
D1	Ditch	0.904	Drainage	0.693	2.65
D1	Stream	0.576	Drainage	0.449	1.47
D2	Ditch	3.03	Drainage	1.67	4.48
D2	Stream	1.92	Drainage	0.713	2.52
D3	Ditch	0.240 *	Spray drift	0.037	0.144
D4	Pond	0.315	Drainage	0.308	1.11
D4	Stream	0.324	Spray drift	0.192	0.363
D5	Pond	0.174	Drainage	0.170	1.03
D5	Stream	0.222 *	Spray drift	0.078	0.298
D6	Ditch	0.240 *	Spray drift	0.134	0.279
R1	Pond	0.150	RunOff	0.132	0.357
R1	Stream	1.42	RunOff	0.062	0.489
R3	Stream	1.09	RunOff	0.064	0.283
R4	Stream	0.793 *	RunOff	0.053	0.214 *

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-67: FOCUS Step 3 PEC_{sw} and PEC_{sed} for flupyradifurone following single/multiple application(s) of DLT+FPF EC 85 to winter cereals (modelling use winter cereals 2 -- early -- 2×0.0562 kg a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 3					
D1	Ditch	2.48	Drainage	1.87	6.27
D1	Stream	1.58	Drainage	1.21	3.60
D2	Ditch	5.71	Drainage	3.62	7.92
D2	Stream	3.84	Drainage	2.21	4.87
D3	Ditch	0.362 *	Spray drift	0.043	0.307
D4	Pond	0.549	Drainage	0.537	2.01
D4	Stream	0.503	Spray drift	0.330	0.651
D5	Pond	0.347	Drainage	0.337	1.76
D5	Stream	0.347	Spray drift	0.121	0.447
D6	Ditch	0.385 *	Spray drift	0.092	0.306
R1	Pond	0.177	RunOff	0.159	0.480
R1	Stream	1.59 *	RunOff	0.073	0.394 *
R3	Stream	1.26 *	RunOff	0.067	0.441 *
R4	Stream	0.300	Spray drift	0.014	0.088

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-68: FOCUS Step 3 PEC_{sw} and PEC_{sed} for flupyradifurone following single/multiple application(s) of DLT+FPF EC 85 to winter cereals (modelling use winter cereals 2 -- late -- 2×0.0562 kg a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 3					
D1	Ditch	1.35	Drainage	1.03	3.93
D1	Stream	0.862	Drainage	0.670	2.18
D2	Ditch	4.73	Drainage	2.59	6.56
D2	Stream	3.01	Drainage	1.19	3.74
D3	Ditch	0.361 *	Spray drift	0.063	0.272
D4	Pond	0.493	Drainage	0.481	1.72
D4	Stream	0.491	Spray drift	0.299	0.560
D5	Pond	0.267	Drainage	0.262	1.55
D5	Stream	0.332 *	Spray drift	0.122	0.452
D6	Ditch	0.360 *	Spray drift	0.202	0.409
R1	Pond	0.228	RunOff	0.201	0.527
R1	Stream	2.16	RunOff	0.094	0.720
R3	Stream	1.66	RunOff	0.096	0.419
R4	Stream	1.21 *	RunOff	0.079	0.319 *

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-69: FOCUS Step 3 PEC_{sw} and PEC_{sed} for flupyradifurone following single application(s) of DLT+FPF EC 85 to maize (modelling use maize 1 -- 1 -- 0.0562 kg a.s./ha)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*		Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*	
Step 3							
D3	Ditch	0.302	*	Spray drift	0.022	0.130	*
D4	Pond	0.348	*	Drainage	0.340	1.26	*
D4	Stream	0.363	*	Drainage	0.211	0.444	*
D5	Pond	0.138	*	Drainage	0.133	0.681	*
D5	Stream	0.288	*	Spray drift	0.050	0.169	*
D6	Ditch	0.297	*	Spray drift	0.035	0.127	*
R1	Pond	0.072	*	RunOff	0.063	0.181	*
R1	Stream	1.41	*	RunOff	0.037	0.343	*
R2	Stream	0.274	*	Spray drift	0.020	0.124	*
R3	Stream	1.59	*	RunOff	0.123	0.521	*
R4	Stream	0.746	*	RunOff	0.039	0.222	*

* Single applications are marked.
** TWA interval as required by ecotox

Remark from Applicant: As the formulation is intended to be applied to grape, according to indications of the Working document of the Central Zone in the authorization of plant protection products, Section 8, Environmental fate and behaviour (Version 1 rev. 1, June 2018) performed simulations must cover all scenarios relevant for the Central Zone. As some required scenarios (D3, D4 and D5) are not defined for vines, simulations were be performed with consideration of the surrogate crop and **pome fruit** seems to be most relevant surrogate crop for vines. Therefore, new PEC calculations (for details refer to **M-832153-01-1**) have been performed using pome fruit as surrogate crop but **considering the drift rates relevant for grape**.

Table 8.9-70: FOCUS Step 3 PEC_{sw} and PEC_{sed} for flupyradifurone following single/multiple application(s) of DLT+FPF EC 85 to grape (modelling use grape 1 -- early -- 2×0.03 kg a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*		Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*	
Step 3							
D3***	Ditch	0.5124 *		Spray drift	0.0811	0.2257	
D4***	Pond	0.2553		Drainage	0.2498	0.8999	
D4***	Sream	0.4929 *		Spray drift	0.1588	0.2944	
D5***	Pond	0.2023		Drainage	0.1979	1.21	
D5***	Stream	0.5326 *		Spray drift	0.0889	0.3660	
D6	Ditch	0.514	*	Spray drift	0.171	0.424	
R1	Pond	0.034		RunOff	0.030	0.095	
R1	Stream	0.507	*	RunOff	0.023	0.166	*
R2	Stream	0.506	*	Spray drift	0.011	0.072	*
R3	Stream	1.16		Spray drift	0.048	0.281	
R4	Stream	0.370	*	Spray drift	0.009	0.075	

* Single applications are marked.
** TWA interval as required by ecotox
***pome fruit as surrogate crop used for calculation

Table 8.9-71: FOCUS Step 3 PEC_{sw} and PEC_{sed} for flupyradifurone following single/multiple application(s) of DLT+FPF EC 85 to grape (modelling use grape 1 -- late -- 2×0.03 kg a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 3					
D3***	Ditch	0.5131 *	Spray drift	0.1096	0.3145
D4***	Pond	0.3757	Drainage	0.3679	1.34
D4***	Sream	0.4937 *	Spray drift	0.2331	0.4439
D5***	Pond	0.1778	Drainage	0.1707	0.8212
D5***	Stream	0.5326 *	Spray drift	0.0626	0.1967
D6	Ditch	0.515 *	Spray drift	0.290	0.560
R1	Pond	0.028	Spray drift	0.025	0.083
R1	Stream	0.367 *	Spray drift	0.003	0.041
R2	Stream	0.506 *	Spray drift	0.007	0.060
R3	Stream	0.715	Spray drift	0.061	0.275
R4	Stream	0.657	Spray drift	0.033	0.230

* Single applications are marked.
** TWA interval as required by ecotox
***pome fruit as surrogate crop used for calculation

FOCUS Step 3 (PUF/TSCF = 0.5) retained for information of the concerned Member States that do accept consideration of Briggs equation for TSCF refinement. Please note that Step 3 results were not validated by the zRMS in additional modelling and for this reason they are given in grey letters, in order to distinguish fully validated from non-validated information)

~~**Table 8.9-72: FOCUS Step 3 PEC_{sw} and PEC_{sed} for flupyradifurone following single/multiple application(s) of DLT+FPF EC 85 to sunflower (modelling use sunflower 1 -- early -- 2×0.0562 kg a.s./ha, 14d int.)**~~

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 3					
~~D5~~	~~Pond~~	~~0.467~~	~~Drainage~~	~~0.453~~	~~2.22~~
~~D5~~	~~Stream~~	~~0.376~~	~~Spray drift~~	~~0.165~~	~~0.566~~
~~R1~~	~~Pond~~	~~0.119~~	~~RunOff~~	~~0.107~~	~~0.411~~
~~R1~~	~~Stream~~	~~1.38~~	~~RunOff~~	~~0.063~~	~~0.455 *~~
~~R3~~	~~Stream~~	~~1.96 *~~	~~RunOff~~	~~0.089~~	~~0.441 *~~
~~R4~~	~~Stream~~	~~1.95 *~~	~~RunOff~~	~~0.096~~	~~0.480 *~~

~~* Single applications are marked.~~
~~** TWA interval as required by ecotox~~

~~**Table 8.9-73: FOCUS Step 3 PEC_{sw} and PEC_{sed} for flupyradifurone following single/multiple application(s) of DLT+FPF EC 85 to sunflower (modelling use sunflower 1 -- late -- 2×0.0562 kg a.s./ha, 14d int.)**~~

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 3					
~~D5~~	~~Pond~~	~~0.351~~	~~Drainage~~	~~0.338~~	~~1.58~~
~~D5~~	~~Stream~~	~~0.310~~	~~Spray drift~~	~~0.124~~	~~0.401~~
~~R1~~	~~Pond~~	~~0.288~~	~~RunOff~~	~~0.261~~	~~0.742~~
~~R1~~	~~Stream~~	~~1.61~~	~~RunOff~~	~~0.112~~	~~0.476~~
~~R3~~	~~Stream~~	~~1.83~~	~~RunOff~~	~~0.153~~	~~0.706~~
~~R4~~	~~Stream~~	~~2.20~~	~~RunOff~~	~~0.118~~	~~0.623~~

~~* Single applications are marked.~~
~~** TWA interval as required by ecotox~~

Table 8.9-74: FOCUS Step 3 PEC$_{sw}$ and PEC$_{sed}$ for flupyradifurone following single application(s) of DLT+FPF EC 85 to sorghum (modelling use sorghum 1 -- 1 -- 0.0562 kg a.s./ha)

Scenario FOCUS	Waterbody	Max PEC$_{sw}$ (µg/L)*	Dominant entry route	21d-PEC$_{sw,twa}$ (µg/L)**	Max PEC$_{sed}$ (µg/kg)*
Step 3					
D1	Ditch	1.26 *	Drainage	1.11	3.23 *
D1	Stream	1.04 *	Drainage	0.684	1.71 *
D3	Ditch	0.361 *	Spray drift	0.026	0.139 *
D4	Pond	0.199 *	Drainage	0.195	0.747 *
D4	Stream	0.308 *	Spray drift	0.120	0.257 *
D5	Pond	0.135 *	Drainage	0.131	0.739 *
D5	Stream	0.336 *	Spray drift	0.046	0.181 *
R4	Stream	1.35 *	RunOff	0.083	0.353 *

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-75: FOCUS Step 3 PEC$_{sw}$ and PEC$_{sed}$ for flupyradifurone following single/multiple application(s) of DLT+FPF EC 85 to spring cereals (modelling use spring cereals 1 -- 1 -- 2×0.0375 kg a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC$_{sw}$ (µg/L)*	Dominant entry route	21d-PEC$_{sw,twa}$ (µg/L)**	Max PEC$_{sed}$ (µg/kg)*
Step 3					
D1	Ditch	1.40	Drainage	1.24	3.94
D1	Stream	1.07	Drainage	0.764	2.10
D3	Ditch	0.240 *	Spray drift	0.032	0.128
D4	Pond	0.311	Drainage	0.304	1.17
D4	Stream	0.307	Spray drift	0.186	0.406
D5	Pond	0.202	Drainage	0.196	1.06
D5	Stream	0.224 *	Spray drift	0.067	0.262
R4	Stream	0.886 *	RunOff	0.055	0.237 *

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-76: FOCUS Step 3 PEC$_{sw}$ and PEC$_{sed}$ for flupyradifurone following single/multiple application(s) of DLT+FPF EC 85 to spring cereals (modelling use spring cereals 2 -- 1 -- 2×0.0562 kg a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC$_{sw}$ (µg/L)*	Dominant entry route	21d-PEC$_{sw,twa}$ (µg/L)**	Max PEC$_{sed}$ (µg/kg)*
Step 3					
D1	Ditch	2.14	Drainage	1.89	5.82
D1	Stream	1.69	Drainage	1.16	3.09
D3	Ditch	0.362 *	Spray drift	0.055	0.240
D4	Pond	0.488	Drainage	0.478	1.82
D4	Stream	0.465	Spray drift	0.290	0.632
D5	Pond	0.311	Drainage	0.301	1.59
D5	Stream	0.338 *	Spray drift	0.104	0.391
R4	Stream	1.35 *	RunOff	0.083	0.353 *

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-77: FOCUS Step 3 PEC_{sw} and PEC_{sed} for flupyradifurone following single/multiple application(s) of DLT+FPF EC 85 to winter cereals (modelling use winter cereals 1 -- early -- 2×0.0375 kg a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 3					
D1	Ditch	1.58	Drainage	1.19	3.92
D1	Stream	1.00	Drainage	0.772	2.24
D2	Ditch	3.75	Drainage	2.35	5.14
D2	Stream	2.52	Drainage	1.41	3.18
D3	Ditch	0.239 *	Spray drift	0.021	0.130
D4	Pond	0.311	Drainage	0.304	1.14
D4	Stream	0.302	Spray drift	0.189	0.368
D5	Pond	0.213	Drainage	0.207	1.11
D5	Stream	0.227	Spray drift	0.073	0.280
D6	Ditch	0.254 *	Spray drift	0.055	0.198
R1	Pond	0.115	RunOff	0.103	0.321
R1	Stream	1.03 *	RunOff	0.048	0.263 *
R3	Stream	0.817 *	RunOff	0.044	0.295 *
R4	Stream	0.198	Spray drift	0.009	0.059

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-78: FOCUS Step 3 PEC_{sw} and PEC_{sed} for flupyradifurone following single/multiple application(s) of DLT+FPF EC 85 to winter cereals (modelling use winter cereals 1 -- late -- 2×0.0375 kg a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 3					
D1	Ditch	0.885	Drainage	0.670	2.49
D1	Stream	0.564	Drainage	0.435	1.37
D2	Ditch	2.93	Drainage	1.61	4.32
D2	Stream	1.86	Drainage	0.689	2.43
D3	Ditch	0.239 *	Spray drift	0.035	0.137
D4	Pond	0.299	Drainage	0.292	1.05
D4	Stream	0.313	Spray drift	0.183	0.344
D5	Pond	0.167	Drainage	0.164	1.000
D5	Stream	0.222 *	Spray drift	0.076	0.290
D6	Ditch	0.240 *	Spray drift	0.134	0.279
R1	Pond	0.147	RunOff	0.130	0.350
R1	Stream	1.39	RunOff	0.061	0.481
R3	Stream	1.08	RunOff	0.063	0.281
R4	Stream	0.791 *	RunOff	0.052	0.213 *

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-79: FOCUS Step 3 PEC_{sw} and PEC_{sed} for flupyradifurone following single/multiple application(s) of DLT+FPF EC 85 to winter cereals (modelling use winter cereals 2 -- early -- 2×0.0562 kg a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 3					
D1	Ditch	2.40	Drainage	1.79	5.77
D1	Stream	1.53	Drainage	1.16	3.31
D2	Ditch	5.51	Drainage	3.50	7.59
D2	Stream	3.74	Drainage	2.16	4.69
D3	Ditch	0.361 *	Spray drift	0.040	0.265
D4	Pond	0.490	Drainage	0.479	1.79
D4	Stream	0.459	Spray drift	0.296	0.576
D5	Pond	0.327	Drainage	0.318	1.67
D5	Stream	0.343	Spray drift	0.114	0.425
D6	Ditch	0.384 *	Spray drift	0.086	0.301
R1	Pond	0.173	RunOff	0.155	0.469
R1	Stream	1.58 *	RunOff	0.072	0.392 *
R3	Stream	1.25 *	RunOff	0.067	0.439 *
R4	Stream	0.278	Spray drift	0.013	0.082

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-80: FOCUS Step 3 PEC_{sw} and PEC_{sed} for flupyradifurone following single/multiple application(s) of DLT+FPF EC 85 to winter cereals (modelling use winter cereals 2 -- late -- 2×0.0562 kg a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 3					
D1	Ditch	1.32	Drainage	0.997	3.67
D1	Stream	0.843	Drainage	0.648	2.03
D2	Ditch	4.56	Drainage	2.50	6.31
D2	Stream	2.90	Drainage	1.15	3.60
D3	Ditch	0.361 *	Spray drift	0.060	0.241
D4	Pond	0.466	Drainage	0.455	1.61
D4	Stream	0.472	Spray drift	0.284	0.527
D5	Pond	0.257	Drainage	0.251	1.50
D5	Stream	0.332 *	Spray drift	0.118	0.438
D6	Ditch	0.360 *	Spray drift	0.202	0.409
R1	Pond	0.224	RunOff	0.198	0.517
R1	Stream	2.12	RunOff	0.092	0.709
R3	Stream	1.65	RunOff	0.095	0.417
R4	Stream	1.21 *	RunOff	0.078	0.318 *

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-81: FOCUS Step 3 PEC_{sw} and PEC_{sed} for flupyradifurone following single application(s) of DLT+FPF EC 85 to maize (modelling use maize 1 -- 1 -- 0.0562 kg a.s./ha)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 3					
D3	Ditch	0.301 *	Spray drift	0.021	0.125 *
D4	Pond	0.336 *	Drainage	0.329	1.22 *
D4	Stream	0.352 *	Drainage	0.203	0.429 *
D5	Pond	0.134 *	Drainage	0.129	0.662 *
D5	Stream	0.288 *	Spray drift	0.049	0.164 *
D6	Ditch	0.295 *	Spray drift	0.030	0.108 *
R1	Pond	0.072 *	RunOff	0.063	0.180 *
R1	Stream	1.40 *	RunOff	0.037	0.341 *
R2	Stream	0.274 *	Spray drift	0.020	0.123 *
R3	Stream	1.57 *	RunOff	0.120	0.517 *
R4	Stream	0.709 *	RunOff	0.037	0.212 *

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-82: FOCUS Step 3 PEC_{sw} and PEC_{sed} for flupyradifurone following single/multiple application(s) of DLT+FPF EC 85 to grape (modelling use grape 1 -- early -- 2×0.03 kg a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 3					
D6	Ditch	0.514 *	Spray drift	0.171	0.423
R1	Pond	0.034	RunOff	0.030	0.095
R1	Stream	0.504 *	RunOff	0.023	0.165 *
R2	Stream	0.506 *	Spray drift	0.011	0.071 *
R3	Stream	1.16	Spray drift	0.048	0.281
R4	Stream	0.370 *	Spray drift	0.009	0.071

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-83: FOCUS Step 3 PEC_{sw} and PEC_{sed} for flupyradifurone following single/multiple application(s) of DLT+FPF EC 85 to grape (modelling use grape 1 -- late -- 2×0.03 kg a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 3					
D6	Ditch	0.515 *	Spray drift	0.290	0.559
R1	Pond	0.028	Spray drift	0.025	0.083
R1	Stream	0.367 *	Spray drift	0.003	0.041
R2	Stream	0.506 *	Spray drift	0.007	0.060
R3	Stream	0.713	Spray drift	0.061	0.274
R4	Stream	0.649	Spray drift	0.033	0.228

* Single applications are marked.
** TWA interval as required by ecotox

FOCUS Step 4 PEC_{sw} (PUF/TSCF = 0)

Table 8.9-84: PECsw values for flupyradifurone, following single/multiple applications(s) of DLT+FPF EC 85 to sunflower according to the Central EU zone GAP according to surface water Step 4 (modelling use sunflower 1 -- early -- 2×0.0562 kg a.s./ha, 14d int.)

PECsw (µg/L)	Scenario	Step 4 flupyradifurone							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No-spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	D5 Pond	*0.487*	*0.487*	*0.486*	*0.485*	*0.486*	*0.485*		
50 %		*0.486*	*0.485*	*0.485*	*0.485*	*0.485*	*0.485*		
75 %		*0.485*	*0.485*	*0.485*	*0.484*	*0.485*	*0.484*		
90 %		*0.484*	*0.484*	*0.484*	*0.484*	*0.484*	*0.484*		
None	D5 Stream	*0.391*	*0.391*	*0.391*	*0.391*	*0.391*	*0.391*		
50 %		*0.391*	*0.391*	*0.391*	*0.391*	*0.391*	*0.391*		
75 %		*0.391*	*0.391*	*0.391*	*0.391*	*0.391*	*0.391*		
90 %		*0.391*	*0.391*	*0.391*	*0.391*	*0.391*	*0.391*		
None	R1 Pond	*0.121*	*0.120*	*0.117*	*0.114*	*0.052*	*0.027*		
50 %		*0.115*	*0.114*	*0.113*	*0.111*	*0.048*	*0.025*		
75 %		*0.112*	*0.112*	*0.111*	*0.110*	*0.046*	*0.023*		
90 %		*0.110*	*0.110*	*0.109*	*0.109*	*0.044*	*0.022*		
None	R1 Stream	*1.41*	*1.41*	*1.41*	*1.41*	*0.632*	*0.329*		
50 %		*1.41*	*1.41*	*1.41*	*1.41*	*0.632*	*0.329*		
75 %		*1.41*	*1.41*	*1.41*	*1.41*	*0.632*	*0.329*		
90 %		*1.41*	*1.41*	*1.41*	*1.41*	*0.632*	*0.329*		
None	R3 Stream	1.98	1.98	1.98	1.98	0.899	0.471		
50 %		1.98	1.98	1.98	1.98	0.899	0.471		
75 %		1.98	1.98	1.98	1.98	0.899	0.471		
90 %		1.98	1.98	1.98	1.98	0.899	0.471		
None	R4 Stream	1.96	1.96	1.96	1.96	0.879	0.459		
50 %		1.96	1.96	1.96	1.96	0.879	0.459		
75 %		1.96	1.96	1.96	1.96	0.879	0.459		
90 %		1.96	1.96	1.96	1.96	0.879	0.459		

* Maximum values coming from multiple applications are marked in italics

~~**Table 8.9-85: PECsw values for flupyradifurone, following single/multiple applications(s) of DLT+FPF EC 85 to sunflower according to the Central EU zone GAP according to surface water Step 4 (modelling use sunflower 1 -- late -- 2×0.0562 kg a.s./ha, 14d int.)**~~

~~PECsw (µg/L)~~	~~Scenario~~	~~Step 4 flupyradifurone~~							
~~Nozzle reduction~~	~~Vegetated strip (m)~~	~~None~~	~~None~~	~~None~~	~~None~~	~~10 m~~	~~20 m~~		
	~~No spray buffer (m)~~	~~0 m~~	~~5 m~~	~~10 m~~	~~20 m~~	~~10 m~~	~~20 m~~		
~~None~~	~~D5 Pond~~	~~*0.362*~~	~~*0.362*~~	~~*0.361*~~	~~*0.360*~~	~~*0.361*~~	~~*0.360*~~		
~~50 %~~		~~*0.361*~~	~~*0.361*~~	~~*0.360*~~	~~*0.360*~~	~~*0.360*~~	~~*0.360*~~		
~~75 %~~		~~*0.360*~~	~~*0.360*~~	~~*0.360*~~	~~*0.359*~~	~~*0.360*~~	~~*0.359*~~		
~~90 %~~		~~*0.359*~~	~~*0.359*~~	~~*0.359*~~	~~*0.359*~~	~~*0.359*~~	~~*0.359*~~		
~~None~~	~~D5 Stream~~	~~*0.318*~~	~~*0.318*~~	~~*0.318*~~	~~*0.318*~~	~~*0.318*~~	~~*0.318*~~		
~~50 %~~		~~*0.318*~~	~~*0.318*~~	~~*0.318*~~	~~*0.318*~~	~~*0.318*~~	~~*0.318*~~		
~~75 %~~		~~*0.318*~~	~~*0.318*~~	~~*0.318*~~	~~*0.318*~~	~~*0.318*~~	~~*0.318*~~		
~~90 %~~		~~*0.318*~~	~~*0.318*~~	~~*0.318*~~	~~*0.318*~~	~~*0.318*~~	~~*0.318*~~		
~~None~~	~~R1 Pond~~	~~*0.289*~~	~~*0.287*~~	~~*0.284*~~	~~*0.281*~~	~~*0.122*~~	~~*0.063*~~		
~~50 %~~		~~*0.282*~~	~~*0.281*~~	~~*0.279*~~	~~*0.278*~~	~~*0.117*~~	~~*0.060*~~		
~~75 %~~		~~*0.278*~~	~~*0.278*~~	~~*0.277*~~	~~*0.276*~~	~~*0.115*~~	~~*0.058*~~		
~~90 %~~		~~*0.276*~~	~~*0.276*~~	~~*0.276*~~	~~*0.275*~~	~~*0.113*~~	~~*0.057*~~		
~~None~~	~~R1 Stream~~	~~*1.62*~~	~~*1.62*~~	~~*1.62*~~	~~*1.62*~~	~~*0.733*~~	~~*0.383*~~		
~~50 %~~		~~*1.62*~~	~~*1.62*~~	~~*1.62*~~	~~*1.62*~~	~~*0.733*~~	~~*0.383*~~		
~~75 %~~		~~*1.62*~~	~~*1.62*~~	~~*1.62*~~	~~*1.62*~~	~~*0.733*~~	~~*0.383*~~		
~~90 %~~		~~*1.62*~~	~~*1.62*~~	~~*1.62*~~	~~*1.62*~~	~~*0.733*~~	~~*0.383*~~		
~~None~~	~~R3 Stream~~	~~*1.85*~~	~~*1.85*~~	~~*1.85*~~	~~*1.85*~~	~~*0.843*~~	~~*0.442*~~		
~~50 %~~		~~*1.85*~~	~~*1.85*~~	~~*1.85*~~	~~*1.85*~~	~~*0.843*~~	~~*0.442*~~		
~~75 %~~		~~*1.85*~~	~~*1.85*~~	~~*1.85*~~	~~*1.85*~~	~~*0.843*~~	~~*0.442*~~		
~~90 %~~		~~*1.85*~~	~~*1.85*~~	~~*1.85*~~	~~*1.85*~~	~~*0.843*~~	~~*0.442*~~		
~~None~~	~~R4 Stream~~	~~*2.24*~~	~~*2.24*~~	~~*2.24*~~	~~*2.24*~~	~~*1.02*~~	~~*0.534*~~		
~~50 %~~		~~*2.24*~~	~~*2.24*~~	~~*2.24*~~	~~*2.24*~~	~~*1.02*~~	~~*0.534*~~		
~~75 %~~		~~*2.24*~~	~~*2.24*~~	~~*2.24*~~	~~*2.24*~~	~~*1.02*~~	~~*0.534*~~		
~~90 %~~		~~*2.24*~~	~~*2.24*~~	~~*2.24*~~	~~*2.24*~~	~~*1.02*~~	~~*0.534*~~		

~~* Maximum values coming from multiple applications are marked in italics~~

Table 8.9-86: PECsw values for flupyradifurone, following single application of DLT+FPF EC 85 to sorghum according to the Central EU zone GAP according to surface water Step 4 (modelling use sorghum 1 -- 1 -- 0.0562 kg a.s./ha)

PECsw (µg/L)	Scenario	Step 4 flupyradifurone							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	D1 Ditch	1.27	1.27	1.27	1.27	1.27	1.27		
50 %		1.27	1.27	1.27	1.27	1.27	1.27		
75 %		1.27	1.27	1.27	1.27	1.27	1.27		
90 %		1.27	1.27	1.27	1.27	1.27	1.27		
None	D1 Stream	1.05	1.05	1.05	1.05	1.05	1.05		
50 %		1.05	1.05	1.05	1.05	1.05	1.05		
75 %		1.05	1.05	1.05	1.05	1.05	1.05		
90 %		1.05	1.05	1.05	1.05	1.05	1.05		
None	D3 Ditch	0.362	0.102	0.056	0.032	0.056	0.032		
50 %		0.183	0.053	0.031	0.018	0.031	0.018		
75 %		0.094	0.029	0.018	0.012	0.018	0.012		
90 %		0.041	0.015	0.010	0.010	0.010	0.010		
None	D4 Pond	0.207	0.206	0.206	0.205	0.206	0.205		
50 %		0.205	0.205	0.205	0.205	0.205	0.205		
75 %		0.205	0.205	0.204	0.204	0.204	0.204		
90 %		0.204	0.204	0.204	0.204	0.204	0.204		
None	D4 Stream	0.308	0.210	0.210	0.210	0.210	0.210		
50 %		0.210	0.210	0.210	0.210	0.210	0.210		
75 %		0.210	0.210	0.210	0.210	0.210	0.210		
90 %		0.210	0.210	0.210	0.210	0.210	0.210		
None	D5 Pond	0.140	0.140	0.139	0.139	0.139	0.139		
50 %		0.139	0.139	0.139	0.139	0.139	0.139		
75 %		0.139	0.139	0.138	0.138	0.138	0.138		
90 %		0.138	0.138	0.138	0.138	0.138	0.138		
None	D5 Stream	0.337	0.140	0.100	0.100	0.100	0.100		
50 %		0.182	0.100	0.100	0.100	0.100	0.100		
75 %		0.104	0.100	0.100	0.100	0.100	0.100		
90 %		0.100	0.100	0.100	0.100	0.100	0.100		
None	R4 Stream	1.35	1.35	1.35	1.35	0.611	0.319		
50 %		1.35	1.35	1.35	1.35	0.611	0.319		
75 %		1.35	1.35	1.35	1.35	0.611	0.319		
90 %		1.35	1.35	1.35	1.35	0.611	0.319		

Table 8.9-87: PECsw values for flupyradifurone, following single/multiple applications(s) of DLT+FPF EC 85 to spring cereals according to the Central EU zone GAP according to surface water Step 4 (modelling use spring cereals 1 -- 1 -- 2×0.0375 kg a.s./ha, 14d int.)

PECsw (µg/L)	**Scenario**	**Step 4 flupyradifurone**							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	D1 Ditch	*1.42*	*1.42*	*1.42*	*1.42*	*1.42*	*1.42*		
50 %		*1.42*	*1.42*	*1.42*	*1.42*	*1.42*	*1.42*		
75 %		*1.42*	*1.42*	*1.42*	*1.42*	*1.42*	*1.42*		
90 %		*1.42*	*1.42*	*1.42*	*1.42*	*1.42*	*1.42*		
None	D1 Stream	*1.09*	*1.09*	*1.09*	*1.09*	*1.09*	*1.09*		
50 %		*1.09*	*1.09*	*1.09*	*1.09*	*1.09*	*1.09*		
75 %		*1.09*	*1.09*	*1.09*	*1.09*	*1.09*	*1.09*		
90 %		*1.09*	*1.09*	*1.09*	*1.09*	*1.09*	*1.09*		
None	D3 Ditch	0.240	0.067	*0.037*	*0.023*	*0.037*	*0.023*		
50 %		0.121	*0.036*	*0.023*	*0.016*	*0.023*	*0.016*		
75 %		0.062	*0.022*	*0.016*	*0.015*	*0.016*	*0.015*		
90 %		*0.030*	*0.015*	*0.015*	*0.015*	*0.015*	*0.015*		
None	D4 Pond	*0.327*	*0.326*	*0.326*	*0.325*	*0.326*	*0.325*		
50 %		*0.325*	*0.325*	*0.325*	*0.325*	*0.325*	*0.325*		
75 %		*0.325*	*0.325*	*0.324*	*0.324*	*0.324*	*0.324*		
90 %		*0.324*	*0.324*	*0.324*	*0.324*	*0.324*	*0.324*		
None	D4 Stream	*0.320*	*0.320*	*0.320*	*0.320*	*0.320*	*0.320*		
50 %		*0.320*	*0.320*	*0.320*	*0.320*	*0.320*	*0.320*		
75 %		*0.320*	*0.320*	*0.320*	*0.320*	*0.320*	*0.320*		
90 %		*0.320*	*0.320*	*0.320*	*0.320*	*0.320*	*0.320*		
None	D5 Pond	*0.210*	*0.210*	*0.210*	*0.209*	*0.210*	*0.209*		
50 %		*0.209*	*0.209*	*0.209*	*0.209*	*0.209*	*0.209*		
75 %		*0.209*	*0.209*	*0.209*	*0.209*	*0.209*	*0.209*		
90 %		*0.209*	*0.209*	*0.209*	*0.209*	*0.209*	*0.209*		
None	D5 Stream	0.225	*0.152*	*0.152*	*0.152*	*0.152*	*0.152*		
50 %		*0.152*	*0.152*	*0.152*	*0.152*	*0.152*	*0.152*		
75 %		*0.152*	*0.152*	*0.152*	*0.152*	*0.152*	*0.152*		
90 %		*0.152*	*0.152*	*0.152*	*0.152*	*0.152*	*0.152*		
None	R4 Stream	0.888	0.888	0.888	0.888	0.401	0.209		
50 %		0.888	0.888	0.888	0.888	0.401	0.209		
75 %		0.888	0.888	0.888	0.888	0.401	0.209		
90 %		0.888	0.888	0.888	0.888	0.401	0.209		

* Maximum values coming from multiple applications are marked in italics

Table 8.9-88: PECsw values for flupyradifurone, following single/multiple applications(s) of DLT+FPF EC 85 to spring cereals according to the Central EU zone GAP according to surface water Step 4 (modelling use spring cereals 2 -- 1 -- 2×0.0562 kg a.s./ha, 14d int.)

PECsw (µg/L)	**Scenario**	**Step 4 flupyradifurone**							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	D1 Ditch	*2.18*	*2.18*	*2.18*	*2.18*	*2.18*	*2.18*		
50 %		*2.18*	*2.18*	*2.18*	*2.18*	*2.18*	*2.18*		
75 %		*2.18*	*2.18*	*2.18*	*2.18*	*2.18*	*2.18*		
90 %		*2.18*	*2.18*	*2.18*	*2.18*	*2.18*	*2.18*		
None	D1 Stream	*1.71*	*1.71*	*1.71*	*1.71*	*1.71*	*1.71*		
50 %		*1.71*	*1.71*	*1.71*	*1.71*	*1.71*	*1.71*		
75 %		*1.71*	*1.71*	*1.71*	*1.71*	*1.71*	*1.71*		
90 %		*1.71*	*1.71*	*1.71*	*1.71*	*1.71*	*1.71*		
None	D3 Ditch	0.362	0.103	*0.063*	*0.042*	*0.063*	*0.042*		
50 %		0.184	*0.061*	*0.042*	*0.034*	*0.042*	*0.034*		
75 %		*0.099*	*0.041*	*0.034*	*0.034*	*0.034*	*0.034*		
90 %		*0.052*	*0.034*	*0.034*	*0.034*	*0.034*	*0.034*		
None	D4 Pond	*0.515*	*0.515*	*0.514*	*0.513*	*0.514*	*0.513*		
50 %		*0.514*	*0.513*	*0.513*	*0.512*	*0.513*	*0.512*		
75 %		*0.513*	*0.513*	*0.512*	*0.512*	*0.512*	*0.512*		
90 %		*0.512*	*0.512*	*0.512*	*0.512*	*0.512*	*0.512*		
None	D4 Stream	*0.486*	*0.486*	*0.486*	*0.486*	*0.486*	*0.486*		
50 %		*0.486*	*0.486*	*0.486*	*0.486*	*0.486*	*0.486*		
75 %		*0.486*	*0.486*	*0.486*	*0.486*	*0.486*	*0.486*		
90 %		*0.486*	*0.486*	*0.486*	*0.486*	*0.486*	*0.486*		
None	D5 Pond	*0.323*	*0.323*	*0.322*	*0.322*	*0.322*	*0.322*		
50 %		*0.322*	*0.322*	*0.322*	*0.321*	*0.322*	*0.321*		
75 %		*0.321*	*0.321*	*0.321*	*0.321*	*0.321*	*0.321*		
90 %		*0.321*	*0.321*	*0.321*	*0.321*	*0.321*	*0.321*		
None	D5 Stream	0.339	*0.241*	*0.241*	*0.241*	*0.241*	*0.241*		
50 %		*0.241*	*0.241*	*0.241*	*0.241*	*0.241*	*0.241*		
75 %		*0.241*	*0.241*	*0.241*	*0.241*	*0.241*	*0.241*		
90 %		*0.241*	*0.241*	*0.241*	*0.241*	*0.241*	*0.241*		
None	R4 Stream	1.35	1.35	1.35	1.35	0.611	0.319		
50 %		1.35	1.35	1.35	1.35	0.611	0.319		
75 %		1.35	1.35	1.35	1.35	0.611	0.319		
90 %		1.35	1.35	1.35	1.35	0.611	0.319		

* Maximum values coming from multiple applications are marked in italics

Table 8.9-89: PECsw values for flupyradifurone, following single/multiple applications(s) of DLT+FPF EC 85 to winter cereals according to the Central EU zone GAP according to surface water Step 4 (modelling use winter cereals 1 -- early -- 2×0.0375 kg a.s./ha, 14d int.)

PECsw (µg/L)	Scenario	Step 4 flupyradifurone							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	D1 Ditch	*1.62*	*1.62*	*1.62*	*1.62*	*1.62*	*1.62*		
50 %		*1.62*	*1.62*	*1.62*	*1.62*	*1.62*	*1.62*		
75 %		*1.62*	*1.62*	*1.62*	*1.62*	*1.62*	*1.62*		
90 %		*1.62*	*1.62*	*1.62*	*1.62*	*1.62*	*1.62*		
None	D1 Stream	*1.03*	*1.03*	*1.03*	*1.03*	*1.03*	*1.03*		
50 %		*1.03*	*1.03*	*1.03*	*1.03*	*1.03*	*1.03*		
75 %		*1.03*	*1.03*	*1.03*	*1.03*	*1.03*	*1.03*		
90 %		*1.03*	*1.03*	*1.03*	*1.03*	*1.03*	*1.03*		
None	D2 Ditch	*3.87*	*3.87*	*3.87*	*3.87*	*3.87*	*3.87*		
50 %		*3.87*	*3.87*	*3.87*	*3.87*	*3.87*	*3.87*		
75 %		*3.87*	*3.87*	*3.87*	*3.87*	*3.87*	*3.87*		
90 %		*3.87*	*3.87*	*3.87*	*3.87*	*3.87*	*3.87*		
None	D2 Stream	*2.58*	*2.58*	*2.58*	*2.58*	*2.58*	*2.58*		
50 %		*2.58*	*2.58*	*2.58*	*2.58*	*2.58*	*2.58*		
75 %		*2.58*	*2.58*	*2.58*	*2.58*	*2.58*	*2.58*		
90 %		*2.58*	*2.58*	*2.58*	*2.58*	*2.58*	*2.58*		
None	D3 Ditch	0.240	0.066	*0.038*	*0.024*	*0.038*	*0.024*		
50 %		0.121	*0.036*	*0.024*	*0.018*	*0.024*	*0.018*		
75 %		*0.062*	*0.023*	*0.018*	*0.018*	*0.018*	*0.018*		
90 %		*0.030*	*0.018*	*0.018*	*0.018*	*0.018*	*0.018*		
None	D4 Pond	*0.346*	*0.345*	*0.345*	*0.344*	*0.345*	*0.344*		
50 %		*0.344*	*0.344*	*0.344*	*0.344*	*0.344*	*0.344*		
75 %		*0.344*	*0.344*	*0.344*	*0.344*	*0.344*	*0.344*		
90 %		*0.344*	*0.344*	*0.343*	*0.343*	*0.343*	*0.343*		
None	D4 Stream	*0.329*	*0.329*	*0.329*	*0.329*	*0.329*	*0.329*		
50 %		*0.329*	*0.329*	*0.329*	*0.329*	*0.329*	*0.329*		
75 %		*0.329*	*0.329*	*0.329*	*0.329*	*0.329*	*0.329*		
90 %		*0.329*	*0.329*	*0.329*	*0.329*	*0.329*	*0.329*		
None	D5 Pond	*0.225*	*0.225*	*0.225*	*0.224*	*0.225*	*0.224*		
50 %		*0.225*	*0.224*	*0.224*	*0.224*	*0.224*	*0.224*		
75 %		*0.224*	*0.224*	*0.224*	*0.224*	*0.224*	*0.224*		
90 %		*0.224*	*0.224*	*0.224*	*0.224*	*0.224*	*0.224*		
None	D5 Stream	*0.229*	*0.170*	*0.170*	*0.170*	*0.170*	*0.170*		
50 %		*0.170*	*0.170*	*0.170*	*0.170*	*0.170*	*0.170*		
75 %		*0.170*	*0.170*	*0.170*	*0.170*	*0.170*	*0.170*		
90 %		*0.170*	*0.170*	*0.170*	*0.170*	*0.170*	*0.170*		
None	D6 Ditch	0.255	*0.136*	*0.136*	*0.136*	*0.136*	*0.136*		
50 %		0.136	*0.136*	*0.136*	*0.136*	*0.136*	*0.136*		
75 %		*0.136*	*0.136*	*0.136*	*0.136*	*0.136*	*0.136*		

PECsw (µg/L)	Scenario	Step 4 flupyradifurone							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
90 %		*0.136*	*0.136*	*0.136*	*0.136*	*0.136*	*0.136*		
None	R1 Pond	*0.118*	*0.117*	*0.115*	*0.113*	*0.050*	*0.026*		
50 %		*0.114*	*0.113*	*0.112*	*0.111*	*0.047*	*0.024*		
75 %		*0.111*	*0.111*	*0.110*	*0.110*	*0.046*	*0.023*		
90 %		*0.110*	*0.110*	*0.109*	*0.109*	*0.045*	*0.023*		
None	R1 Stream	1.03	1.03	1.03	1.03	0.470	0.246		
50 %		1.03	1.03	1.03	1.03	0.470	0.246		
75 %		1.03	1.03	1.03	1.03	0.470	0.246		
90 %		1.03	1.03	1.03	1.03	0.470	0.246		
None	R3 Stream	0.821	0.821	0.821	0.821	0.375	0.197		
50 %		0.821	0.821	0.821	0.821	0.375	0.197		
75 %		0.821	0.821	0.821	0.821	0.375	0.197		
90 %		0.821	0.821	0.821	0.821	0.375	0.197		
None	R4 Stream	*0.213*	*0.213*	*0.213*	*0.213*	*0.096*	*0.050*		
50 %		*0.213*	*0.213*	*0.213*	*0.213*	*0.096*	*0.050*		
75 %		*0.213*	*0.213*	*0.213*	*0.213*	*0.096*	*0.050*		
90 %		*0.213*	*0.213*	*0.213*	*0.213*	*0.096*	*0.050*		

* Maximum values coming from multiple applications are marked in italics

Table 8.9-90: PECsw values for flupyradifurone, following single/multiple applications(s) of DLT+FPF EC 85 to winter cereals according to the Central EU zone GAP according to surface water Step 4 (modelling use winter cereals 1 -- late -- 2×0.0375 kg a.s./ha, 14d int.)

PECsw (µg/L)	Scenario	Step 4 flupyradifurone							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	D1 Ditch	*0.904*	*0.904*	*0.903*	*0.903*	*0.903*	*0.903*		
50 %		*0.904*	*0.903*	*0.903*	*0.903*	*0.903*	*0.903*		
75 %		*0.904*	*0.903*	*0.903*	*0.903*	*0.903*	*0.903*		
90 %		*0.903*	*0.903*	*0.903*	*0.903*	*0.903*	*0.903*		
None	D1 Stream	*0.576*	*0.576*	*0.576*	*0.576*	*0.576*	*0.576*		
50 %		*0.576*	*0.576*	*0.576*	*0.576*	*0.576*	*0.576*		
75 %		*0.576*	*0.576*	*0.576*	*0.576*	*0.576*	*0.576*		
90 %		*0.576*	*0.576*	*0.576*	*0.576*	*0.576*	*0.576*		
None	D2 Ditch	*3.03*	*3.03*	*3.03*	*3.03*	*3.03*	*3.03*		
50 %		*3.03*	*3.03*	*3.03*	*3.03*	*3.03*	*3.03*		
75 %		*3.03*	*3.03*	*3.03*	*3.03*	*3.03*	*3.03*		
90 %		*3.03*	*3.03*	*3.03*	*3.03*	*3.03*	*3.03*		
None	D2 Stream	*1.92*	*1.92*	*1.92*	*1.92*	*1.92*	*1.92*		
50 %		*1.92*	*1.92*	*1.92*	*1.92*	*1.92*	*1.92*		
75 %		*1.92*	*1.92*	*1.92*	*1.92*	*1.92*	*1.92*		

PECsw (µg/L)	**Scenario**	**Step 4 flupyradifurone**							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
90 %		*1.92*	*1.92*	*1.92*	*1.92*	*1.92*	*1.92*		
None	D3 Ditch	0.240	0.066	*0.037*	*0.023*	*0.037*	*0.023*		
50 %		0.121	*0.036*	*0.023*	*0.016*	*0.023*	*0.016*		
75 %		0.061	*0.022*	*0.016*	*0.015*	*0.016*	*0.015*		
90 %		*0.029*	*0.015*	*0.015*	*0.015*	*0.015*	*0.015*		
None	D4 Pond	*0.315*	*0.314*	*0.313*	*0.313*	*0.313*	*0.313*		
50 %		*0.313*	*0.313*	*0.313*	*0.312*	*0.313*	*0.312*		
75 %		*0.312*	*0.312*	*0.312*	*0.312*	*0.312*	*0.312*		
90 %		*0.312*	*0.312*	*0.312*	*0.312*	*0.312*	*0.312*		
None	D4 Stream	*0.324*	*0.324*	*0.324*	*0.324*	*0.324*	*0.324*		
50 %		*0.324*	*0.324*	*0.324*	*0.324*	*0.324*	*0.324*		
75 %		*0.324*	*0.324*	*0.324*	*0.324*	*0.324*	*0.324*		
90 %		*0.324*	*0.324*	*0.324*	*0.324*	*0.324*	*0.324*		
None	D5 Pond	*0.174*	*0.174*	*0.173*	*0.173*	*0.173*	*0.173*		
50 %		*0.173*	*0.173*	*0.173*	*0.172*	*0.173*	*0.172*		
75 %		*0.173*	*0.173*	*0.172*	*0.172*	*0.172*	*0.172*		
90 %		*0.172*	*0.172*	*0.172*	*0.172*	*0.172*	*0.172*		
None	D5 Stream	0.222	*0.120*	*0.120*	*0.120*	*0.120*	*0.120*		
50 %		*0.120*	*0.120*	*0.120*	*0.120*	*0.120*	*0.120*		
75 %		*0.120*	*0.120*	*0.120*	*0.120*	*0.120*	*0.120*		
90 %		*0.120*	*0.120*	*0.120*	*0.120*	*0.120*	*0.120*		
None	D6 Ditch	0.240	*0.082*	*0.082*	*0.082*	*0.082*	*0.082*		
50 %		0.120	*0.082*	*0.082*	*0.082*	*0.082*	*0.082*		
75 %		*0.082*	*0.082*	*0.082*	*0.082*	*0.082*	*0.082*		
90 %		*0.082*	*0.082*	*0.082*	*0.082*	*0.082*	*0.082*		
None	R1 Pond	*0.150*	*0.149*	*0.146*	*0.144*	*0.063*	*0.033*		
50 %		*0.145*	*0.144*	*0.143*	*0.141*	*0.059*	*0.030*		
75 %		*0.142*	*0.142*	*0.141*	*0.140*	*0.058*	*0.029*		
90 %		*0.140*	*0.140*	*0.140*	*0.140*	*0.057*	*0.029*		
None	R1 Stream	*1.42*	*1.42*	*1.42*	*1.42*	*0.646*	*0.339*		
50 %		*1.42*	*1.42*	*1.42*	*1.42*	*0.646*	*0.339*		
75 %		*1.42*	*1.42*	*1.42*	*1.42*	*0.646*	*0.339*		
90 %		*1.42*	*1.42*	*1.42*	*1.42*	*0.646*	*0.339*		
None	R3 Stream	*1.09*	*1.09*	*1.09*	*1.09*	*0.495*	*0.259*		
50 %		*1.09*	*1.09*	*1.09*	*1.09*	*0.495*	*0.259*		
75 %		*1.09*	*1.09*	*1.09*	*1.09*	*0.495*	*0.259*		
90 %		*1.09*	*1.09*	*1.09*	*1.09*	*0.495*	*0.259*		
None	R4 Stream	0.793	0.793	0.793	0.793	0.358	0.187		
50 %		0.793	0.793	0.793	0.793	0.358	0.187		
75 %		0.793	0.793	0.793	0.793	0.358	0.187		
90 %		0.793	0.793	0.793	0.793	0.358	0.187		

* Maximum values coming from multiple applications are marked in italics

Table 8.9-91: PECsw values for flupyradifurone, following single/multiple applications(s) of DLT+FPF EC 85 to winter cereals according to the Central EU zone GAP according to surface water Step 4 (modelling use winter cereals 2 -- early -- 2×0.0562 kg a.s./ha, 14d int.)

PECsw (µg/L)	**Scenario**	**Step 4 flupyradifurone**							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	D1 Ditch	*2.48*	*2.48*	*2.48*	*2.48*	*2.48*	*2.48*		
50 %		*2.48*	*2.48*	*2.48*	*2.48*	*2.48*	*2.48*		
75 %		*2.48*	*2.48*	*2.48*	*2.48*	*2.48*	*2.48*		
90 %		*2.48*	*2.48*	*2.48*	*2.48*	*2.48*	*2.48*		
None	D1 Stream	*1.58*	*1.58*	*1.58*	*1.58*	*1.58*	*1.58*		
50 %		*1.58*	*1.58*	*1.58*	*1.58*	*1.58*	*1.58*		
75 %		*1.58*	*1.58*	*1.58*	*1.58*	*1.58*	*1.58*		
90 %		*1.58*	*1.58*	*1.58*	*1.58*	*1.58*	*1.58*		
None	D2 Ditch	*5.71*	*5.71*	*5.71*	*5.71*	*5.71*	*5.71*		
50 %		*5.71*	*5.71*	*5.71*	*5.71*	*5.71*	*5.71*		
75 %		*5.71*	*5.71*	*5.71*	*5.71*	*5.71*	*5.71*		
90 %		*5.71*	*5.71*	*5.71*	*5.71*	*5.71*	*5.71*		
None	D2 Stream	*3.84*	*3.84*	*3.84*	*3.84*	*3.84*	*3.84*		
50 %		*3.84*	*3.84*	*3.84*	*3.84*	*3.84*	*3.84*		
75 %		*3.84*	*3.84*	*3.84*	*3.84*	*3.84*	*3.84*		
90 %		*3.84*	*3.84*	*3.84*	*3.84*	*3.84*	*3.84*		
None	D3 Ditch	0.362	*0.104*	*0.065*	*0.045*	*0.065*	*0.045*		
50 %		0.184	*0.064*	*0.044*	*0.039*	*0.044*	*0.039*		
75 %		*0.101*	*0.044*	*0.039*	*0.039*	*0.039*	*0.039*		
90 %		*0.055*	*0.039*	*0.039*	*0.039*	*0.039*	*0.039*		
None	D4 Pond	*0.549*	*0.549*	*0.548*	*0.547*	*0.548*	*0.547*		
50 %		*0.547*	*0.547*	*0.547*	*0.546*	*0.547*	*0.546*		
75 %		*0.546*	*0.546*	*0.546*	*0.546*	*0.546*	*0.546*		
90 %		*0.546*	*0.546*	*0.546*	*0.546*	*0.546*	*0.546*		
None	D4 Stream	*0.503*	*0.503*	*0.503*	*0.503*	*0.503*	*0.503*		
50 %		*0.503*	*0.503*	*0.503*	*0.503*	*0.503*	*0.503*		
75 %		*0.503*	*0.503*	*0.503*	*0.503*	*0.503*	*0.503*		
90 %		*0.503*	*0.503*	*0.503*	*0.503*	*0.503*	*0.503*		
None	D5 Pond	*0.347*	*0.346*	*0.346*	*0.345*	*0.346*	*0.345*		
50 %		*0.346*	*0.345*	*0.345*	*0.345*	*0.345*	*0.345*		
75 %		*0.345*	*0.345*	*0.345*	*0.345*	*0.345*	*0.345*		
90 %		*0.345*	*0.345*	*0.345*	*0.344*	*0.345*	*0.344*		
None	D5 Stream	*0.347*	*0.256*	*0.256*	*0.256*	*0.256*	*0.256*		
50 %		*0.256*	*0.256*	*0.256*	*0.256*	*0.256*	*0.256*		
75 %		*0.256*	*0.256*	*0.256*	*0.256*	*0.256*	*0.256*		
90 %		*0.256*	*0.256*	*0.256*	*0.256*	*0.256*	*0.256*		
None	D6 Ditch	0.385	*0.204*	*0.204*	*0.204*	*0.204*	*0.204*		
50 %		0.207	*0.204*	*0.204*	*0.204*	*0.204*	*0.204*		
75 %		*0.204*	*0.204*	*0.204*	*0.204*	*0.204*	*0.204*		

PECsw (µg/L)	Scenario	Step 4 flupyradifurone							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
90 %		*0.204*	*0.204*	*0.204*	*0.204*	*0.204*	*0.204*		
None	R1 Pond	*0.177*	*0.175*	*0.172*	*0.169*	*0.075*	*0.039*		
50 %		*0.170*	*0.169*	*0.168*	*0.166*	*0.071*	*0.036*		
75 %		*0.167*	*0.166*	*0.165*	*0.165*	*0.068*	*0.035*		
90 %		*0.165*	*0.165*	*0.164*	*0.164*	*0.067*	*0.034*		
None	R1 Stream	1.59	1.59	1.59	1.59	0.720	0.377		
50 %		1.59	1.59	1.59	1.59	0.720	0.377		
75 %		1.59	1.59	1.59	1.59	0.720	0.377		
90 %		1.59	1.59	1.59	1.59	0.720	0.377		
None	R3 Stream	1.26	1.26	1.26	1.26	0.574	0.301		
50 %		1.26	1.26	1.26	1.26	0.574	0.301		
75 %		1.26	1.26	1.26	1.26	0.574	0.301		
90 %		1.26	1.26	1.26	1.26	0.574	0.301		
None	R4 Stream	*0.300*	*0.300*	*0.300*	*0.300*	*0.136*	*0.071*		
50 %		*0.300*	*0.300*	*0.300*	*0.300*	*0.136*	*0.071*		
75 %		*0.300*	*0.300*	*0.300*	*0.300*	*0.136*	*0.071*		
90 %		*0.300*	*0.300*	*0.300*	*0.300*	*0.136*	*0.071*		

* Maximum values coming from multiple applications are marked in italics

Table 8.9-92: PECsw values for flupyradifurone, following single/multiple applications(s) of DLT+FPF EC 85 to winter cereals according to the Central EU zone GAP according to surface water Step 4 (modelling use winter cereals 2 -- late -- 2×0.0562 kg a.s./ha, 14d int.)

PECsw (µg/L)	Scenario	Step 4 flupyradifurone							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	D1 Ditch	*1.35*	*1.35*	*1.35*	*1.35*	*1.35*	*1.35*		
50 %		*1.35*	*1.35*	*1.35*	*1.35*	*1.35*	*1.35*		
75 %		*1.35*	*1.35*	*1.35*	*1.35*	*1.35*	*1.35*		
90 %		*1.35*	*1.35*	*1.35*	*1.35*	*1.35*	*1.35*		
None	D1 Stream	*0.862*	*0.862*	*0.862*	*0.862*	*0.862*	*0.862*		
50 %		*0.862*	*0.862*	*0.862*	*0.862*	*0.862*	*0.862*		
75 %		*0.862*	*0.862*	*0.862*	*0.862*	*0.862*	*0.862*		
90 %		*0.862*	*0.862*	*0.862*	*0.862*	*0.862*	*0.862*		
None	D2 Ditch	*4.73*	*4.73*	*4.73*	*4.73*	*4.73*	*4.73*		
50 %		*4.73*	*4.73*	*4.73*	*4.73*	*4.73*	*4.73*		
75 %		*4.73*	*4.73*	*4.73*	*4.73*	*4.73*	*4.73*		
90 %		*4.73*	*4.73*	*4.73*	*4.73*	*4.73*	*4.73*		
None	D2 Stream	*3.01*	*3.01*	*3.01*	*3.01*	*3.01*	*3.01*		
50 %		*3.01*	*3.01*	*3.01*	*3.01*	*3.01*	*3.01*		
75 %		*3.01*	*3.01*	*3.01*	*3.01*	*3.01*	*3.01*		

PECsw (µg/L)	**Scenario**	**Step 4 flupyradifurone**							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
90 %		*3.01*	*3.01*	*3.01*	*3.01*	*3.01*	*3.01*		
None	D3 Ditch	0.361	*0.102*	*0.063*	*0.043*	*0.063*	*0.043*		
50 %		0.183	*0.062*	*0.042*	*0.033*	*0.042*	*0.033*		
75 %		*0.099*	*0.041*	*0.033*	*0.033*	*0.033*	*0.033*		
90 %		*0.052*	*0.033*	*0.033*	*0.033*	*0.033*	*0.033*		
None	D4 Pond	*0.493*	*0.492*	*0.491*	*0.490*	*0.491*	*0.490*		
50 %		*0.490*	*0.490*	*0.489*	*0.489*	*0.489*	*0.489*		
75 %		*0.489*	*0.489*	*0.489*	*0.488*	*0.489*	*0.488*		
90 %		*0.488*	*0.488*	*0.488*	*0.488*	*0.488*	*0.488*		
None	D4 Stream	*0.491*	*0.491*	*0.491*	*0.491*	*0.491*	*0.491*		
50 %		*0.491*	*0.491*	*0.491*	*0.491*	*0.491*	*0.491*		
75 %		*0.491*	*0.491*	*0.491*	*0.491*	*0.491*	*0.491*		
90 %		*0.491*	*0.491*	*0.491*	*0.491*	*0.491*	*0.491*		
None	D5 Pond	*0.267*	*0.267*	*0.266*	*0.266*	*0.266*	*0.266*		
50 %		*0.266*	*0.266*	*0.266*	*0.265*	*0.266*	*0.265*		
75 %		*0.265*	*0.265*	*0.265*	*0.265*	*0.265*	*0.265*		
90 %		*0.265*	*0.265*	*0.265*	*0.265*	*0.265*	*0.265*		
None	D5 Stream	0.332	*0.180*	*0.180*	*0.180*	*0.180*	*0.180*		
50 %		*0.180*	*0.180*	*0.180*	*0.180*	*0.180*	*0.180*		
75 %		*0.180*	*0.180*	*0.180*	*0.180*	*0.180*	*0.180*		
90 %		*0.180*	*0.180*	*0.180*	*0.180*	*0.180*	*0.180*		
None	D6 Ditch	0.360	*0.125*	*0.125*	*0.125*	*0.125*	*0.125*		
50 %		0.180	*0.125*	*0.125*	*0.125*	*0.125*	*0.125*		
75 %		*0.125*	*0.125*	*0.125*	*0.125*	*0.125*	*0.125*		
90 %		*0.125*	*0.125*	*0.125*	*0.125*	*0.125*	*0.125*		
None	R1 Pond	*0.228*	*0.226*	*0.222*	*0.218*	*0.095*	*0.049*		
50 %		*0.220*	*0.219*	*0.217*	*0.215*	*0.090*	*0.046*		
75 %		*0.216*	*0.215*	*0.214*	*0.213*	*0.088*	*0.044*		
90 %		*0.213*	*0.213*	*0.213*	*0.212*	*0.086*	*0.043*		
None	R1 Stream	*2.16*	*2.16*	*2.16*	*2.16*	*0.983*	*0.515*		
50 %		*2.16*	*2.16*	*2.16*	*2.16*	*0.983*	*0.515*		
75 %		*2.16*	*2.16*	*2.16*	*2.16*	*0.983*	*0.515*		
90 %		*2.16*	*2.16*	*2.16*	*2.16*	*0.983*	*0.515*		
None	R3 Stream	*1.66*	*1.66*	*1.66*	*1.66*	*0.754*	*0.395*		
50 %		*1.66*	*1.66*	*1.66*	*1.66*	*0.754*	*0.395*		
75 %		*1.66*	*1.66*	*1.66*	*1.66*	*0.754*	*0.395*		
90 %		*1.66*	*1.66*	*1.66*	*1.66*	*0.754*	*0.395*		
None	R4 Stream	1.21	1.21	1.21	1.21	0.547	0.285		
50 %		1.21	1.21	1.21	1.21	0.547	0.285		
75 %		1.21	1.21	1.21	1.21	0.547	0.285		
90 %		1.21	1.21	1.21	1.21	0.547	0.285		

* Maximum values coming from multiple applications are marked in italics

Table 8.9-93: PECsw values for flupyradifurone, following single application of DLT+FPF EC 85 to maize according to the Central EU zone GAP according to surface water Step 4 (modelling use maize 1 -- 1 -- 0.0562 kg a.s./ha)

PECsw (µg/L)	**Scenario**	**Step 4 flupyradifurone**							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	D3 Ditch	0.302	0.104	0.058	0.034	0.058	0.034		
50 %		0.154	0.055	0.033	0.021	0.033	0.021		
75 %		0.081	0.031	0.020	0.014	0.020	0.014		
90 %		0.037	0.017	0.012	0.012	0.012	0.012		
None	D4 Pond	0.348	0.347	0.347	0.346	0.347	0.346		
50 %		0.346	0.346	0.346	0.346	0.346	0.346		
75 %		0.346	0.346	0.345	0.345	0.345	0.345		
90 %		0.345	0.345	0.345	0.345	0.345	0.345		
None	D4 Stream	0.363	0.363	0.363	0.363	0.363	0.363		
50 %		0.363	0.363	0.363	0.363	0.363	0.363		
75 %		0.363	0.363	0.363	0.363	0.363	0.363		
90 %		0.363	0.363	0.363	0.363	0.363	0.363		
None	D5 Pond	0.138	0.138	0.137	0.136	0.137	0.136		
50 %		0.137	0.136	0.136	0.136	0.136	0.136		
75 %		0.136	0.136	0.136	0.136	0.136	0.136		
90 %		0.136	0.136	0.136	0.135	0.136	0.135		
None	D5 Stream	0.288	0.126	0.126	0.126	0.126	0.126		
50 %		0.144	0.126	0.126	0.126	0.126	0.126		
75 %		0.126	0.126	0.126	0.126	0.126	0.126		
90 %		0.126	0.126	0.126	0.126	0.126	0.126		
None	D6 Ditch	0.297	0.129	0.129	0.129	0.129	0.129		
50 %		0.151	0.129	0.129	0.129	0.129	0.129		
75 %		0.129	0.129	0.129	0.129	0.129	0.129		
90 %		0.129	0.129	0.129	0.129	0.129	0.129		
None	R1 Pond	0.072	0.071	0.068	0.066	0.032	0.017		
50 %		0.067	0.066	0.065	0.064	0.028	0.015		
75 %		0.064	0.064	0.063	0.063	0.026	0.014		
90 %		0.063	0.063	0.062	0.062	0.025	0.013		
None	R1 Stream	1.41	1.41	1.41	1.41	0.639	0.335		
50 %		1.41	1.41	1.41	1.41	0.639	0.335		
75 %		1.41	1.41	1.41	1.41	0.639	0.335		
90 %		1.41	1.41	1.41	1.41	0.639	0.335		
None	R2 Stream	0.274	0.222	0.222	0.222	0.101	0.053		
50 %		0.222	0.222	0.222	0.222	0.101	0.053		
75 %		0.222	0.222	0.222	0.222	0.101	0.053		
90 %		0.222	0.222	0.222	0.222	0.101	0.053		
None	R3 Stream	1.59	1.59	1.59	1.59	0.723	0.379		
50 %		1.59	1.59	1.59	1.59	0.723	0.379		
75 %		1.59	1.59	1.59	1.59	0.723	0.379		
90 %		1.59	1.59	1.59	1.59	0.723	0.379		

PECsw (µg/L)	Scenario	Step 4 flupyradifurone							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	R4 Stream	0.746	0.746	0.746	0.746	0.339	0.178		
50 %		0.746	0.746	0.746	0.746	0.339	0.178		
75 %		0.746	0.746	0.746	0.746	0.339	0.178		
90 %		0.746	0.746	0.746	0.746	0.339	0.178		

Remark from Applicant: As the formulation is intended to be applied to grape, according to indications of the Working document of the Central Zone in the authorization of plant protection products, Section 8, Environmental fate and behaviour (Version 1 rev. 1, June 2018) performed simulations must cover all scenarios relevant for the Central Zone. As some required scenarios (D3, D4 and D5) are not defined for vines, simulations were be performed with consideration of the surrogate crop and **pome fruit** seems to be most relevant surrogate crop for vines. Therefore, new PEC calculations (for details refer to **M-832153-01-1**) have been performed using pome fruit as surrogate crop but **considering the drift rates relevant for grape**.

Table 8.9-94: PECsw values for flupyradifurone, following single/multiple applications(s) of DLT+FPF EC 85 to grape according to the Central EU zone GAP according to surface water Step 4 (modelling use grape 1 -- early -- 2×0.03 kg a.s./ha, 14d int.)

PECsw (µg/L)	Scenario	Step 4 flupyradifurone							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	D3 Ditch**	0.5124	0.3097	0.1123	0.0394				
50 %		0.2562	0.1549	0.0562	0.0197				
75 %		0.1281	0.0775	0.0281	0.0099				
90 %		0.0513	0.0310	0.0113	0.0042				
None	D4 Pond**	0.2553	0.2566	0.2526	0.2501				
50 %		0.2515	0.2521	0.2501	0.2489				
75 %		0.2496	0.2499	0.2489	0.2483				
90 %		0.2485	0.2486	0.2482	0.2479				
None	D4 Stream**	0.4929	0.3589	0.2931	0.2931				
50 %		0.2931	0.2931	0.2931	0.2931				
75 %		0.2931	0.2931	0.2931	0.2931				
90 %		0.2931	0.2931	0.2931	0.2931				
None	D5 Pond**	0.2023	0.2031	0.2005	0.1989				
50 %		0.1998	0.2002	0.1989	0.1981				
75 %		0.1986	0.1988	0.1981	0.1977				
90 %		0.1979	0.1979	0.1977	0.1975				
None	D5 Stream**	0.5326	0.3879	0.1411	0.1411				
50 %		0.2664	0.1941	0.1411	0.1411				
75 %		0.1411	0.1411	0.1411	0.1411				
90 %		0.1411	0.1411	0.1411	0.1411				
None	D6 Ditch	0.514	0.312	0.114	*0.082*	0.114	*0.082*		
50 %		0.258	0.157	*0.082*	*0.082*	*0.082*	*0.082*		
75 %		0.130	*0.082*	*0.082*	*0.082*	*0.082*	*0.082*		

PECsw (µg/L)	Scenario	Step 4 flupyradifurone							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
90 %		*0.082*	*0.082*	*0.082*	*0.082*	*0.082*	*0.082*		
None	R1 Pond	*0.034*	*0.038*	*0.023*	*0.014*	*0.020*	*0.010*		
50 %		*0.020*	*0.022*	*0.014*	*0.010*	*0.011*	*0.006*		
75 %		*0.012*	*0.014*	*0.010*	0.008	*0.007*	*0.003*		
90 %		*0.008*	*0.009*	0.008	0.007	*0.004*	*0.002*		
None	R1 Stream	0.507	0.507	0.507	0.507	0.224	0.116		
50 %		0.507	0.507	0.507	0.507	0.224	0.116		
75 %		0.507	0.507	0.507	0.507	0.224	0.116		
90 %		0.507	0.507	0.507	0.507	0.224	0.116		
None	R2 Stream	0.506	0.369	0.181	0.181	0.134	0.047		
50 %		0.253	0.184	0.181	0.181	0.078	0.040		
75 %		0.181	0.181	0.181	0.181	0.078	0.040		
90 %		0.181	0.181	0.181	0.181	0.078	0.040		
None	R3 Stream	*1.16*	*1.06*	*0.899*	*0.838*	*0.461*	*0.225*		
50 %		*0.984*	*0.935*	*0.852*	*0.822*	*0.413*	*0.208*		
75 %		*0.895*	*0.870*	*0.829*	*0.816*	*0.389*	*0.200*		
90 %		*0.841*	*0.832*	*0.816*	*0.816*	*0.375*	*0.195*		
None	R4 Stream	0.371	0.270	*0.173*	*0.173*	0.098	*0.041*		
50 %		0.185	*0.173*	*0.173*	*0.173*	*0.079*	*0.041*		
75 %		*0.173*	*0.173*	*0.173*	*0.173*	*0.079*	*0.041*		
90 %		*0.173*	*0.173*	*0.173*	*0.173*	*0.079*	*0.041*		

* Maximum values coming from multiple applications are marked in italics
**pome fruit as surrogate crop used for calculation

Table 8.9-95: PECsw values for flupyradifurone, following single/multiple applications(s) of DLT+FPF EC 85 to grape according to the Central EU zone GAP according to surface water Step 4 (modelling use grape 1 -- late -- 2×0.03 kg a.s./ha, 14d int.)

PECsw (µg/L)	Scenario	Step 4 flupyradifurone							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	D3 Ditch**	0.5131	0.3101	0.1124	0.0394				
50 %		0.2566	0.1551	0.0562	0.0197				
75 %		0.1283	0.0775	0.0281	0.0099				
90 %		0.0513	0.0310	0.0113	0.0040				
None	D4 Pond**	0.3757	0.3772	0.3724	0.3695				
50 %		0.3711	0.3719	0.3695	0.3680				
75 %		0.3689	0.3692	0.3680	0.3673				
90 %		0.3675	0.3677	0.3672	0.3669				
None	D4 Stream**	0.4937	0.4168	0.4168	0.4168				
50 %		0.4168	0.4168	0.4168	0.4168				
75 %		0.4168	0.4168	0.4168	0.4168				

PECsw (µg/L)	**Scenario**	**Step 4 flupyradifurone**							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
90 %		0.4168	0.4168	0.4168	0.4168				
None	D5 Pond**	0.1778	0.1788	0.1755	0.1734				
50 %		0.1746	0.1751	0.1734	0.1724				
75 %		0.1730	0.1732	0.1724	0.1719				
90 %		0.1720	0.1721	0.1718	0.1716				
None	D5 Stream**	0.5326	0.3879	0.1662	0.1662				
50 %		0.2663	0.1939	0.1662	0.1662				
75 %		0.1662	0.1662	0.1662	0.1662				
90 %		0.1662	0.1662	0.1662	0.1662				
None	D6 Ditch	0.515	0.311	0.113	*0.061*	0.113	*0.061*		
50 %		0.258	0.156	*0.061*	*0.061*	*0.061*	*0.061*		
75 %		0.129	0.078	*0.061*	*0.061*	*0.061*	*0.061*		
90 %		*0.061*	*0.061*	*0.061*	*0.061*	*0.061*	*0.061*		
None	R1 Pond	*0.028*	*0.033*	*0.018*	*0.009*	*0.018*	*0.009*		
50 %		*0.014*	*0.016*	*0.009*	*0.004*	*0.009*	*0.004*		
75 %		*0.007*	*0.008*	*0.004*	*0.002*	*0.004*	*0.002*		
90 %		*0.003*	*0.003*	*0.002*	*<0.001*	*0.002*	*<0.001*		
None	R1 Stream	0.367	0.268	0.097	0.034	0.097	0.034		
50 %		0.184	0.134	0.049	0.017	0.049	0.017		
75 %		0.092	0.067	0.024	0.009	0.024	0.009		
90 %		0.037	0.027	0.010	0.003	0.010	0.003		
None	R2 Stream	0.506	0.369	*0.154*	*0.154*	0.134	0.047		
50 %		0.253	0.184	*0.154*	*0.154*	*0.069*	*0.036*		
75 %		*0.154*	*0.154*	*0.154*	*0.154*	*0.069*	*0.036*		
90 %		*0.154*	*0.154*	*0.154*	*0.154*	*0.069*	*0.036*		
None	R3 Stream	*0.715*	*0.715*	*0.715*	*0.715*	*0.324*	*0.169*		
50 %		*0.715*	*0.715*	*0.715*	*0.715*	*0.324*	*0.169*		
75 %		*0.715*	*0.715*	*0.715*	*0.715*	*0.324*	*0.169*		
90 %		*0.715*	*0.715*	*0.715*	*0.715*	*0.324*	*0.169*		
None	R4 Stream	*0.657*	*0.657*	*0.657*	*0.657*	*0.294*	*0.153*		
50 %		*0.657*	*0.657*	*0.657*	*0.657*	*0.294*	*0.153*		
75 %		*0.657*	*0.657*	*0.657*	*0.657*	*0.294*	*0.153*		
90 %		*0.657*	*0.657*	*0.657*	*0.657*	*0.294*	*0.153*		

* Maximum values coming from multiple applications are marked in italics
**pome fruit as surrogate crop used for calculation

FOCUS Step 4 PEC_{sw} (PUF/TSCF = 0.5) retained for information of the concerned Member States that do accept consideration of Briggs equation for TSCF refinement. Please note that Step 3 results were not validated by the zRMS in additional modelling and for this reason they are given in grey letters, in order to distinguish fully validated from non-validated information)

Table 8.9-96: **PECsw values for flupyradifurone, following single/multiple applications(s) of DLT+FPF EC 85 to sunflower according to the Central EU zone GAP according to surface water Step 4 (modelling use sunflower 1 – early – 2×0.0562 kg a.s./ha, 14d int.)**

PECsw (µg/L)	Scenario	Step 4 flupyradifurone							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	D5 Pond	*0.467*	*0.467*	*0.466*	*0.465*	*0.466*	*0.465*		
50 %		*0.466*	*0.465*	*0.465*	*0.465*	*0.465*	*0.465*		
75 %		*0.465*	*0.465*	*0.465*	*0.464*	*0.465*	*0.464*		
90 %		*0.464*	*0.464*	*0.464*	*0.464*	*0.464*	*0.464*		
None	D5 Stream	*0.376*	*0.376*	*0.376*	*0.376*	*0.376*	*0.376*		
50 %		*0.376*	*0.376*	*0.376*	*0.376*	*0.376*	*0.376*		
75 %		*0.376*	*0.376*	*0.376*	*0.376*	*0.376*	*0.376*		
90 %		*0.376*	*0.376*	*0.376*	*0.376*	*0.376*	*0.376*		
None	R1 Pond	*0.119*	*0.118*	*0.115*	*0.112*	*0.051*	*0.027*		
50 %		*0.113*	*0.112*	*0.111*	0.109	*0.047*	*0.024*		
75 %		*0.110*	*0.109*	0.109	0.108	*0.045*	0.023		
90 %		0.108	0.108	0.108	0.107	0.044	0.022		
None	R1 Stream	*1.38*	*1.38*	*1.38*	*1.38*	0.620	0.325		
50 %		*1.38*	*1.38*	*1.38*	*1.38*	0.620	0.325		
75 %		*1.38*	*1.38*	*1.38*	*1.38*	0.620	0.325		
90 %		*1.38*	*1.38*	*1.38*	*1.38*	0.620	0.325		
None	R3 Stream	1.96	1.96	1.96	1.96	0.893	0.468		
50 %		1.96	1.96	1.96	1.96	0.893	0.468		
75 %		1.96	1.96	1.96	1.96	0.893	0.468		
90 %		1.96	1.96	1.96	1.96	0.893	0.468		
None	R4 Stream	1.95	1.95	1.95	1.95	0.877	0.458		
50 %		1.95	1.95	1.95	1.95	0.877	0.458		
75 %		1.95	1.95	1.95	1.95	0.877	0.458		
90 %		1.95	1.95	1.95	1.95	0.877	0.458		

* Maximum values coming from multiple applications are marked in italics

Table 8.9-97: PECsw values for flupyradifurone, following single/multiple applications(s) of DLT+FPF EC 85 to sunflower according to the Central EU zone GAP according to surface water Step 4 (modelling use sunflower 1 -- late -- 2×0.0562 kg a.s./ha, 14d int.)

PECsw (µg/L)	Scenario	Step 4 flupyradifurone							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	D5 Pond	*0.351*	*0.351*	*0.350*	*0.349*	*0.350*	*0.349*		
50 %		*0.349*	*0.349*	*0.349*	*0.348*	*0.349*	*0.348*		
75 %		*0.348*	*0.348*	*0.348*	*0.348*	*0.348*	*0.348*		
90 %		*0.348*	*0.348*	*0.348*	*0.348*	*0.348*	*0.348*		
None	D5 Stream	*0.310*	*0.310*	*0.310*	*0.310*	*0.310*	*0.310*		
50 %		*0.310*	*0.310*	*0.310*	*0.310*	*0.310*	*0.310*		
75 %		*0.310*	*0.310*	*0.310*	*0.310*	*0.310*	*0.310*		
90 %		*0.310*	*0.310*	*0.310*	*0.310*	*0.310*	*0.310*		
None	R1 Pond	*0.288*	*0.286*	*0.282*	*0.279*	*0.121*	*0.063*		
50 %		*0.280*	*0.280*	*0.278*	*0.276*	*0.117*	*0.060*		
75 %		*0.277*	*0.276*	*0.275*	*0.275*	*0.114*	*0.058*		
90 %		*0.275*	*0.274*	*0.274*	*0.274*	*0.113*	*0.057*		
None	R1 Stream	*1.61*	*1.61*	*1.61*	*1.61*	*0.728*	*0.381*		
50 %		*1.61*	*1.61*	*1.61*	*1.61*	*0.728*	*0.381*		
75 %		*1.61*	*1.61*	*1.61*	*1.61*	*0.728*	*0.381*		
90 %		*1.61*	*1.61*	*1.61*	*1.61*	*0.728*	*0.381*		
None	R3 Stream	*1.83*	*1.83*	*1.83*	*1.83*	*0.835*	*0.438*		
50 %		*1.83*	*1.83*	*1.83*	*1.83*	*0.835*	*0.438*		
75 %		*1.83*	*1.83*	*1.83*	*1.83*	*0.835*	*0.438*		
90 %		*1.83*	*1.83*	*1.83*	*1.83*	*0.835*	*0.438*		
None	R4 Stream	*2.20*	*2.20*	*2.20*	*2.20*	*1.000*	*0.524*		
50 %		*2.20*	*2.20*	*2.20*	*2.20*	*1.000*	*0.524*		
75 %		*2.20*	*2.20*	*2.20*	*2.20*	*1.000*	*0.524*		
90 %		*2.20*	*2.20*	*2.20*	*2.20*	*1.000*	*0.524*		

* Maximum values coming from multiple applications are marked in italics

Table 8.9-98: PECsw values for flupyradifurone, following single application of DLT+FPF EC 85 to sorghum according to the Central EU zone GAP according to surface water Step 4 (modelling use sorghum 1 -- 1 -- 0.0562 kg a.s./ha)

PECsw (µg/L)	Scenario	Step 4 flupyradifurone							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	D1 Ditch	1.26	1.26	1.26	1.26	1.26	1.26		
50 %		1.26	1.26	1.26	1.26	1.26	1.26		
75 %		1.26	1.26	1.26	1.26	1.26	1.26		
90 %		1.26	1.26	1.26	1.26	1.26	1.26		
None	D1 Stream	1.04	1.04	1.04	1.04	1.04	1.04		
50 %		1.04	1.04	1.04	1.04	1.04	1.04		
75 %		1.04	1.04	1.04	1.04	1.04	1.04		
90 %		1.04	1.04	1.04	1.04	1.04	1.04		
None	D3 Ditch	0.361	0.101	0.056	0.031	0.056	0.031		
50 %		0.183	0.053	0.030	0.018	0.030	0.018		
75 %		0.093	0.028	0.017	0.011	0.017	0.011		
90 %		0.040	0.014	0.009	0.008	0.009	0.008		
None	D4 Pond	0.199	0.199	0.198	0.197	0.198	0.197		
50 %		0.198	0.198	0.197	0.197	0.197	0.197		
75 %		0.197	0.197	0.197	0.197	0.197	0.197		
90 %		0.197	0.197	0.197	0.197	0.197	0.197		
None	D4 Stream	0.308	0.204	0.204	0.204	0.204	0.204		
50 %		0.204	0.204	0.204	0.204	0.204	0.204		
75 %		0.204	0.204	0.204	0.204	0.204	0.204		
90 %		0.204	0.204	0.204	0.204	0.204	0.204		
None	D5 Pond	0.135	0.135	0.134	0.134	0.134	0.134		
50 %		0.134	0.134	0.134	0.134	0.134	0.134		
75 %		0.134	0.134	0.134	0.134	0.134	0.134		
90 %		0.134	0.133	0.133	0.133	0.133	0.133		
None	D5 Stream	0.336	0.139	0.097	0.097	0.097	0.097		
50 %		0.181	0.097	0.097	0.097	0.097	0.097		
75 %		0.103	0.097	0.097	0.097	0.097	0.097		
90 %		0.097	0.097	0.097	0.097	0.097	0.097		
None	R4 Stream	1.35	1.35	1.35	1.35	0.610	0.318		
50 %		1.35	1.35	1.35	1.35	0.610	0.318		
75 %		1.35	1.35	1.35	1.35	0.610	0.318		
90 %		1.35	1.35	1.35	1.35	0.610	0.318		

Table 8.9-99: PECsw values for flupyradifurone, following single/multiple applications(s) of DLT+FPF EC 85 to spring cereals according to the Central EU zone GAP according to surface water Step 4 (modelling use spring cereals 1 -- 1 -- 2×0.0375 kg a.s./ha, 14d int.)

PECsw (µg/L)	Scenario	Step 4 flupyradifurone							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	D1 Ditch	*1.40*	*1.40*	*1.40*	*1.40*	*1.40*	*1.40*		
50 %		*1.40*	*1.40*	*1.40*	*1.40*	*1.40*	*1.40*		
75 %		*1.40*	*1.40*	*1.40*	*1.40*	*1.40*	*1.40*		
90 %		*1.40*	*1.40*	*1.40*	*1.40*	*1.40*	*1.40*		
None	D1 Stream	*1.07*	*1.07*	*1.07*	*1.07*	*1.07*	*1.07*		
50 %		*1.07*	*1.07*	*1.07*	*1.07*	*1.07*	*1.07*		
75 %		*1.07*	*1.07*	*1.07*	*1.07*	*1.07*	*1.07*		
90 %		*1.07*	*1.07*	*1.07*	*1.07*	*1.07*	*1.07*		
None	D3 Ditch	0.240	0.066	0.036	*0.022*	0.036	*0.022*		
50 %		0.121	*0.035*	*0.022*	*0.015*	*0.022*	*0.015*		
75 %		0.061	*0.021*	*0.015*	*0.013*	*0.015*	*0.013*		
90 %		*0.028*	*0.013*	*0.013*	*0.013*	*0.013*	*0.013*		
None	D4 Pond	*0.311*	*0.310*	*0.310*	*0.309*	*0.310*	*0.309*		
50 %		*0.309*	*0.309*	*0.309*	*0.309*	*0.309*	*0.309*		
75 %		*0.309*	*0.309*	*0.308*	*0.308*	*0.308*	*0.308*		
90 %		*0.308*	*0.308*	*0.308*	*0.308*	*0.308*	*0.308*		
None	D4 Stream	*0.307*	*0.307*	*0.307*	*0.307*	*0.307*	*0.307*		
50 %		*0.307*	*0.307*	*0.307*	*0.307*	*0.307*	*0.307*		
75 %		*0.307*	*0.307*	*0.307*	*0.307*	*0.307*	*0.307*		
90 %		*0.307*	*0.307*	*0.307*	*0.307*	*0.307*	*0.307*		
None	D5 Pond	*0.202*	*0.202*	*0.202*	*0.202*	*0.202*	*0.202*		
50 %		*0.202*	*0.202*	*0.201*	*0.201*	*0.201*	*0.201*		
75 %		*0.201*	*0.201*	*0.201*	*0.201*	*0.201*	*0.201*		
90 %		*0.201*	*0.201*	*0.201*	*0.201*	*0.201*	*0.201*		
None	D5 Stream	0.224	*0.146*	*0.146*	*0.146*	*0.146*	*0.146*		
50 %		*0.146*	*0.146*	*0.146*	*0.146*	*0.146*	*0.146*		
75 %		*0.146*	*0.146*	*0.146*	*0.146*	*0.146*	*0.146*		
90 %		*0.146*	*0.146*	*0.146*	*0.146*	*0.146*	*0.146*		
None	R4 Stream	0.886	0.886	0.886	0.886	0.400	0.209		
50 %		0.886	0.886	0.886	0.886	0.400	0.209		
75 %		0.886	0.886	0.886	0.886	0.400	0.209		
90 %		0.886	0.886	0.886	0.886	0.400	0.209		

* Maximum values coming from multiple applications are marked in italics

Table 8.9-100: PECsw values for flupyradifurone, following single/multiple applications(s) of DLT+FPF EC 85 to spring cereals according to the Central EU zone GAP according to surface water Step 4 (modelling use spring cereals 2 -- 1 -- 2×0.0562 kg a.s./ha, 14d int.)

PECsw (µg/L)	**Scenario**	**Step 4 flupyradifurone**							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	D1 Ditch	*2.14*	*2.14*	*2.14*	*2.14*	*2.14*	*2.14*		
50 %		*2.14*	*2.14*	*2.14*	*2.14*	*2.14*	*2.14*		
75 %		*2.14*	*2.14*	*2.14*	*2.14*	*2.14*	*2.14*		
90 %		*2.14*	*2.14*	*2.14*	*2.14*	*2.14*	*2.14*		
None	D1 Stream	*1.69*	*1.69*	*1.69*	*1.69*	*1.69*	*1.69*		
50 %		*1.69*	*1.69*	*1.69*	*1.69*	*1.69*	*1.69*		
75 %		*1.69*	*1.69*	*1.69*	*1.69*	*1.69*	*1.69*		
90 %		*1.69*	*1.69*	*1.69*	*1.69*	*1.69*	*1.69*		
None	D3 Ditch	0.362	0.102	*0.060*	*0.039*	*0.060*	*0.039*		
50 %		0.183	*0.058*	*0.039*	*0.029*	*0.039*	*0.029*		
75 %		*0.096*	*0.038*	*0.029*	*0.029*	*0.029*	*0.029*		
90 %		*0.049*	*0.029*	*0.029*	*0.029*	*0.029*	*0.029*		
None	D4 Pond	*0.488*	*0.488*	*0.487*	*0.486*	*0.487*	*0.486*		
50 %		*0.486*	*0.486*	*0.486*	*0.485*	*0.486*	*0.485*		
75 %		*0.485*	*0.485*	*0.485*	*0.485*	*0.485*	*0.485*		
90 %		*0.485*	*0.485*	*0.485*	*0.485*	*0.485*	*0.485*		
None	D4 Stream	*0.465*	*0.465*	*0.465*	*0.465*	*0.465*	*0.465*		
50 %		*0.465*	*0.465*	*0.465*	*0.465*	*0.465*	*0.465*		
75 %		*0.465*	*0.465*	*0.465*	*0.465*	*0.465*	*0.465*		
90 %		*0.465*	*0.465*	*0.465*	*0.465*	*0.465*	*0.465*		
None	D5 Pond	*0.311*	*0.310*	*0.310*	*0.309*	*0.310*	*0.309*		
50 %		*0.309*	*0.309*	*0.309*	*0.309*	*0.309*	*0.309*		
75 %		*0.309*	*0.309*	*0.308*	*0.308*	*0.308*	*0.308*		
90 %		*0.308*	*0.308*	*0.308*	*0.308*	*0.308*	*0.308*		
None	D5 Stream	0.338	*0.231*	*0.231*	*0.231*	*0.231*	*0.231*		
50 %		*0.231*	*0.231*	*0.231*	*0.231*	*0.231*	*0.231*		
75 %		*0.231*	*0.231*	*0.231*	*0.231*	*0.231*	*0.231*		
90 %		*0.231*	*0.231*	*0.231*	*0.231*	*0.231*	*0.231*		
None	R4 Stream	1.35	1.35	1.35	1.35	0.610	0.318		
50 %		1.35	1.35	1.35	1.35	0.610	0.318		
75 %		1.35	1.35	1.35	1.35	0.610	0.318		
90 %		1.35	1.35	1.35	1.35	0.610	0.318		

* Maximum values coming from multiple applications are marked in italics

Table 8.9-101: PECsw values for flupyradifurone, following single/multiple applications(s) of DLT+FPF EC 85 to winter cereals according to the Central EU zone GAP according to surface water Step 4 (modelling use winter cereals 1 -- early -- 2×0.0375 kg a.s./ha, 14d int.)

PECsw (µg/L)	**Scenario**	**Step 4 flupyradifurone**							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	D1 Ditch	*1.58*	*1.58*	*1.58*	*1.58*	*1.58*	*1.58*		
50 %		*1.58*	*1.58*	*1.58*	*1.58*	*1.58*	*1.58*		
75 %		*1.58*	*1.58*	*1.58*	*1.58*	*1.58*	*1.58*		
90 %		*1.58*	*1.58*	*1.58*	*1.58*	*1.58*	*1.58*		
None	D1 Stream	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*		
50 %		*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*		
75 %		*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*		
90 %		*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*		
None	D2 Ditch	*3.75*	*3.75*	*3.75*	*3.75*	*3.75*	*3.75*		
50 %		*3.75*	*3.75*	*3.75*	*3.75*	*3.75*	*3.75*		
75 %		*3.75*	*3.75*	*3.75*	*3.75*	*3.75*	*3.75*		
90 %		*3.75*	*3.75*	*3.75*	*3.75*	*3.75*	*3.75*		
None	D2 Stream	*2.52*	*2.52*	*2.52*	*2.52*	*2.52*	*2.52*		
50 %		*2.52*	*2.52*	*2.52*	*2.52*	*2.52*	*2.52*		
75 %		*2.52*	*2.52*	*2.52*	*2.52*	*2.52*	*2.52*		
90 %		*2.52*	*2.52*	*2.52*	*2.52*	*2.52*	*2.52*		
None	D3 Ditch	0.239	0.066	*0.036*	*0.022*	*0.036*	*0.022*		
50 %		0.121	*0.035*	*0.022*	*0.015*	*0.022*	*0.015*		
75 %		0.061	*0.022*	*0.015*	*0.015*	*0.015*	*0.015*		
90 %		*0.029*	*0.015*	*0.015*	*0.015*	*0.015*	*0.015*		
None	D4 Pond	*0.311*	*0.311*	*0.310*	*0.309*	*0.310*	*0.309*		
50 %		*0.310*	*0.310*	*0.309*	*0.309*	*0.309*	*0.309*		
75 %		*0.309*	*0.309*	*0.309*	*0.309*	*0.309*	*0.309*		
90 %		*0.309*	*0.309*	*0.309*	*0.309*	*0.309*	*0.309*		
None	D4 Stream	*0.302*	*0.302*	*0.302*	*0.302*	*0.302*	*0.302*		
50 %		*0.302*	*0.302*	*0.302*	*0.302*	*0.302*	*0.302*		
75 %		*0.302*	*0.302*	*0.302*	*0.302*	*0.302*	*0.302*		
90 %		*0.302*	*0.302*	*0.302*	*0.302*	*0.302*	*0.302*		
None	D5 Pond	*0.213*	*0.213*	*0.212*	*0.212*	*0.212*	*0.212*		
50 %		*0.212*	*0.212*	*0.212*	*0.212*	*0.212*	*0.212*		
75 %		*0.212*	*0.212*	*0.212*	*0.212*	*0.212*	*0.212*		
90 %		*0.212*	*0.212*	*0.212*	*0.212*	*0.212*	*0.212*		
None	D5 Stream	*0.227*	*0.162*	*0.162*	*0.162*	*0.162*	*0.162*		
50 %		*0.162*	*0.162*	*0.162*	*0.162*	*0.162*	*0.162*		
75 %		*0.162*	*0.162*	*0.162*	*0.162*	*0.162*	*0.162*		
90 %		*0.162*	*0.162*	*0.162*	*0.162*	*0.162*	*0.162*		
None	D6 Ditch	0.254	*0.130*	*0.130*	*0.130*	*0.130*	*0.130*		
50 %		0.136	*0.130*	*0.130*	*0.130*	*0.130*	*0.130*		
75 %		*0.130*	*0.130*	*0.130*	*0.130*	*0.130*	*0.130*		

PECsw (µg/L)	**Scenario**	**Step 4 flupyradifurone**							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
90 %		*0.130*	*0.130*	*0.130*	*0.130*	*0.130*	*0.130*		
None	R1 Pond	*0.115*	*0.114*	*0.112*	*0.110*	*0.049*	*0.025*		
50 %		*0.111*	*0.110*	*0.109*	*0.108*	*0.046*	*0.023*		
75 %		*0.108*	*0.108*	*0.107*	*0.107*	*0.044*	*0.023*		
90 %		*0.107*	*0.107*	*0.107*	*0.106*	*0.044*	*0.022*		
None	R1 Stream	1.03	1.03	1.03	1.03	0.467	0.245		
50 %		1.03	1.03	1.03	1.03	0.467	0.245		
75 %		1.03	1.03	1.03	1.03	0.467	0.245		
90 %		1.03	1.03	1.03	1.03	0.467	0.245		
None	R3 Stream	0.817	0.817	0.817	0.817	0.373	0.196		
50 %		0.817	0.817	0.817	0.817	0.373	0.196		
75 %		0.817	0.817	0.817	0.817	0.373	0.196		
90 %		0.817	0.817	0.817	0.817	0.373	0.196		
None	R4 Stream	*0.198*	*0.198*	*0.198*	*0.198*	*0.089*	*0.047*		
50 %		*0.198*	*0.198*	*0.198*	*0.198*	*0.089*	*0.047*		
75 %		*0.198*	*0.198*	*0.198*	*0.198*	*0.089*	*0.047*		
90 %		*0.198*	*0.198*	*0.198*	*0.198*	*0.089*	*0.047*		

* Maximum values coming from multiple applications are marked in italics

Table 8.9-102: PECsw values for flupyradifurone, following single/multiple applications(s) of DLT+FPF EC 85 to winter cereals according to the Central EU zone GAP according to surface water Step 4 (modelling use winter cereals 1 -- late -- 2×0.0375 kg a.s./ha, 14d int.)

PECsw (µg/L)	**Scenario**	**Step 4 flupyradifurone**							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	D1 Ditch	*0.885*	*0.885*	*0.885*	*0.885*	*0.885*	*0.885*		
50 %		*0.885*	*0.885*	*0.885*	*0.885*	*0.885*	*0.885*		
75 %		*0.885*	*0.885*	*0.885*	*0.885*	*0.885*	*0.885*		
90 %		*0.885*	*0.885*	*0.885*	*0.885*	*0.885*	*0.885*		
None	D1 Stream	*0.564*	*0.564*	*0.564*	*0.564*	*0.564*	*0.564*		
50 %		*0.564*	*0.564*	*0.564*	*0.564*	*0.564*	*0.564*		
75 %		*0.564*	*0.564*	*0.564*	*0.564*	*0.564*	*0.564*		
90 %		*0.564*	*0.564*	*0.564*	*0.564*	*0.564*	*0.564*		
None	D2 Ditch	*2.93*	*2.93*	*2.93*	*2.93*	*2.93*	*2.93*		
50 %		*2.93*	*2.93*	*2.93*	*2.93*	*2.93*	*2.93*		
75 %		*2.93*	*2.93*	*2.93*	*2.93*	*2.93*	*2.93*		
90 %		*2.93*	*2.93*	*2.93*	*2.93*	*2.93*	*2.93*		
None	D2 Stream	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*		
50 %		*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*		
75 %		*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*		

PECsw (µg/L)	**Scenario**	**Step 4 flupyradifurone**							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
90 %		*1.86*	*1.86*	*1.86*	*1.86*	*1.86*	*1.86*		
None	D3 Ditch	0.239	0.066	0.036	*0.022*	0.036	*0.022*		
50 %		0.120	*0.034*	*0.021*	*0.015*	*0.021*	*0.015*		
75 %		0.061	*0.021*	*0.014*	*0.013*	*0.014*	*0.013*		
90 %		*0.028*	*0.013*	*0.013*	*0.013*	*0.013*	*0.013*		
None	D4 Pond	*0.299*	*0.299*	*0.298*	*0.297*	*0.298*	*0.297*		
50 %		*0.297*	*0.297*	*0.297*	*0.297*	*0.297*	*0.297*		
75 %		*0.297*	*0.297*	*0.296*	*0.296*	*0.296*	*0.296*		
90 %		*0.296*	*0.296*	*0.296*	*0.296*	*0.296*	*0.296*		
None	D4 Stream	*0.313*	*0.313*	*0.313*	*0.313*	*0.313*	*0.313*		
50 %		*0.313*	*0.313*	*0.313*	*0.313*	*0.313*	*0.313*		
75 %		*0.313*	*0.313*	*0.313*	*0.313*	*0.313*	*0.313*		
90 %		*0.313*	*0.313*	*0.313*	*0.313*	*0.313*	*0.313*		
None	D5 Pond	*0.167*	*0.167*	*0.167*	*0.166*	*0.167*	*0.166*		
50 %		*0.166*	*0.166*	*0.166*	*0.166*	*0.166*	*0.166*		
75 %		*0.166*	*0.166*	*0.166*	*0.166*	*0.166*	*0.166*		
90 %		*0.166*	*0.166*	*0.166*	*0.166*	*0.166*	*0.166*		
None	D5 Stream	0.222	*0.116*	*0.116*	*0.116*	*0.116*	*0.116*		
50 %		*0.116*	*0.116*	*0.116*	*0.116*	*0.116*	*0.116*		
75 %		*0.116*	*0.116*	*0.116*	*0.116*	*0.116*	*0.116*		
90 %		*0.116*	*0.116*	*0.116*	*0.116*	*0.116*	*0.116*		
None	D6 Ditch	0.240	*0.080*	*0.080*	*0.080*	*0.080*	*0.080*		
50 %		0.120	*0.080*	*0.080*	*0.080*	*0.080*	*0.080*		
75 %		*0.080*	*0.080*	*0.080*	*0.080*	*0.080*	*0.080*		
90 %		*0.080*	*0.080*	*0.080*	*0.080*	*0.080*	*0.080*		
None	R1 Pond	*0.147*	*0.146*	*0.143*	*0.141*	*0.062*	*0.032*		
50 %		*0.142*	*0.141*	*0.140*	*0.139*	*0.058*	*0.030*		
75 %		*0.139*	*0.139*	*0.138*	*0.138*	*0.057*	*0.029*		
90 %		*0.138*	*0.137*	*0.137*	*0.137*	*0.056*	*0.028*		
None	R1 Stream	*1.39*	*1.39*	*1.39*	*1.39*	*0.634*	*0.332*		
50 %		*1.39*	*1.39*	*1.39*	*1.39*	*0.634*	*0.332*		
75 %		*1.39*	*1.39*	*1.39*	*1.39*	*0.634*	*0.332*		
90 %		*1.39*	*1.39*	*1.39*	*1.39*	*0.634*	*0.332*		
None	R3 Stream	*1.08*	*1.08*	*1.08*	*1.08*	*0.493*	*0.258*		
50 %		*1.08*	*1.08*	*1.08*	*1.08*	*0.493*	*0.258*		
75 %		*1.08*	*1.08*	*1.08*	*1.08*	*0.493*	*0.258*		
90 %		*1.08*	*1.08*	*1.08*	*1.08*	*0.493*	*0.258*		
None	R4 Stream	0.791	0.791	0.791	0.791	0.357	0.186		
50 %		0.791	0.791	0.791	0.791	0.357	0.186		
75 %		0.791	0.791	0.791	0.791	0.357	0.186		
90 %		0.791	0.791	0.791	0.791	0.357	0.186		

* Maximum values coming from multiple applications are marked in italics

Table 8.9-103: PECsw values for flupyradifurone, following single/multiple applications(s) of DLT+FPF EC 85 to winter cereals according to the Central EU zone GAP according to surface water Step 4 (modelling use winter cereals 2 -- early -- 2×0.0562 kg a.s./ha, 14d int.)

PECsw (µg/L)	**Scenario**	**Step 4 flupyradifurone**							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	D1 Ditch	*2.40*	*2.40*	*2.40*	*2.40*	*2.40*	*2.40*		
50 %		*2.40*	*2.40*	*2.40*	*2.40*	*2.40*	*2.40*		
75 %		*2.40*	*2.40*	*2.40*	*2.40*	*2.40*	*2.40*		
90 %		*2.40*	*2.40*	*2.40*	*2.40*	*2.40*	*2.40*		
None	D1 Stream	*1.53*	*1.53*	*1.53*	*1.53*	*1.53*	*1.53*		
50 %		*1.53*	*1.53*	*1.53*	*1.53*	*1.53*	*1.53*		
75 %		*1.53*	*1.53*	*1.53*	*1.53*	*1.53*	*1.53*		
90 %		*1.53*	*1.53*	*1.53*	*1.53*	*1.53*	*1.53*		
None	D2 Ditch	*5.51*	*5.51*	*5.51*	*5.51*	*5.51*	*5.51*		
50 %		*5.51*	*5.51*	*5.51*	*5.51*	*5.51*	*5.51*		
75 %		*5.51*	*5.51*	*5.51*	*5.51*	*5.51*	*5.51*		
90 %		*5.51*	*5.51*	*5.51*	*5.51*	*5.51*	*5.51*		
None	D2 Stream	*3.74*	*3.74*	*3.74*	*3.74*	*3.74*	*3.74*		
50 %		*3.74*	*3.74*	*3.74*	*3.74*	*3.74*	*3.74*		
75 %		*3.74*	*3.74*	*3.74*	*3.74*	*3.74*	*3.74*		
90 %		*3.74*	*3.74*	*3.74*	*3.74*	*3.74*	*3.74*		
None	D3 Ditch	0.361	0.101	*0.062*	*0.041*	*0.062*	*0.041*		
50 %		0.183	*0.060*	*0.041*	*0.033*	*0.041*	*0.033*		
75 %		*0.098*	*0.040*	*0.033*	*0.033*	*0.033*	*0.033*		
90 %		*0.051*	*0.033*	*0.033*	*0.033*	*0.033*	*0.033*		
None	D4 Pond	*0.490*	*0.489*	*0.489*	*0.488*	*0.489*	*0.488*		
50 %		*0.488*	*0.488*	*0.488*	*0.487*	*0.488*	*0.487*		
75 %		*0.487*	*0.487*	*0.487*	*0.487*	*0.487*	*0.487*		
90 %		*0.487*	*0.487*	*0.487*	*0.487*	*0.487*	*0.487*		
None	D4 Stream	*0.459*	*0.459*	*0.459*	*0.459*	*0.459*	*0.459*		
50 %		*0.459*	*0.459*	*0.459*	*0.459*	*0.459*	*0.459*		
75 %		*0.459*	*0.459*	*0.459*	*0.459*	*0.459*	*0.459*		
90 %		*0.459*	*0.459*	*0.459*	*0.459*	*0.459*	*0.459*		
None	D5 Pond	*0.327*	*0.327*	*0.326*	*0.325*	*0.326*	*0.325*		
50 %		*0.326*	*0.325*	*0.325*	*0.325*	*0.325*	*0.325*		
75 %		*0.325*	*0.325*	*0.325*	*0.325*	*0.325*	*0.325*		
90 %		*0.325*	*0.325*	*0.325*	*0.325*	*0.325*	*0.325*		
None	D5 Stream	*0.343*	*0.243*	*0.243*	*0.243*	*0.243*	*0.243*		
50 %		*0.243*	*0.243*	*0.243*	*0.243*	*0.243*	*0.243*		
75 %		*0.243*	*0.243*	*0.243*	*0.243*	*0.243*	*0.243*		
90 %		*0.243*	*0.243*	*0.243*	*0.243*	*0.243*	*0.243*		
None	D6 Ditch	0.384	*0.195*	*0.195*	*0.195*	*0.195*	*0.195*		
50 %		0.206	*0.195*	*0.195*	*0.195*	*0.195*	*0.195*		
75 %		*0.195*	*0.195*	*0.195*	*0.195*	*0.195*	*0.195*		

PECsw (µg/L)	**Scenario**	**Step 4 flupyradifurone**							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
90 %		*0.195*	*0.195*	*0.195*	*0.195*	*0.195*	*0.195*		
None	R1 Pond	*0.173*	*0.171*	*0.168*	*0.165*	*0.073*	*0.038*		
50 %		*0.166*	*0.165*	*0.163*	*0.162*	*0.069*	*0.035*		
75 %		*0.162*	*0.162*	*0.161*	*0.160*	*0.067*	*0.034*		
90 %		*0.160*	*0.160*	*0.160*	*0.159*	*0.065*	*0.033*		
None	R1 Stream	1.58	1.58	1.58	1.58	0.716	0.375		
50 %		1.58	1.58	1.58	1.58	0.716	0.375		
75 %		1.58	1.58	1.58	1.58	0.716	0.375		
90 %		1.58	1.58	1.58	1.58	0.716	0.375		
None	R3 Stream	1.25	1.25	1.25	1.25	0.571	0.300		
50 %		1.25	1.25	1.25	1.25	0.571	0.300		
75 %		1.25	1.25	1.25	1.25	0.571	0.300		
90 %		1.25	1.25	1.25	1.25	0.571	0.300		
None	R4 Stream	*0.278*	*0.278*	*0.278*	*0.278*	*0.125*	*0.066*		
50 %		*0.278*	*0.278*	*0.278*	*0.278*	*0.125*	*0.066*		
75 %		*0.278*	*0.278*	*0.278*	*0.278*	*0.125*	*0.066*		
90 %		*0.278*	*0.278*	*0.278*	*0.278*	*0.125*	*0.066*		

* Maximum values coming from multiple applications are marked in italics

Table 8.9-104: PECsw values for flupyradifurone, following single/multiple applications(s) of DLT+FPF EC 85 to winter cereals according to the Central EU zone GAP according to surface water Step 4 (modelling use winter cereals 2 -- late -- 2×0.0562 kg a.s./ha, 14d int.)

PECsw (µg/L)	**Scenario**	**Step 4 flupyradifurone**							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	D1 Ditch	*1.32*	*1.32*	*1.32*	*1.32*	*1.32*	*1.32*		
50 %		*1.32*	*1.32*	*1.32*	*1.32*	*1.32*	*1.32*		
75 %		*1.32*	*1.32*	*1.32*	*1.32*	*1.32*	*1.32*		
90 %		*1.32*	*1.32*	*1.32*	*1.32*	*1.32*	*1.32*		
None	D1 Stream	*0.843*	*0.843*	*0.843*	*0.843*	*0.843*	*0.843*		
50 %		*0.843*	*0.843*	*0.843*	*0.843*	*0.843*	*0.843*		
75 %		*0.843*	*0.843*	*0.843*	*0.843*	*0.843*	*0.843*		
90 %		*0.843*	*0.843*	*0.843*	*0.843*	*0.843*	*0.843*		
None	D2 Ditch	*4.56*	*4.56*	*4.56*	*4.56*	*4.56*	*4.56*		
50 %		*4.56*	*4.56*	*4.56*	*4.56*	*4.56*	*4.56*		
75 %		*4.56*	*4.56*	*4.56*	*4.56*	*4.56*	*4.56*		
90 %		*4.56*	*4.56*	*4.56*	*4.56*	*4.56*	*4.56*		
None	D2 Stream	*2.90*	*2.90*	*2.90*	*2.90*	*2.90*	*2.90*		
50 %		*2.90*	*2.90*	*2.90*	*2.90*	*2.90*	*2.90*		
75 %		*2.90*	*2.90*	*2.90*	*2.90*	*2.90*	*2.90*		

PECsw (µg/L)	**Scenario**	**Step 4 flupyradifurone**							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
90 %		*2.90*	*2.90*	*2.90*	*2.90*	*2.90*	*2.90*		
None	D3 Ditch	0.361	0.101	*0.060*	*0.040*	*0.060*	*0.040*		
50 %		0.182	*0.059*	*0.039*	*0.029*	*0.039*	*0.029*		
75 %		*0.096*	*0.038*	*0.029*	*0.029*	*0.029*	*0.029*		
90 %		*0.049*	*0.029*	*0.029*	*0.029*	*0.029*	*0.029*		
None	D4 Pond	*0.466*	*0.465*	*0.464*	*0.463*	*0.464*	*0.463*		
50 %		*0.463*	*0.463*	*0.463*	*0.462*	*0.463*	*0.462*		
75 %		*0.462*	*0.462*	*0.462*	*0.462*	*0.462*	*0.462*		
90 %		*0.462*	*0.461*	*0.461*	*0.461*	*0.461*	*0.461*		
None	D4 Stream	*0.472*	*0.472*	*0.472*	*0.472*	*0.472*	*0.472*		
50 %		*0.472*	*0.472*	*0.472*	*0.472*	*0.472*	*0.472*		
75 %		*0.472*	*0.472*	*0.472*	*0.472*	*0.472*	*0.472*		
90 %		*0.472*	*0.472*	*0.472*	*0.472*	*0.472*	*0.472*		
None	D5 Pond	*0.257*	*0.256*	*0.256*	*0.255*	*0.256*	*0.255*		
50 %		*0.255*	*0.255*	*0.255*	*0.255*	*0.255*	*0.255*		
75 %		*0.255*	*0.255*	*0.254*	*0.254*	*0.254*	*0.254*		
90 %		*0.254*	*0.254*	*0.254*	*0.254*	*0.254*	*0.254*		
None	D5 Stream	0.332	*0.173*	*0.173*	*0.173*	*0.173*	*0.173*		
50 %		*0.173*	*0.173*	*0.173*	*0.173*	*0.173*	*0.173*		
75 %		*0.173*	*0.173*	*0.173*	*0.173*	*0.173*	*0.173*		
90 %		*0.173*	*0.173*	*0.173*	*0.173*	*0.173*	*0.173*		
None	D6 Ditch	0.360	*0.122*	*0.122*	*0.122*	*0.122*	*0.122*		
50 %		0.180	*0.122*	*0.122*	*0.122*	*0.122*	*0.122*		
75 %		*0.122*	*0.122*	*0.122*	*0.122*	*0.122*	*0.122*		
90 %		*0.122*	*0.122*	*0.122*	*0.122*	*0.122*	*0.122*		
None	R1 Pond	*0.224*	*0.222*	*0.217*	*0.214*	*0.094*	*0.049*		
50 %		*0.216*	*0.214*	*0.212*	*0.211*	*0.089*	*0.045*		
75 %		*0.212*	*0.211*	*0.210*	*0.209*	*0.086*	*0.044*		
90 %		*0.209*	*0.209*	*0.208*	*0.208*	*0.085*	*0.043*		
None	R1 Stream	*2.12*	*2.12*	*2.12*	*2.12*	*0.963*	*0.505*		
50 %		*2.12*	*2.12*	*2.12*	*2.12*	*0.963*	*0.505*		
75 %		*2.12*	*2.12*	*2.12*	*2.12*	*0.963*	*0.505*		
90 %		*2.12*	*2.12*	*2.12*	*2.12*	*0.963*	*0.505*		
None	R3 Stream	*1.65*	*1.65*	*1.65*	*1.65*	*0.752*	*0.394*		
50 %		*1.65*	*1.65*	*1.65*	*1.65*	*0.752*	*0.394*		
75 %		*1.65*	*1.65*	*1.65*	*1.65*	*0.752*	*0.394*		
90 %		*1.65*	*1.65*	*1.65*	*1.65*	*0.752*	*0.394*		
None	R4 Stream	1.21	1.21	1.21	1.21	0.545	0.285		
50 %		1.21	1.21	1.21	1.21	0.545	0.285		
75 %		1.21	1.21	1.21	1.21	0.545	0.285		
90 %		1.21	1.21	1.21	1.21	0.545	0.285		

* Maximum values coming from multiple applications are marked in italics

Table 8.9-105: PECsw values for flupyradifurone, following single application of DLT+FPF EC 85 to maize according to the Central EU zone GAP according to surface water Step 4 (modelling use maize 1 -- 1 -- 0.0562 kg a.s./ha)

PECsw (µg/L)	Scenario	Step 4 flupyradifurone							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	D3 Ditch	0.301	0.103	0.058	0.033	0.058	0.033		
50 %		0.154	0.055	0.032	0.020	0.032	0.020		
75 %		0.080	0.030	0.019	0.013	0.019	0.013		
90 %		0.036	0.016	0.011	0.010	0.011	0.010		
None	D4 Pond	0.336	0.335	0.335	0.334	0.335	0.334		
50 %		0.334	0.334	0.334	0.334	0.334	0.334		
75 %		0.334	0.334	0.333	0.333	0.333	0.333		
90 %		0.333	0.333	0.333	0.333	0.333	0.333		
None	D4 Stream	0.352	0.352	0.352	0.352	0.352	0.352		
50 %		0.352	0.352	0.352	0.352	0.352	0.352		
75 %		0.352	0.352	0.352	0.352	0.352	0.352		
90 %		0.352	0.352	0.352	0.352	0.352	0.352		
None	D5 Pond	0.134	0.134	0.133	0.133	0.133	0.133		
50 %		0.133	0.133	0.132	0.132	0.132	0.132		
75 %		0.132	0.132	0.132	0.132	0.132	0.132		
90 %		0.132	0.132	0.132	0.132	0.132	0.132		
None	D5 Stream	0.288	0.123	0.123	0.123	0.123	0.123		
50 %		0.144	0.123	0.123	0.123	0.123	0.123		
75 %		0.123	0.123	0.123	0.123	0.123	0.123		
90 %		0.123	0.123	0.123	0.123	0.123	0.123		
None	D6 Ditch	0.295	0.111	0.111	0.111	0.111	0.111		
50 %		0.150	0.111	0.111	0.111	0.111	0.111		
75 %		0.111	0.111	0.111	0.111	0.111	0.111		
90 %		0.111	0.111	0.111	0.111	0.111	0.111		
None	R1 Pond	0.072	0.071	0.068	0.066	0.031	0.017		
50 %		0.066	0.066	0.064	0.063	0.028	0.015		
75 %		0.064	0.063	0.063	0.062	0.026	0.013		
90 %		0.062	0.062	0.062	0.062	0.025	0.013		
None	R1 Stream	1.40	1.40	1.40	1.40	0.634	0.332		
50 %		1.40	1.40	1.40	1.40	0.634	0.332		
75 %		1.40	1.40	1.40	1.40	0.634	0.332		
90 %		1.40	1.40	1.40	1.40	0.634	0.332		
None	R2 Stream	0.274	0.219	0.219	0.219	0.100	0.052		
50 %		0.219	0.219	0.219	0.219	0.100	0.052		
75 %		0.219	0.219	0.219	0.219	0.100	0.052		
90 %		0.219	0.219	0.219	0.219	0.100	0.052		
None	R3 Stream	1.57	1.57	1.57	1.57	0.716	0.376		
50 %		1.57	1.57	1.57	1.57	0.716	0.376		
75 %		1.57	1.57	1.57	1.57	0.716	0.376		
90 %		1.57	1.57	1.57	1.57	0.716	0.376		

PECsw (µg/L)	**Scenario**	**Step 4 flupyradifurone**							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	R4 Stream	0.709	0.709	0.709	0.709	0.322	0.169		
50 %		0.709	0.709	0.709	0.709	0.322	0.169		
75 %		0.709	0.709	0.709	0.709	0.322	0.169		
90 %		0.709	0.709	0.709	0.709	0.322	0.169		

Table 8.9-106: PECsw values for flupyradifurone, following single/multiple applications(s) of DLT+FPF EC 85 to grape according to the Central EU zone GAP according to surface water Step 4 (modelling use grape 1 -- early -- 2×0.03 kg a.s./ha, 14d int.)

PECsw (µg/L)	**Scenario**	**Step 4 flupyradifurone**							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	D6 Ditch	0.514	0.311	0.114	*0.079*	0.114	*0.079*		
50 %		0.258	0.157	*0.079*	*0.079*	*0.079*	*0.079*		
75 %		0.130	0.079	*0.079*	*0.079*	*0.079*	*0.079*		
90 %		*0.079*	*0.079*	*0.079*	*0.079*	*0.079*	*0.079*		
None	R1 Pond	*0.034*	*0.038*	*0.023*	*0.014*	*0.020*	*0.010*		
50 %		*0.019*	*0.022*	*0.014*	*0.010*	*0.011*	*0.006*		
75 %		*0.012*	*0.014*	*0.010*	0.008	*0.007*	*0.003*		
90 %		*0.008*	*0.009*	0.007	0.007	*0.004*	*0.002*		
None	R1 Stream	0.504	0.504	0.504	0.504	0.222	0.115		
50 %		0.504	0.504	0.504	0.504	0.222	0.115		
75 %		0.504	0.504	0.504	0.504	0.222	0.115		
90 %		0.504	0.504	0.504	0.504	0.222	0.115		
None	R2 Stream	0.506	0.369	0.179	0.179	0.134	0.047		
50 %		0.253	0.184	0.179	0.179	0.077	0.040		
75 %		0.179	0.179	0.179	0.179	0.077	0.040		
90 %		0.179	0.179	0.179	0.179	0.077	0.040		
None	R3 Stream	*1.16*	*1.06*	*0.898*	*0.838*	*0.461*	*0.225*		
50 %		*0.983*	*0.935*	*0.852*	*0.822*	*0.413*	*0.208*		
75 %		*0.894*	*0.870*	*0.829*	*0.815*	*0.389*	*0.200*		
90 %		*0.841*	*0.831*	*0.815*	*0.815*	*0.375*	*0.195*		
None	R4 Stream	0.371	0.270	*0.161*	*0.161*	0.098	*0.039*		
50 %		0.185	*0.161*	*0.161*	*0.161*	*0.073*	*0.039*		
75 %		*0.161*	*0.161*	*0.161*	*0.161*	*0.073*	*0.039*		
90 %		*0.161*	*0.161*	*0.161*	*0.161*	*0.073*	*0.039*		

* Maximum values coming from multiple applications are marked in italics

Table 8.9-107: PECsw values for flupyradifurone, following single/multiple applications(s) of DLT+FPF EC 85 to grape according to the Central EU zone GAP according to surface water Step 4 (modelling use grape 1 -- late -- 2×0.03 kg a.s./ha, 14d int.)

PECsw (µg/L)	Scenario	Step 4 flupyradifurone							
Nozzle reduction	Vegetated strip (m)	None	None	None	None	10 m	20 m		
	No spray buffer (m)	0 m	5 m	10 m	20 m	10 m	20 m		
None	D6 Ditch	0.515	0.311	0.113	*0.060*	0.113	*0.060*		
50 %		0.258	0.156	*0.060*	*0.060*	*0.060*	*0.060*		
75 %		0.129	0.078	*0.060*	*0.060*	*0.060*	*0.060*		
90 %		*0.060*	*0.060*	*0.060*	*0.060*	*0.060*	*0.060*		
None	R1 Pond	*0.028*	*0.033*	*0.018*	*0.009*	*0.018*	*0.009*		
50 %		*0.014*	*0.016*	*0.009*	*0.004*	*0.009*	*0.004*		
75 %		*0.007*	*0.008*	*0.004*	*0.002*	*0.004*	*0.002*		
90 %		*0.003*	*0.003*	*0.002*	*<0.001*	*0.002*	*<0.001*		
None	R1 Stream	0.367	0.268	0.097	0.034	0.097	0.034		
50 %		0.184	0.134	0.049	0.017	0.049	0.017		
75 %		0.092	0.067	0.024	0.009	0.024	0.009		
90 %		0.037	0.027	0.010	0.003	0.010	0.003		
None	R2 Stream	0.506	0.369	*0.152*	*0.152*	0.134	0.047		
50 %		0.253	0.184	*0.152*	*0.152*	*0.068*	*0.036*		
75 %		*0.152*	*0.152*	*0.152*	*0.152*	*0.068*	*0.036*		
90 %		*0.152*	*0.152*	*0.152*	*0.152*	*0.068*	*0.036*		
None	R3 Stream	*0.713*	*0.713*	*0.713*	*0.713*	*0.323*	*0.169*		
50 %		*0.713*	*0.713*	*0.713*	*0.713*	*0.323*	*0.169*		
75 %		*0.713*	*0.713*	*0.713*	*0.713*	*0.323*	*0.169*		
90 %		*0.713*	*0.713*	*0.713*	*0.713*	*0.323*	*0.169*		
None	R4 Stream	*0.649*	*0.649*	*0.649*	*0.649*	*0.290*	*0.151*		
50 %		*0.649*	*0.649*	*0.649*	*0.649*	*0.290*	*0.151*		
75 %		*0.649*	*0.649*	*0.649*	*0.649*	*0.290*	*0.151*		
90 %		*0.649*	*0.649*	*0.649*	*0.649*	*0.290*	*0.151*		

* Maximum values coming from multiple applications are marked in italics

FOCUS Step 4 PEC_{sed}

FOCUS Step 4 PECsed values have been calculated and are contained in the PEC report, however, since these values are not required for risk assessment, they are omitted here.

Metabolites of flupyradifurone

FOCUS Steps 1-2

Metabolite 6-chloronicotinic acid

~~**Table 8.9-108: FOCUS Step 1, 2 PEC$_{sw}$ and PEC$_{sed}$ for 6-chloronicotinic acid following single/multiple application(s) of DLT+FPF EC 85 to sunflower (modelling use sunflower 1 -- spring -- 2×56.2g a.s./ha, 14d int.)**~~

Scenario FOCUS	Waterbody	Max PEC$_{sw}$ (µg/L)*	Dominant entry route	21d-PEC$_{sw,twa}$ (µg/L)**	Max PEC$_{sed}$ (µg/kg)*
~~Step 1~~	~~–~~	~~3.13~~	~~-~~	~~3.11~~	~~2.75~~
~~Step 2~~					
~~Northern Europe~~	~~Mar. - May(Spring)~~	~~0.098~~	~~-~~	~~0.097~~	~~0.086~~
~~Southern Europe~~	~~Mar. - May(Spring)~~	~~0.196~~	~~-~~	~~0.194~~	~~0.172~~

~~* Single applications are marked.~~
~~** TWA interval as required by ecotox~~

~~**Table 8.9-109: FOCUS Step 1, 2 PEC$_{sw}$ and PEC$_{sed}$ for 6-chloronicotinic acid following single/multiple application(s) of DLT+FPF EC 85 to sunflower (modelling use sunflower 1 -- summer -- 2×56.2g a.s./ha, 14d int.)**~~

Scenario FOCUS	Waterbody	Max PEC$_{sw}$ (µg/L)*	Dominant entry route	21d-PEC$_{sw,twa}$ (µg/L)**	Max PEC$_{sed}$ (µg/kg)*
~~Step 1~~	~~–~~	~~3.13~~	~~-~~	~~3.11~~	~~2.75~~
~~Step 2~~					
~~Northern Europe~~	~~Jun. - Sep.(Summer)~~	~~0.049~~	~~-~~	~~0.049~~	~~0.043~~
~~Southern Europe~~	~~Jun. - Sep.(Summer)~~	~~0.073~~	~~-~~	~~0.073~~	~~0.065~~

~~* Single applications are marked.~~
~~** TWA interval as required by ecotox~~

Table 8.9-110: FOCUS Step 1, 2 PEC$_{sw}$ and PEC$_{sed}$ for 6-chloronicotinic acid following single application(s) of DLT+FPF EC 85 to sorghum (modelling use sorghum 1 -- spring -- 1×56.2g a.s./ha)

Scenario FOCUS	Waterbody	Max PEC$_{sw}$ (µg/L)*	Dominant entry route	21d-PEC$_{sw,twa}$ (µg/L)**	Max PEC$_{sed}$ (µg/kg)*
Step 1	-	1.57	-	1.55	1.38
Step 2					
Northern Europe	Mar. - May(Spring)	0.052 *	-	0.052	0.046 *
Southern Europe	Mar. - May(Spring)	0.104 *	-	0.103	0.092 *

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-111: FOCUS Step 1, 2 PEC$_{sw}$ and PEC$_{sed}$ for 6-chloronicotinic acid following single/multiple application(s) of DLT+FPF EC 85 to spring cereals (modelling use spring cereals 1 -- spring -- 2×37.5g a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC$_{sw}$ (µg/L)*	Dominant entry route	21d-PEC$_{sw,twa}$ (µg/L)**	Max PEC$_{sed}$ (µg/kg)*
Step 1	-	2.09	-	2.07	1.84
Step 2					
Northern Europe	Mar. - May(Spring)	0.039	-	0.039	0.034
Southern Europe	Mar. - May(Spring)	0.078	-	0.078	0.069

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-112: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for 6-chloronicotinic acid following single/multiple application(s) of DLT+FPF EC 85 to spring cereals (modelling use spring cereals 2 -- spring -- 2×56.2g a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	3.13	-	3.11	2.75
Step 2					
Northern Europe	Mar. - May(Spring)	0.059	-	0.058	0.052
Southern Europe	Mar. - May(Spring)	0.117	-	0.117	0.103

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-113: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for 6-chloronicotinic acid following single/multiple application(s) of DLT+FPF EC 85 to winter cereals (modelling use winter cereals 1 -- spring -- 2×37.5g a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	2.09	-	2.07	1.84
Step 2					
Northern Europe	Mar. - May(Spring)	0.039	-	0.039	0.034
Southern Europe	Mar. - May(Spring)	0.078	-	0.078	0.069

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-114: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for 6-chloronicotinic acid following single/multiple application(s) of DLT+FPF EC 85 to winter cereals (modelling use winter cereals 2 -- spring -- 2×56.2g a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	3.13	-	3.11	2.75
Step 2					
Northern Europe	Mar. - May(Spring)	0.059	-	0.058	0.052
Southern Europe	Mar. - May(Spring)	0.117	-	0.117	0.103

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-115: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for 6-chloronicotinic acid following single application(s) of DLT+FPF EC 85 to maize (modelling use maize 1 -- spring -- 1×56.2g a.s./ha)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	1.57	-	1.55	1.38
Step 2					
Northern Europe	Mar. - May(Spring)	0.043 *	-	0.043	0.038 *
Southern Europe	Mar. - May(Spring)	0.087 *	-	0.086	0.076 *

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-116: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for 6-chloronicotinic acid following single/multiple application(s) of DLT+FPF EC 85 to grape (modelling use grape 1 -- spring -- 2×30g a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	1.67	-	1.66	1.47
Step 2					
Northern Europe	Mar. - May(Spring)	0.042	-	0.042	0.037
Southern Europe	Mar. - May(Spring)	0.084	-	0.083	0.074

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-117: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for 6-chloronicotinic acid following single/multiple application(s) of DLT+FPF EC 85 to grape (modelling use grape 1 -- summer -- 2×30g a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	1.67	-	1.66	1.47
Step 2					
Northern Europe	Jun. - Sep.(Summer)	0.042	-	0.042	0.037
Southern Europe	Jun. - Sep.(Summer)	0.063	-	0.062	0.055

* Single applications are marked.
** TWA interval as required by ecotox

Metabolite difluoroacetic acid

~~**Table 8.9-118: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for difluoroacetic acid following single/multiple application(s) of DLT+FPF EC 85 to sunflower (modelling use sunflower 1 -- spring -- 2×56.2g a.s./ha, 14d int.)**~~

~~Scenario FOCUS~~	~~Waterbody~~	~~Max PEC_{sw} (µg/L)*~~	~~Dominant entry route~~	~~21d-$PEC_{sw,twa}$ (µg/L)**~~	~~Max PEC_{sed} (µg/kg)*~~
~~Step 1~~	~~–~~	~~5.06~~	-	~~4.92~~	~~0.343~~
~~Step 2~~					
~~Northern Europe~~	~~Mar. - May(Spring)~~	~~0.454~~	-	~~0.441~~	~~0.031~~
~~Southern Europe~~	~~Mar. - May(Spring)~~	~~0.888~~	-	~~0.862~~	~~0.060~~

~~* Single applications are marked.~~
~~** TWA interval as required by ecotox~~

~~**Table 8.9-119: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for difluoroacetic acid following single/multiple application(s) of DLT+FPF EC 85 to sunflower (modelling use sunflower 1 -- summer -- 2×56.2g a.s./ha, 14d int.)**~~

~~Scenario FOCUS~~	~~Waterbody~~	~~Max PEC_{sw} (µg/L)*~~	~~Dominant entry route~~	~~21d-$PEC_{sw,twa}$ (µg/L)**~~	~~Max PEC_{sed} (µg/kg)*~~
~~Step 1~~	~~–~~	~~5.06~~	-	~~4.92~~	~~0.343~~
~~Step 2~~					
~~Northern Europe~~	~~Jun. - Sep.(Summer)~~	~~0.237~~	-	~~0.230~~	~~0.016~~
~~Southern Europe~~	~~Jun. - Sep.(Summer)~~	~~0.346~~	-	~~0.336~~	~~0.023~~

~~* Single applications are marked.~~
~~** TWA interval as required by ecotox~~

Table 8.9-120: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for difluoroacetic acid following single application(s) of DLT+FPF EC 85 to sorghum (modelling use sorghum 1 -- spring -- 1×56.2g a.s./ha)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	2.53	-	2.46	0.172
Step 2					
Northern Europe	Mar. - May(Spring)	0.155 *	-	0.150	0.011 *
Southern Europe	Mar. - May(Spring)	0.297 *	-	0.289	0.020 *

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-121: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for difluoroacetic acid following single/multiple application(s) of DLT+FPF EC 85 to spring cereals (modelling use spring cereals 1 -- spring -- 2×37.5g a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	3.38	-	3.28	0.229
Step 2					
Northern Europe	Mar. - May(Spring)	0.187	-	0.182	0.013
Southern Europe	Mar. - May(Spring)	0.361	-	0.350	0.025

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-122: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for difluoroacetic acid following single/multiple application(s) of DLT+FPF EC 85 to spring cereals (modelling use spring cereals 2 -- spring -- 2×56.2g a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	5.06	-	4.92	0.343
Step 2					
Northern Europe	Mar. - May(Spring)	0.280	-	0.272	0.019
Southern Europe	Mar. - May(Spring)	0.541	-	0.525	0.037

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-123: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for difluoroacetic acid following single/multiple application(s) of DLT+FPF EC 85 to winter cereals (modelling use winter cereals 1 -- spring -- 2×37.5g a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	3.38	-	3.28	0.229
Step 2					
Northern Europe	Mar. - May(Spring)	0.187	-	0.182	0.013
Southern Europe	Mar. - May(Spring)	0.361	-	0.350	0.025

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-124: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for difluoroacetic acid following single/multiple application(s) of DLT+FPF EC 85 to winter cereals (modelling use winter cereals 2 -- spring -- 2×56.2g a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	5.06	-	4.92	0.343
Step 2					
Northern Europe	Mar. - May(Spring)	0.280	-	0.272	0.019
Southern Europe	Mar. - May(Spring)	0.541	-	0.525	0.037

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-125: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for difluoroacetic acid following single application(s) of DLT+FPF EC 85 to maize (modelling use maize 1 -- spring -- 1×56.2g a.s./ha)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	2.53	-	2.46	0.172
Step 2					
Northern Europe	Mar. - May(Spring)	0.131 *	-	0.127	0.009 *
Southern Europe	Mar. - May(Spring)	0.250 *	-	0.243	0.017 *

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-126: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for difluoroacetic acid following single/multiple application(s) of DLT+FPF EC 85 to grape (modelling use grape 1 -- spring -- 2×30g a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	2.70	-	2.62	0.183
Step 2					
Northern Europe	Mar. - May(Spring)	0.196	-	0.191	0.013
Southern Europe	Mar. - May(Spring)	0.382	-	0.371	0.026

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-127: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for difluoroacetic acid following single/multiple application(s) of DLT+FPF EC 85 to grape (modelling use grape 1 -- summer -- 2×30g a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	2.73	-	2.65	0.185
Step 2					
Northern Europe	Jun. - Sep.(Summer)	0.217	-	0.210	0.015
Southern Europe	Jun. - Sep.(Summer)	0.309	-	0.300	0.021

* Single applications are marked.
** TWA interval as required by ecotox

Metabolite BYI 02960-succinamide

~~**Table 8.9-128: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for BYI 02960-succinamide following single/multiple application(s) of DLT+FPF EC 85 to sunflower (modelling use sunflower 1 -- spring -- 2×56.2g a.s./ha, 14d int.)**~~

~~Scenario FOCUS~~	~~Waterbody~~	~~Max PEC_{sw} (µg/L)*~~	~~Dominant entry route~~	~~21d-$PEC_{sw,twa}$ (µg/L)**~~	~~Max PEC_{sed} (µg/kg)*~~
~~Step 1~~	~~–~~	~~16.2~~	~~-~~	~~16.1~~	~~<0.001~~
~~Step 2~~					
~~Northern Europe~~	~~Mar. - May(Spring)~~	~~1.84~~	~~-~~	~~1.82~~	~~<0.001 *~~
~~Southern Europe~~	~~Mar. - May(Spring)~~	~~3.29~~	~~-~~	~~3.27~~	~~<0.001 *~~

~~* Single applications are marked.~~
~~** TWA interval as required by ecotox~~

~~**Table 8.9-129: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for BYI 02960-succinamide following single/multiple application(s) of DLT+FPF EC 85 to sunflower (modelling use sunflower 1 -- summer -- 2×56.2g a.s./ha, 14d int.)**~~

~~Scenario FOCUS~~	~~Waterbody~~	~~Max PEC_{sw} (µg/L)*~~	~~Dominant entry route~~	~~21d-$PEC_{sw,twa}$ (µg/L)**~~	~~Max PEC_{sed} (µg/kg)*~~
~~Step 1~~	~~–~~	~~16.2~~	~~-~~	~~16.1~~	~~<0.001~~
~~Step 2~~					
~~Northern Europe~~	~~Jun. - Sep.(Summer)~~	~~1.11~~	~~-~~	~~1.10~~	~~<0.001 *~~
~~Southern Europe~~	~~Jun. - Sep.(Summer)~~	~~1.47~~	~~-~~	~~1.46~~	~~<0.001 *~~

~~* Single applications are marked.~~
~~** TWA interval as required by ecotox~~

Table 8.9-130: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for BYI 02960-succinamide following single application(s) of DLT+FPF EC 85 to sorghum (modelling use sorghum 1 -- spring -- 1×56.2g a.s./ha)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	8.10	-	8.04	<0.001
Step 2					
Northern Europe	Mar. - May(Spring)	0.676 *	-	0.671	<0.001 *
Southern Europe	Mar. - May(Spring)	1.14 *	-	1.13	<0.001 *

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-131: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for BYI 02960-succinamide following single/multiple application(s) of DLT+FPF EC 85 to spring cereals (modelling use spring cereals 1 -- spring -- 2×37.5g a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	10.8	-	10.7	<0.001
Step 2					
Northern Europe	Mar. - May(Spring)	0.838	-	0.831	<0.001 *
Southern Europe	Mar. - May(Spring)	1.42	-	1.41	<0.001 *

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-132: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for BYI 02960-succinamide following single/multiple application(s) of DLT+FPF EC 85 to spring cereals (modelling use spring cereals 2 -- spring -- 2×56.2g a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	16.2	-	16.1	<0.001
Step 2					
Northern Europe	Mar. - May(Spring)	1.26	-	1.25	<0.001 *
Southern Europe	Mar. - May(Spring)	2.13	-	2.11	<0.001 *

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-133: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for BYI 02960-succinamide following single/multiple application(s) of DLT+FPF EC 85 to winter cereals (modelling use winter cereals 1 -- spring -- 2×37.5g a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	10.8	-	10.7	<0.001
Step 2					
Northern Europe	Mar. - May(Spring)	0.838	-	0.831	<0.001 *
Southern Europe	Mar. - May(Spring)	1.42	-	1.41	<0.001 *

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-134: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for BYI 02960-succinamide following single/multiple application(s) of DLT+FPF EC 85 to winter cereals (modelling use winter cereals 2 -- spring -- 2×56.2g a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	16.2	-	16.1	<0.001
Step 2					
Northern Europe	Mar. - May(Spring)	1.26	-	1.25	<0.001 *
Southern Europe	Mar. - May(Spring)	2.13	-	2.11	<0.001 *

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-135: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for BYI 02960-succinamide following single application(s) of DLT+FPF EC 85 to maize (modelling use maize 1 -- spring -- 1×56.2g a.s./ha)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	8.10	-	8.04	<0.001
Step 2					
Northern Europe	Mar. - May(Spring)	0.600 *	-	0.595	<0.001 *
Southern Europe	Mar. - May(Spring)	0.982 *	-	0.975	<0.001 *

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-136: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for BYI 02960-succinamide following single/multiple application(s) of DLT+FPF EC 85 to grape (modelling use grape 1 -- spring -- 2×30g a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	8.64	-	8.58	<0.001
Step 2					
Northern Europe	Mar. - May(Spring)	0.830	-	0.824	<0.001 *
Southern Europe	Mar. - May(Spring)	1.45	-	1.44	<0.001 *

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-137: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for BYI 02960-succinamide following single/multiple application(s) of DLT+FPF EC 85 to grape (modelling use grape 1 -- summer -- 2×30g a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	9.09	-	9.02	<0.001
Step 2					
Northern Europe	Jun. - Sep.(Summer)	1.22	-	1.21	<0.001 *
Southern Europe	Jun. - Sep.(Summer)	1.53	-	1.52	<0.001 *

* Single applications are marked.
** TWA interval as required by ecotox

Metabolite BYI 02960-azabicyclosuccinamide

~~**Table 8.9-138: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for BYI 02960-azabicyclosuccinamide following single/multiple application(s) of DLT+FPF EC 85 to sunflower (modelling use sunflower 1 -- spring -- 2×56.2g a.s./ha, 14d int.)**~~

~~Scenario FOCUS~~	~~Waterbody~~	~~Max PEC_{sw} (µg/L)*~~	~~Dominant entry route~~	~~21d-$PEC_{sw,twa}$ (µg/L)**~~	~~Max PEC_{sed} (µg/kg)*~~
~~Step 1~~	~~–~~	~~9.96~~	~~-~~	~~9.89~~	~~<0.001~~
~~Step 2~~					
~~Northern Europe~~	~~Mar. - May(Spring)~~	~~1.13~~	~~-~~	~~1.12~~	~~<0.001 *~~
~~Southern Europe~~	~~Mar. - May(Spring)~~	~~2.03~~	~~-~~	~~2.01~~	~~<0.001 *~~

~~* Single applications are marked.~~
~~** TWA interval as required by ecotox~~

~~**Table 8.9-139: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for BYI 02960-azabicyclosuccinamide following single/multiple application(s) of DLT+FPF EC 85 to sunflower (modelling use sunflower 1 -- summer -- 2×56.2g a.s./ha, 14d int.)**~~

~~Scenario FOCUS~~	~~Waterbody~~	~~Max PEC_{sw} (µg/L)*~~	~~Dominant entry route~~	~~21d-$PEC_{sw,twa}$ (µg/L)**~~	~~Max PEC_{sed} (µg/kg)*~~
~~Step 1~~	~~–~~	~~9.96~~	~~-~~	~~9.89~~	~~<0.001~~
~~Step 2~~					
~~Northern Europe~~	~~Jun. - Sep.(Summer)~~	~~0.682~~	~~-~~	~~0.677~~	~~<0.001 *~~
~~Southern Europe~~	~~Jun. - Sep.(Summer)~~	~~0.906~~	~~-~~	~~0.899~~	~~<0.001 *~~

~~* Single applications are marked.~~
~~** TWA interval as required by ecotox~~

Table 8.9-140: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for BYI 02960-azabicyclosuccinamide following single application(s) of DLT+FPF EC 85 to sorghum (modelling use sorghum 1 -- spring -- 1×56.2g a.s./ha)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	4.98	-	4.94	<0.001
Step 2					
Northern Europe	Mar. - May(Spring)	0.416 *	-	0.413	<0.001 *
Southern Europe	Mar. - May(Spring)	0.698 *	-	0.693	<0.001 *

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-141: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for BYI 02960-azabicyclosuccinamide following single/multiple application(s) of DLT+FPF EC 85 to spring cereals (modelling use spring cereals 1 -- spring -- 2×37.5g a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	6.64	-	6.60	<0.001
Step 2					
Northern Europe	Mar. - May(Spring)	0.515	-	0.511	<0.001 *
Southern Europe	Mar. - May(Spring)	0.873	-	0.867	<0.001 *

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-142: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for BYI 02960-azabicyclosuccinamide following single/multiple application(s) of DLT+FPF EC 85 to spring cereals (modelling use spring cereals 2 -- spring -- 2×56.2g a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	9.96	-	9.89	<0.001
Step 2					
Northern Europe	Mar. - May(Spring)	0.772	-	0.766	<0.001 *
Southern Europe	Mar. - May(Spring)	1.31	-	1.30	<0.001 *

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-143: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for BYI 02960-azabicyclosuccinamide following single/multiple application(s) of DLT+FPF EC 85 to winter cereals (modelling use winter cereals 1 -- spring -- 2×37.5g a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	6.64	-	6.60	<0.001
Step 2					
Northern Europe	Mar. - May(Spring)	0.515	-	0.511	<0.001 *
Southern Europe	Mar. - May(Spring)	0.873	-	0.867	<0.001 *

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-144: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for BYI 02960-azabicyclosuccinamide following single/multiple application(s) of DLT+FPF EC 85 to winter cereals (modelling use winter cereals 2 -- spring -- 2×56.2g a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	9.96	-	9.89	<0.001
Step 2					
Northern Europe	Mar. - May(Spring)	0.772	-	0.766	<0.001 *
Southern Europe	Mar. - May(Spring)	1.31	-	1.30	<0.001 *

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-145: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for BYI 02960-azabicyclosuccinamide following single application(s) of DLT+FPF EC 85 to maize (modelling use maize 1 -- spring -- 1×56.2g a.s./ha)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	4.98	-	4.94	<0.001
Step 2					
Northern Europe	Mar. - May(Spring)	0.369 *	-	0.366	<0.001 *
Southern Europe	Mar. - May(Spring)	0.604 *	-	0.600	<0.001 *

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-146: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for BYI 02960-azabicyclosuccinamide following single/multiple application(s) of DLT+FPF EC 85 to grape (modelling use grape 1 -- spring -- 2×30g a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	5.31	-	5.27	<0.001
Step 2					
Northern Europe	Mar. - May(Spring)	0.510	-	0.507	<0.001 *
Southern Europe	Mar. - May(Spring)	0.893	-	0.886	<0.001 *

* Single applications are marked.
** TWA interval as required by ecotox

Table 8.9-147: FOCUS Step 1, 2 PEC_{sw} and PEC_{sed} for BYI 02960-azabicyclosuccinamide following single/multiple application(s) of DLT+FPF EC 85 to grape (modelling use grape 1 -- summer -- 2×30g a.s./ha, 14d int.)

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	21d-$PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*
Step 1	-	5.59	-	5.55	<0.001
Step 2					
Northern Europe	Jun. - Sep.(Summer)	0.748	-	0.742	<0.001 *
Southern Europe	Jun. - Sep.(Summer)	0.939	-	0.932	<0.001 *

* Single applications are marked.
** TWA interval as required by ecotox

zRMS comments:

The input parameters considered by the Applicant in surface water modelling for flupyradifurone and its metabolites presented in Table 8.9-49 are in line with EU agreed endpoints reported in EFSA Journal 2015;13(2):4020.

As indicated in the commenting box in point 8.9.2, the application data assumed in simulations were agreed by the zRMS.

Step 4 simulations were performed in line with recommendations of the FOCUS work group on landscape and mitigation factors (2007).

It is noted that simulations were performed with TSCF of 0 (according to the current requirements) and 0.5 (EU agreed value resulting from guidance documents valid at the time of EU review). As already discussed in point 8.8.2.2, the zRMS is of the opinion that available data are not sufficient to refine this parameter for flupyradifurone and for this reason TSCF of 0 is relevant for the exposure assessment purposes. Nevertheless, results of the surface water modelling performed with TSCF of 0.5 were retained for information of the concerned Member States that do accept refinement of TSCF using Briggs equation. Please note that results with TSCF of 0.5 were not validated by the zRMS in additional surface water modelling and for this reason they are displayed in grey letters in tables above.

Surface water modelling performed with TSCF of 0 was independently validated by the zRMS using the same input parameters. Obtained values were in good agreement with values obtained by the Applicant and therefore surface water exposure reported in the following tables may be used in the aquatic risk assessment:

- Tables 8.9-52 to 8.9-59 (Step 1+2 for the parent),
- Tables 8.9-62 to 8.9-71 (Step 3 for the parent),
- Tables 8.9-86 to 8.9-95 (Step 4 for the parent),
- Tables 8.9-110 to 8.9-117, 8.9-120 to 8.9-127, 8.9-130 to 8.9-137 and 8.9-140 to 8.9-147 (Step 1+2 for metabolites).

Since use in sunflower was withdrawn by the Applicant, the surface water exposure for this use was struck through in tables above as no longer relevant.

As the formulation is intended to be applied to grape, according to indications of the *Working document of the Central Zone in the authorization of plant protection products, Section 8, Environmental fate and behaviour* (Version 1 rev. 1, June 2018) performed simulations must cover all scenarios relevant for the Central Zone. As some required scenarios are not defined for vines, simulations must be performed with consideration of the surrogate crop and pome fruit seems to be most relevant surrogate crop for vines.

During the commenting period the Applicant performed additional modelling using pome fruit as surrogate crop but considering the drift rates relevant for grape (M-832153-01-1). The application windows used for the calculations are presented in the commenting box under the point 8.9.2. Additional surface water modelling was independently validated by the zRMS using the same input parameters and obtained results were in good agreement with values obtained by the Applicant. The previous calculations performed by the zRMS and presented below are struck through as not relevant.

~~In absence of simulations performed by the Applicant for the surrogate crop, additional modelling was performed by the zRMS with consideration of application to pome fruit at BBCH 57-81. The application windows are already presented in the commenting box under the point 8.9.2.~~

~~For BBCH 57 early application to pome/stone fruits was assumed, while for BBCH 81 late application was considered.~~

~~Step 3 surface water exposure calculated by the zRMS for flupyradifurone following multiple/single application of DLT+FPF EC 85 (early application) to pome fruits is presented in the table below.~~

~~**DLT+FPF EC 85 in pome fruit (surrogate for vines) - early application at 2×0.03 kg a.s./ha, 14d int.**~~

~~**Scenario FOCUS**~~	~~**Waterbody**~~	~~**Max PEC$_{sw}$ (µg/L)***~~	~~**Dominant entry route**~~	~~**21d-PEC$_{sw,twa}$ (µg/L)****~~	~~**Max PEC$_{sed}$ (µg/kg)***~~
~~Step 3~~					
~~D3~~	~~Ditch~~	~~**1.10**~~ ~~*~~	~~Spray drift~~	~~0.094~~	~~0.381~~ ~~*~~

D4	Pond	0.267		Spray drift	0.262	0.994	
D4	Stream	**1.10**	*	Spray drift	0.064	0.154	*
D5	Pond	0.221		Spray drift	0.208	1.308	
D5	Stream	**1.19**	*	Spray drift	0.030	0.271	*

* Single applications are marked.
** TWA interval as required by ecotox
Values in **bold** exceed the RAC of 0.617 µg/L

DLT+FPF EC 85 in pome fruit (surrogate for vines) - late application at 2×0.03 kg a.s./ha, 14d int.

Scenario FOCUS	Waterbody	Max PEC_{sw} (µg/L)*		Dominant entry route	21d $PEC_{sw,twa}$ (µg/L)**	Max PEC_{sed} (µg/kg)*	
Step 3							
D3	Ditch	**1.10**	*	Spray drift	0.122	0.432	*
D4	Pond	0.390		Spray drift	0.382	1.44	
D4	Stream	**1.11**	*	Spray drift	0.105	0.202	*
D5	Pond	0.188		Spray drift	0.180	0.930	
D5	Stream	**1.19**	*	Spray drift	0.031	0.231	*

* Single applications are marked.
** TWA interval as required by ecotox
Values in **bold** exceed the RAC of 0.617 µg/L

As the PEC_{sw} values derived at Step 3 for scenarios: D3 ditch, D4 and D5 stream for single application exceed the lowest RAC, additional modelling at Step 4 was performed by the zRMS. Obtained results are presented in the table below:

PECsw° (µg/L)	Scenario	Step 4 flupyradifurone				
Nozzle reduction	Crop	pome fruit - early application		pome fruit – late application		
	No spray buffer (m)	0 m	5 m	0 m	5 m	10m
None	D3 Ditch	**1.10**	**0.744**	**1.10**	**0.745**	0.330
50 %		0.550	0.372	0.552	0.372	
None	D4 Stream	**1.10**	**0.862**	**1.11**	**0.864**	0.378
50 %		0.550	0.432	0.541	0.422	
None	D5 Stream	**1.19**	**0.931**	**1.19**	**0.932**	0.416
50 %		0.591	0.466	0.597	0.466	

PEC values coming from single applications
Values in **bold** exceed the RAC of 0.617 µg/L

It should be pointed out that the additional calculations were performed by the zRMS for pome/stone fruits for which the spray drift values are much higher comparing to these relevant for vineyards. Therefore it would be possible to perform simulations for pome/stone fruits as surrogate crop, but with drift values manually reduced to the level relevant for vineyards. Therefore the Applicant may provide such calculations in order to more adequately address surface water exposure following uses in vines.

Please note that additional surface water modelling may be required by the Member States that do not accept simulations performed according to FOCUS recommendations.

8.9.2.3 $PEC_{sw/sed}$ of DLT+FPF EC 85

PEC_{sw} and PEC_{sed} for formulations are based on Ganzelmeier data covering the respective crop (arable crops) and the number of applications. All loadings are considered to occur in a single pseudo-application reaching the standard static ditch (width 1 m, depth 30 cm, sediment depth 5 cm, and sediment density 0.8 kg/L). Since no degradation data is available for the product, no TWA concentrations can be calculated. A product density of 1.157 kg/L was assumed.

~~Table 8.9-148: PECsw via spray drift for DLT+FPF EC 85 following application to sunflower or cereals (2 × 0.75 L product/ha)~~

~~PEC_{sw} (µg/L)~~	~~Distance (m)~~				
	~~1~~	~~5~~	~~10~~	~~15~~	~~20~~
~~0% drift reduction~~	~~13.768~~	~~2.719~~	~~1.388~~	~~0.926~~	~~0.694~~
~~50% drift reduction~~	~~6.884~~	~~1.359~~	~~0.694~~	~~0.463~~	~~0.347~~
~~75% drift reduction~~	~~3.442~~	~~0.680~~	~~0.347~~	~~0.231~~	~~0.174~~
~~90% drift reduction~~	~~1.377~~	~~0.272~~	~~0.139~~	~~0.093~~	~~0.069~~

~~Table 8.9-149: PECsed via spray drift for DLT+FPF EC 85 following application to sunflower or cereals (2 × 0.75 L product/ha)~~

~~PEC_{sed} (µg/kg)~~	~~Distance (m)~~				
	~~1~~	~~5~~	~~10~~	~~15~~	~~20~~
~~0% drift reduction~~	~~103.262~~	~~20.392~~	~~10.413~~	~~6.942~~	~~5.207~~
~~50% drift reduction~~	~~51.631~~	~~10.196~~	~~5.207~~	~~3.471~~	~~2.603~~
~~75% drift reduction~~	~~25.816~~	~~5.098~~	~~2.603~~	~~1.736~~	~~1.302~~
~~90% drift reduction~~	~~10.326~~	~~2.039~~	~~1.041~~	~~0.694~~	~~0.521~~

Table 8.9-150: PECsw via spray drift for DLT+FPF EC 85 following application to sorghum or maize (1 × 0.75 L product/ha)

PEC_{sw} (µg/L)	**Distance (m)**				
	1	**5**	**10**	**15**	**20**
0% drift reduction	8.012	1.649	0.839	0.579	0.434
50% drift reduction	4.006	0.824	0.419	0.289	0.217
75% drift reduction	2.003	0.412	0.210	0.145	0.108
90% drift reduction	0.801	0.165	0.084	0.058	0.043

~~Table 8.9-151: PECsed via spray drift for DLT+FPF EC 85 following application to sorghum or maize (1 × 0.75 L product/ha)~~

~~PEC_{sed} (µg/kg)~~	~~Distance (m)~~				
	~~1~~	~~5~~	~~10~~	~~15~~	~~20~~
~~0% drift reduction~~	~~60.092~~	~~12.365~~	~~6.291~~	~~4.339~~	~~3.254~~
~~50% drift reduction~~	~~30.046~~	~~6.183~~	~~3.146~~	~~2.169~~	~~1.627~~
~~75% drift reduction~~	~~15.023~~	~~3.091~~	~~1.573~~	~~1.085~~	~~0.814~~
~~90% drift reduction~~	~~6.009~~	~~1.237~~	~~0.629~~	~~0.434~~	~~0.325~~

Table 8.9-152: PECsw via spray drift for DLT+FPF EC 85 following application to cereals (2 × 0.5 L product/ha)

PEC_{sw} (µg/L)	**Distance (m)**				
	1	**5**	**10**	**15**	**20**
0% drift reduction	9.179	1.813	0.926	0.617	0.463
50% drift reduction	4.589	0.906	0.463	0.309	0.231
75% drift reduction	2.295	0.453	0.231	0.154	0.116
90% drift reduction	0.918	0.181	0.093	0.062	0.046

~~**Table 8.9-153: PECsed via spray drift for DLT+FPF EC 85 following application to cereals (2 × 0.5 L product/ha)**~~

~~PEC$_{sed}$ (µg/kg)~~	~~Distance (m)~~				
	~~1~~	~~5~~	~~10~~	~~15~~	~~20~~
~~0% drift reduction~~	~~68.842~~	~~13.595~~	~~6.942~~	~~4.628~~	~~3.471~~
~~50% drift reduction~~	~~34.421~~	~~6.797~~	~~3.471~~	~~2.314~~	~~1.736~~
~~75% drift reduction~~	~~17.210~~	~~3.399~~	~~1.736~~	~~1.157~~	~~0.868~~
~~90% drift reduction~~	~~6.884~~	~~1.359~~	~~0.694~~	~~0.463~~	~~0.347~~

Table 8.9-154: PECsw via spray drift for DLT+FPF EC 85 following application to grapes (2 × 0.4 L product/ha)

PEC$_{sw}$ (µg/L)	Distance (m)				
	3	5	10	15	20
0% drift reduction	22.307	9.935	3.301	1.728	1.111
50% drift reduction	11.153	4.967	1.651	0.864	0.555
75% drift reduction	5.577	2.484	0.825	0.432	0.278
90% drift reduction	2.231	0.993	0.330	0.173	0.111

~~**Table 8.9-155: PECsed via spray drift for DLT+FPF EC 85 following application to grapes (2 × 0.4 L product/ha)**~~

~~PEC$_{sed}$ (µg/kg)~~	~~Distance (m)~~				
	~~3~~	~~5~~	~~10~~	~~15~~	~~20~~
~~0% drift reduction~~	~~167.302~~	~~74.511~~	~~24.760~~	~~12.958~~	~~8.330~~
~~50% drift reduction~~	~~83.651~~	~~37.255~~	~~12.380~~	~~6.479~~	~~4.165~~
~~75% drift reduction~~	~~41.826~~	~~18.628~~	~~6.190~~	~~3.240~~	~~2.083~~
~~90% drift reduction~~	~~16.730~~	~~7.451~~	~~2.476~~	~~1.296~~	~~0.833~~

zRMS comments:

The surface water exposure to formulation DLT+FPF EC 85 was validated by the zRMS using the Spray Drift Calculator. Obtained results were in agreement with these reported in tables above.

It should be, however, noted that currently the formulation PEC$_{SW}$ is not used in the combined risk assessment for aquatic organisms. Instead, in line with EFSA aquatic guidance (2013), the PECmix being the sum of PEC$_{SW}$ for particular active compounds is considered.

Sediment exposure was not validated by the zRMS since partitioning of the formulation to the sediment is not expected (this will be relevant for particular active compounds and their metabolites).

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

Fate and behaviour of deltamethrin in air

The fate of deltamethrin in air has been evaluated; full details are provided in the respective EU reference and related documents and summarised in the EU Review Report (6504/VI/99-final). No additional studies have been performed.

Table 8.10-1: Summary of atmospheric degradation and behaviour

Compound	Deltamethrin	Evaluated on EU level y/n/ Reference
Direct photolysis in air	Not studied - no data required	Y/ EU Review Report (6504/VI/99-final)
Quantum yield of direct phototransformation	Not studied - no data required	Y/ EU Review Report (6504/VI/99-final)
Photochemical oxidative degradation in air	DT_{50} (h): 16 h (derived by the Atkinson model AOPWIN version 1.80 for OH (24-h) concentration of 0.5×10^6 OH/cm^3	Y/ EU Review Report (6504/VI/99-final)
Volatilisation	No data required since vapour pressure (Pa) at 25°C is 1.24×10^{-8} (negligible volatilisation expected) Henry's Law Constant (Pa m^3/mol) at 25°C: 3.1×10^{-2}	Y/ EU Review Report (6504/VI/99-final)
Metabolites	No data	Y/ EU Review Report (6504/VI/99-final)

The vapour pressure of the active substance deltamethrin is $< 10^{-5}$ Pa. Hence the active substance deltamethrin is regarded as non-volatile. Therefore, exposure of adjacent surface waters and terrestrial ecosystems by the active substance deltamethrin due to volatilization with subsequent deposition is not expected.

Fate and behaviour of flupyradifurone in air

Table 8.10-2: Summary of atmospheric degradation and behaviour

Compound	Flupyradifurone	Evaluated on EU level y/n/Reference
Direct photolysis in air	Not studied - no data requested	Y/ EFSA Journal 2015;13(2):4020
Quantum yield of direct phototransformation	1.38×10^{-4} mol/Einstein (in pure water)	Y/ EFSA Journal 2015;13(2):4020
Photochemical oxidative degradation in air	DT_{50} (h): 4.4, derived by the Atkinson model (AOPWIN version 1.92a). OH (12h) concentration assumed = 1.5×10^6 OH/cm^3 *	Y/ EFSA Journal 2015;13(2):4020 DAR Vol. 3, B8
Volatilisation	Vapour pressure (Pa) at 20°C: 9.1×10^{-7} Henry's Law Constant (Pa m^3/mol) at 20°C: 8.2×10^{-8}	Y/ EFSA Journal 2015;13(2):4020
Metabolites	No data	Y/ EFSA Journal 2015;13(2):4020

* In the EFSA LoEP there is an error (typo) in the OH (12h): the assumed concentration is incorrectly stated to be 1.5×10^{-6} OH/cm^3

The vapour pressure at 20 °C of the active substance flupyradifurone is $< 10^{-5}$ Pa. Hence the active substance flupyradifurone is regarded as non-volatile from soil and plant surfaces. Therefore, exposure of adjacent surface waters and terrestrial ecosystems by the active substance flupyradifurone due to volatilization with subsequent deposition is not expected.

zRMS comments:

Information regarding fate and behaviour of deltamethrin in the air presented in Table 8.10-1 is in line with EU agreed data reported in EU Review Report (6504/VI/99-final). Taking into account the low vapour pressure (<10^{-5} Pa) and DT_{50} in air <2 days, deltamethrin is not expected to be subject to volatilisation and the long- or short-range transport.

Information regarding fate and behaviour of flupyradifurine in the air presented in Table 8.10-2 is in line with the EU agreed data reported in EFSA Journal 2015;13(2):4020. Taking into account the low vapour pressure (<10^{-5} Pa) and DT_{50} in air <2 days, flupyradifurone is not expected to be subject to volatilisation and the long- or short-range transport.

Taking into account the above data, the contamination of the atmosphere from the intended uses of DLT+FPF EC 85 is considered to be negligible.

Appendix 1 Lists of data considered in support of the evaluation

List of data submitted by the applicant and relied on

Data Point	Author(s)	Year	**Title** **Company Report No.** **Source** **GLP or GEP status** **published or not**	Vertebrate study Y/N	Owner
KCP 9.1.3 / 01	Schaefer, D.; van der Stouwe, F.	2020	Deltamethrin (DLT) and metabolite - PECsoil EUR - Use in various crops in Europe Report No.: EnSa-20-0818, Edition Number: M-758128-01-1 Bayer AG, Crop Science Division, Monheim, Germany GLP/GEP: No unpublished	No	Bayer
KCP 9.1.3 / 02	Hammel, K.; Porschewski, R.	2018	Flupyradifurone (FPF): Core PECsoil EUR - Modelling core info document for soil risk assessment in Europe Report No.: EnSa-17-0510, Edition Number: M-613928-01-1 Bayer AG, Crop Science Division, Monheim, Germany GLP/GEP: No unpublished	No	Bayer
KCP 9.1.3 / 03	Hammel, K.; Srinivasan, P.	2020	Flupyradifurone (FPF) and metabolites: PECsoil EUR - Use in various crops in Europe Report No.: EnSa-20-0849, Edition Number: M-764016-01-1 Bayer AG, Crop Science Division, Monheim, Germany GLP/GEP: No unpublished	No	Bayer
KCP 9.2.4.1 / 01	Schaefer, D.; van der Stouwe, F.	2020	Deltamethrin (DLT) and metabolite - PECgw FOCUS PEARL, PELMO EUR - Use in sunflower, sorghum, maize and grape in Europe Report No.: EnSa-20-0814, Edition Number: M-758127-01-1 Bayer AG, Crop Science Division, Monheim, Germany GLP/GEP: No unpublished	No	Bayer
KCP 9.2.4.1 / 02	Schaefer, D.; van der Stouwe, F.	2020	Deltamethrin (DLT) and metabolite - PECgw FOCUS PEARL, PELMO EUR - Use in spring and winter cereals in Europe Report No.: EnSa-20-0813, Edition Number: M-758125-01-1 Bayer AG, Crop Science Division, Monheim, Germany GLP/GEP: No unpublished	No	Bayer
KCP 9.2.4.1 / 03	Hammel, K.; Porschewski, R.	2019	Flupyradifurone (FPF): Core PECgw EUR - Modelling core info document for groundwater risk assessment in Europe Report No.: EnSa-17-0508, Edition Number: M-613915-02-1 Bayer AG, Crop Science Division, Monheim, Germany **... amended: 2019-02-22** GLP/GEP: No unpublished	No	Bayer

Data Point	Author(s)	Year	**Title** **Company Report No.** **Source** **GLP or GEP status** **published or not**	Vertebrate study Y/N	Owner
KCP 9.2.4.1 / 04	Hammel, K.; Lyu, A.	2021	Flupyradifurone (FPF) and metabolites: PECgw FOCUS PEARL, PELMO, MACRO EUR - Use in sunflower, sorghum, maize and grape in Europe Report No.: EnSa-21-0113, Edition Number: M-765868-01-1 Bayer AG, Crop Science Division, Monheim, Germany GLP/GEP: No unpublished	No	Bayer
KCP 9.2.4.1 / 05	Hammel, K.; Lyu, A.	2021	Flupyradifurone (FPF) and metabolites - PECgw FOCUS PEARL, PELMO, MACRO EUR - Use in spring and winter cereals in Europe Report No.: EnSa-21-0114, Edition Number: M-765869-01-1 Bayer AG, Crop Science Division, Monheim, Germany GLP/GEP: No unpublished	No	Bayer
KCP 9.2.4.1 / 13	Hammel, K.; Murakami, L.	2021	Statement: Implementation of aged sorption parameters for exposure assessment of flupyradifurone - Additional information on applicability following the release of the EFSA opinion in August 2018 and note taking of the guidance by the EU commission (SCoPAFF) in January 2021 Report No.: EnSa-18-0986, Edition Number: M-642729-03-1 Bayer AG, Crop Science Division, Monheim, Germany GLP/GEP: n.a. unpublished	No	Bayer
KCP 9.2.5 / 01	Schäfer, D.; Srinivasan, P.	2020	Deltamethrin (DLT) and metabolite: PECsw,sed FOCUS EUR - Use in various crops in Europe Report No.: EnSa-20-0819, Edition Number: M-758067-01-1 Bayer AG, Crop Science Division, Monheim, Germany GLP/GEP: No unpublished	No	Bayer
KCP 9.2.5 / 02	Hammel, K.; Porschewski, R.	2019	Flupyradifurone (FPF): Core PECsw EUR - Modelling core info document for surface water risk assessment in Europe Report No.: EnSa-17-0509, Edition Number: M-613927-02-1 Bayer AG, Crop Science Division, Monheim, Germany **... amended: 2019-02-22** GLP/GEP: No unpublished	No	Bayer
KCP 9.2.5 / 04	Hammel, K.; Lyu, A.	2021	Flupyradifurone (FPF): PECsw,sed FOCUS EUR - Use in various crops in Europe Report No.: EnSa-21-0117, Edition Number: M-765878-01-1 Bayer AG, Crop Science Division, Monheim, Germany GLP/GEP: No unpublished	No	Bayer

Data Point	Author(s)	Year	Title Company Report No. Source GLP or GEP status published or not	Vertebrate study Y/N	Owner
KCP 9.2.5 / 07	Srinivasan, P.	2023	Deltamethrin (DLT): PECsw,sed FOCUS EUR - Use in vines in Europe Report No.: EnSa-23-0063, Edition Number: M-832152-01-1 Bayer AG, Crop Science Division, Monheim, Germany GLP/GEP: No unpublished	No	Bayer
KCP 9.2.5 / 08	Hammel, K.; Srinivasan, P.	2023	Flupyradifurone (FPF): PECsw,sed FOCUS EUR - Use in vines in Europe Report No.: EnSa-23-0062, Edition Number: M-832153-01-1 Bayer AG, Crop Science Division, Monheim, Germany GLP/GEP: No unpublished	No	Bayer

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

Please note that all data mentioned as part of DAR, RAR, or EFSA journals are considered as relied on.

zRMS comments:
The list below was not validated by the zRMS. For details of active substance studies evaluated at the EU level, please refer to the respective EU documents.

Deltamethrin

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
KCA 7.1.1 / 01	Baedelt, H.; Idstein, H.; Krebs, B.	1990	Deltamethrin emulsifiable concentrate 25 g/l: Investigation of degradation in the soil under outdoor conditions. Hoechst AG, Frankfurt am Main, Germany Bayer Report No.: A71035 Edition Number: M-127756-01-2 Date: 1990-09-20 GLP/GEP: No, unpublished **... also filed:** **KCA 7.1.2.2.1 / 02**	No	Bayer
KCA 7.1.1 / 02	Schäfer, D.; Mikolasch, B.	2019	Deltamethrin (DLT) - Kinetic evaluation of the dissipation in soil under field conditions for trigger purposes Bayer Report No.: EnSa-19-0022 Edition Number: M-646884-01-1 Date: 2019-01-15 GLP/GEP: No, unpublished	No	Bayer
KCA 7.1.1.1 / 01	Wang, W. W.	1991	Aerobic soil metabolism of 14C-deltamethrin XenoBiotics Laboratories, Inc., Plainsboro, NJ, USA Bayer Report No.: A47917 Edition Number: M-136659-01-1 Date: 1991-06-21 GLP/GEP: Yes, unpublished **... also filed:** **KCA 7.1.2.1.1 / 01**	No	Bayer

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
KCA 7.1.1.1 / 02	Hascoet, M.	1978	Degradation study of decamethrin (Decis) in the soil. Institut National de la Recherche Agronomique, France Bayer Report No.: A71057 Edition Number: M-149536-01-2 Date: 1978-09-04 GLP/GEP: No, unpublished **... also filed:** **KCA 7.1.2.1.1 / 02**	No	Bayer
KCA 7.1.1.1 / 03	Chapman, R. A.; Tu, C. M.; Harris, C. R.; Cole, C.	1981	Persistence of five pyrethroid insecticides in sterile and natural, mineral and organic soil. Journal: Bulletin of Environmental Contamination and Toxicology Volume: 26 Pages: 513-519 Year: 1981 Report No.: A22300 Edition Number: M-095422-01-1 GLP/GEP: n.a., published **... also filed:** **KCA 7.1.2.1.1 / 03**	No	published
KCA 7.1.1.1 / 04	Kaufman, D. D.; Kayser, A. J.; Russell, B.; Barnett, E. A.	1979	The effect of soil temperature on the degradation of 14C-cyano-decamethrin in soil. USDA, United States Department of Agriculture, USA Bayer Report No.: A71051 Edition Number: M-149530-01-1 Date: 1979-01-01 GLP/GEP: Yes, unpublished **... also filed:** **KCA 7.1.2.1.1 / 04**	No	Bayer
KCA 7.1.1.1 / 05	Kaufman, D. D.; Kayser, A. J.; Barnett, E. A.; Russell, B.	1979	Degradation of 14C-phenoxy- and 14C-cyano-decamethrin in soil. USDA, United States Department of Agriculture, USA Bayer Report No.: A71064 Edition Number: M-149541-01-1 Date: 1979-01-01 GLP/GEP: No, unpublished **... also filed:** **KCA 7.1.2.1.1 / 05**	No	Bayer

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
KCA 7.1.1.1 / 06	Kaufman, D. D.; Kayser, A. J.; Russell, B.; Barnett, E. A.	1980	Degradation of 14C-cyano-, 14C-phenoxy- and 14C-vinyl-decamethrin in flooded soils. USDA, United States Department of Agriculture, USA Bayer Report No.: A71061 Edition Number: M-149538-01-1 Date: 1980-01-01 GLP/GEP: No, unpublished **... also filed:** **KCA 7.1.1.3 / 03** **KCA 7.1.2.1.1 / 06**	No	Bayer
KCA 7.1.1.1 / 07	Kaufman, D. D.; Kayser, A. J.; Barnett, E. A.; Daniels, P. W.; Russell, B. A.	1978	Preliminary soil metabolism investigations with decamethrin. USDA, United States Department of Agriculture, USA Bayer Report No.: A12524 Edition Number: M-063775-01-1 Date: 1978-01-01 GLP/GEP: No, unpublished **... also filed:** **KCA 7.1.2 / 01** **KCA 7.1.2.1.1 / 08** **KCA 7.1.3.2 / 02**	No	Bayer
KCA 7.1.1.2 / 01	Wang, W. W.	1991	Anaerobic soil metabolism of 14C-deltamethrin XenoBiotics Laboratories, Inc., Plainsboro, NJ, USA Bayer Report No.: A47918 Report includes Trial Nos.: XBL89098 Edition Number: M-136665-01-1 Date: 1991-07-30 GLP/GEP: Yes, unpublished **... also filed:** **KCA 7.1.2.1.3 / 01**	No	Bayer
KCA 7.1.1.3 / 01	Wang, W. W.; Reynolds, J. L.	1991	Soil photolysis of (14)C-deltamethrin XenoBiotics Laboratories, Inc., Plainsboro, NJ, USA Bayer Report No.: A97641 Edition Number: M-175053-01-1 Date: 1991-07-29 GLP/GEP: No, unpublished	No	Bayer

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
KCA 7.1.1.3 / 02	Wang, W. W.; Reynolds, J. L.	1991	Soil photolysis of 14C-deltamethrin. XenoBiotics Laboratories, Inc., Plainsboro, NJ, USA Bayer Report No.: A47919 Edition Number: M-136671-01-1 Date: 1991-07-29 GLP/GEP: Yes, unpublished	No	Bayer
KCA 7.1.1.3 / 03	Kaufman, D. D.; Kayser, A. J.; Russell, B.; Barnett, E. A.	1980	Degradation of 14C-cyano-, 14C-phenoxy- and 14C-vinyl-decamethrin in flooded soils. USDA, United States Department of Agriculture, USA Bayer Report No.: A71061 Edition Number: M-149538-01-1 Date: 1980-01-01 GLP/GEP: No, unpublished **... also filed:** **KCA 7.1.1.1 / 06** **KCA 7.1.2.1.1 / 06**	No	Bayer
KCA 7.1.1.3 / 04	Kerhoas, L.; Dubroca, J.	1980	Degradation study of decamethrin in the soil. Institut National de la Recherche Agronomique, France Bayer Report No.: A71059 Edition Number: M-149537-01-2 Date: 1980-12-01 GLP/GEP: No, unpublished **... also filed:** **KCA 7.1.2.1.1 / 07**	No	Bayer
KCA 7.1.2 / 01	Kaufman, D. D.; Kayser, A. J.; Barnett, E. A.; Daniels, P. W.; Russell, B. A.	1978	Preliminary soil metabolism investigations with decamethrin. USDA, United States Department of Agriculture, USA Bayer Report No.: A12524 Edition Number: M-063775-01-1 Date: 1978-01-01 GLP/GEP: No, unpublished **... also filed:** **KCA 7.1.1.1 / 07** **KCA 7.1.2.1.1 / 08** **KCA 7.1.3.2 / 02**	No	Bayer

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
KCA 7.1.2 / 02	John, B. M.; Feyerabend, M.	1997	Calculation of the half-life times of deltamethrin and becisthemic acid in soil using TOPFIT 2.0 Deltamethrin - 14C-labelled Hoechst Schering AgrEvo GmbH, Frankfurt am Main, Germany Bayer Report No.: A74227 Edition Number: M-152477-01-1 Date: 1997-10-21 GLP/GEP: No, unpublished **... also filed:** **KCA 7.1.2.1.1 / 09**	No	Bayer
KCA 7.1.2 / 03	Buerstell, H.; Ulrich, C.; Werner, H. J.	1993	Deltamethrin - emulsifiable concentrate (25 g deltamethrin / l product) (Code Hoe 032640 00 EC03 A122) Investigation of the volatility of Deltamethrin in the field following a single application of the above formulation on soil (Guideline: Hoechst AG, Frankfurt am Main, Germany Bayer Report No.: A54564 Edition Number: M-132706-01-2 Date: 1993-12-13 GLP/GEP: Yes, unpublished **... also filed:** **KCA 7.2.1 / 04**	No	Bayer
KCA 7.1.2.1.1 / 01	Wang, W. W.	1991	Aerobic soil metabolism of 14C-deltamethrin XenoBiotics Laboratories, Inc., Plainsboro, NJ, USA Bayer Report No.: A47917 Edition Number: M-136659-01-1 Date: 1991-06-21 GLP/GEP: Yes, unpublished **... also filed:** **KCA 7.1.1.1 / 01**	No	Bayer
KCA 7.1.2.1.1 / 02	Hascoet, M.	1978	Degradation study of decamethrin (Decis) in the soil. Institut National de la Recherche Agronomique, France Bayer Report No.: A71057 Edition Number: M-149536-01-2 Date: 1978-09-04 GLP/GEP: No, unpublished **... also filed:** **KCA 7.1.1.1 / 02**	No	Bayer

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
KCA 7.1.2.1.1 / 03	Chapman, R. A.; Tu, C. M.; Harris, C. R.; Cole, C.	1981	Persistence of five pyrethroid insecticides in sterile and natural, mineral and organic soil. Journal: Bulletin of Environmental Contamination and Toxicology Volume: 26 Pages: 513-519 Year: 1981 Report No.: A22300 Edition Number: M-095422-01-1 GLP/GEP: n.a., published **... also filed:** **KCA 7.1.1.1 / 03**	No	published
KCA 7.1.2.1.1 / 04	Kaufman, D. D.; Kayser, A. J.; Russell, B.; Barnett, E. A.	1979	The effect of soil temperature on the degradation of 14C-cyano-decamethrin in soil. USDA, United States Department of Agriculture, USA Bayer Report No.: A71051 Edition Number: M-149530-01-1 Date: 1979-01-01 GLP/GEP: Yes, unpublished **... also filed:** **KCA 7.1.1.1 / 04**	No	Bayer
KCA 7.1.2.1.1 / 05	Kaufman, D. D.; Kayser, A. J.; Barnett, E. A.; Russell, B.	1979	Degradation of 14C-phenoxy- and 14C-cyano-decamethrin in soil. USDA, United States Department of Agriculture, USA Bayer Report No.: A71064 Edition Number: M-149541-01-1 Date: 1979-01-01 GLP/GEP: No, unpublished **... also filed:** **KCA 7.1.1.1 / 05**	No	Bayer
KCA 7.1.2.1.1 / 06	Kaufman, D. D.; Kayser, A. J.; Russell, B.; Barnett, E. A.	1980	Degradation of 14C-cyano-, 14C-phenoxy- and 14C-vinyl-decamethrin in flooded soils. USDA, United States Department of Agriculture, USA Bayer Report No.: A71061 Edition Number: M-149538-01-1 Date: 1980-01-01 GLP/GEP: No, unpublished **... also filed:** **KCA 7.1.1.1 / 06** **KCA 7.1.1.3 / 03**	No	Bayer

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KCA 7.1.2.1.1 / 07	Kerhoas, L.; Dubroca, J.	1980	Degradation study of decamethrin in the soil. Institut National de la Recherche Agronomique, France Bayer Report No.: A71059 Edition Number: M-149537-01-2 Date: 1980-12-01 GLP/GEP: No, unpublished **... also filed:** **KCA 7.1.1.3 / 04**	No	Bayer
KCA 7.1.2.1.1 / 08	Kaufman, D. D.; Kayser, A. J.; Barnett, E. A.; Daniels, P. W.; Russell, B. A.	1978	Preliminary soil metabolism investigations with decamethrin. USDA, United States Department of Agriculture, USA Bayer Report No.: A12524 Edition Number: M-063775-01-1 Date: 1978-01-01 GLP/GEP: No, unpublished **... also filed:** **KCA 7.1.1.1 / 07** **KCA 7.1.2 / 01** **KCA 7.1.3.2 / 02**	No	Bayer
KCA 7.1.2.1.1 / 09	John, B. M.; Feyerabend, M.	1997	Calculation of the half-life times of deltamethrin and becisthemic acid in soil using TOPFIT 2.0 Deltamethrin - 14C-labelled Hoechst Schering AgrEvo GmbH, Frankfurt am Main, Germany Bayer Report No.: A74227 Edition Number: M-152477-01-1 Date: 1997-10-21 GLP/GEP: No, unpublished **... also filed:** **KCA 7.1.2 / 02**	No	Bayer

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KCA 7.1.2.1.1 / 10	Hardy, I. A. J.	2013	Deltamethrin: Kinetic modelling evaluation of data from aerobic soil degradation studies to derive trigger and modelling endpoints Battelle UK Ltd., Ongar, Essex, United Kingdom Bayer Report No.: VC/11/026A Edition Number: M-462053-01-1 Date: 2013-07-10 GLP/GEP: No, unpublished **... also filed:** **KCA 7.1.2.1.2 / 03**	No	Bayer
KCA 7.1.2.1.1 / 11	Gu, X. Z.; Zhang, G. Y.; Chen, L.; Dai, R. L.; Yu, Y. C.	2007	Persistence and dissipation of synthetic pyrethroid pesticides in red soils from the Yangtze River Delta area Journal: Environ. Geochem. Health, Volume 30, Issue 1, Page 67-77, Publication Year 2008 Year: 2008 Report No.: M-460924-01-1 GLP/GEP: n.a., published	No	published
KCA 7.1.2.1.2 / 01	Stroech, K.; Junge, T.	2013	[Gemdimethyl-14C]AE F108565 (Br2CA): Degradation in four aerobic soils Bayer Report No.: EnSa-13-0193 Edition Number: M-455519-01-1 Date: 2013-06-06 GLP/GEP: Yes, unpublished	No	Bayer
KCA 7.1.2.1.2 / 02	Frische, K.; Hellstern, J.	2011	AE F109036: Aerobic degradation in three European soils Eurofins Agroscience Services GmbH, Niefern-Oeschelbronn, Germany Bayer Report No.: S11-01624 Edition Number: M-413119-01-1 Date: 2011-07-29 GLP/GEP: Yes, unpublished	No	Bayer
KCA 7.1.2.1.2 / 03	Hardy, I. A. J.	2013	Deltamethrin: Kinetic modelling evaluation of data from aerobic soil degradation studies to derive trigger and modelling endpoints Battelle UK Ltd., Ongar, Essex, United Kingdom Bayer Report No.: VC/11/026A Edition Number: M-462053-01-1 Date: 2013-07-10 GLP/GEP: No, unpublished **... also filed:** **KCA 7.1.2.1.1 / 10**	No	Bayer

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KCA 7.1.2.1.3 / 01	Wang, W. W.	1991	Anaerobic soil metabolism of 14C-deltamethrin XenoBiotics Laboratories, Inc., Plainsboro, NJ, USA Bayer Report No.: A47918 Report includes Trial Nos.: XBL89098 Edition Number: M-136665-01-1 Date: 1991-07-30 GLP/GEP: Yes, unpublished **... also filed:** **KCA 7.1.1.2 / 01**	No	Bayer
KCA 7.1.2.2.1 / 01	Mayasich, J. M.; Czarnecki, J. J.	1991	Determination of the dissipation and mobility of alpha-R-, cis-, and trans-deltamethrin, and Br2CA residues in a Minnesota corn field. EN-CAS Analytical Laboratories, Winston-Salem, NC, USA Bayer Report No.: A71264 Edition Number: M-149730-01-1 Date: 1991-10-21 GLP/GEP: Yes, unpublished	No	Bayer
KCA 7.1.2.2.1 / 02	Baedelt, H.; Idstein, H.; Krebs, B.	1990	Deltamethrin emulsifiable concentrate 25 g/l: Investigation of degradation in the soil under outdoor conditions. Hoechst AG, Frankfurt am Main, Germany Bayer Report No.: A71035 Edition Number: M-127756-01-2 Date: 1990-09-20 GLP/GEP: No, unpublished **... also filed:** **KCA 7.1.1 / 01**	No	Bayer
KCA 7.1.3.1.1 / 01	Smith, A. M.	1990	Determination of the adsorption and desorption coefficients of deltamethrin Bionomics Laboratories, USA Bayer Report No.: A47159 Edition Number: M-135594-01-1 Date: 1990-06-29 GLP/GEP: Yes, unpublished	No	Bayer

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
KCA 7.1.3.1.1 / 02	Christensen, K. P.	1993	Deltamethrin: Determination of the sorption and desorption properties. Springborn Laboratories, Inc. (SLS), USA Bayer Report No.: A73876 Edition Number: M-152148-01-1 Date: 1993-10-13 GLP/GEP: Yes, unpublished	No	Bayer
KCA 7.1.3.1.1 / 03	Hellpointner, E.	2019	EU approval renewal of the active substance deltamethrin - EFSA request for additional information - Authority letter dated 2018-12-21 - Reference JT/JS/al (2018) - out-20561504 - Answer provided by Bayer AG - Request 68: Tables such that basic tests on the quality of adsorption endpoints can be performed Bayer Report No.: M-647639-01-1 Date: 2019-01-25 GLP/GEP: n.a., unpublished	No	Bayer
KCA 7.1.3.1.2 / 01	Wang, W. W.	1991	Adsorption and desorption of 14C-Br2CA in five soils XenoBiotics Laboratories, Inc., Plainsboro, NJ, USA Bayer Report No.: A72145 Edition Number: M-150487-01-1 Date: 1991-12-16 GLP/GEP: Yes, unpublished	No	Bayer
KCA 7.1.3.1.2 / 02	Reynolds, J. L.	1992	Adsorption and desorption of 14C-m-phenoxybenzoic acid in four soils. XenoBiotics Laboratories, Inc., Plainsboro, NJ, USA Bayer Report No.: A71037 Edition Number: M-149517-01-1 Date: 1992-11-18 GLP/GEP: Yes, unpublished	No	Bayer
KCA 7.1.3.2 / 01	Erzgraeber, B.	1999	Investigation of the leaching of deltamethrin and its metabolite Br2CA under "worst case" conditions using the simulation model PELMO 3.00 Code: AE F032640, AE F108565 Hoechst Schering AgrEvo GmbH, Frankfurt am Main, Germany Bayer Report No.: C006117 Edition Number: M-193342-01-1 Date: 1999-11-26 GLP/GEP: No, unpublished	No	Bayer

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KCA 7.1.3.2 / 02	Kaufman, D. D.; Kayser, A. J.; Barnett, E. A.; Daniels, P. W.; Russell, B. A.	1978	Preliminary soil metabolism investigations with decamethrin. USDA, United States Department of Agriculture, USA Bayer Report No.: A12524 Edition Number: M-063775-01-1 Date: 1978-01-01 GLP/GEP: No, unpublished **... also filed:** **KCA 7.1.1.1 / 07** **KCA 7.1.2 / 01** **KCA 7.1.2.1.1 / 08**	No	Bayer
KCA 7.1.3.2 / 03	Hascoet, M.; Jamet, P.	1977	Laboratory Leaching Soil Study with DECAMETHRIN (RU 22974) Institut National de la Recherche Agronomique, France Bayer Report No.: A20240 Edition Number: M-149491-01-2 Date: 1977-09-20 GLP/GEP: No, unpublished	No	Bayer
KCA 7.1.3.2 / 04	Kaufman, D. D.; Russell, B. A.; Kayser, A. J.	1980	Movement of decamethrin, cypermethrin, permethrin and selected degradation products in soils. USDA, United States Department of Agriculture, USA Bayer Report No.: A71012 Edition Number: M-149493-01-1 Date: 1980-01-01 GLP/GEP: No, unpublished	No	Bayer
KCA 7.2.1 / 01	Giddings, J. M.	1999	A review of field studies on the fate and effects of deltamethrin and tralomethrin in aquatic ecosystems Springborn Laboratories, Inc. (SLS), USA Bayer Report No.: C002977 Edition Number: M-185344-01-1 Date: 1999-03-12 GLP/GEP: n.a., unpublished **... also filed:** **KCA 8.2 / 04**	No	Bayer

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KCA 7.2.1 / 02	Heusel, R.	1999	Comments to the ECCO groups on the draft monograph for deltamethrin. Section B-8 ecotoxicology Hoechst Schering AgrEvo GmbH, Frankfurt am Main, Germany Bayer Report No.: C003084 Edition Number: M-185587-01-1 Date: 1999-03-19 GLP/GEP: n.a., unpublished **... also filed:** **KCA 8.2 / 05**	No	Bayer
KCA 7.2.1 / 03	Buerkle, W. L.	1993	Deltamethrin, Hoe 032640, RU 22974: Testing the volatility of 14C-labelled active ingredient in the formulated product Decis fluessig EC03 in a wind-tunnel after application to leaves of dwarf bean plants Hoechst AG, Frankfurt am Main, Germany Bayer Report No.: A53755 Edition Number: M-132365-02-2 Date: 1993-10-06 **... amended: 1993-12-07** GLP/GEP: No, unpublished **... also filed:** **KCA 7.3 / 03**	No	Bayer
KCA 7.2.1 / 04	Buerstell, H.; Ulrich, C.; Werner, H. J.	1993	Deltamethrin - emulsifiable concentrate (25 g deltamethrin / l product) (Code Hoe 032640 00 EC03 A122) Investigation of the volatility of Deltamethrin in the field following a single application of the above formulation on soil (Guideline: Hoechst AG, Frankfurt am Main, Germany Bayer Report No.: A54564 Edition Number: M-132706-01-2 Date: 1993-12-13 GLP/GEP: Yes, unpublished **... also filed:** **KCA 7.1.2 / 03**	No	Bayer

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KCA 7.2.1 / 05	Buerstell, H.; Ulrich, C.; Werner, H. J.	1993	Deltamethrin - emulsifiable concentrate (25 g deltamethrin / l product) - (Code Hoe 032640 00 EC03 A122) Investigation of the volatility of Deltamethrin in the field following a single application of the above formulation in field biens as Hoechst AG, Frankfurt am Main, Germany Bayer Report No.: A54563 Edition Number: M-132707-01-2 Date: 1993-12-13 GLP/GEP: Yes, unpublished	No	Bayer
KCA 7.2.1 / 06	Wicke, H.	1998	Assessment of exposure to operators after application in greenhouse and risk assessment Deltamethrin emulsifiable concentrate 25 g/L Code: AE F032640 00 EC03 C3 Hoechst Schering AgrEvo GmbH, Frankfurt am Main, Germany Bayer Report No.: C000315 Edition Number: M-180457-01-1 Date: 1998-07-23 GLP/GEP: n.a., unpublished	No	Bayer
KCA 7.2.1.1 / 01	Fackler, P. H.	1991	Tralomethrin and deltamethrin - Comparative environmental fate during an aquatic microcosm test. Bionomics Laboratories, USA Bayer Report No.: A47913 Edition Number: M-136641-01-1 Date: 1991-09-27 GLP/GEP: Yes, unpublished	Yes	Bayer
KCA 7.2.1.1 / 02	Maurer, T.; Schaefer, D.	2002	Additional information on hydrolysis of deltamethrin at pH8 and contribution of hydrolysis to the overall dissipation of deltamethrin from surface/natural water bodies Code: AE F032640 Aventis CropScience GmbH, Frankfurt am Main, Germany Bayer Report No.: C018813 Edition Number: M-206738-01-1 Date: 2002-01-21 GLP/GEP: No, unpublished **... also filed:** **KCA 2.4 / 02** **KCA 7.2.1.2 / 04**	No	Bayer

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
KCA 7.2.1.1 / 03	Smith, A. M.	1990	Determination of aqueous hydrolysis rate constant and half-life of deltamethrin. Bionomics Laboratories, USA Bayer Report No.: A45079 Edition Number: M-129026-01-1 Date: 1990-07-02 GLP/GEP: Yes, unpublished **... also filed:** **KCA 2.8 / 02**	No	Bayer
KCA 7.2.1.2 / 01	Wang, W. W.; Reynolds, J. L.	1991	Aqueous photolysis of 14C-deltamethrin XenoBiotics Laboratories, Inc., Plainsboro, NJ, USA Bayer Report No.: A47960 Edition Number: M-136754-01-1 Date: 1991-07-18 GLP/GEP: Yes, unpublished **... also filed:** **KCA 2.8 / 03**	No	Bayer
KCA 7.2.1.2 / 02	Bowman, B. T.; Carpenter, M.	1987	Determination of photodegradation of 14C-deltamethrin in aqueous solution ABC Laboratories, Inc., Columbia, MO, USA Bayer Report No.: A41919 Edition Number: M-124981-01-1 Date: 1987-06-25 GLP/GEP: Yes, unpublished	No	Bayer
KCA 7.2.1.2 / 03	Ruzo, L. O.; Holmstead, R. L.; Casida, J. E.	1977	Pyrethroid Photochemistry: Decamethrin Journal: Journal of Agricultural and Food Chemistry Volume: 25 Issue: 6 Pages: 1385-1394 Year: 1977 Report No.: A27135 Edition Number: M-099952-01-1 GLP/GEP: n.a., published	No	published

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
KCA 7.2.1.2 / 04	Maurer, T.; Schaefer, D.	2002	Additional information on hydrolysis of deltamethrin at pH8 and contribution of hydrolysis to the overall dissipation of deltamethrin from surface/natural water bodies Code: AE F032640 Aventis CropScience GmbH, Frankfurt am Main, Germany Bayer Report No.: C018813 Edition Number: M-206738-01-1 Date: 2002-01-21 GLP/GEP: No, unpublished **... also filed:** **KCA 2.4 / 02** **KCA 7.2.1.1 / 02**	No	Bayer
KCA 7.2.2.1 / 01	Wuethrich, V.	1994	Ready biodegradability: "Manometric respirometry test" for deltamethrin. RCC, Research and Consulting Company Ltd., Switzerland Bayer Report No.: A71006 Edition Number: M-149487-01-1 Date: 1994-07-01 GLP/GEP: Yes, unpublished **... also filed:** **KCA 7.2.2.3 / 01**	No	Bayer
KCA 7.2.2.2 / 01	Wang, Q.; Liu, Q.; Li, J.; Chi, H.; Wang, J.	2011	Residual elimination and kinetics of low concentration of deltamethrin in water. Journal: Nongye Huanjing Kexue Xuebao, Volume 26, Issue 5, Page 1725-1728, Publication Year 2007 Year: 2007 Report No.: M-461213-01-2 GLP/GEP: n.a., published	No	published
KCA 7.2.2.3 / 01	Wuethrich, V.	1994	Ready biodegradability: "Manometric respirometry test" for deltamethrin. RCC, Research and Consulting Company Ltd., Switzerland Bayer Report No.: A71006 Edition Number: M-149487-01-1 Date: 1994-07-01 GLP/GEP: Yes, unpublished **... also filed:** **KCA 7.2.2.1 / 01**	No	Bayer

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
KCA 7.2.2.3 / 02	Muir, D. C. G.; Rawn, G. P.; Townsend, B. E.; Lockhart, W. L.; Greenhalgh, R.	1985	Bioconcentration of cypermethrin, deltamethrin, fenvalerate and permethrin by Chironomus tentans in sediment and water Journal: Environmental Toxicology and Chemistry Volume: 4 Pages: 51-61 Year: 1985 Report No.: A41920 Edition Number: M-124982-01-1 GLP/GEP: n.a., published **... also filed:** **KCA 8.2.8 / 01**	No	published
KCA 7.2.2.3 / 03	Muttzall, P. I.	1993	Water / sediment biodegradation of (benzyl-14C) Deltamethrin. TNO, Netherlands Bayer Report No.: A50953 Edition Number: M-131938-01-1 Date: 1993-05-24 GLP/GEP: Yes, unpublished	No	Bayer
KCA 7.2.2.3 / 04	Hellpointner, E.; Menke, U.; Weuthen, M.	2012	[gem-dimethyl-14C]deltamethrin: Aerobic aquatic metabolism Bayer Report No.: EnSa-12-0181 Edition Number: M-434820-01-1 Date: 2012-07-05 GLP/GEP: Yes, unpublished	No	Bayer
KCA 7.2.2.3 / 05	Hardy, I. A. J.	2013	Kinetic modelling analysis of deltamethrin from a water/ sediment study Battelle UK Ltd., Ongar, Essex, United Kingdom Bayer Report No.: VC/11/015A Edition Number: M-461952-01-1 Date: 2013-07-10 GLP/GEP: No, unpublished	No	Bayer
KCA 7.2.2.3 / 06	Hardy, I. A. J.	2013	Kinetic modelling analysis of deltamethrin from two water/ sediment studies Battelle UK Ltd., Ongar, Essex, United Kingdom Bayer Report No.: VC/11/015B Edition Number: M-462042-01-1 Date: 2013-07-10 GLP/GEP: No, unpublished	No	Bayer

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
KCA 7.2.2.3 / 07	Meyer, B.; Jones, R.; Moore, S.; Lam, C.	2013	Laboratory Degradation Rates of 11 Pyrethroids under Aerobic and Anaerobic Conditions Publisher: American Chemical Society Journal: Journal of Agricultural and Food Chemistry Ahead of Print Year: 2013 Report No.: M-462374-01-1 GLP/GEP: n.a., published	No	published
KCA 7.2.2.4 / 01	xxx	2005	Biological effects and fate of deltamethrin EW 015 in outdoor mesocosm ponds xxx Report No.: HBF/BT 07 Edition Number: M-246137-01-1 Date: 2005-02-24 GLP/GEP: Yes, unpublished	Yes	Bayer
KCA 7.3 / 01	Meichsner, C.	1999	Calculation of the indirect photolysis reaction using the incremental method of Atkinson and the Program AOPWIN, Version 1.80 Deltamethrin InfraServ GmbH & Co Hoechst KG, Frankfurt am Main, Germany Bayer Report No.: C002214 Edition Number: M-184105-01-1 Date: 1999-01-19 GLP/GEP: No, unpublished **... also filed:** **KCA 2.14 / 03**	No	Bayer
KCA 7.3 / 02	Ruedel, H.; Waymann, B.	1993	Testing for volatility of 14C-deltamethrin (formulated as the product Decis fluessig EC): Volatilisation from plant surfaces volatilisation from soil. Fraunhofer Institut fuer Umweltchemie und Oekotoxikologie, Schmallenberg, Germany Bayer Report No.: A53910 Edition Number: M-131700-01-2 Date: 1993-04-23 GLP/GEP: Yes, unpublished	No	Bayer

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
KCA 7.3 / 03	Buerkle, W. L.	1993	Deltamethrin, Hoe 032640, RU 22974: Testing the volatility of 14C-labelled active ingredient in the formulated product Decis fluessig EC03 in a wind-tunnel after application to leaves of dwarf bean plants Hoechst AG, Frankfurt am Main, Germany Bayer Report No.: A53755 Edition Number: M-132365-02-2 Date: 1993-10-06 **... amended: 1993-12-07** GLP/GEP: No, unpublished **... also filed:** **KCA 7.2.1 / 03**	No	Bayer
KCA 7.5 / 01	Legrand, M. F.; Costentin, E.; Bruchet, A.	1991	Occurence of 38 pesticides in various French surface and ground waters. Journal: Environmental Technology Volume: 12 Pages: 985;986 Year: 1991 Report No.: A47899 Edition Number: M-136600-01-1 GLP/GEP: n.a., published	No	published
KCA 7.5 / 02	Goncalves, C.; Alpendurada, M.	2004	Assessment of pesticide contamination in soil samples from an intensive horticulture area, using ultrasonic extraction and gas chromatography-mass spectrometry Journal: Talanta, Volume 65, Issue 5, Page 1179-1189, Publication Year 2005 Year: 2005 Report No.: M-460866-01-1 GLP/GEP: n.a., published	No	published
KCA 7.5 / 03	Fernandez-Alvarez, M.; Llompart, M.; Lamas, J.; Lores, M.; Garcia-Jares, C.; Cela, R.; Dagnac, T.	2008	Simultaneous determination of traces of pyrethroids, organochlorines and other main plant protection agents in agricultural soils by headspace solid-phase microextraction-gas chromatography Publisher: Elsevier B.V. Journal: J. Chromatogr., A, Volume 1188, Issue 2, Page 154-163, Publication Year 2008 Year: 2008 Report No.: M-455938-01-1 GLP/GEP: n.a., published	No	published

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KCA 7.5 / 04	Rocha, M. J.; Ribeiro, M. F. T.; Cruzeiro, C.; Figueiredo, F.; Rocha, E.	2012	Development and validation of a GC-MS method for determination of 39 common pesticides in estuarine water - targeting hazardous amounts in the douro river estuary Journal: Int. J. Environ. Anal. Chem. Volume: 92 Issue: 14 Pages: 1587-1608 Year: 2012 Report No.: M-457780-01-1 GLP/GEP: n.a., published	No	published
KCA 7.5 / 05	Tsochatzis, E. D.; Tzimou-Tsitouridou, R.; Menkissoglu-Spiroudi, U.; Karpouzas, D. G.; Papageorgiou, M.	2012	Development and validation of an HPLC-DAD method for the simultaneous determination of most common rice pesticides in paddy water systems Journal: Int. J. Environ. Anal. Chem. Volume: 92 Issue: 5 Pages: 548-560 Year: 2012 Report No.: M-457791-01-1 GLP/GEP: n.a., published	No	published
KCA 7.5 / 06	Kronvang, B.; Laubel, A.; Larsen, S. E.; Friberg, N.	2003	Pesticides and heavy metals in Danish streambed sediment Journal: Hydrobiologia, Volume 494, Page 93-101, Publication Year 2003 Year: 2003 Report No.: M-460841-01-1 GLP/GEP: n.a., published	No	published
KCA 7.5 / 07	Badach, H.; Nazimek, T.; Kaminska, I. A.	2007	Pesticide content in drinking water samples collected from orchard areas in central Poland Journal: Ann. Agric. Environ. Med., Volume 14, Issue 1, Page 109-114, Publication Year 2007 Year: 2007 Report No.: M-458077-01-1 GLP/GEP: n.a., published	No	published
KCA 7.5 / 08	Hart, E.; Pastor, A.; Yusa, V.; Coscolla, C.	2013	GC-MS characterization of contemporary pesticides in PM10 of Valencia Region, Spain. Journal: Atmos. Environ., Volume 62, Page 118-129, Publication Year 2012 Year: 2012 Report No.: M-462167-01-1 GLP/GEP: n.a., published	No	published
KCA 7.5 / 09	Gonzalez, F.; Granero, A.; Glass, C.; Frenich, A.; Vidal, J.	2004	Screening method for pesticides in air by gas chromatography/tandem mass spectrometry Publisher: John Wiley & Sons, Ltd. Journal: Rapid Commun. Mass Spectrom., Volume 18, Issue 5, Page 537-543, Publication Year 2004 Year: 2004 Report No.: M-455826-01-1 GLP/GEP: n.a., published	No	published

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
KCA 7.5 / 10	Schummer, C.; Mothiron, E.; Appenzeller, B. M. R.; Rizet, A. L.; Wennig, R.; Millet, M.	2010	Temporal variations of concentrations of currently used pesticides in the atmosphere of Strasbourg, France Journal: Environ. Pollut. (Oxford, U. K.), Volume 158, Issue 2, Page 576-584, Publication Year 2010 Year: 2010 Report No.: M-457521-01-1 GLP/GEP: n.a., published	No	published

Flupyradifurone

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
KIIA 7.1.1 /01	Menke, U.	2011	[Pyridinylmethyl-14C]BYI 02960: Aerobic soil metabolism/degradation and time-dependent sorption in soils Bayer CropScience, Report No.: MEF-07/334, Edition Number: M-414615-01-2 EPA MRID No.: 48843674 Date: 2011-08-05 GLP/GEP: yes, unpublished ...also filed: KIIA 7.2.1 /01 ...also filed: KIIA 7.4.1 /03	N	Bayer
KIIA 7.1.1 /02	Menke, U.; Unold, M.	2011	[Furanone-4-14C]BYI 02960: Aerobic soil metabolism/degradation Bayer CropScience, Report No.: MEF-10/804, Edition Number: M-411625-01-2 EPA MRID No.: 48843676 Date: 2011-07-28 GLP/GEP: yes, unpublished ...also filed: KIIA 7.2.1 /02	N	Bayer

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
KIIA 7.1.1 /03	Ripperger, R. J.	2011	[Furanone-4-14C]BYI 02960: Aerobic soil metabolism in two US soils Bayer CropScience LP, Stilwell, KS, USA Bayer CropScience, Report No.: MERVP037-2, Edition Number: M-405497-03-1 EPA MRID No.: 48843677 Date: 2011-01-14 ...Amended: 2012-01-05 GLP/GEP: yes, unpublished ...also filed: KIIA 7.2.1 /03	N	Bayer
KIIA 7.1.1 /04	Menke, U.; Unold, M.	2011	[Ethyl-1-14C]BYI 02960: Aerobic soil metabolism Bayer CropScience, Report No.: MEF-10/858, Edition Number: M-414981-01-1 EPA MRID No.: 48843679 Date: 2011-09-08 GLP/GEP: yes, unpublished ...also filed: KIIA 7.2.1 /04	N	Bayer
KIIA 7.1.1 /05	Menke, U.; Unold, M.	2011	[Pyridine-2,6-14C]BYI 02960: Aerobic soil metabolism Bayer CropScience, Report No.: MEF-10/880, Edition Number: M-411693-01-2 EPA MRID No.: 48843681 Date: 2011-07-28 GLP/GEP: yes, unpublished ...also filed: KIIA 7.2.1 /05	N	Bayer
KIIA 7.1.1 /06	Shepherd, J. J.	2011	[Pyridine-2,6-14C]BYI 02960: Aerobic soil metabolism in two US soils Bayer CropScience LP, Stilwell, KS, USA Bayer CropScience, Report No.: MERVP038-1, Edition Number: M-413425-02-1 EPA MRID No.: 48843682 Date: 2011-09-06 ...Amended: 2012-01-05 GLP/GEP: yes, unpublished ...also filed: KIIA 7.2.1 /06 ...also filed: KIIA 7.2.3 /04	N	Bayer

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
KIIA 7.1.2 /01	Menke, U.; Unold, M.	2012	[Furanone-4-14C] and [Ethyl-1-14C] and [Pyridine-2,6-14C]BYI 02960: Anaerobic Soil Metabolism Bayer CropScience, Report No.: MEF-11/514, Edition Number: M-421504-01-2 EPA MRID No.: 48843686 Date: 2012-01-03 GLP/GEP: yes, unpublished	N	Bayer
KIIA 7.1.2 /02	Mislankar, S. G.; Woodard, D.	2012	[Pyridine-2,614C]BYI 02960: Anaerobic soil metabolism Bayer CropScience LP, Stilwell, KS, USA Bayer CropScience, Report No.: MERVP094, Edition Number: M-421993-01-1 Date: 2012-01-10 GLP/GEP: yes, unpublished	N	Bayer
KIIA 7.1.2 /03	Woodard, D.	2012	[Pyridine-2,614C]BYI 02960: Anaerobic soil metabolism in Springfield, Nebraska (USA) soil Bayer CropScience LP, Stilwell, KS, USA Bayer CropScience, Report No.: MERVL006, Edition Number: M-424987-01-1 Date: 2012-02-14 GLP/GEP: yes, unpublished	N	Bayer
KIIA 7.1.3 /01	Menke, U.; Unold, M.	2011	[Pyridinylmethyl-14C]BYI 02960 and [furanone-4-14C]BYI 02960: Phototransformation on soil Bayer CropScience, Report No.: MEF-10/351, Edition Number: M-405776-01-2 EPA MRID No.: 48843672 Date: 2011-03-24 GLP/GEP: yes, unpublished	N	Bayer
KIIA 7.2.1 /01	Menke, U.	2011	[Pyridinylmethyl-14C]BYI 02960: Aerobic soil metabolism/degradation and time-dependent sorption in soils Bayer CropScience, Report No.: MEF-07/334, Edition Number: M-414615-01-2 EPA MRID No.: 48843674 Date: 2011-08-05 GLP/GEP: yes, unpublished ...also filed: KIIA 7.1.1 /01 ...also filed: KIIA 7.4.1 /03	N	Bayer

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
KIIA 7.2.1 /02	Menke, U.; Unold, M.	2011	[Furanone-4-14C]BYI 02960: Aerobic soil metabolism/degradation Bayer CropScience, Report No.: MEF-10/804, Edition Number: M-411625-01-2 EPA MRID No.: 48843676 Date: 2011-07-28 GLP/GEP: yes, unpublished ...also filed: KIIA 7.1.1 /02	N	Bayer
KIIA 7.2.1 /03	Ripperger, R. J.	2011	[Furanone-4-14C]BYI 02960: Aerobic soil metabolism in two US soils Bayer CropScience LP, Stilwell, KS, USA Bayer CropScience, Report No.: MERVP037-2, Edition Number: M-405497-03-1 EPA MRID No.: 48843677 Date: 2011-01-14 ...Amended: 2012-01-05 GLP/GEP: yes, unpublished ...also filed: KIIA 7.1.1 /03	N	Bayer
KIIA 7.2.1 /04	Menke, U.; Unold, M.	2011	[Ethyl-1-14C]BYI 02960: Aerobic soil metabolism Bayer CropScience, Report No.: MEF-10/858, Edition Number: M-414981-01-1 EPA MRID No.: 48843679 Date: 2011-09-08 GLP/GEP: yes, unpublished ...also filed: KIIA 7.1.1 /04	N	Bayer
KIIA 7.2.1 /05	Menke, U.; Unold, M.	2011	[Pyridine-2,6-14C]BYI 02960: Aerobic soil metabolism Bayer CropScience, Report No.: MEF-10/880, Edition Number: M-411693-01-2 EPA MRID No.: 48843681 Date: 2011-07-28 GLP/GEP: yes, unpublished ...also filed: KIIA 7.1.1 /05	N	Bayer

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
KIIA 7.2.1 /06	Shepherd, J. J.	2011	[Pyridine-2,6-14C]BYI 02960: Aerobic soil metabolism in two US soils Bayer CropScience LP, Stilwell, KS, USA Bayer CropScience, Report No.: MERVP038-1, Edition Number: M-413425-02-1 EPA MRID No.: 48843682 Date: 2011-09-06 ...Amended: 2012-01-05 GLP/GEP: yes, unpublished ...also filed: KIIA 7.1.1 /06 ...also filed: KIIA 7.2.3 /04	N	Bayer
KIIA 7.2.3 /01	Lowden, P.; Oddy, A. M.; Jones, M. K.	1997	Rate of degradation of the acid metabolite, (14C)-IC-O in three soils NI-25 Rhone-Poulenc Agriculture Ltd., Ongar, Essex, United Kingdom Bayer CropScience, Report No.: C007660, Edition Number: M-196378-01-1 Date: 1997-08-14 GLP/GEP: yes, unpublished	N	Bayer
KIIA 7.2.3 /04	Shepherd, J. J.	2011	[Pyridine-2,6-14C]BYI 02960: Aerobic soil metabolism in two US soils Bayer CropScience LP, Stilwell, KS, USA Bayer CropScience, Report No.: MERVP038-1, Edition Number: M-413425-02-1 EPA MRID No.: 48843682 Date: 2011-09-06 ...Amended: 2012-01-05 GLP/GEP: yes, unpublished ...also filed: KIIA 7.1.1 /06 ...also filed: KIIA 7.2.1 /06	N	Bayer

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
KIIA 7.3.1 /01	Heinemann, O.	2011	Determination of the residues of BYI 02960 in/on soil after spraying of BYI 02960 SL 200 in the field in Germany, Italy, Spain and the United Kingdom Bayer CropScience, Report No.: 09-2702, Report includes Trial Nos.: 09-2702-01 09-2702-02 09-2702-03 09-2702-05 09-2702-06 09-2702-07 Edition Number: M-414245-01-1 Date: 2011-09-13 GLP/GEP: yes, unpublished	N	Bayer
KIIA 7.4.1 /01	Menke, U.; Telscher, M.	2008	[Pyridinylmethyl-14C]BYI 02960: Adsorption to and desorption from soils Bayer CropScience, Report No.: MEF-08/261, Edition Number: M-327492-01-2 EPA MRID No.: 48843662 Date: 2008-12-17 GLP/GEP: yes, unpublished	N	Bayer
KIIA 7.4.1 /02	Stroech, K.	2010	[Pyridinylmethyl-14C]BYI 02960: Adsorption/desorption on two soils Bayer CropScience LP, Stilwell, KS, USA Bayer CropScience, Report No.: MERVP017, Edition Number: M-363541-01-1 EPA MRID No.: 48843663 Date: 2010-01-29 GLP/GEP: yes, unpublished	N	Bayer
KIIA 7.4.1 /03	Menke, U.	2011	[Pyridinylmethyl-14C]BYI 02960: Aerobic soil metabolism/degradation and time-dependent sorption in soils Bayer CropScience, Report No.: MEF-07/334, Edition Number: M-414615-01-2 EPA MRID No.: 48843674 Date: 2011-08-05 GLP/GEP: yes, unpublished ...also filed: KIIA 7.1.1 /01 ...also filed: KIIA 7.2.1 /01	N	Bayer

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
KIIA 7.4.2 /01	Liu, A. C.	1997	Soil adsorption/desorption study 6-chloronicotinic acid (Acetamiprid metabolite) Rhone-Poulenc Ag Company, RTP, NC, USA Bayer CropScience, Report No.: C007666, Edition Number: M-196394-01-1 Date: 1997-09-15 GLP/GEP: yes, unpublished	N	Bayer
KIIA 7.4.2 /02	Menke, U.; Unold, M.	2011	[1-14C]BYI 02960-DFA (BCS-AB60481): Adsorption to and desorption from five soils Bayer CropScience, Report No.: MEF-10/538, Edition Number: M-413836-01-2 EPA MRID No.: 48843665 Date: 2011-08-26 GLP/GEP: yes, unpublished	N	Bayer
KIIA 7.4.3 /01	de Souza, T. J. T.	2012	Amendment no 001 to final report - Mobility of [Pyridine-2,6-14C]-BYI 02960 in Brazilian soils - Soil columns leaching method Bioensaios Analises e Consultoria Ambiental S/C Ltda., Viamao, Brazil Bayer CropScience, Report No.: 2301-LIX-344-11, Edition Number: M-424966-02-2 Date: 2012-02-08 ...Amended: 2012-06-05 GLP/GEP: yes, unpublished	N	Bayer
KIIA 7.4.9 /01	Smeykal, H.	2008	BYI 02960, pure substance: Vapour pressure - Final report Siemens AG, Frankfurt am Main, Germany Bayer CropScience, Report No.: 20080615.01, Edition Number: M-309853-01-1 Date: 2008-10-10 GLP/GEP: yes, unpublished ...also filed: KIIA 2.3.1 /01	N	Bayer
KIIA 7.5 /01	Mislankar, S.; Woodard, D.	2011	BYI-02960: Hydrolytic degradation Bayer CropScience LP, Stilwell, KS, USA Bayer CropScience, Report No.: MERVP019, Edition Number: M-398952-01-1 Date: 2011-01-07 GLP/GEP: yes, unpublished ...also filed: KIIA 2.9.1 /01	N	Bayer

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
KIIA 7.6 /01	Hall, L. R.	2011	Phototransformation of [14C]BYI 02960 in aqueous pH 7 buffer - amended report Bayer CropScience LP, Stilwell, KS, USA Bayer CropScience, Report No.: MERVP042-1, Edition Number: M-418426-02-1 Date: 2011-11-28 ...Amended: 2012-03-05 GLP/GEP: yes, unpublished ...also filed: KIIA 2.9.2 /01 ...also filed: KIIA 2.9.4 /01	N	Bayer
KIIA 7.6 /02	Heinemann, O.	2011	BYI 02960: Determination of the quantum yield and assessment of the environmental half-life of the direct photo-degradation in water Bayer CropScience, Report No.: MEF-11/554, Edition Number: M-414756-01-2 EPA MRID No.: 48843668 Date: 2011-09-26 GLP/GEP: yes, unpublished ...also filed: KIIA 2.9.3 /01 ...also filed: KIIA 2.9.4 /02	N	Bayer
KIIA 7.6 /03	Hall, L. R.	2011	Phototransformation of [14C]BYI 02960 in natural water Bayer CropScience LP, Stilwell, KS, USA Bayer CropScience, Report No.: MERVP020, Edition Number: M-415368-01-1 Date: 2011-08-16 GLP/GEP: yes, unpublished	N	Bayer
KIIA 7.8.2 /01	Xu, T.	2012	[Pyridine-2,6-14C]BYI 02960: Anaerobic aquatic metabolism in two water/sediment systems Bayer CropScience LP, Stilwell, KS, USA Bayer CropScience, Report No.: MERVP027, Edition Number: M-422616-01-1 Date: 2012-01-17 GLP/GEP: yes, unpublished	N	Bayer

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
KIIA 7.8.3 /01	Hellpointner, E.; Unold, M.	2012	[Pyridine-2,6-14C]BYI 02960: Aerobic aquatic metabolism Bayer CropScience, Report No.: MEF-11/907, Edition Number: M-422359-01-1 EPA MRID No.: 48843690 Date: 2012-01-12 GLP/GEP: yes, unpublished	N	Bayer
KIIA 7.8.3 /02	Unold, M.; Menke, U.	2012	[Furanone-4-14C] and [ethyl-1-14C]BYI 02960: Aerobic aquatic metabolism Bayer CropScience, Report No.: MEF-10/730, Edition Number: M-426504-01-1 EPA MRID No.: 48843692 Date: 2012-02-16 GLP/GEP: yes, unpublished	N	Bayer
KIIA 7.8.3 /03	Hellpointner, E.; Unold, M.	2012	[1-14C]BYI 02960-DFA (BCS-AB60481): Aerobic aquatic degradation Bayer CropScience, Report No.: M-422371-01-1, Edition Number: M-422371-01-1 EPA MRID No.: 48843691 Date: 2012-01-12 GLP/GEP: yes, unpublished	N	Bayer
KIIA 7.8.3 /04	Bruns, E.	2012	Fate of BYI 02960 (tech.) in outdoor microcosm ponds simulating actual exposure conditions in agricultural use Bayer CropScience, Report No.: EBRVP109, Edition Number: M-427167-01-1 Date: 2012-03-20 GLP/GEP: yes, unpublished	N	Bayer
KIIA 7.13 /01	Bogdoll, B.; Strunk, B.	2011	BCS-CC98193 (BYI 02960-DFEAF): Water solubility at pH 5, pH 7 and pH 9 (flask method) Bayer CropScience, Report No.: PA11/018, Edition Number: M-415753-01-1 Date: 2011-10-04 GLP/GEP: yes, unpublished	N	Bayer
KIIA 7.13 /02	Wiche, A.; Ziemer, F.	2011	BCS-CR74729 (BYI 02960-succinamide): Water solubility at pH 5, pH 7 and pH 9 (flask method) Bayer CropScience, Report No.: PA11/078, Edition Number: M-416651-01-1 Date: 2011-11-04 GLP/GEP: yes, unpublished	N	Bayer

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
KIIA 7.13 /03	Ziemer, F.; Strunk, B.	2011	BCS-CU93236 (BYI 02960-azabicyclosuccinamide Na-salt): Water solubility at pH 5, pH 7 and pH 9 (flask method) Bayer CropScience, Report No.: PA11/094, Edition Number: M-417069-01-1 Date: 2011-11-09 GLP/GEP: yes, unpublished	N	Bayer
KIIA 7.13 /04	Bogdoll, B.; Strunk, B.	2011	Difluoroacetic acid (BCS-AA56716): Miscibility with distilled water and solubility in water in a pH range of 1.6 to 13 Bayer CropScience, Report No.: PA10/042, Edition Number: M-418554-01-1 Date: 2011-11-29 GLP/GEP: yes, unpublished	N	Bayer
KIIA 7.13 /05	Kenji, M.	2001	Solubility of IC-0 in water Nisso Chemical Analysis Serv. Co., Ltd., Japan Nippon Soda, Report No.: C016679, Edition Number: M-202871-01-1 Date: 2001-09-27 GLP/GEP: yes, unpublished	N	Bayer
KIIA 7.13 /06	Eyrich, U.; Ziemer, F.	2011	BCS-CR74729 (BYI 02960-succinamide): Partition coefficients 1-octanol / water at pH 5, pH 7 and pH 9 (shake flask method) Bayer CropScience, Report No.: PA11/079, Edition Number: M-416883-01-1 Date: 2011-11-04 GLP/GEP: yes, unpublished	N	Bayer
KIIA 7.13 /07	Eyrich, U.; Ziemer, F.	2011	BCS-CU93236 (BYI 02960-azabicyclosuccinamide Na-salt): Partition coefficients 1-octanol / water at pH 5, pH 7 and pH 9 (shake flask method) Bayer CropScience, Report No.: PA11/093, Edition Number: M-416656-01-1 Date: 2011-11-04 GLP/GEP: yes, unpublished	N	Bayer

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
KIIA 7.13 /08	Eyrich, U.; Ziemer, F.	2011	Difluoroacetic acid (BCS-AA56716): Partition coefficients 1-octanol / water at pH 5, pH 7 and pH 9 (shake flask method) Bayer CropScience, Report No.: PA10/043, Edition Number: M-416624-01-1 Date: 2011-11-04 GLP/GEP: yes, unpublished	N	Bayer
KIIA 7.13 /09	Shirou, H.	2001	Partition coefficient (n-octanol/water) of IC-0 Nisso Chemical Analysis Serv. Co., Ltd., Japan Nippon Soda, Report No.: C017442, Edition Number: M-204285-01-1 Date: 2001-11-16 GLP/GEP: yes, unpublished	N	Bayer
KIIA 7.13 /10	Wiche, A.; Bogdoll, B.	2011	BCS-CC98193 (BYI 02960-DFEAF): Dissociation constant in water Bayer CropScience, Report No.: PA11/021, Edition Number: M-415757-01-1 Date: 2011-10-04 GLP/GEP: yes, unpublished	N	Bayer
KIIA 7.13 /11	Winkler, S.	2011	Difluoro acetic acid (BCS-AA56716): Determination of the dissociation constant in water Siemens AG, Frankfurt am Main, Germany Bayer CropScience, Report No.: 20100366.02, Edition Number: M-418626-01-1 Date: 2011-11-18 GLP/GEP: yes, unpublished	N	Bayer
KIIA 7.13 /12	Kenji, M.	2001	Dissociation constant of IC-0 Nisso Chemical Analysis Serv. Co., Ltd., Japan Nippon Soda, Report No.: C016811, Edition Number: M-203097-01-1 Date: 2001-10-17 GLP/GEP: yes, unpublished	N	Bayer

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
KIIA 7.13 /13	Dornhagen, J.	2011	BCS-CC98193 (BYI 02960-DFEAF): Vapour pressure Siemens AG, Frankfurt am Main, Germany Bayer CropScience, Report No.: 20110091.01, Edition Number: M-420457-01-1 Date: 2011-11-07 GLP/GEP: yes, unpublished	N	Bayer
KIIA 7.13 /14	Smeykal, H.	2011	Difluoroacetic acid (BCS-AA56716): Vapour pressure Siemens AG, Frankfurt am Main, Germany Bayer CropScience, Report No.: 20100366.01, Edition Number: M-418553-01-1 Date: 2011-11-24 GLP/GEP: yes, unpublished	N	Bayer

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	Reason for rejection
KCP 9.2.4.1 / 06	Hammel, K.; van der Stouwe, F.	2021	Flupyradifurone (FPF) and metabolites - PECgw FOCUS PEARL, PELMO, MACRO EUR - Use in sunflower in Europe Report No.: EnSa-21-0143, Edition Number: M-765928-01-1 Bayer AG, Crop Science Division, Monheim, Germany GLP/GEP: No unpublished	N	Bayer	The applicant resigned from the use of the product 102000028562 / Deltamethrin + Flupyradifurone EC 85 in sunflower
KCP 9.2.4.1 / 07	Hammel, K.; Srinivasan, P.	2020	Flupyradifurone (FPF) and metabolites: PECgw FOCUS PEARL, PELMO, MACRO EUR - Use in sunflower in Europe Report No.: EnSa-20-0847, Edition Number: M-764013-01-1 Bayer AG, Crop Science Division, Monheim, Germany GLP/GEP: No unpublished	N	Bayer	
KCP 9.2.4.1 / 12	Hammel, K.; van der Stouwe, F.	2021	Flupyradifurone (FPF) and metabolites - PECgw FOCUS PEARL, PELMO, MACRO EUR using tier 2 - Use in sunflower in Europe Report No.: EnSa-21-0144, Edition Number: M-765929-01-1 Bayer AG, Crop Science Division, Monheim, Germany GLP/GEP: No unpublished	No	Bayer	
KCP 9.2.4.1 / 14	Hammel, K.; Srinivasan, P.	2020	Flupyradifurone (FPF) and metabolites: PECgw FOCUS PEARL, PELMO, MACRO EUR (tier 2) - Use in sunflower in Europe Report No.: EnSa-20-0848, Edition Number: M-764014-01-1 Bayer AG, Crop Science Division, Monheim, Germany GLP/GEP: No unpublished	No	Bayer	
KCP 9.2.5 / 03	Hammel, K.; Srinivasan, P.	2021	Flupyradifurone (FPF): PECsw,sed FOCUS EUR - Use in sunflower in Europe Report No.: EnSa-21-0124, Edition Number: M-765932-01-1 Bayer AG, Crop Science Division, Monheim, Germany GLP/GEP: No unpublished	No	Bayer	
KCP 9.2.5 / 05	Hammel, K.; Srinivasan, P.	2020	Flupyradifurone (FPF) and metabolites: PECsw,sed FOCUS EUR - Use in sunflower in Europe Report No.: EnSa-20-0843, Edition Number: M-763983-01-1 Bayer AG, Crop Science Division, Monheim, Germany GLP/GEP: No	No	Bayer	

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	Reason for rejection
			unpublished			
KCP 9.2.4.1 / 08	Hammel, K.; Sriniavasan, P.	2020	Flupyradifurone (FPF) and metabolites - PECgw FOCUS PEARL, PELMO, MACRO EUR - Use in sunflower, sorghum, maize and grape in Europe Report No.: EnSa-20-0280, Edition Number: M-691480-01-1 Bayer AG, Crop Science Division, Monheim, Germany GLP/GEP: No unpublished	No	Bayer	Consideration of TSCF of 0.5 not agreed by the zRMS (see point 8.8.2.2 of this document for details)
KCP 9.2.4.1 / 09	Hammel, K.; Sriniavasan, P.	2021	Flupyradifurone (FPF) and metabolites: PECgw FOCUS PEARL, PELMO, MACRO EUR - Use in spring and winter cereals in Europe Report No.: EnSa-20-0276, Edition Number: M-691481-02-1 Bayer AG, Crop Science Division, Monheim, Germany **... amended: 2021-03-15** GLP/GEP: No unpublished	No	Bayer	
KCP 9.2.4.1 / 10	Hammel, K.; Lyu, A.	2021	Flupyradifurone (FPF) and metabolites - PECgw FOCUS PEARL, PELMO, MACRO EUR using tier 2 - Use in sunflower, sorghum, maize and grape in Europe Report No.: EnSa-21-0115, Edition Number: M-765871-01-1 Bayer AG, Crop Science Division, Monheim, Germany GLP/GEP: No unpublished	No	Bayer	
KCP 9.2.4.1 / 11	Hammel, K.; Lyu, A.	2021	Flupyradifurone (FPF) and metabolites - PECgw FOCUS PEARL, PELMO, MACRO EUR using tier 2 - Use in spring and winter cereals in Europe Report No.: EnSa-21-0116, Edition Number: M-765877-01-1 Bayer AG, Crop Science Division, Monheim, Germany GLP/GEP: No unpublished	No	Bayer	
KCP 9.2.4.1 / 15	Hammel, K.; Sriniavasan, P.	2020	Flupyradifurone (FPF) and metabolites - PECgw FOCUS PEARL, PELMO, MACRO EUR using tier 2 - Use in sunflower, sorghum, maize and grape in Europe Report No.: EnSa-20-0425, Edition Number: M-691482-01-1 Bayer AG, Crop Science Division, Monheim, Germany GLP/GEP: No unpublished	No	Bayer	
KCP 9.2.4.1 /	Hammel, K.; Sriniavasan, P.	2021	Flupyradifurone (FPF) and metabolites: PECgw FOCUS PEARL, PELMO, MACRO EUR using tier 2 - Use in spring and winter cereals in Europe	No	Bayer	

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	Reason for rejection
16			Report No.: EnSa-20-0386, Edition Number: M-691483-02-1 Bayer AG, Crop Science Division, Monheim, Germany **... amended: 2021-03-15** GLP/GEP: No unpublished			
KCP 9.2.5 / 06	Hammel, K.; Srinivasan, P.	2020	Flupyradifurone (FPF) and metabolites: PECsw,sed FOCUS EUR - Use in various crops in Europe Report No.: EnSa-20-0252, Edition Number: M-693227-01-1 Bayer AG, Crop Science Division, Monheim, Germany GLP/GEP: No unpublished	No	Bayer	Consideration of TSCF of 0.5 not agreed by the zRMS (see point 8.9.2.2 of this document for details)

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
There were no data relied upon and not submitted by the Applicant.					

Appendix 2 Detailed evaluation of the new Annex II studies

A 2.1 KCA 7.1 Fate and behaviour in soil

A 2.1.1 KCA 7.1.1 Route of degradation in soil

A 2.1.1.1 KCA 7.1.1.1 Aerobic degradation

A 2.1.1.2 KCA 7.1.1.2 Anaerobic degradation

A 2.1.1.3 KCA 7.1.1.3 Soil photolysis

A 2.1.2 KCA 7.1.2 Rate of degradation in soil

A 2.1.2.1 KCA 7.1.2.1 Laboratory studies

A 2.1.2.1.1 KCA 7.1.2.1.1 Aerobic degradation of the active substance

A 2.1.2.1.2 KCA 7.1.2.1.2 Aerobic degradation of metabolites, breakdown and reaction products

A 2.1.2.1.3 KCA 7.1.2.1.3 Anaerobic degradation of the active substance

A 2.1.2.1.4 KCA 7.1.2.1.4 Anaerobic degradation of metabolites, breakdown and reaction products

A 2.1.2.2 KCA 7.1.2.2 Field studies

A 2.1.2.2.1 KCA 7.1.2.2.1 Soil dissipation studies

Comments of zRMS:	The study was not validated by the zRMS since sufficient information was available from the EU review and kinetic re-evaluation of field dissipation studies on degradation of deltamethrin in soil was not necessary.

Reference:	**KCA 7.1.2.2.1/01**
Title:	Kinetic evaluation of Deltamethrin field dissipation studies to determine input parameters for the calculation of PEC values in soil Code:AE F032640
Report:	Schaefer, D.; 2003; C036884; M-221665-01-1
Guideline(s):	--
Deviations:	--
GLP/GEP:	no
Acceptability:	Not validated, not required to finalise the exposure assessment.
Duplication (if vertebrate study):	

~~**Materials and methods:**~~

~~This report describes a kinetics re-evaluation of field dissipation data for deltamethrin. The re-evaluation was necessary, as existing evaluations were based on the "Timme-Frehse" log-linear fitting approach (in the original study reports), which is no longer recommended for kinetic evaluations and was considered to deliver unreliable DT_{50} values by the Rapporteur Member State Sweden (KEMI) during the review of deltamethrin under EU directive 91/414. The reason for this consideration given by the RMS Sweden was the poor goodness of fit of the DT_{50} estimations. Therefore, the RMS Sweden based the DT_{50} estimation on visual inspection of the dissipation curves (EU Monograph on deltamethrin; KEMI, 1998).~~

~~The objective of this re-evaluation was therefore to derive reliable input parameters for the calculation of~~

soil PEC values. The EU Monograph on deltamethrin and EU Review Report on deltamethrin were fully taken into account.
The kinetics evaluation was based on experimental data from two deltamethrin field dissipation studies at four sites in Germany and at one site in the U.S. evaluated in the Monograph.

Results and discussions:

First-order kinetics allowed an adequate description of the soil dissipation of deltamethrin, with an acceptable curve fit ($r^2 > 0.8$) for four of the five sites (only exception: test site Stelle). The first-order DT_{50} values for the field dissipation of deltamethrin ranged from 8 to 28 days and the first-order DT_{90} values ranged from 25 to 94 days. These results are in good agreement with the laboratory data.

Table 2: Results of the kinetic evaluation of the field dissipation studies with deltamethrin: Kinetic parameters and r^2 values (as a measure of the goodness of fit)

Site	Initial concentration c_0 (µg/kg)	Dissipation rate k (1/d)	r^2
Minnesota (USA)	11.000	0.0417	0.808
Stelle (Germany)	12.001	0.0292	0.563
Bornheim (Germany)	13.550	0.0409	0.934
Gersthofen (Germany)	21.003	0.0920	0.986
Hattersheim (Germany)	11.539	0.0245	0.976

Table 3: First-order DT_{50} and DT_{90} values for the field dissipation of deltamethrin at the five test sites

Site	DT_{50} of deltamethrin (days)	DT_{90} of deltamethrin (days)
Minnesota (USA)	16.6	55.3
Stelle (Germany)	23.7	78.8
Bornheim (Germany)	17.0	56.3
Gersthofen (Germany)	7.5	25.0
Hattersheim (Germany)	28.3	94.0

Conclusion:

The calculated first-order DT_{50} values for the field dissipation of deltamethrin ranged from 8 to 28 days. This is very similar to the DT_{50} values observed in laboratory studies (range 18 to 35 days, with a mean of 26 days).
It is concluded that the worst case field half-life of 28.3 days provides a conservative description of the soil dissipation of deltamethrin and is an appropriate input parameter for the calculation of PEC_{soil}.

A 2.1.2.2.2 KCA 7.1.2.2.2 Soil accumulation studies

A 2.1.3 KCA 7.1.3 Adsorption and desorption in soil

A 2.1.3.1 KCA 7.1.3.1 Adsorption and desorption

A 2.1.3.1.1 KCA 7.1.3.1.1 Adsorption and desorption of the active substance

A 2.1.3.1.2 KCA 7.1.3.1.2 Adsorption and desorption of metabolites, breakdown and reaction products

A 2.1.3.2 KCA 7.1.3.2 Aged sorption

A 2.1.4 KCA 7.1.4 Mobility in soil

Comments of zRMS:	The study was not validated by the zRMS, but its results were considered for purposes of the exposure assessment as being already agreed in the course of the zonal evaluation of another deltamethrin formulation of the same Applicant (Decis 15 EW evaluated by BE as the zRMS in 2018). Furthermore, the study was also agreed by the RMS in the course of the ongoing EU renewal process of deltamethrin (LoEP amended in 2019 is available on EFSA DMS).

Reference:	**KCA 7.1.4/01**
Title:	AE F108565 (Br2CA): Vapour pressure
Report:	Dornhagen, J.; 2012; 20110093.01; M-438493-01-1
Guideline(s):	European Commission Regulation (EC) No. 440/2008, A.4.; OECD Test Guideline 104; EPA Product Properties Test Guideline OPPTS 830.7950
Deviations:	not specified
GLP/GEP:	yes
Acceptability:	Not validated by the zRMS for DLT+FPF EC 85, but results considered in exposure assessment as being already agreed at the zonal level as well as in the course of the ongoing EU renewal process.
Duplication (if vertebrate study):	

~~**Performance of the test:**~~

~~In this study, the vapour pressure of the metabolite Br2CA was determined.~~
~~Before starting the vapour pressure measurement, the thermal stability was determined by differential scanning calorimetry (DSC). The test item was degassed under vacuum at approximately 10^{-5} hPa at 30 ± 5 °C for 17 hours before the determination of vapor pressure.~~
~~For measurement, the test item is filled into a furnace in the chamber from which the sample evaporates. The temperature of the cell with the test item is controlled by a surrounding heater. The vapour forms a molecular jet of defined geometry limited by an orifice. The molecular jet can be interrupted by a shutter between the orifice of the cell and the plate of the balance. The vapour jet is condensed on a plate cooled down below -100 °C by a surrounding copper baffle which is in contact with liquid nitrogen. The plate forms one end of an ultra micro balance. Using the shutter between the orifice and the balance, the increase of mass during an elapsed time period is recorded.~~

~~**Results:**~~

~~The DSC measurement in a closed glass crucible showed an endothermic effect in the temperature range of approx. 120 – 145 °C followed by an exothermal effect in the temperature range of approx. 200 – 275 °C releasing an energy of 495 J/g.~~
~~The vapour pressure was measured in the temperature range of 19 °C to 74 °C. Above 33 °C a vapour pressure could be measured. The following vapour pressure values for the test item AE F108565 (Br2CA) were interpolated (value at 50 °C) and extrapolated (values at 20 °C and 25 °C) from the experimental data of the test item (vapour pressure balance method):~~

T / °C	p / hPa	p / Pa
20	2.3×10^{-5}	2.3×10^{-3}
25	4.8×10^{-5}	4.8×10^{-3}
50	1.3×10^{-3}	1.3×10^{-1}

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Comments of zRMS:	The study was not validated by the zRMS, but its results were considered for purposes of the exposure assessment as being already agreed in the course of the zonal evaluation of another deltamethrin formulation of the same Applicant (Decis 15 EW evaluated by BE as the zRMS in 2018). Furthermore, the study was also agreed by the RMS in the course of the ongoing EU renewal process of deltamethrin (LoEP amended in 2019 is available on EFSA DMS).

Reference:	**KCA 7.1.4/02**
Title:	AE F108565 (Br2CA): Solubility in water at pH 5, pH 7 and pH 9
Report:	Wiche, A.; Bogdoll, B.; 2012; PA10/073; M-435779-01-1
Guideline(s):	European Commission Council Regulation (EC) No 440/2008, Annex, Part A, method A.6.; OECD-Guideline 105; EPA Product Properties Test Guideline OPPTS 830.7840
Deviations:	not specified
GLP/GEP:	yes
Acceptability:	Not validated by the zRMS for DLT+FPF EC 85, but results considered in exposure assessment as being already agreed at the zonal level as well as in the course of the ongoing EU renewal process.
Duplication (if vertebrate study):	

Materials and methods:

The water solubility C_s of the test item Br2CA at pH 5, pH 7 and pH 9 was determined according to the "flask method", described in the European Commission Council Regulation (EC) No 440/2008, Annex, Part A, method A.6., OECD-guideline 105 and EPA Product Properties Test Guideline OPPTS 830.7840.

For determination of the water solubility, following buffer solutions were used:

pH 5 (citrate buffer)

21.0 g of citric acid monohydrate were dissolved in 200 mL of sodium hydroxide solution (c = 1 mol/L). This solution was filled up to a volume of 1000 mL with double distilled water. 3.6 mL of sodium hydroxide solution (c = 1 mol/L) were added to 964 mL of this solution and filled up to a volume of 1000 mL with double distilled water. The solution was adjusted to pH 5.0 with hydrochloric acid.

pH 7 (phosphate buffer)

8.0 g of sodium dihydrogen phosphate were dissolved in 1000 mL of double distilled water. 11.9 g of di-sodium hydrogen phosphate were dissolved in 1000 mL of double distilled water. 389 mL of sodium dihydrogen phosphate solution were added to 611 mL of di-sodium hydrogen phosphate solution. The solution was adjusted to pH 7.0 with phosphoric acid.

pH 9 (borate buffer)

10.05 g of sodium tetraborate were added to 4.6 mL hydrochloric acid (c = 1 mol/L) and filled up to a volume of 1000 mL with double distilled water. The solution was adjusted to pH 9.0 with hydrochloric acid.

Results:

The concentration of Br2CA was quantified by HPLC analyses.
The data presented in B5 demonstrates that the used analytical method (HPLC method, reversed phase) was found to be valid. It complies with all criteria according to SANCO/3029/99 rev. 4 and is suitable for the determination of AE F108565 (BR2CA).

The results of the solubility measurements are given in the following table:

~~Target pH~~	~~Final pH~~	~~Cs Solubility at 20°C~~	~~RSD~~
~~pH 5~~	~~5.0 [1)]~~	~~0.131 g/L~~	~~3.3 %~~
~~pH 7~~	~~7.0 [2)]~~	~~9.0 g/L~~	~~1.8 %~~
~~pH 9~~	~~9.1 [2)]~~	~~> 240 g/L~~	

~~1) measured pH of the saturated solution, resulting from 3 experiments~~
~~2) measured pH of the saturated solution, resulting from 2 experiments each~~

A 2.1.4.1 KCA 7.1.4.1 Column leaching studies

A 2.1.4.1.1 KCA 7.1.4.1.1 Column leaching of the active substance

A 2.1.4.1.2 KCA 7.1.4.1.2 Column leaching of metabolites, breakdown and reaction products

A 2.1.4.2 KCA 7.1.4.2. Lysimeter studies

A 2.1.4.3 KCA 7.1.4.3 Field leaching studies

A 2.2 KCA 7.2 Fate and behaviour in water and sediment

A 2.2.1 KCA 7.2.1 Route and rate of degradation in aquatic systems (chemical and photochemical degradation)

A 2.2.1.1 KCA 7.2.1.1 Hydrolytic degradation

A 2.2.1.2 KCA 7.2.1.2 Direct photochemical degradation

A 2.2.1.3 KCA 7.2.1.3 Indirect photochemical degradation

A 2.2.2 KCA 7.2.2 Route and rate of biological degradation in aquatic systems

A 2.2.2.1 KCA 7.2.2.1 "Ready biodegradability"

A 2.2.2.2 KCA 7.2.2.2 Aerobic mineralisation in surface water

A 2.2.2.3 KCA 7.2.2.3 Water/sediment study

A 2.2.2.4 KCA 7.2.2.4 Irradiated water/sediment study

A 2.2.3 KCA 7.2.3 Degradation in the saturated zone

A 2.3 KCA 7.3 Fate and behaviour in air

A 2.3.1 KCA 7.3.1 Route and rate of degradation in air

A 2.3.2 KCA 7.3.2 Transport via air

A 2.3.3 KCA 7.3.3 Local and global effects

A 2.4 KCA 7.4 Definition of the residue

A 2.4.1 KCA 7.4.1 Definition of the residue for risk assessment

A 2.4.2 KCA 7.4.2 Definition of the residue for monitoring

A 2.5 KCA 7.5 Monitoring data

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

A 3.1 8.7 Predicted Environmental Concentrations in soil (PECsoil) (KCP 9.1.3)

Deltamethrin and relevant metabolite(s)

Comments of zRMS:	The soil exposure calculated by the Applicant was agreed by the zRMS. For discussion on input parameters and obtained results, please refer to point 8.7 of this document.

Reference:	**KCP 9.1.3/01**
Title:	Deltamethrin (DLT) and metabolite - PECsoil EUR - Use in various crops in Europe
Report:	Schaefer, D.; van der Stouwe, F.; 2020; EnSa-20-0818; M-758128-01-1
Guideline(s):	not applicable
Deviations:	None
GLP/GEP:	no
Acceptability:	Acceptable
Duplication (if vertebrate study):	

Flupyradifurone and relevant metabolite(s)

Comments of zRMS:	The soil exposure calculated by the Applicant was agreed by the zRMS. For discussion on input parameters and obtained results, please refer to point 8.7 of this document.

Reference:	**KCP 9.1.3/02**
Title:	Flupyradifurone (FPF): Core PECsoil EUR - Modelling core info document for soil risk assessment in Europe
Report:	Hammel, K.; Porschewski, R.; 2018; EnSa-17-0510; M-613928-01-1
Guideline(s):	not applicable
Deviations:	none
GLP/GEP:	no
Acceptability:	Acceptable
Duplication (if vertebrate study):	

Reference:	**KCP 9.1.3/03**
Title:	Flupyradifurone (FPF) and metabolites: PECsoil EUR - Use in various crops in Europe
Report:	Hammel, K.; Srinivasan, P.; 2020; EnSa-20-0849; M-764016-01-1
Guideline(s):	not applicable
Deviations:	None
GLP/GEP:	no
Acceptability:	Acceptable
Duplication (if vertebrate study):	

A 3.2 8.8 Predicted Environmental Concentrations in groundwater (PEC_{gw}) (KCP 9.2.4.1)

Deltamethrin and relevant metabolite(s)

Comments of zRMS:	The groundwater modelling performed by the Applicant was agreed by the zRMS. For discussion on input parameters and obtained results, please refer to point 8.8 of this document.

Reference:	**KCP 9.2.4.1/01**
Title:	Deltamethrin (DLT) and metabolite - PECgw FOCUS PEARL, PELMO EUR - Use in sunflower, sorghum, maize and grape in Europe
Report:	Schaefer, D.; van der Stouwe, F.; 2020; EnSa-20-0814; M-758127-01-1
Guideline(s):	not applicable
Deviations:	None
GLP/GEP:	no
Acceptability:	Acceptable
Duplication (if vertebrate study):	

Reference:	**KCP 9.2.4.1/02**
Title:	Deltamethrin (DLT) and metabolite - PECgw FOCUS PEARL, PELMO EUR - Use in spring and winter cereals in Europe
Report:	Schaefer, D.; van der Stouwe, F.; 2020; EnSa-20-0813; M-758125-01-1
Guideline(s):	not applicable
Deviations:	None
GLP/GEP:	no
Acceptability:	Acceptable
Duplication (if vertebrate study):	

Flupyradifurone and relevant metabolite(s)

Comments of zRMS:	The groundwater modelling performed by the Applicant at Tier 1 and TSCF of 0 was agreed by the zRMS. The groundwater modelling at Tier 1 and TSCF of 0.5 was not agreed by the zRMS. For discussion on input parameters and obtained results, please refer to point 8.8.2.2 of this document.

Reference:	**KCP 9.2.4.1/03**
Title:	Flupyradifurone (FPF): Core PECgw EUR - Modelling core info document for groundwater risk assessment in Europe
Report:	Hammel, K.; Porschewski, R.; 2019; EnSa-17-0508; M-613915-02-1
Guideline(s):	none
Deviations:	none
GLP/GEP:	no
Acceptability:	Acceptable
Duplication (if vertebrate study):	

Tier 1 (PUF/TSCF = 0)

Reference:	**KCP 9.2.4.1/04**
Title:	Flupyradifurone (FPF) and metabolites: PECgw FOCUS PEARL, PELMO, MACRO EUR - Use in sunflower, sorghum, maize and grape in Europe
Report:	Hammel, K.; Lyu, A.; 2021; EnSa-21-0113; M-765868-01-1
Guideline(s):	not applicable
Deviations:	None
GLP/GEP:	no
Acceptability:	Acceptable
Duplication (if vertebrate study):	

Reference:	**KCP 9.2.4.1/05**
Title:	Flupyradifurone (FPF) and metabolites - PECgw FOCUS PEARL, PELMO, MACRO EUR - Use in spring and winter cereals in Europe
Report:	Hammel, K.; Lyu, A.; 2021; EnSa-21-0114; M-765869-01-1
Guideline(s):	not applicable
Deviations:	None
GLP/GEP:	no
Acceptability:	Acceptable
Duplication (if vertebrate study):	

Reference:	**KCP 9.2.4.1/06**
Title:	Flupyradifurone (FPF) and metabolites - PECgw FOCUS PEARL, PELMO, MACRO EUR - Use in sunflower in Europe
Report:	Hammel, K.; van der Stouwe, F.; 2021; EnSa-21-0143; M-765928-01-1
Guideline(s):	not applicable
Deviations:	None
GLP/GEP:	no
Acceptability:	Not accepted. For details, please refer to point 8.8.2.2
Duplication (if vertebrate study):	

Tier 1 (PUF/TSCF = 0.5)

Reference:	**KCP 9.2.4.1/07**
Title:	Flupyradifurone (FPF) and metabolites: PECgw FOCUS PEARL, PELMO, MACRO EUR - Use in sunflower in Europe
Report:	Hammel, K.; Srinivasan, P.; 2020; EnSa-20-0847; M-764013-01-1
Guideline(s):	not applicable
Deviations:	None
GLP/GEP:	no
Acceptability:	No accepted (for details, please refer to point 8.8.2.2 of this report)
Duplication (if vertebrate study):	

Reference:	**KCP 9.2.4.1/08**
Title:	Flupyradifurone (FPF) and metabolites - PECgw FOCUS PEARL, PELMO, MACRO EUR - Use in sunflower, sorghum, maize and grape in Europe
Report:	Hammel, K.; Sriniavasan, P.; 2020; EnSa-20-0280; M-691480-01-1
Guideline(s):	none
Deviations:	None
GLP/GEP:	no
Acceptability:	No accepted (for details, please refer to point 8.8.2.2 of this report)
Duplication (if vertebrate study):	

Reference:	**KCP 9.2.4.1/09**
Title:	Flupyradifurone (FPF) and metabolites - PECgw FOCUS PEARL, PELMO, MACRO EUR - Use in spring and winter cereals in Europe
Report:	Hammel, K.; Sriniavasan, P.; 2020; EnSa-20-0276; M-691481-02-1
Guideline(s):	not applicable
Deviations:	None
GLP/GEP:	no
Acceptability:	No accepted (for details, please refer to point 8.8.2.2 of this report)
Duplication (if vertebrate study):	

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Comments of zRMS:	The groundwater modelling performed by the Applicant at Tier 2 and TSCF of 0 was agreed by the zRMS. The groundwater modelling at Tier 2 and TSCF of 0.5 was not agreed by the zRMS. For discussion on input parameters and obtained results, please refer to point 8.8.2.2 of this document.

Tier 2 (TDS) (PUF/TSCF = 0)

Reference:	**KCP 9.2.4.1/10**
Title:	Flupyradifurone (FPF) and metabolites - PECgw FOCUS PEARL, PELMO, MACRO EUR using tier 2 - Use in sunflower, sorghum, maize and grape in Europe
Report:	Hammel, K.; Lyu, A.; 2021; EnSa-21-0115; M-765871-01-1
Guideline(s):	not applicable
Deviations:	None
GLP/GEP:	no
Acceptability:	Partially acceptable (for details, please refer to point 8.8 of this report)
Duplication (if vertebrate study):	

Reference:	**KCP 9.2.4.1/11**
Title:	Flupyradifurone (FPF) and metabolites - PECgw FOCUS PEARL, PELMO, MACRO EUR using tier 2 - Use in spring and winter cereals in Europe
Report:	Hammel, K.; Lyu, A.; 2021; EnSa-21-0116; M-765877-01-1
Guideline(s):	not applicable
Deviations:	None
GLP/GEP:	no
Acceptability:	Acceptable
Duplication (if vertebrate study):	

Reference:	**KCP 9.2.4.1/12**
Title:	Flupyradifurone (FPF) and metabolites - PECgw FOCUS PEARL, PELMO, MACRO EUR using tier 2 - Use in sunflower in Europe
Report:	Hammel, K.; van der Stouwe, F.; 2021; EnSa-21-0144; M-765929-01-1
Guideline(s):	not applicable
Deviations:	None
GLP/GEP:	no
Acceptability:	No accepted (for details, please refer to point 8.8.2.2 of this report)
Duplication (if vertebrate study):	

Tier 2 (TDS) (PUF/TSCF = 0.5)

Reference:	**KCP 9.2.4.1/13**
Title:	Statement: Implementation of aged sorption parameters for exposure assessment of flupyradifurone - Additional information on applicability following the release of the EFSA opinion in August 2018 and note taking of the guidance by the EU commission (SCoPAFF) in January 2021
Report:	Hammel, K.; Murakami, L.; 2021; EnSa-18-0986; M-642729-03-1
Guideline(s):	None
Deviations:	--
GLP/GEP:	not applicable
Acceptability:	No accepted (for details, please refer to point 8.8.2.2 of this report)
Duplication (if vertebrate study):	

Reference:	**KCP 9.2.4.1/14**
Title:	Flupyradifurone (FPF) and metabolites: PECgw FOCUS PEARL, PELMO, MACRO EUR (tier 2) - Use in sunflower in Europe
Report:	Hammel, K.; Srinivasan, P.; 2020; EnSa-20-0848; M-764014-01-1
Guideline(s):	not applicable
Deviations:	None
GLP/GEP:	no
Acceptability:	No accepted (for details, please refer to point 8.8.2.2 of this report)
Duplication (if vertebrate study):	

Reference:	**KCP 9.2.4.1/15**
Title:	Flupyradifurone (FPF) and metabolites - PECgw FOCUS PEARL, PELMO, MACRO EUR using tier 2 - Use in sunflower, sorghum, maize and grape in Europe
Report:	Hammel, K.; Sriniavasan, P.; 2020; EnSa-20-0425; M-691482-01-1
Guideline(s):	none
Deviations:	None
GLP/GEP:	no
Acceptability:	No accepted (for details, please refer to point 8.8.2.2 of this report)
Duplication (if vertebrate study):	

Reference:	**KCP 9.2.4.1/16**
Title:	Flupyradifurone (FPF) and metabolites - PECgw FOCUS PEARL, PELMO, MACRO EUR using tier 2 - Use in spring and winter cereals in Europe
Report:	Hammel, K.; Sriniavasan, P.; 2020; EnSa-20-0386; M-691483-02-1
Guideline(s):	not applicable
Deviations:	None
GLP/GEP:	no
Acceptability:	No accepted (for details, please refer to point 8.8.2.2 of this report)
Duplication (if vertebrate study):	

A 3.3 8.9 Predicted Environmental Concentrations in surface water (PEC_{sw}) (KCP 9.2.5)

Deltamethrin and relevant metabolite(s)

Comments of zRMS:	The surface water modelling performed by the Applicant was agreed by the zRMS. For discussion on input parameters and obtained results, please refer to point 8.9 of this document.

Reference:	**KCP 9.2.5/01**
Title:	Deltamethrin (DLT) and metabolite: PECsw,sed FOCUS EUR - Use in various crops in Europe
Report:	Schäfer, D.; Srinivasan, P.; 2020; EnSa-20-0819; M-758067-01-1
Guideline(s):	none
Deviations:	None
GLP/GEP:	no
Acceptability:	Acceptable
Duplication (if vertebrate study):	

Reference:	**KCP 9.2.5/07**
Title:	Deltamethrin (DLT): PECsw,sed FOCUS EUR - Use in vines in Europe
Report:	Srinivasan, P.; 2023; EnSa-23-0063; M-832152-01-1
Authority registration No:	
Guideline(s):	none
Deviations:	None
GLP/GEP:	no
Acceptability:	
Duplication (if vertebrate study):	

Flupyradifurone and relevant metabolite(s)

Comments of zRMS:	The surface water modelling performed by the Applicant with TSCF of 0 was agreed by the zRMS, while Consideration of TSCF of 0.5 not agreed by the zRMS. For discussion on input parameters and obtained results, please refer to point 8.9 of this document.

Reference:	**KCP 9.2.5/02**
Title:	Flupyradifurone (FPF): Core PECsw EUR - Modelling core info document for surface water risk assessment in Europe
Report:	Hammel, K.; Porschewski, R.; 2019; EnSa-17-0509; M-613927-02-1
Guideline(s):	none
Deviations:	none
GLP/GEP:	no
Acceptability:	Acceptable
Duplication (if vertebrate study):	

Reference:	**KCP 9.2.5/08**
Title:	Flupyradifurone (FPF): PECsw,sed FOCUS EUR - Use in vines in Europe
Report:	Hammel, K.; Srinivasan, P.; 2023; EnSa-23-0062; M-832153-01-1
Authority registration No:	
Guideline(s):	none
Deviations:	None
GLP/GEP:	no
Acceptability:	
Duplication (if vertebrate study):	

PUF/TSCF = 0

Reference:	**KCP 9.2.5/03**
Title:	Flupyradifurone (FPF): PECsw,sed FOCUS EUR - Use in sunflower in Europe
Report:	Hammel, K.; Srinivasan, P.; 2021; EnSa-21-0124; M-765932-01-1
Guideline(s):	not applicable
Deviations:	None
GLP/GEP:	no
Acceptability:	No acceptable (for details, please refer to point 8.9 of this report)
Duplication (if vertebrate study):	

Reference:	**KCP 9.2.5/04**
Title:	Flupyradifurone (FPF): PECsw,sed FOCUS EUR - Use in various crops in Europe
Report:	Hammel, K.; Lyu, A.; 2021; EnSa-21-0117; M-765878-01-1
Guideline(s):	not applicable
Deviations:	None
GLP/GEP:	no
Acceptability:	Acceptable
Duplication (if vertebrate study):	

PUF/TSCF = 0.5

Reference:	**KCP 9.2.5/05**
Title:	Flupyradifurone (FPF) and metabolites: PECsw,sed FOCUS EUR - Use in sunflower in Europe
Report:	Hammel, K.; Srinivasan, P.; 2020; EnSa-20-0843; M-763983-01-1
Guideline(s):	not applicable
Deviations:	None
GLP/GEP:	no
Acceptability:	No accepted (for details, please refer to point 8.9.2.2 of this report)
Duplication (if vertebrate study):	

Reference:	**KCP 9.2.5/06**
Title:	Flupyradifurone (FPF) and metabolites: PECsw,sed FOCUS EUR - Use in various crops in Europe
Report:	Hammel, K.; Srinivasan, P.; 2020; EnSa-20-0252; M-693227-01-1
Guideline(s):	not applicable
Deviations:	None
GLP/GEP:	no
Acceptability:	No accepted (for details, please refer to point 8.9.2.2 of this report)
Duplication (if vertebrate study):	