

REGISTRATION REPORT

Part B

Section 8

Environmental Fate

Detailed summary of the risk assessment

Product code: GF-3307 (S7K-3-3)

Product name(s): QUEEN

Chemical active substance(s):

Fenpicoxamid, 50 g/L

Prothioconazole, 100 g/L

Central Zone

Zonal Rapporteur Member State: Poland

CORE ASSESSMENT

(extension of use)

Applicant: Corteva Agriscience

Submission date: March 2025

MS Finalisation date: July 2025 (initial Core Assessment)

February 2026 (final Core Assessment)

Version History

When	What
March 2025	Submission of GF-3307 (S7K-3-3) Sugar beet/Fodder beet Extension of Use in the Central Zone.
July 2025	<p>Initial zRMS assessment</p> <p>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.</p>
November 2025	Update to Step 4 PECsw modelling requested by zRMS Poland on behalf of Austria as cMS to include 20 m No-Spray Zone (NSZ)
November 2025	<p>Final report (Core Assessment updated following the commenting period).</p> <p>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. Not agreed or not relevant information are struck through and shaded for transparency.</p>
February 2026	Update to Step 4 PECsw modelling at Tier 2 for all relevant FOCUS scenarios requested by zRMS Poland Ecotoxicology Expert.
February 2026	<p>Final report (Core Assessment updated following the commenting period).</p> <p>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. Not agreed or not relevant information are struck through and shaded for transparency.</p>

Table of Contents

8	Fate and behaviour in the environment (KCP 9)	4
8.1	Critical GAP and overall conclusions.....	5
8.2	Metabolites considered in the assessment	7
8.3	Rate of degradation in soil (KCP 9.1.1)	10
8.3.1	Aerobic degradation in soil (KCP 9.1.1.1)	10
8.3.2	Anaerobic degradation in soil (KCP 9.1.1.1)	20
8.4	Field studies (KCP 9.1.1.2)	20
8.4.1	Soil dissipation testing on a range of representative soils (KCP 9.1.1.2.1).....	21
8.4.2	Soil accumulation testing (KCP 9.1.1.2.2)	24
8.5	Mobility in soil (KCP 9.1.2).....	25
8.5.1	Column leaching (KCP 9.1.2.1)	29
8.5.2	Lysimeter studies (KCP 9.1.2.2)	30
8.5.3	Field leaching studies (KCP 9.1.2.3).....	30
8.6	Degradation in water/sediment systems (KCP 9.2, KCP 9.2.1, KCP 9.2.2, KCP 9.2.3).....	30
8.7	Predicted environmental concentrations in soil (PECsoil) (KCP 9.1.3).....	34
8.7.1	Justification for new endpoints.....	34
8.7.2	Active substance(s), metabolite(s) and formulation	34
8.8	Predicted environmental concentrations in groundwater (PECgw) (KCP 9.2.4)	41
8.8.1	Justification for new endpoints.....	41
8.8.2	Active substance(s) and metabolite(s) (KCP 9.2.4.1).....	41
8.9	Predicted environmental concentrations in surface water (PECsw/sed) (KCP 9.2.5).....	48
8.9.1	Justification for new endpoints.....	48
8.9.2	Active substance(s), metabolite(s) and formulation (KCP 9.2.5).....	48
8.10	Fate and behaviour in air (KCP 9.3, KCP 9.3.1)	96
Appendix 1	Lists of data considered in support of the evaluation.....	97
Appendix 2	Detailed evaluation of the new Annex II studies.....	105
Appendix 3	Additional information provided by the applicant (e.g. detailed modelling data)	105

8 Fate and behaviour in the environment (KCP 9)

This document reviews the environmental fate summary and exposure calculations for the plant protection product GF-3307 (S7K-3-3), a formulation containing fenpicoxamid (50 g as/L) and prothioconazole (100 g as/L), as relevant for extension of use on sugar beet/fodder beet in the Central Zone.

Endpoints for the active substances in GF-3307 (S7K-3-3) relevant for the evaluation are taken from the respective EFSA conclusions as indicated below, in addition to CEU zRMS Poland (2023) review of GF-3307 core assessment in GF-3307 Registration Report Part B8 (core assessment) published by zRMS Poland in January 2023, unless justified otherwise:

- EFSA (2018): Conclusion on the peer review of the pesticide risk assessment of the active substance fenpicoxamid (XDE-777). EFSA Journal 2018;16(1):5146, 27 pp. <https://doi.org/10.2903/j.efsa.2018.5146>.
- EFSA (2007): Scientific Report (2007) 106, 1-98. Conclusion regarding the peer review of the pesticide risk assessment of the active substance prothioconazole. Finalised: 12 July 2007.

Update November 2025:

In response to a request by zRMS Poland (email title: Otrzymane komentarze do oceny środka ochrony roślin Queen; date 3 November 2025) on behalf of Austria as cMS, PECsw/sed modelling has been updated with additional Step 4 mitigation calculations to include 20 m no-spray zone, accordingly:

- 20 m NSZ + 10 m VFS
- 20 m NSZ + 10 m VFS + 75% DRN

Update February 2026

In response to a request by zRMS Poland (Email title: RE: Otrzymane komentarze do oceny środka ochrony roślin Queen - prośba do wnioskodawcy - ekotoksykologia, date 15 January 2026), the following has been included in an update to this dossier:

- The comparison of exposure profiles in the mesocosm study of fenpicoxamid with those from the corresponding FOCUS modelling must be presented for all relevant FOCUS scenarios, not only those selected by the applicant.

We have extended this timeseries analysis to scenarios D3, D4, R1 and R3 scenarios in this document. The comparison to the mesocosm study is presented in the dRR Part B9. This update in the drr Part B8 is highlighted in green.

8.1 Critical GAP and overall conclusions

Table 8.1-1: Critical use pattern of the formulated product GF-3307 (S7K-3-3) concerning environmental fate

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Use- No.*	Member state(s)	Crop &/or situation	F, Fn, Fpn G, Gn, Gpn or I**	Pests or group of pests controlled	Application				Application rate			PHI (d)	Remarks	Conclusion
					Method/ kind	Timing/growth stage of crop & season	Max. number a) per use b) per crop/season	Min. interval between appn. (d)	L FP/ha a) max. rate per appn. b) max. total rate per crop/season	g as/ha a) max. rate per appn. b) max. total rate per crop/season	Water L/ha min/max			Groundwater
Zonal uses (field or outdoor uses, certain types of protected crops)														
1-2	PL, HU, RO, SK, BE, CZ, AT, NL	Sugar beet Fodder beet	F	<i>Cercospora beticola</i> (CERCBE) <i>Uromyces betae</i> (UROMBE) <i>Erysiphe betae</i> (ERYSBE) <i>Ramularia beticola</i> (RAMUBE)	Tractor mounted spray	BBCH 39-49	a) 2 + b) 2	21 days	a) 1.5 L/ha b) 3 L/ha	a) 75 Fenpicox- amid + 150 Prothiocon- azole b) 150 Fenpicox- amid + 300 Prothiocon- azole	150-300	21	PL, HU, RO and SK only: Range 1.2- 1.5 L/ha	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

Table 8.1-2: Assessed (critical) uses during approval of fenpicoxamid (FPX) concerning environmental fate

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Use-No.*	Member state(s)	Crop &/or situation	F, Fn, Fpn G, Gn, Gpn or I**	Pests or group of pests controlled	Application				Application rate			PHI (d)	Remarks
					Method/ kind	Timing/growth stage of crop & season	Max. number a) per use b) per crop/season	Min. interval between appn. (d)	L FP/ha a) max. rate per appn. b) max. total rate per crop/season	g as/ha a) max. rate per appn. b) max. total rate per crop/season	Water L/ha min/max		
-	EU	Winter cereals	F	<i>Septoria tritici</i>	Tractor mounted spray	BBCH 25-69 (spring appn.)	2	14	a) 1 b) 2	a) 130 (FPX) b) 260 (FPX)	100-300	NA	1 April selected to reflect spring appn.
-	EU	Spring cereals	F	<i>Septoria tritici</i>	Tractor mounted spray	BBCH 25-69 (spring appn.)	2	14	a) 1 b) 2	a) 130 (FPX) b) 260 (FPX)	100-300	NA	1 April selected to reflect spring appn.

* **Representative uses assessed at EU level are more critical than the ones requested in the current application for GF-3307**

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

Table 8.1-3: Assessed (critical) uses during approval of prothioconazole (PTZ) concerning environmental fate

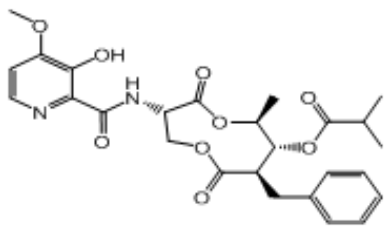
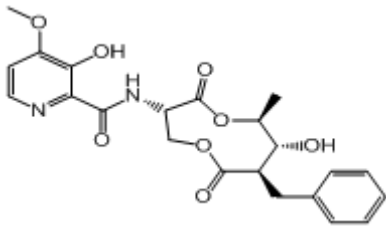
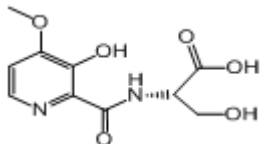
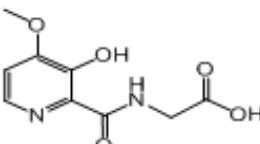
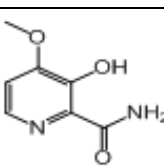
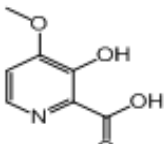
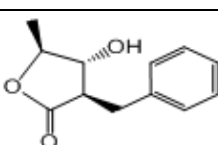
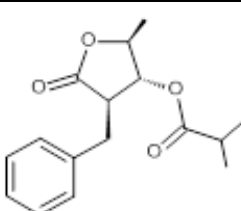
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Use-No.*	Member state(s)	Crop &/or situation	F, Fn, Fpn G, Gn, Gpn or I**	Pests or group of pests controlled	Application				Application rate			PHI (d)	Remarks
					Method/kind	Timing/ growth stage of crop & season	Max. number a) per use b) per crop/season	Min. interval between appn. (d)	L FP/ha a) max. rate per appn. b) max. total rate per crop/season	g as/ha a) max. rate per appn. b) max. total rate per crop/season	Water L/ha min/max		
-	EU	Wheat, rye, triticale	F	<i>Rusts, eyespot, fusarium spp, powd. mildew, rhynchospor, septoria</i>	Tractor mounted spray	BBCH 26-69	1-3	14-21		200 (PTZ)	200-400	35	
-	EU	Barley, oat	F	<i>Rusts, eyespot, pyren. teres, powd. mildew, rhynchospor</i>	Tractor mounted spray	BBCH 30-61	1-2	14-21		200 (PTZ)	200-400	35	
-	EU	Rape	F	<i>Sclerotinia, botrytis, alternaria, leptosphaeria</i>	Tractor mounted spray	BBCH 53 onwards	1-2	14-28		175 (PTZ)	200-400	56	
-	EU	Wheat, rye, triticale, oat, barley	F	<i>Fusarium spp, bunt, smut</i>	Seed treatment	Pre-sowing	1	NA		9-18 (PTZ) (180 kg seed/ha)	200-400	NA	

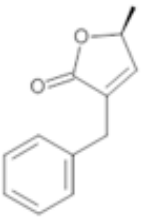
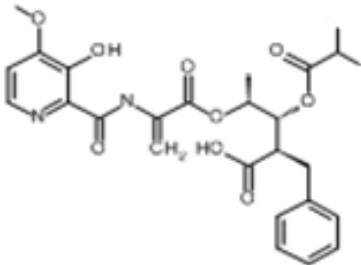
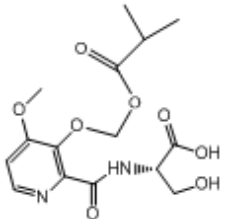
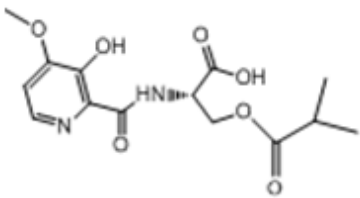
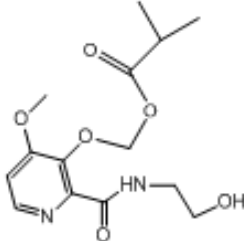
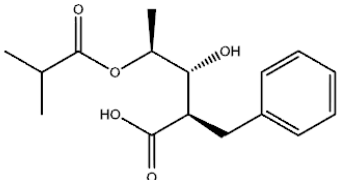
* **Representative uses assessed at EU level are more critical than the ones requested in the current application for GF-3307**

** 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: Major (>5% AR) metabolites of fenpicoxamid (FPX) for exposure assessment

Metabolite	Molar mass (g/mol)	Chemical structure	Max. observed level (% AR) in compartment*	Exposure assessment required
X642188	514.2		Soil (aerobic), 39.2% Water, 8.9% Sediment, 10.6% [Wat/sed total, 19.5%]	PECsoil PECgw PECsw PECsed
X696872	444.2		Soil (aerobic), 17.2%	PECsoil PECgw PECsw
X12264475	256.1		Soil (anaerobic), 49.4% Water, 25.8% Sediment, 46.9% [Wat/sed total, 65.3%]	PECsoil PECgw PECsw PECsed
X763024	226.1		Soil (aerobic), 5.7%	PECsoil PECgw PECsw
X12313581	168.0		Soil (field), 17.1% Water (aer. min.) 66.1% Sediment, 9.3% [Wat/sed total, 9.3%]	PECsoil PECgw PECsw PECsed
X696476	169.0		Soil (anaerobic), 46.9% Sediment, 67.1% [Wat/sed total, 67.1%]	PECsoil PECgw PECsed
X11963422	206.1		Soil (anaerobic), 80.3% Water, 40.2% Sediment, 7.7% [Wat/sed total, 45%]	PECsoil PECgw PECsw PECsed
X12314005	276.3		Soil (phot. irradi.), 5.4% Water (phot. irradi.), 61.6% [Wat/sed total, 35.1%]	PECsoil PECgw PECsw

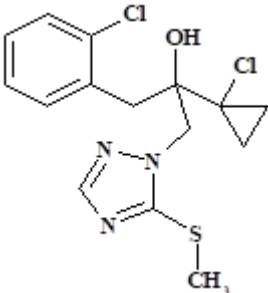
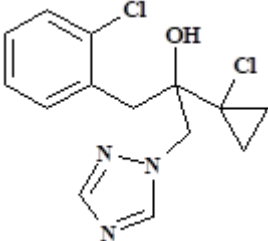
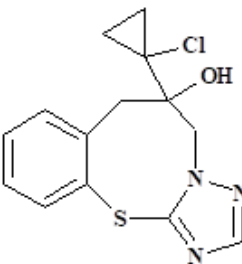
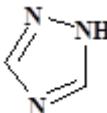
Metabolite	Molar mass (g/mol)	Chemical structure	Max. observed level (% AR) in compartment*	Exposure assessment required
X12019520	188.2		Soil (phot. irradi.), 9.8% Water (aer. min.) 74.0% Sediment 6.5% [Wat/sed total, 15.3%]	PECsoil PECgw PECsw PECsed
X12255349	514.5		Soil (phot. irradi.), 6.9%	PECsoil PECgw PECsw
X12335723	356		Water (phot. irradi.), 77.0%	PECsw
X12386481	326		Water (aer. min.), 69.5%	PECsw
X12446477	312		Water (phot. irradi.), 12.5%	PECsw
X12433979	294		Water (hydrol. pH9), 35.7%	PECsw

* Maximum in any individual replicate (taken from DAR)

zRMS comments:

Information regarding fenpicoxamid metabolites is in line with EU agreed endpoints reported in EFSA Journal 2018;16(1):5145.

Table 8.2-2: Major (>5% AR) metabolites of prothioconazole (PTZ) for exposure assessment

Metabolite	Molar mass (g/mol)	Chemical structure	Max. observed level (% AR) in compartment	Exposure assessment required
JAU 6476-S-methyl (M01)	358.3		Soil (aerobic), 14.6% Sediment 9.6% [Wat/sed total, 12.7%]	PECsoil PECgw PECsed
JAU 6476-desthio (M04)	312.2		Soil (aerobic), 57.1% Water, 32.3% Sediment, 26.9% [Wat/sed total, 54.4%]	PECsoil PECgw PECsw PECsed
JAU 6476-thiazocine (M12)	307.8		Water (phot. irradi.), 14.1%	-*
1,2,4-triazole (M13)	69.1		Water, 37.2% Sediment, 6.1% [Wat/sed total, 41.8%]	PECsw PECsed

* EFSA (2007) concluded that under environmental conditions M12 is unlikely to be formed at >10% AR in natural surface water based on information from photolysis and water/sediment studies; therefore, no PECsw/sed not required.

zRMS comments:

Information regarding prothioconazole metabolites is in line with EU agreed endpoints reported in EFSA Scientific Report (2007) 106.

8.3 Rate of degradation in soil (KCP 9.1.1)

Studies on the laboratory degradation rate in soil with the formulation were not performed, since it is possible to extrapolate from data obtained with the active substance. A summary of the data is given below.

8.3.1 Aerobic degradation in soil (KCP 9.1.1.1)

Fenpicoxamid

Persistence endpoints

The following tables show persistence endpoints (DT₅₀ and DT₉₀ given by kinetic model described in the table) derived (where possible) from laboratory studies.

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

Table 616-1: Summary of aerobic degradation rates for Fenpicoxamid - laboratory studies								
Fenpicoxamid		Dark aerobic conditions, parent applied						
Soil	Soil type (USDA)	pH (CaCl ₂)	T(°C)/ MWHC (%)	Persistence				Evaluated at EU level
				DT ₅₀ (d)	DT ₉₀ (d)	Chi ² (%)	Kinetic model	
RefSol 03-G	Sandy loam	6.2	20/75.9	1.4	24.9	4.4	DFOP	Yes (EFSA, 2018)
Farditch Farm	Silt loam	5.7	20/67.4	1.9	33.1	3.8	DFOP	
Woodside Farm	Clay loam	7.3	20/80.3	0.8	8.6	6.9	DFOP	
Hareby House	Clay	7.6	20/57.6	1.2	8.3	4.7	DFOP	
Geometric mean (n=4)				1.3				
pH dependence				No				

Table 8.3-2: Summary of aerobic degradation rates for X642188 - laboratory studies

Table 6.18.2: Summary of aerobic degradation rates for X642188 - Laboratory studies									
X642188	Dark aerobic conditions, parent applied								Evaluated at EU level
Soil	Soil type (USDA)	pH (CaCl ₂)	T(°C)/ MWHC (%)	Persistence					
				DT ₅₀ (d)	DT ₉₀ (d)	ff	Chi ² (%)	Kinetic model	
Not derived. See field dissipation study.									Yes (EFSA, 2018)

Table 8.3-3: Summary of aerobic degradation rates for X696872 - laboratory studies

X696872	Dark aerobic conditions, parent applied								Evaluated at EU level
Soil	Soil type (USDA)	pH (CaCl ₂)	T(°C)/ MWHC (%)	Persistence					
				DT ₅₀ (d)	DT ₉₀ (d)	ff	Chi ² (%)	Kinetic model	
RefSol 03-G	Sandy loam	6.2	20/75.9	18.9	119	1	5.6	DFOP	Yes (EFSA, 2018)
Farditch Farm	Silt loam	5.7	20/67.4	14.0	197	1	8.6	FOMC	
Woodside Farm	Clay loam	7.3	20/80.3	5.5	46.3	1	3.3	DFOP	
Hareby House	Clay	7.6	20/57.6	7.3	24.3	1	10.7	SFO	
Geometric mean (n=4)				10.2					
Arithmetic mean (n=4)						1			
pH dependence				No					

Table 8.3-4: Summary of aerobic degradation rates for X12264475 – laboratory studies (metabolite applied)

X12264475									
Dark aerobic conditions, metabolite applied									
Soil	Soil type (USDA)	pH (CaCl ₂)	T(°C)/ MWHC (%)	Persistence					Evaluated at EU level
				DT ₅₀ (d)	DT ₉₀ (d)	ff	Chi ² (%)	Kinetic model	
RefSol 03-G	Sandy loam	6.2	20/75.9	0.64	5.5	1	1.6	FOMC	Yes (EFSA, 2018)
Farditch Farm	Silt loam	5.7	20/67.4	2.0	10.0	1	3.4	DFOP	
Woodside Farm	Clay loam	7.3	20/80.3	0.86	4.4	1	1.7	FOMC	
Hareby House	Clay	7.6	20/57.6	1.8	12.4	1	6.6	DFOP	
Geometric mean (n=4)				1.2					
Arithmetic mean (n=4)						1			
pH dependence				No					

Table 8.3-5: Summary of aerobic degradation rates for X763024 - laboratory studies (metabolite applied)

X763024									
Dark aerobic conditions, metabolite applied									
Soil	Soil type (USDA)	pH (CaCl ₂)	T(°C)/ MWHC (%)	Persistence					Evaluated at EU level
				DT ₅₀ (d)	DT ₉₀ (d)	ff	Chi ² (%)	Kinetic model	
RefSol 03-G	Clay loam	6.2	20/75.9	21.6	71.9	1	12.3	SFO	Yes (EFSA, 2018)
Farditch Farm	Loam	5.7	20/67.4	5.6	144	1	8.0	DFOP	
Woodside Farm	Clay loam	7.3	20/80.3	8.3	52.1	1	8.9	DFOP	
Hareby House	Clay	7.6	20/57.6	20.8	69.2	1	14.1	SFO	
Geometric mean (n=4)				12.0					
Arithmetic mean (n=4)						1			
pH dependence				No					

Table 8.3-6: Summary of aerobic degradation rates for X12313581 - laboratory studies (metabolite applied)

X12313581									
Dark aerobic conditions, metabolite applied									
Soil	Soil type (USDA)	pH (CaCl ₂)	T(°C)/ MWHC (%)	Persistence					Evaluated at EU level
				DT ₅₀ (d)	DT ₉₀ (d)	ff	Chi ² (%)	Kinetic model	
RefSol 03-G	Sandy loam	6.2	20/75.9	9.0	42.2	1	6.7	DFOP	Yes (EFSA, 2018)
Farditch Farm	Silt loam	5.7	20/67.4	8.9	63.6	1	17.0	DFOP	
Woodside Farm	Clay loam	7.3	20/80.3	10.1	68.5	1	14.8	DFOP	
Hareby House	Clay	7.6	20/57.6	23.7	111	1	6.0	FOMC	
Geometric mean (n=4)				11.8					
Arithmetic mean (n=4)						1			
pH dependence				No					

Table 8.3-7: Summary of aerobic degradation rates for X696476 – laboratory studies (parent and metabolite applied)

X696476									
Dark aerobic conditions, parent and metabolite applied									
Soil	Soil type (USDA)	pH (CaCl2)	T(°C)/ MWHC (%)	Persistence					Evaluated at EU level
				DT50 (d)	DT90 (d)	ff	Chi² (%)	Kinetic model	
No degradation observed in any soil and so no DT50 value derived; conservative value selected for exposure assessment.									Yes (EFSA, 2018)

Table 8.3-8: Summary of aerobic degradation rates for X11963422 – laboratory studies (metabolite applied)

X11963422 Dark aerobic conditions, metabolite applied									
Soil	Soil type (USDA)	pH (CaCl ₂)	T(°C)/ MWHC (%)	Persistence					Evaluated at EU level
				DT ₅₀ (d)	DT ₉₀ (d)	ff	Chi ² (%)	Kinetic model	
RefSol 03-G	Clay loam	5.9	20/80.3	1.4	4.8	1	5.2	SFO	Yes (EFSA, 2018)
Brierlow	Silt loam	5.7	20/67.4	5.0	16.5	1	8.3	SFO	
Woodside Farm	Clay loam	7.4	20/75.9	0.12	4.9	1	5.9	DFOP	
Hareby House	Clay	7.9	20/57.6	0.13	1.5	1	5.3	DFOP	
Geometric mean (n=4)				0.57					
Arithmetic mean (n=4)						1			
pH dependence				No					

Table 8.3-9: Summary of aerobic degradation rates for X12314005 – laboratory studies (metabolite applied)

X12314005 Dark aerobic conditions, metabolite applied									
Soil	Soil type (USDA)	pH (CaCl ₂)	T(°C)/ MWHC (%)	Persistence					Evaluated at EU level
				DT ₅₀ (d)	DT ₉₀ (d)	ff	Chi ² (%)	Kinetic model	
RefSol 03-G	Sandy loam	5.6	20/50	0.02	0.22	1	2.8	FOMC	Yes (EFSA, 2018)
Brierlow	Silt loam	5.3	20/50	0.07	0.63	1	3.5	FOMC	
Woodside Farm	Clay loam	7.2	20/50	0.004	0.07	1	2.2	FOMC	
Hareby House	Clay	7.6	20/50	0.01	0.13	1	2.5	FOMC	
Geometric mean (n=4)				0.02					
Arithmetic mean (n=4)						1			
pH dependence				No					

Table 8.3-10: Summary of aerobic degradation rates for X12019520 – laboratory studies (metabolite applied)

X12019520 Dark aerobic conditions, metabolite applied									
Soil	Soil type (USDA)	pH (CaCl ₂)	T(°C)/ MWHC (%)	Persistence					Evaluated at EU level
				DT ₅₀ (d)	DT ₉₀ (d)	ff	Chi ² (%)	Kinetic model	
RefSol 03-G	Sandy loam	5.6	20/50	4.0 5.0	13.1	1	8.0	SFO	Yes (EFSA, 2018)
Brierlow	Silt loam	5.3	20/50	6.3	21	1	10.9	SFO	
Woodside Farm	Clay loam	7.2	20/50	1.8	5.9	1	10.6	SFO	

X12019520	Dark aerobic conditions, metabolite applied								Evaluated at EU level
Soil	Soil type (USDA)	pH (CaCl ₂)	T(°C)/ MWHC (%)	Persistence					
				DT ₅₀ (d)	DT ₉₀ (d)	ff	Chi ² (%)	Kinetic model	
Hareby House	Clay	7.6	20/50	2.0	6.7	1	5.4	SFO	
Geometric mean (n=4)				3.1					
Arithmetic mean (n=4)						1			
pH dependence				No					

Table 8.3-11: Summary of aerobic degradation rates for X12255349 – laboratory studies (metabolite applied)

X12255349	Dark aerobic conditions, metabolite applied								
Soil	Soil type (USDA)	pH (CaCl ₂)	T(°C)/ MWHC (%)	Persistence					Evaluated at EU level
				DT ₅₀ (d)	DT ₉₀ (d)	ff	Chi ² (%)	Kinetic model	
RefSol 03-G	Sandy loam	5.6	20/50	2.4	16.9	1	1.7	DFOP	Yes (EFSA, 2018)
Brierlow	Silt loam	5.3	20/50	1.3	8.6	1	3.3	DFOP	
Woodside Farm	Clay loam	7.2	20/50	2.3	7.5	1	5.8	SFO	
Hareby House	Clay	7.6	20/50	4.4	14.4	1	14.3	SFO	
Geometric mean (n=4)				2.4					
Arithmetic mean (n=4)						1			
pH dependence				No					

Modelling endpoints

The following tables show modelling endpoints (DT₅₀ from SFO, or “SFO-like” i.e. FOMC DT₉₀/3.32 or DFOP k₂) derived (where possible) from laboratory studies. The DT₉₀ is not shown since this is not a modelling endpoint.

Table 8.3-12: Summary of aerobic degradation rates for fenpicoxamid - laboratory studies

Fenpicoxamid							
Dark aerobic conditions, parent applied							
Soil	Soil type (USDA)	pH (CaCl ₂)	T(°C)/ MWHC (%)	Modelling (20°C/pF2)			Evaluated at EU level
				DT ₅₀ (d)	Chi ² (%)	Kinetic model	
RefSol 03-G	Sandy loam	5.6	20/75.9	4.6	6.8	FOMC	Yes (EFSA, 2018)
Farditch Farm	Silt loam	5.7	20/67.4	6.0	6.0	FOMC	
Woodside Farm	Clay loam	7.2	20/80.3	2.0	5.2	FOMC	
Hareby House	Clay	7.7	20/57.6	2.7	5.6	FOMC	
Geometric mean (n=4)				3.5			
pH dependence				No			

Table 8.3-13: Summary of aerobic degradation rates for X642188 - laboratory studies

X642188	Dark aerobic conditions, parent applied							
Soil	Soil type (USDA)	pH (CaCl2)	T(°C)/ MWHC (%)	Modelling (20°C/pF2)				Evaluated at EU level
				DT50 (d)	ff*	Chi² (%)	Kinetic model	
RefSol 03-G	Sandy loam	5.6	20/75.9	29.3	0.6	4.1	FOMC	Yes (EFSA, 2018)
Farditch Farm	Silt loam	5.7	20/67.4	19.7	0.6	2.9	FOMC	

X642188	Dark aerobic conditions, parent applied							
Soil	Soil type (USDA)	pH (CaCl ₂)	T(°C)/ MWHC (%)	Modelling (20°C/pF2)				Evaluated at EU level
				DT ₅₀ (d)	ff*	Chi ² (%)	Kinetic model	
Woodside Farm	Clay loam	7.2	20/80.3	7.7	0.6	5.9	FOMC	2018)
Hareby House	Clay	7.7	20/57.6	227	0.6	3.6	DFOP	
Geometric mean (n=4)				31.7**				
Arithmetic mean (n=4)					0.6			
pH dependence				No				

* Determined via inverse modelling

** Given as 31.9 d by EFSA, but incorrect based on individual values presented

Table 8.3-14: Summary of aerobic degradation rates for X696872 - laboratory studies

X696872		Dark aerobic conditions, parent applied						
Soil	Soil type (USDA)	pH (CaCl ₂)	T(°C)/ MWHC (%)	Modelling (20°C/pF2)				Evaluated at EU level
				DT ₅₀ (d)	ff	Chi ² (%)	Kinetic model	
RefSol 03-G	Sandy loam	5.6	20/75.9	86.1	1	9.6	FOMC	Yes (EFSA, 2018)
Farditch Farm	Silt loam	5.7	20/67.4	59.3	1	8.6	FOMC	
Woodside Farm	Clay loam	7.2	20/80.3	17.5	1	3.4	FOMC	
Hareby House	Clay	7.7	20/57.6	10.7	1	9.1	FOMC	
Geometric mean (n=4)				31.3				
Arithmetic mean (n=4)					1			
pH dependence				No				

Table 8.3-15: Summary of aerobic degradation rates for X12264475 - laboratory studies

X12264475	Dark aerobic conditions, parent applied							
Soil	Soil type (USDA)	pH (CaCl ₂)	T(°C)/ MWHC (%)	Modelling (20°C/pF2)				Evaluated at EU level
				DT ₅₀ (d)	ff	Chi ² (%)	Kinetic model	
RefSol 03-G	Sandy loam	5.6	20/75.9	118	1	2.1	DFOP	Yes (EFSA, 2018)
Farditch Farm	Silt loam	5.7	20/67.4	1000*	1	2.6	DFOP	
Woodside Farm	Clay loam	7.2	20/80.3	17.4	1	6.1	FOMC	
Hareby House	Clay	7.7	20/57.6	60.1	1	11.0	DFOP	
Geometric mean (n=4)				105.4				
Arithmetic mean (n=4)					1			
pH dependence				No				

* k2 fixed to 1000 d (conservative default); however, this does not fit the weight of evidence (see below)

The following metabolite applied study for X12264475 (provided for information only) results in shorter DT₅₀ values compared to the parent applied study above, and so the parent applied data was relied upon for exposure assessment. However, the metabolite applied data confirms that assigning a default worst case DT₅₀ of 1000 days for Farditch Farm does not fit the trend of much shorter DT₅₀ values.

Table 8.3-16: Summary of aerobic degradation rates for X12264475 - laboratory studies (metabolite applied)

X12264475 Dark aerobic conditions, metabolite applied								
Soil	Soil type (USDA)	pH (CaCl ₂)	T(°C)/ MWHC (%)	Modelling (20°C/pF2)				Evaluated at EU level
				DT ₅₀ (d)	ff	Chi ² (%)	Kinetic model	
RefSol 03-G	Sandy loam	6.2	20/75.9	1.7	1	1.6	FOMC	Yes (EFSA, 2018)
Farditch Farm	Silt loam	5.7	20/67.4	2.2	1	11.0	SFO	
Woodside Farm	Clay loam	7.3	20/80.3	1.0	1	8.9	SFO	
Hareby House	Clay	7.6	20/57.6	2.1	1	13.0	SFO	
Geometric mean (n=4)				1.7				
Arithmetic mean (n=4)					1			
pH dependence				No				

Table 8.3-17: Summary of aerobic degradation rates for X763024 - laboratory studies (metabolite applied)

X763024 Dark aerobic conditions, metabolite applied								
Soil	Soil type (USDA)	pH (CaCl ₂)	T(°C)/ MWHC (%)	Modelling (20°C/pF2)				Evaluated at EU level
				DT ₅₀ (d)	ff	Chi ² (%)	Kinetic model	
RefSol 03-G	Sandy loam	6.2	20/75.9	31.6	1	10.8	FOMC	Yes (EFSA, 2018)
Farditch Farm	Silt loam	5.7	20/67.4	61.1	1	8.0	DFOP	
Woodside Farm	Clay loam	7.3	20/80.3	23.4	1	16.2	FOMC	
Hareby House	Clay	7.6	20/57.6	25.8	1	14.3	FOMC	
Geometric mean (n=4)				32.8				
Arithmetic mean (n=4)					1			
pH dependence				No				

Table 8.3-18: Summary of aerobic degradation rates for X12313581 - laboratory studies

X12313581 Dark aerobic conditions, parent applied								
Soil	Soil type (USDA)	pH (CaCl ₂)	T(°C)/ MWHC (%)	Modelling (20°C/pF2)				Evaluated at EU level
				DT ₅₀ (d)	ff	Chi ² (%)	Kinetic model	
RefSol 03-G	Sandy loam	5.6	20/75.9	116	1	5.1	SFO	Yes (EFSA, 2018)
Farditch Farm	Silt loam	5.7	20/67.4	284	1	3.3	SFO	
Woodside Farm	Clay loam	7.2	20/80.3	37.2	1	4.9	SFO	
Hareby House	Clay	7.7	20/57.6	136	1	3.3	SFO	
Geometric mean (n=4)				113.6				
Arithmetic mean (n=4)					1			
pH dependence				No				

The following metabolite applied study for X12313581 (provided for information only) results in shorter DT₅₀ values compared to the parent applied study above, and so the parent applied data was relied upon for exposure assessment.

Table 8.3-19: Summary of aerobic degradation rates for X12313581 - laboratory studies (metabolite applied)

X12313581 Dark aerobic conditions, metabolite applied								
Soil	Soil type (USDA)	pH (CaCl ₂)	T(°C)/ MWHC (%)	Modelling (20°C/pF2)				Evaluated at EU level
				DT ₅₀ (d)	ff	Chi ² (%)	Kinetic model	
RefSol 03-G	Sandy loam	6.2	20/75.9	10.6	1	11.5	SFO	Yes (EFSA, 2018)
Farditch Farm	Silt loam	5.7	20/67.4	19.1	1	17.0	DFOP	
Woodside Farm	Clay loam	7.3	20/80.3	20.6	1	14.8	DFOP	
Hareby House	Clay	7.6	20/57.6	27.0	1	7.2	SFO	
Geometric mean (n=4)				18.3				
Arithmetic mean (n=4)					1			
pH dependence				No				

Table 8.3-20: Summary of aerobic degradation rates for X696476 – laboratory studies (parent and metabolite applied)

X696476	Dark aerobic conditions, parent and metabolite applied								
Soil	Soil type (USDA)	pH (CaCl ₂)	T(°C)/ MWHC (%)	Modelling (20°C/pF2)					Evaluated at EU level
				DT ₅₀ (d)	DT ₉₀ (d)	ff	Chi ² (%)	Kinetic model	
No degradation of this metabolite in any soil and so no DT ₅₀ value derived; conservative value will be selected in the exposure assessment.									Yes (EFSA, 2018)

Table 8.3-21: Summary of aerobic degradation rates for X11963422 - laboratory studies

X11963422	Dark aerobic conditions, parent applied							Evaluated at EU level
Soil	Soil type (USDA)	pH (CaCl ₂)	T(°C)/ MWHC (%)	Modelling (20°C/pF2)				
				DT ₅₀ (d)	ff	Chi ² (%)	Kinetic model	
RefSol 03-G	Sandy loam	5.6	20/75.9	31.9	1	9.4	FOMC	Yes (EFSA, 2018)
Farditch Farm	Silt loam	5.7	20/67.4	Not reliable – insufficient data points and low residues.				
Woodside Farm	Clay loam	7.2	20/80.3	Not calculated – metabolite always <5% AR.				
Hareby House	Clay	7.7	20/57.6	Not reliable – insufficient data points.				
Maximum (n=1)				31.9				
Arithmetic mean (n=1)					1			
pH dependence				No				

The following metabolite applied study for X11963422 (provided for information only) results in shorter DT₅₀ values compared to the parent applied study above, and so the parent applied data was relied upon for exposure assessment.

Table 8.3-22: Summary of aerobic degradation rates for X11963422 - laboratory studies (metabolite applied)

X11963422 Dark aerobic conditions, metabolite applied								
Soil	Soil type (USDA)	pH (CaCl ₂)	T(°C)/ MWHC (%)	Modelling (20°C/pF2)				Evaluated at EU level
				DT ₅₀ (d)	ff	Chi ² (%)	Kinetic model	
RefSol 03-G	Clay loam	5.9	20/71.9	1.5	1	5.2	SFO	Yes

X11963422 Dark aerobic conditions, metabolite applied								
Soil	Soil type (USDA)	pH (CaCl ₂)	T(°C)/ MWHC (%)	Modelling (20°C/pF2)				Evaluated at EU level
				DT ₅₀ (d)	ff	Chi ² (%)	Kinetic model	
Brierlow	Silt loam	5.7	20/84.4	5.0	1	8.3	SFO	(EFSA, 2018)
Woodside Farm	Clay loam	7.4	20/77.3	2.3	1	5.9	DFOP	
Hareby House	Clay	7.9	20/55.8	0.35	1	8.7	FOMC	
Geometric mean (n=4)				1.6				
Arithmetic mean (n=4)					1			
pH dependence				No				

Soil photoproducts of fenpicoxamid (detected in soil photolysis study with further investigation of their degradation carried out in standard OECD 307 laboratory study under dark conditions)

Table 8.3-23: Summary of aerobic degradation rates for X12314005 - laboratory studies (metabolite applied)

X12314005 Dark aerobic conditions, metabolite applied								
Soil	Soil type (USDA)	pH (CaCl ₂)	T(°C)/ MWHC (%)	Modelling (20°C/pF2)				Evaluated at EU level
				DT ₅₀ (d)	ff	Chi ² (%)	Kinetic model	
RefSol 03-G	Sandy loam	5.6	20/50	0.03	1	18.9	SFO	Yes (EFSA, 2018)
Brierlow	Silt loam	5.3	20/50	0.09	1	11.8	SFO	
Woodside Farm	Clay loam	7.2	20/50	0.01	1	13.1	SFO	
Hareby House	Clay	7.6	20/50	0.02	1	16.7	SFO	
Geometric mean (n=4)				0.03				
Arithmetic mean (n=4)					1			
pH dependence				No				

Table 8.3-24: Summary of aerobic degradation rates for X12019520 - laboratory studies (metabolite applied)

X12019520 Dark aerobic conditions, metabolite applied								
Soil	Soil type (USDA)	pH (CaCl ₂)	T(°C)/ MWHC (%)	Modelling (20°C/pF2)				Evaluated at EU level
				DT ₅₀ (d)	ff	Chi ² (%)	Kinetic model	
RefSol 03-G	Sandy loam	5.6	20/50	4.0	1	8.0	SFO	Yes (EFSA, 2018)
Brierlow	Silt loam	5.3	20/50	6.3	1	10.9	SFO	
Woodside Farm	Clay loam	7.2	20/50	1.8	1	10.6	SFO	
Hareby House	Clay	7.6	20/50	2.0	1	5.4	SFO	
Geometric mean (n=4)				3.1				
Arithmetic mean (n=4)					1			
pH dependence				No				

Table 8.3-25: Summary of aerobic degradation rates for X12255349 - laboratory studies (metabolite applied)

X12255349	Dark aerobic conditions, metabolite applied							
Soil	Soil type (USDA)	pH (CaCl ₂)	T(°C)/ MWHC (%)	Modelling (20°C/pF2)				Evaluated at EU level
				DT ₅₀ (d)	ff	Chi ² (%)	Kinetic model	
RefSol 03-G	Sandy loam	5.6	20/50	4.6	1	2.8	FOMC	Yes (EFSA, 2018)
Brierlow	Silt loam	5.3	20/50	2.5	1	4.1	FOMC	
Woodside Farm	Clay loam	7.2	20/50	2.6	1	5.2	FOMC	
Hareby House	Clay	7.6	20/50	4.4	1	14.3	SFO	
Geometric mean (n=4)				3.4				
Arithmetic mean (n=4)					1			
pH dependence				No				

zRMS comments:

Soil degradation data for fenpicoxamid and its metabolites are in line with EU agreed endpoints reported in EFSA Journal 2018;16(1):5145.

Prothioconazole

Persistence endpoints

The following tables show persistence endpoints (DT₅₀ and DT₉₀ given by kinetic model described in the table) derived (where possible) from laboratory studies.

Table 8.3-26: Summary of aerobic degradation rates for prothioconazole - laboratory studies

Prothioconazole		Dark aerobic conditions, parent applied						Evaluated at EU level
Soil	Soil type (USDA)	pH (CaCl ₂)	T(°C)/ MWHC (%)	Persistence (20°C only)				
				DT ₅₀ (d)	DT ₉₀ (d)	R ² *	Kinetic model	
Laacher Hof	Sandy loam	6.6	20/48 (pF2)	0.07	5.3	1	FOMC	Yes (EFSA, 2007)
Stanley	Silty clay loam	5.9	20/48 (pF2)	0.7	78.2	0.989	FOMC	
Hofchen	Silt	6.8	20/50 (pF2)	0.3	0.99	-	SFO	
Byromville	Loamy sand	6.1	20/75% 1/3 bar	1.3	4.22	-	SFO	
Median (n=4)				0.5				
pH dependence				No				

* Chi² not reported

Table 8.3-27: Summary of aerobic degradation rates for JAU 6476-S-methyl (M01) - laboratory studies

JAU 6476-S-methyl (M01)		Dark aerobic conditions, parent applied						
Soil	Soil type (USDA)	pH (CaCl ₂)	T(°C)/ MWHC (%)	Persistence (20°C only)				Evaluated at EU level
				DT ₅₀ (d)	DT ₉₀ (d)	R ² *	Kinetic model	
Hofchen	Loamy silt	6.5	20/40 (pF2)	5.9	19.6	0.97	SFO	Yes (EFSA, 2007)
Laacher Hof AIII	Loamy silt	6.7	20/40 (pF2)	27.2	90.2	0.955	SFO	
Laacher Hof AXXa	Sandy loam	6.3	20/40 (pF2)	8.2	27.2	0.959	SFO	
Stanley	Silty clay	5.2	20/40 (pF2)	46.0	153	0.965	SFO	
Median (n=4)				17.7				
pH dependence				No				

* Chi² not reported

Table 8.3-28: Summary of aerobic degradation rates for JAU 6476-desthio (M04) - laboratory studies

JAU 6476-desthio (M04)		Dark aerobic conditions, parent applied						
Soil	Soil type (USDA)	pH (CaCl ₂)	T(°C)/ MWHC (%)	Persistence (20°C only)				Evaluated at EU level
				DT ₅₀ (d)	DT ₉₀ (d)	R ² *	Kinetic model	
Hofchen	Loamy silt	6.5	20/40 (pF2)	34.0	113	0.820	SFO	Yes (EFSA, 2007)
Laacher Hof AIII	Loamy silt	6.7	20/40 (pF2)	29.6	59.2	0.987	SFO	
Laacher Hof AXXa	Sandy loam	6.3	20/40 (pF2)	7.0	23.2	0.985	SFO	
Stanley	Silty clay	5.2	20/40 (pF2)	18.6	61.9	0.979	SFO	
Median (n=4)				24.1				
pH dependence				No				

* Chi² not reported

Modelling endpoints

The following tables show modelling endpoints (DT₅₀ from SFO) derived from laboratory studies. The DT₉₀ is not shown since this is not a modelling endpoint.

Data are shown only for JAU 6476Smethyl (M01) since modelling endpoints for prothioconazole and JAU 6476desthio (M04) were not given by EFSA since data from the field studies were relied upon for exposure modelling.

Table 8.3-29: Summary of aerobic degradation rates for JAU 6476-S-methyl (M01) - laboratory studies

JAU 6476-S-methyl (M01)		Dark aerobic conditions, parent applied						
Soil	Soil type (USDA)	pH (CaCl ₂)	T(°C)/ MWHC (%)	Modelling (20°C only)				Evaluated at EU level
				DT ₅₀ (d)	ff	R ² *	Kinetic model	
Hofchen	Loamy silt	6.5	20/40 (pF2)	5.9	-	0.97	SFO	Yes (EFSA, 2007)
Laacher Hof AIII	Loamy silt	6.7	20/40 (pF2)	27.2	-	0.955	SFO	

JAU 6476-S-methyl (M01)		Dark aerobic conditions, parent applied						
Soil	Soil type (USDA)	pH (CaCl ₂)	T(°C)/ MWHC (%)	Modelling (20°C only)				Evaluated at EU level
				DT ₅₀ (d)	ff	R ² *	Kinetic model	
Laacher Hof AXXa	Sandy loam	6.3	20/40 (pF2)	8.2	-	0.959	SFO	
Stanley	Silty clay	5.2	20/40 (pF2)	46.0	-	0.965	SFO	
Geometric mean (n=4)				15.7				
Arithmetic mean (n=4)					0.14**			
pH dependence				No				

* Chi² not reported

** Individual values not reported by EFSA, but 0.14 used as historical endpoint. A mean ff of 0.08 (Schad, 2001) was provided during the EU evaluation but this also was not reported by EFSA.

zRMS comments:

Soil degradation data for prothioconazole and its metabolites are in line with EU agreed endpoints reported in EFSA Scientific Report (2007) 106 and prothioconazole DAR of 2005.

For relevant endpoints considered in exposure assessment, please refer to points 8.7 (soil), 8.8 (groundwater) and 8.9 (surface water) of this document.

8.3.2 Anaerobic degradation in soil (KCP 9.1.1.1)

Degradation rates in anaerobic soil have been calculated, where appropriate. However, these are not required for risk assessment and no further information is provided here.

zRMS comments:

In the course of the EU evaluation of fenpicoxamid the anaerobic soil degradation studies were sufficient to calculate DT₅₀ values for the following compounds (data taken from EFSA Journal 2018;16(1):5146):

1. Parent: single soil tested (sandy loam) at 20°C and 50% MWHC, DT₅₀ = 2.2 days.
2. Metabolite X642188: single soil tested (sandy loam) at 20°C and 50% MWHC, DT₅₀ = 7.7 days.

During the anaerobic study following metabolites were observed:

- X696872 at 16% AR, no DT₅₀ calculated due to less than 5 data-points in the decline phase,
- X12264475 at 49.4% AR, no DT₅₀ calculated due to less than 5 data-points in the decline phase,
- X11963422 (consisting of X11963422 and derivatives) at 80.3% AR, no decline phase.

With regard to prothioconazole, in line with EFSA Scientific Report (2007) 106, prothioconazole might be potentially exposed to anaerobic conditions when applied as a seed treatment in winter cereals. Since application pattern of GF-3307 (S7K-3-3) does not include application as a seed treatment, anaerobic route of exposure is not considered further, in line with EU conclusions.

8.4 Field studies (KCP 9.1.1.2)

Field studies (if triggered – see below) were performed either with the formulation relevant to this dRR or using a comparable formulation to obtain data for the active substance under field conditions. A summary of the data is given below.

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

Fenpicoxamid

Fenpicoxamid readily degrades in laboratory soil and does not trigger field dissipation testing. However, six metabolites triggered persistence testing when considering precautionary worst case assumptions, and the following were included for analysis in a spring applied study; X642188, X696872, X12264475, X763024, X12313581 and X696476. Fenpicoxamid was included to demonstrate that application was correctly made. The seasonal application rate was 260 g as/ha (from 2 x 130 g as/ha) to bare soil.

Maximum levels of each metabolite formed in the field (% parent equivalent) were also monitored. Only X12313581 formed at greater levels in the field (17.1%) compared to the laboratory (10.1%; max. replicate value).

Persistence endpoints

Tables here show persistence endpoints (DT₅₀ and DT₉₀ given by kinetic model using nonnormalised data) derived from field studies. Persistence endpoints were not derived for X696872 or X763024 which formed sporadically or were not detected.

Table 8.4-1: Summary of dissipation rates for fenpicoxamid - field studies

Fenpicoxamid								
Field aerobic conditions, parent applied								
Location	Soil type (USDA)	pH (CaCl ₂)	Depth (cm)*	Persistence (non-normalised)				Evaluated at EU level
				DT ₅₀ (d)	DT ₉₀ (d)	Chi ² (%)	Kinetic model	
Germany	Loamy sand	4.9	0-20	5.3	160	10.4	FOMC	Yes (EFSA, 2018)
UK	Loam	6.9	0-20	11.6	38.6	4.1	SFO	
N France	Silty clay loam	6.8	0-20	14.7	49	10.4	SFO	
S France	Loam	6.8	0-20	3.1	42.4	24.9	FOMC	
Spain	Silty clay	7.5	0-20	5.4	17.8	20.0	SFO	
Longest value (n=5)				14.7				
pH dependence				No				

* Sampled to 100 cm but residues found only at 0-20 cm depth

Table 8.4-2: Summary of dissipation rates for X642188 - field studies

X642188	Field aerobic conditions, parent applied							Evaluated at EU level
Location	Soil type (USDA)	pH (CaCl ₂)	Depth (cm)*	Persistence (non-normalised)				
				DT ₅₀ (d)	DT ₉₀ (d)	Chi ² (%)	Kinetic model	
Germany	Loamy sand	4.9	0-20	67.2	223	14.0	SFO	Yes (EFSA, 2018)
UK	Loam	6.9	0-20	28.1	93.4	11.8	SFO	
N France	Silty clay loam	6.8	0-20	5.8	19.3	22.4	SFO	
S France	Loam	6.8	0-20	20.2	67.2	3.2	SFO	
Spain	Silty clay	7.5	0-20	Fit not considered statistically reliable.				
Longest value (n=4)				67.2				
pH dependence				No				

* Sampled to 100 cm but residues found only at 0-20 cm depth

Table 8.4-3: Summary of dissipation rates for X12264475 - field studies

X12264475								
Field aerobic conditions, parent applied								
Location	Soil type (USDA)	pH (CaCl2)	Depth (cm)*	Persistence (non-normalised)				Evaluated at EU level
				DT50 (d)	DT90 (d)	Chi2 (%)	Kinetic model	
Germany	Loamy sand	4.9	0-20	Not calculated.				Yes (EFSA, 2018)
UK	Loam	6.9	0-20	Not calculated.				
N France	Silty clay loam	6.8	0-20	18	59.7	10.5	SFO	
S France	Loam	6.8	0-20	Not calculated.				
Spain	Silty clay	7.5	0-20	98.1	326	14	SFO	
Maximum (n=2)				98.1				
pH dependence				No				

* Sampled to 100 cm but residues found only at 0-20 cm depth

Table 8.4-4: Summary of dissipation rates for X12313581 - field studies

X12313581 Field aerobic conditions, parent applied								
Location	Soil type (USDA)	pH (CaCl ₂)	Depth (cm)*	Persistence (non-normalised)				Evaluated at EU level
				DT ₅₀ (d)	DT ₉₀ (d)	Chi ² (%)	Kinetic model	
Germany	Loamy sand	4.9	0-20	Not calculated; either ND or present at insufficient timepoints.				Yes (EFSA, 2018)
UK	Loam	6.9	0-20					
N France	Silty clay loam	6.8	0-20					
S France	Loam	6.8	0-20					
Spain	Silty clay	7.5	0-20	92.2	306	13.0	SFO	
Maximum (n=1)				92.2				
pH dependence				No				

* Sampled to 100 cm but residues found only at 0-20 cm depth

Table 8.4-5: Summary of dissipation rates for X696476 - field studies

X696476	Field aerobic conditions, parent applied							Evaluated at EU level
Location	Soil type (USDA)	pH (CaCl ₂)	Depth (cm)*	Persistence (non-normalised)				
				DT ₅₀ (d)	DT ₉₀ (d)	Chi ² (%)	Kinetic model	
Germany	Loamy sand	4.9	0-20	Not calculated.				Yes (EFSA, 2018)
UK	Loam	6.9	0-20	246	818	8.6	SFO	
N France	Silty clay loam	6.8	0-20	5260	17500	4.8	SFO	
S France	Loam	6.8	0-20	Not calculated.				
Spain	Silty clay	7.5	0-20	Not calculated.				
Maximum (n=2)				5260				
pH dependence				No				

* Sampled to 100 cm but residues found only at 0-20 cm depth

A data gap was indicated (EFSA, 2018) for additional field dissipation studies for X696476. However, no further studies have been conducted. This is because many attempts have been made to derive a "definitive" DT₅₀ for X696476, i.e. from the parent applied lab study, from the metabolite applied lab study, and from the parent applied field dissipation study. In the field study at five sites, X696476 was found just above the LOQ but with an insufficient number of reliable data points to derive a DT₅₀, although a range of 246-5260 days was indicated from two sites. Therefore, a conclusion that the metabolite is persistent can

be drawn from existing data without having a definitive DT₅₀. Using nominal worst case values for exposure modelling (5260 days for soil; 1000 days for groundwater and surface water) does not lead to any environmental concern. Further studies would not bring any value to the exposure assessment.

Modelling endpoints

In the EFSA conclusion (2018), laboratory DT₅₀ values were relied upon for the groundwater and surface water modelling for fenpicoxamid and its metabolites. As such no further information on normalised (20°C/pF2) field DT₅₀ values is given since these are not required for the assessment.

zRMS comments:

Field degradation data for fenpicoxamid presented in Table 8.4-1 to 8.4-5 are in line with the EU agreed endpoints reported in EFSA Journal 2018;16(1):5146.

With regard to the modelling endpoints it is noted that in EFSA Journal 2018;16(1):5146 the normalised DT₅₀ values from field dissipation studies are given for the parent (with geomean of 9.83 days) and metabolite X642188 (with geomean of 15.2 days). However, as laboratory data are used for modelling, these values are given here for informative purposes only.

Prothioconazole

Soil dissipation testing was not triggered for prothioconazole or its metabolites. However, bare soil and cropped dissipation studies following spring application (nominal 200 g as/ha) have been carried out.

Additional kinetic analyses (M 429069011; Hardy, 2012) of the field data have been performed for prothioconazole and JAU-6476-desthio (M04) to derive modelling endpoints with an updated Q₁₀ of 2.58 rather than 2.2.

Persistence endpoints

Tables here show persistence (DT₅₀ and DT₉₀ given by kinetic model described in the table) endpoints for prothioconazole and JAU-6476-desthio (M04) from field studies. JAU6476-S-methyl (M01) was <LOQ, and in the majority of cases not detected (<LOD) and so kinetics are not presented.

Table 8.4-6: Summary of dissipation rates for prothioconazole - field studies

Prothioconazole				Field conditions, parent applied				Evaluated at EU level
Location	Soil type (USDA)	pH (CaCl ₂)	Depth (cm)*	Persistence (non-normalised)				
				DT ₅₀ (d)	DT ₉₀ (d)	R ² **	Kinetic model	
Germany (bare)	Silt loam	6.25	0-10	1.9	6.4	1	SFO	Yes (EFSA, 2007)
UK (bare)	Sandy clay loam	7.56	0-10	1.6	5.5	1	SFO	
N France (bare)	Silt	6.42	0-10	1.3	4.4	1	SFO	
UK (cropped)	Sandy clay loam	7.56	0-10	2.8	9.3	0.99	SFO	
N France (cropped)	Silt	6.42	0-10	1.4	4.5	1	SFO	
S France (cropped)	Siltloam	7.61	0-10	1.7	5.6	0.99	SFO	
Italy (cropped)	Sandy loam	7.56	0-10	1.6	5.4	0.99	SFO	
Germany (bare)	Sandy loam	6.32	0-10	1.5	5.1	1	SFO	
Median (n=8)				1.6				
Worst case (n=8)				2.8				

* Sampled to 50 cm but residues found only at 0-10 cm depth

** Chi² not reported

Table 8.4-7: Summary of dissipation rates for JAU 6476-desthio (M04) - field studies

JAU 6476-desthio (M04)		Field conditions, parent applied						Evaluated at EU level
Location	Soil type (USDA)	pH (CaCl2)	Depth (cm)*	Persistence (non-normalised)				
				DT50 (d)	DT90 (d)	R² **	Kinetic model	
Germany (bare)	Silt loam	6.25	0-10	16.3	54.1	0.98	SFO	Yes (EFSA, 2007)
UK (bare)	Sandy clay loam	7.56	0-10	54.7	182	0.96	SFO	
N France (bare)	Silt	6.42	0-10	47.6	158	0.94	SFO	
UK (cropped)	Sandy clay loam	7.56	0-10	50.2	167	0.91	SFO	
N France (cropped)	Silt	6.42	0-10	36.8	122	0.93	SFO	
S France (cropped)	Silt loam	7.61	0-10	72.3	240	0.91	SFO	
Italy (cropped)	Sandy loam	7.56	0-10	30.5	101	0.98	SFO	
Germany (bare)	Sandy loam	6.32	0-10	27.9	92.6	0.98	SFO	
Median (n=8)				42.2				
Worst case (n=8)				72.3				

* Sampled to 50 cm but residues found only at 0-10 cm depth

** Chi² not reported

zRMS comments:

The triggering endpoints for prothioconazole and metabolite JAU 5479-desthio provided in Tables 8.4-6 and 8.4-7 above are in line with data reported in EFSA Scientific Report (2007) 106 and prothioconazole DAR of 2005.

The additional kinetic analyses for prothioconazole and its metabolites (study of Hardy, 2012) were not necessary to demonstrate safe use of the product, and for this reason their submission is not justified and values as reported in the LoEP should be used for exposure assessment, in line with indications of Working Document of the Central Zone in area of Section 8¹.

For relevant endpoints considered in exposure assessment, please refer to points 8.7 (soil), 8.8 (groundwater) and 8.9 (surface water) of this document.

8.4.2 Soil accumulation testing (KCP 9.1.1.2.2)

Soil accumulation testing has not been carried out.

zRMS comments:

According to information presented in EFSA Journal 2018;16(1):5146 and in EFSA Scientific Report (2007) 106, soil accumulation testing is not required for fenpicoxamid and prothioconazole, respectively.

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

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 sorption data obtained with the active substance. A summary of the sorption data is given below.

Fenpicoxamid

Table 8.5-1: Summary of soil adsorption for fenpicoxamid

Fenpicoxamid	Soil adsorption						Evaluated at EU level
Soil	Soil type (USDA)	pH (CaCl ₂)	OC (%)	Kf	Kfoc	1/n	
Benton	Silt loam	5.5	1.0	9.36	936	0.630	Yes (EFSA, 2018)
Farditch Farm	Silt loam	5.8	3.9	39.5	1012	0.783	
RefSol 03-G	Silt loam	5.8	3.9	2472	63394	1.066	
Fayette	Silt loam	5.9	0.9	20.3	2250	0.608	
Yolo	Clay loam	6.9	0.8	469.8	58719	0.960	
Woodside Farm	Clay loam	7.2	4.4	136.9	3111	0.850	
Hareby House	Clay	7.6	1.7	147.8	8695	0.831	
Geometric mean (n=7)					5776		
Arithmetic mean (n=7)						0.818	
pH dependence					No		

Table 8.5-2: Summary of soil adsorption for X642188

Table 618-21 Summary of soil adsorption for X642188							
X642188	Soil adsorption						Evaluated at EU level
Soil	Soil type (USDA)	pH (CaCl ₂)	OC (%)	Kf	Kfoc	1/n	
Warsop	Sand	3.9	0.8	22.5	2811	0.823	Yes (EFSA, 2018)
Benton	Silt loam	5.5	1.0	21.5	2154	0.855	
Farditch Farm	Silt loam	5.8	3.9	65.1	1669	0.946	
RefSol 03-G	Silt loam	5.8	3.9	63.4	1626	0.875	
Fayette	Silt loam	5.9	0.9	303	33614	1.027	
Yolo	Clay loam	6.9	0.8	220	27506	1.005	
Woodside Farm	Clay loam	7.2	4.4	79.5	1807	0.923	
Longwoods Quarry	Loamy sand	7.4	1.3	52.6	4043	0.986	
Hareby House	Clay	7.6	1.7	120	7069	0.964	
Geometric mean (n=9)					4518		
Arithmetic mean (n=9)						0.934	
pH dependence					No		

Table 8.5-3: Summary of soil adsorption for X696872

X696872	Soil adsorption						Evaluated at EU level
Soil	Soil type (USDA)	pH (CaCl ₂)	OC (%)	Kf	Kfoc	1/n	
Farditch Farm	Silt loam	5.8	3.9	14.7	376	0.96	Yes (EFSA, 2018)
RefSol 03-G	Silt loam	5.8	3.9	25.6	657	0.94	
Yolo	Clay loam	6.9	0.8	23.0	2869	1.03	
Woodside Farm	Clay loam	7.2	4.4	11.7	266	0.90	

X696872	Soil adsorption						
Soil	Soil type (USDA)	pH (CaCl ₂)	OC (%)	Kf	Kfoc	1/n	Evaluated at EU level
Hareby House	Clay	7.6	1.7	12.4	731	0.91	
Geometric mean (n=5)					673		
Arithmetic mean (n=5)						0.95	
pH dependence					No		

Table 8.5-4: Summary of soil adsorption for X12264475

X12264475	Soil adsorption						
Soil	Soil type (USDA)	pH (CaCl ₂)	OC (%)	Kf	Kfoc	1/n	Evaluated at EU level
Farditch Farm	Silt loam	5.8	3.9	10.8	277	0.97	Yes (EFSA, 2018)
RefSol 03-G	Silt loam	5.8	3.9	11.9	306	0.95	
Yolo	Clay loam	6.9	0.8	5.90	737	0.93	
Woodside Farm	Clay loam	7.2	4.4	6.07	138	0.91	
Hareby House	Clay	7.6	1.7	6.08	358	0.90	
Geometric mean (n=5)					315		
Arithmetic mean (n=5)						0.93	
pH dependence					No		

Table 8.5-5: Summary of soil adsorption for X763024

X763024	Soil adsorption						
Soil	Soil type (USDA)	pH (CaCl ₂)	OC (%)	Kf	Kfoc	1/n	Evaluated at EU level
Farditch Farm	Silt loam	5.8	3.9	20.0	514	0.93	Yes (EFSA, 2018)
RefSol 03-G	Silt loam	5.8	3.9	13.0	333	0.94	
Yolo	Clay loam	6.9	0.8	7.08	885	0.90	
Woodside Farm	Clay loam	7.2	4.4	6.99	159	0.94	
Hareby House	Clay	7.6	1.7	6.19	364	0.91	
Geometric mean (n=5)					388		
Arithmetic mean (n=5)						0.92	
pH dependence					No		

Table 8.5-6: Summary of soil adsorption for X12313581

X12313581	Soil adsorption						
Soil	Soil type (USDA)	pH (CaCl2)	OC (%)	Kf	Kfoc	1/n	Evaluated at EU level
Farditch Farm	Silt loam	5.8	3.9	30.9	792	0.90	Yes (EFSA, 2018)
RefSol 03-G	Silt loam	5.8	3.9	14.0	360	0.89	
Yolo	Clay loam	6.9	0.8	14.2	1775	0.87	
Woodside Farm	Clay loam	7.2	4.4	17.4	396	0.89	
Hareby House	Clay	7.6	1.7	11.4	669	0.84	
Geometric mean (n=5)					669		
Arithmetic mean (n=5)						0.88	
pH dependence					No		

Table 8.5-7: Summary of soil adsorption for X696476

X696476	Soil adsorption						Yes (EFSA, 2018)
Soil	Soil type (USDA)	pH (CaCl ₂)	OC (%)	Kf	Kfoc	1/n	
Farditch Farm	Silt loam	5.8	3.9	495.0	12691	0.84	
RefSol 03-G	Silt loam	5.8	3.9	302.0	7752	0.85	
Yolo	Clay loam	6.9	0.8	208.0	26044	0.78	
Woodside Farm	Clay loam	7.2	4.4	171.0	3884	0.80	
Hareby House	Clay	7.6	1.7	93.8	5520	0.77	
Geometric mean (n=5)					8871		
Arithmetic mean (n=5)						0.81	
pH dependence					No		

Table 8.5-8: Summary of soil adsorption for X11963422

Table 8.5-8. Summary of soil adsorption for X11963422							
X11963422	Soil adsorption						Evaluated at EU level

Table 8.5-9: Summary of soil adsorption for X12314005

X12314005	Soil adsorption						Yes (EFSA, 2018)
Soil	Soil type (USDA)	pH (CaCl ₂)	OC (%)	Kf	Kfoc	1/n	
Brierlow	Silt loam	5.7	4.2	2.7	64	0.97	
RefSol 03-G	Silt loam	6.0	3.8	4.7	124	0.99	
Yolo	Clay loam	6.8	0.5	2.3	452	0.96	
Empingham	Loam	7.2	3.3	3.6	110	1.05	
Hareby House	Clay loam	7.3	5.6	3.3	58	1.01	
Geometric mean (n=5)					118		
Arithmetic mean (n=5)						1.00	
pH dependence					No		

Table 8.5-10: Summary of soil adsorption for X12019520

X12019520	Soil adsorption						Evaluated at EU level
Soil	Soil type (USDA)	pH (CaCl ₂)	OC (%)	Kf	Kfoc	1/n	
Brierlow	Silt loam	5.7	4.2	1.8	43	0.90	
RefSol 03-G	Silt loam	6.0	3.8	2.6	68	0.90	
Yolo	Clay loam	6.8	0.5	1.5	301	0.84	
Empingham	Loam	7.2	3.3	1.6	50	0.91	
Hareby House	Clay loam	7.3	5.6	1.8	32	0.92	
Geometric mean (n=5)					68		
Arithmetic mean (n=5)						0.89	
pH dependence					No		

Table 8.5-11: Summary of soil adsorption for X12255349

Table 6.5-11: Summary of soil adsorption for X12255349							
X12255349	Soil adsorption						Evaluated at EU level
Soil	Soil type (USDA)	pH (CaCl ₂)	OC (%)	Kf	Kfoc	1/n	
Brierlow	Silt loam	5.7	4.2	7.1	168	1.00	
RefSol 03-G	Silt loam	6.0	3.8	6.9	182	0.97	
Yolo	Clay loam	6.8	0.5	98.6	19725	1.07	
Empingham	Loam	7.2	3.3	7.0	211	1.04	
Hareby House	Clay loam	7.3	5.6	32.6	581	1.21	
Geometric mean (n=5)					594		
Arithmetic mean (n=5)						1.06	
pH dependence					No		

zRMS comments:

Soil mobility data for fenpicoxamid and its metabolites presented on Tables 8.5-1 to 8.5-11 are in line with EU agreed endpoints as reported in EFSA Journal 2018;16(1):5146 with some minor corrections introduced by the zRMS.

Prothioconazole

Due to instability of prothioconazole in batch equilibrium studies, reliable sorption data are not available, but K_d and K_{oc} were estimated from an aged column leaching study. However, sorption data are available for the soil metabolites.

Table 8.5-12: Summary of soil adsorption for prothioconazole

Prothioconazole		Soil adsorption					Evaluated at EU level
Soil	Soil type (USDA)	pH (H ₂ O)	OC (%)	K _d	K _{oc}	1/n	
Data determined in aged column leaching studies due to instability in batch equilibrium studies.				15.2	1765	-	
Maximum (n=1)					1765	-	
pH-dependency				No information			Yes (EFSA, 2007)

Table 8.5-13: Summary of soil adsorption for JAU 6476-S-methyl (M01)

JAU 6476-S-methyl (M01)		Soil adsorption					Evaluated at EU level
Soil	Soil type (USDA)	pH (H ₂ O)	OC (%)	Kf	Kfoc	1/n	
Laacher Hof AXXa	Sandy loam	7.2	2.02	56.0	2772.4	0.87	
Hofchen	Silt	7.1	2.14	64.1	2995.0	0.88	
Stanley	Silty clay loam	5.9	1.66	41.2	2484.0	0.91	
Byromville	Loamy sand	6.8	0.79	15.6	1973.6	0.85	
Arithmetic mean (n=4)					2556.3	0.88	
Geometric mean (n=4)					2525.9		
pH-dependency					No		

Table 8.5-14: Summary of soil adsorption for JAU 6476-desthio (M04)

JAU 6476-desthio (M04)		Soil adsorption					Evaluated at EU level
Soil	Soil type (USDA)	pH (H ₂ O)	OC (%)	Kf	Kfoc	1/n	
Laacher Hof AXXa	Sandy loam	7.2	2.02	12.46	616.8	0.79	
Hofchen	Silt	7.1	2.14	13.38	625.3	0.83	
Stanley	Silty clay loam	5.9	1.66	8.90	536.4	0.83	
Byromville	Loamy sand	6.8	0.79	4.13	523.0	0.80	
Arithmetic mean (n=4)					575.4	0.81	
Geometric mean (n=4)					573.5		
pH-dependency					No		

zRMS comments:

Soil mobility data for prothioconazole and its major soil metabolites are in line with EU agreed endpoints as reported in EFSA Scientific Report (2007) 106 and prothioconazole DAR of 2005.

It is noted that at the EU level no respective soil adsorption-desorption studies were performed with prothioconazole and the Koc of 1765 mL/g has been derived from the aged leaching study. The method used for this calculation is questionable and was not agreed during the recent EU review of this active substance. Nevertheless, as the renewal process is still ongoing, the Koc of 1765 mL/g is considered to be an EU agreed endpoint that is relevant for the exposure assessment until new list of endpoints becomes valid.

For metabolites JAU 6476-S-methyl and JAU 6476-desthio the geometric mean Kfoc values were calculated by the Applicant, although in the EFSA conclusion only arithmetic mean values are reported and further used for groundwater and surface water modelling. The geometric mean values calculated by the Applicant were based on the individual Kfoc from the LoEP and are confirmed to be correct. The results of the modelling simulation were validated by the zRMS with consideration of the EU agreed arithmetic mean values.

8.5.1 Column leaching (KCP 9.1.2.1)

Fenpicoxamid

Column leaching studies have not been carried out.

zRMS comments:

Column leaching studies with fenpicoxamid were not performed or required during EU review.

Prothioconazole

Column leaching studies are not relevant since reliable sorption data are available for JAU 6476-S-methyl (M01) and JAU 6476-desthio (M04). However, due to the instability in batch equilibrium studies, sorption parameters were estimated for prothioconazole from an aged column leaching study using a loamy sand soil. K_d and K_{oc} values of 15.2 mL/g and 1765 mL/g, respectively, were derived (EFSA, 2007).

zRMS comments:

In EFSA Scientific Report (2007) 106 results of column leaching and aged residues leaching are reported. However, they are not necessary for purposes of evaluation of GF-3307 (S7K-3-3), as based on results of the groundwater modelling no unacceptable leaching of prothioconazole or its metabolites is expected.

During EU review results of aged residue leaching studies were used for derivation of K_{oc} value for the parent. For comments in this area, please refer to point 8.5 above.

8.5.2 Lysimeter studies (KCP 9.1.2.2)

Lysimeter studies have not been carried out.

zRMS comments:

Lysimeter studies with fenpicoxamid and prothioconazole were not performed or required during EU review.

8.5.3 Field leaching studies (KCP 9.1.2.3)

Field leaching studies have not been carried out.

zRMS comments:

Field leaching studies with fenpicoxamid and prothioconazole were not performed or required during EU review.

8.6 Degradation in 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. A summary of the data is given below.

Fenpicoxamid

The following tables show modelling endpoints (DT₅₀ from SFO, or “SFO-like” i.e. FOMC DT₉₀/3.32 or DFOP k₂) derived (where possible) from laboratory studies. The endpoints were also assumed for persistence purposes. The DT₉₀ is not shown since this is not a modelling endpoint. Since a one compartment kinetic model was used the tables show the whole system DT₅₀ values. Fenpicoxamid was present at a maximum of 22.6% AR in sediment (EFSA, 2018).

Table 8.6-1: Summary of water/sediment degradation rates for fenpicoxamid – laboratory studies

Table 336-1. Summary of water/sediment degradation rates for Fenpicoxamid. Laboratory studies							
Fenpicoxamid	Dark water/sediment, parent applied						Evaluated at EU level
Water/ sediment	Sediment type (USDA)	pH (CaCl ₂ wat/sed)	T (°C)	Whole system (20°C)			
				DT ₅₀ (d)	Chi ² (%)	Kinetic model	
Swiss Lake	Sand	6.7/6.9	20	1.69	8.1	FOMC	Yes (EFSA, 2018)
Calwich Abbey Lake	Silt loam	7.9/7.3	20	0.34	4.5	FOMC	
Geometric mean (n=2)				0.76*			

* Based on individual DT₅₀ values the geomean is 0.76 d, but when based upon rounded values of 1.7 and 0.3 d, the geomean is 0.7 d. Since 0.7 d is relied upon by EFSA for exposure modelling, this was used in the dRR.

Table 8.6-2: Summary of water/sediment degradation rates for X642188 – laboratory studies

X642188	Dark water/sediment, parent applied						
Water/ sediment	Sediment type (USDA)	pH (CaCl ₂) wat/sed	T (°C)	Whole system (20°C)			Evaluated at EU level
				DT ₅₀ (d)	Chi ² (%)	Kinetic model	
Swiss Lake	Sand	6.7/6.9	20	2.37	14.9	SFO	Yes (EFSA, 2018)
Calwich Abbey Lake	Silt loam	7.9/7.3	20	Not calculated; insufficient data points.			
Worst case (n=1)				2.37*			

* Only four data points and residues were very low in Calwich Abbey Lake, so calculating DT₅₀ for this system was not appropriate. However, as noted by EFSA, a proposal was made to use a geomean of 2.7 d (top-down). An additional value of 2.4 d (Swiss Lake) was derived when modelling X642188 as part of the degradation scheme although the decline was overestimated when subsequent metabolites were added. All values are similar and indicate rapid degradation, so this slight discrepancy is not expected to impact the exposure modelling, particularly given the high K_{foc} for X642188. Therefore, 2.7 d is considered acceptable for exposure modelling in this dRR.

Table 8.6-3: Summary of water/sediment degradation rates for X12264475 – laboratory studies

X12264475	Dark water/sediment, parent applied						
Water/ sediment	Sediment type (USDA)	pH (CaCl ₂) wat/sed	T (°C)	Whole system (20°C)			Evaluated at EU level
				DT ₅₀ (d)	Chi ² (%)	Kinetic model	
Swiss Lake	Sand	6.7/6.9	20	58.9*	7.4	SFO	Yes (EFSA, 2018)
Calwich Abbey Lake	Silt loam	7.9/7.3	20	40.8*	6.8	SFO	
Geometric mean (n=2)				49.0			

* EFSA, 2018, incorrectly gives DT₅₀ for Swiss Lake and Calwich Abbey Lake as 53.7 and 38.3 d, respectively, with a correct geomean of 49 d. The correct DT₅₀ values corresponding to the geomean of 49 days are those reported here.

Table 8.6-4: Summary of water/sediment degradation rates for X12313581 – laboratory studies

X12313581	Dark water/sediment, parent applied						
Water/ sediment	Sediment type (USDA)	pH (CaCl ₂) wat/sed	T (°C)	Whole system (20°C)			Evaluated at EU level
				DT ₅₀ (d)	Chi ² (%)	Kinetic model	
No observed decline in two systems. Assume DT ₅₀ = 1000 d.							Yes (EFSA, 2018)

Table 8.6-5: Summary of water/sediment degradation rates for X696476 – laboratory studies

X696476	Dark water/sediment, parent applied						
Water/ sediment	Sediment type (USDA)	pH (CaCl ₂) wat/sed	T (°C)	Whole system (20°C)			Evaluated at EU level
				DT ₅₀ (d)	Chi ² (%)	Kinetic model	
No observed decline in two systems. Assume DT ₅₀ = 1000 d.							Yes (EFSA, 2018)

Table 8.6-6: Summary of water/sediment degradation rates for X11963422 – laboratory studies

X11963422	Dark water/sediment, parent applied						
Water/ sediment	Sediment type (USDA)	pH (CaCl ₂) wat/sed	T (°C)	Whole system (20°C)			Evaluated at EU level
				DT ₅₀ (d)	Chi ² (%)	Kinetic model	
Swiss Lake	Sand	6.7/6.9	20	23.1	34.4	SFO	Yes (EFSA,
Calwich Abbey Lake	Silt loam	7.9/7.3	20	Not reliable (20.2 d).			

X11963422	Dark water/sediment, parent applied						
Water/ sediment	Sediment type (USDA)	pH (CaCl ₂) wat/sed	T (°C)	Whole system (20°C)			Evaluated at EU level
				DT ₅₀ (d)	Chi ² (%)	Kinetic model	
Maximum (n=1)				23.1 *			2018)

* Given as 20.2 d by EFSA but this is incorrect

Table 8.6-7: Summary of water/sediment degradation rates for X12314005 – laboratory studies

X12314005							
Dark water/sediment, parent applied							
Water/ sediment	Sediment type (USDA)	pH (CaCl ₂) wat/sed	T (°C)	Whole system (20°C)			Evaluated at EU level
				DT ₅₀ (d)	Chi ² (%)	Kinetic model	
Swiss Lake	Sand	6.7/6.9	20	0.89	19	SFO	Yes (EFSA, 2018)
Calwich Abbey Lake	Silt loam	7.9/7.3	20	0.58	3.6	SFO	
Geometric mean (n=2)				0.84			

Table 8.6-8: Summary of water/sediment degradation rates for X12019520 – laboratory studies

X12019520							
Dark water/sediment, parent applied							
Water/ sediment	Sediment type (USDA)	pH (CaCl ₂) wat/sed	T (°C)	Whole system (20°C)			Evaluated at EU level
				DT ₅₀ (d)	Chi ² (%)	Kinetic model	
Swiss Lake	Sand	6.7/6.9	20	Not calculated (not detected).			Yes (EFSA, 2018)
Calwich Abbey Lake	Silt loam	7.9/7.3	20	8.8	17.2	SFO	
Maximum (n=1)				8.8			

Table 8.6-9: Summary of water/sediment degradation rates for X12335723 – laboratory studies

X12335723							
Dark water/sediment, parent applied							
Water/ sediment	Sediment type (USDA)	pH (CaCl ₂) wat/sed	T (°C)	Whole system (20°C)			Evaluated at EU level
				DT ₅₀ (d)	Chi ² (%)	Kinetic model	
Swiss Lake	Sand	6.7/6.9	20	3.4*	19.5	SFO	Yes (EFSA, 2018)
Calwich Abbey Lake	Silt loam	7.9/7.3	20	2.0*	11.5	SFO	
Geometric mean (n=2)				2.6			

* According to information available in Vol. 3CA, B.8 (July 2017), geometric mean DT₅₀ of 2.6 d was calculated from individual DT₅₀ values of 3.41 and 2.03 d for Swiss Lake and Calwich Abbey Lake, respectively, derived using top-down approach, considered as more conservative by the RMS; it seems that DT₅₀ values of 1.2 and 1.4 days are reported in EFSA Journal 2018;16(1)5146 by mistake, as they do not give geomean of 2.6 days and were derived from the pathway fit.

zRMS comments:

Information on degradation of fenpicoxamid and its metabolites in water/sediment systems presented in Tables 8.6-1 to 8.6-9 are in line with EU agreed endpoints reported in EFSA Journal 2018;16(1):5146.

Prothioconazole

The following tables show modelling endpoints (DT₅₀ from SFO) derived from laboratory studies. The endpoints were also assumed for persistence purposes. The DT₉₀ is not shown as this is not a modelling endpoint. Since a one compartment kinetic model was used the tables show the whole system DT₅₀ values. Prothioconazole was present at a maximum of 23.4% AR in sediment (EFSA, 2007).

Table 8.6-10: Summary of water/sediment degradation rates for prothioconazole – laboratory studies

Prothioconazole		Dark water/sediment, parent applied					
Water/ sediment	Sediment type (USDA)	pH (CaCl ₂) wat/sed	T (°C)	Whole system (20°C)			Evaluated at EU level
				DT ₅₀ (d)	R ²	Kinetic model	
Honniger Weiher	Loam	5.8	20	2.8 (31.5*)	>0.9	HS	Yes (EFSA, 2007)
Angler Weiher	Loamy sand	7.4	20	1.6 (49.5*)	>0.9	HS	
Maximum (n=2)				2.8 (49.5**)			

* Slow phase from HS (DAR Addendum, 2005)

** DAR Addendum, 2005, refers to a maximum of 24.1 d as part of higher tier MACRO modelling, but not summarised or peer reviewed. Therefore, modelling with 2.8 d from EFSA (2007) is used in aquatic modelling.

Table 8.6-11: Summary of water/sediment degradation rates for JAU 6476-desthio (M04) - laboratory studies

JAU 6476-desthio (M04)		Dark water/sediment, parent applied					
Water/ sediment	Sediment type (USDA)	pH (CaCl ₂) wat/sed	T (°C)	Whole system (20°C)			Evaluated at EU level
				DT ₅₀ (d)	R ²	Kinetic model	
Honniger Weiher	Loam	5.8	20	49.9	>0.9	SFO	Yes (EFSA, 2007)
Angler Weiher	Loamy sand	7.4	20	39.2	>0.9	SFO	
Maximum (n=2)				49.9*			

* DAR Addendum, 2005

Note that whilst a water/sediment DT₅₀ was not concluded by EFSA, 2007, for the JAU 6476-S-methyl (M01) metabolite, a value of 40.2 days was given in the DAR Addendum, 2005.

zRMS comments:

Degradation data for prothioconazole and its metabolites in water/sediment systems provided in tables above are in line with EU agreed endpoints reported in EFSA Scientific Report (2007) 106 and prothioconazole DAR (2005) and are relevant for the surface water exposure assessment.

8.7 Predicted environmental concentrations in soil (PECsoil) (KCP 9.1.3)

PECsoil values were calculated for fenpicoxamid and major (>5% AR) soil metabolites: X642188, X696872, X12264475, X763024, X12313581, X696476, X11963422, X12314005, X12019520, X12255349.

PECsoil values were calculated for prothioconazole and major (>5% AR) soil metabolites: JAU 6476-S-methyl (M01), JAU 6476-desthio (M04).

PECsoil values were calculated for the formulation: GF-3307 (S7K-3-3).

8.7.1 Justification for new endpoints

Fenpicoxamid

EFSA endpoints (2018) were used for the PECsoil calculations.

Prothioconazole

EFSA endpoints (2007) were used for the PECsoil calculations.

8.7.2 Active substance(s), metabolite(s) and formulation

Table 8.7-1: Inputs related to application for PECsoil

Use no.	1-2
Crop group	Sugar beet
Application rate (g as/ha)	75 (Fenpicoxamid) 150 (Prothioconazole) 1566* (GF-3307; g FP/ha)
Number of applications / interval (days)	2 / 21
Growth stage	From BBCH 39
Crop interception (%)	70%
Effective soil loading (g as/ha)	22.5 (Fenpicoxamid) 45 (Prothioconazole) 469.8 (GF-3307; g FP/ha)
Frequency of application	Annual
Depth of soil (cm)	5 (no tillage)
Soil bulk density (g/mL)	1.5
Model used	ESCAPE 2
Date of first application	1 May (nominal date; no impact)

* 1.5 L FP/ha and formulation density 1.044 g/mL

The initial metabolite PECsoil (mg/kg) was derived using a pseudo application rate approach. For this, an equivalent metabolite soil loading was calculated based on that of the parent loading with adjustment for the maximum level in soil (% AR) and mw correction. Timeaged values were then derived as for parent.

Table 8.7-2: Inputs for fenpicoxamid and metabolites for PECsoil

Compound	Molar mass (g/mol)	Max. soil (% AR)	Equiv. soil loading (g/ha)	Max. non-normalised persistence DT ₅₀ (d)*	Evaluated at EU level
Fenpicoxamid	614.2	-	22.5	14.7 (field)	Yes (EFSA, 2018)
X642188	514.2	39.2%	7.4	67.2 (field)	
X696872	444.2	17.2%	2.8	18.9 (lab, parent applied)	
X12264475	256.1	49.4%	4.6	98.1 (field)	
X763024	226.1	5.7%	0.5	20.8 (lab, metabolite applied)	
X12313581	168.0	17.1%	1.1	92.2 (field)	
X696476	169.0	46.9%	2.9	5260 (field)	
X11963422	206.1	80.3%	6.1	5.0 (lab, metabolite applied)	
X12314005	276.3	5.4%	0.5	0.1 (lab, metabolite applied)	
X12019520	188.2	9.8%	0.7	6.3 (lab, metabolite applied)	
X12255349	514.5	6.9%	1.3	4.4 (lab, metabolite applied)	

* SFO and Q₁₀ = 2.58 in ESCAPE 2

Table 8.7-3: Inputs for prothioconazole and metabolites for PECsoil

Compound	Molar mass (g/mol)	Max. soil (% AR)	Equiv. soil loading (g/ha)	Max. non-normalised persistence DT ₅₀ (d)*	Evaluated at EU level
Prothioconazole	344.3	-	45	2.8 (field)	Yes (EFSA, 2007)
JAU 6476-S-methyl (M01)	358.3	14.6%	6.8	46 (lab)	
JAU 6476-desthio (M04)	312.2	57.1%	23.3	72.3 (field)	

* SFO and Q₁₀ = 2.58 in ESCAPE 2

zRMS comments:

The application pattern assumed in soil exposure assessment is in line with the critical Central Zone GAP and it is thus agreed. Relevant crop interception of 70% in line with FOCUS groundwater guidance (2023) have been selected.

Input parameters for fenpicoxamid and its metabolites presented in Table 8.7-2 are in line with EU agreed parameters reported in EFSA Journal 2018;16(1):5146.

Input parameters for prothioconazole and its metabolites presented in Table 8-7-3 are in line with EU agreed parameters reported in EFSA Scientific Report (2007) 106.

Fenpicoxamid

Table 8.7-4: Fenpicoxamid PECsoil for sugar beet

PECsoil (mg/kg)		Sugar beet	
		Actual	TWA
Initial		0.0411	-
Short term	1 d	0.0392	0.0402
	2 d	0.0374	0.0393
	4 d	0.0341	0.0375
Long term	7 d	0.0296	0.0351
	14 d	0.0213	0.0305
	21 d	0.0153	0.0266
	28 d	0.0110	0.0236
	42 d	0.0057	0.0229
	50 d	0.0039	0.0213
	100 d	0.0004	0.0127
Final bkg. conc.		<0.0001	-
PECacc		0.0411	-

Table 8.7-5: X642188 and X696872 PECsoil for sugar beet

PECsoil (mg/kg)		Sugar beet			
		X642188		X696872	
		Actual	TWA	Actual	TWA
Initial		0.0178	-	0.0055	-
Short term	1 d	0.0176	0.0177	0.0053	0.0054
	2 d	0.0174	0.0176	0.0051	0.0053
	4 d	0.0171	0.0174	0.0047	0.0051
Long term	7 d	0.0166	0.0172	0.0042	0.0048
	14 d	0.0154	0.0166	0.0033	0.0043
	21 d	0.0143	0.0160	0.0025	0.0039
	28 d	0.0133	0.0155	0.0020	0.0035
	42 d	0.0115	0.0145	0.0012	0.0033
	50 d	0.0106	0.0140	0.0009	0.0031
	100 d	0.0063	0.0115	0.0001	0.0020
Final bkg. conc.		0.0004	-	<0.0001	-
PECacc		0.0182	-	0.0055	-

Table 8.7-6: X12264475 and X763024 PECsoil for sugar beet

PECsoil (mg/kg)		Sugar beet			
		X12264475		X763024	
		Actual	TWA	Actual	TWA
Initial		0.0114	-	0.0010	-
Short term	1 d	0.0113	0.0114	0.0010	0.0010
	2 d	0.0113	0.0113	0.0009	0.0010
	4 d	0.0111	0.0113	0.0009	0.0009
Long term	7 d	0.0109	0.0111	0.0008	0.0009
	14 d	0.0103	0.0109	0.0006	0.0008
	21 d	0.0098	0.0106	0.0005	0.0007
	28 d	0.0094	0.0104	0.0004	0.0007
	42 d	0.0085	0.0099	0.0003	0.0006
	50 d	0.0080	0.0096	0.0002	0.0006
	100 d	0.0056	0.0082	<0.0001	0.0004
Final bkg. conc.		0.0009	-	<0.0001	-
PECacc		0.0124	-	0.0010	-

Table 8.7-7: X12313581 and X696476 PECsoil for sugar beet

PECsoil (mg/kg)		Sugar beet			
		X12313581		X696476	
		Actual	TWA	Actual	TWA
Initial		0.0027	-	0.0077	-
Short term	1 d	0.0027	0.0027	0.0077	0.0077
	2 d	0.0027	0.0027	0.0077	0.0077
	4 d	0.0026	0.0027	0.0077	0.0077
Long term	7 d	0.0026	0.0026	0.0077	0.0077
	14 d	0.0024	0.0026	0.0077	0.0077
	21 d	0.0023	0.0025	0.0077	0.0077
	28 d	0.0022	0.0025	0.0077	0.0077
	42 d	0.0020	0.0023	0.0077	0.0077
	50 d	0.0019	0.0023	0.0077	0.0077
	100 d	0.0013	0.0019	0.0076	0.0077
Final bkg. conc.		0.0002	-	0.1567	-
PECacc		0.0029	-	0.1645	-

Table 8.7-8: X11963422 and X12314005 PECsoil for sugar beet

PECsoil (mg/kg)		Sugar beet			
		X11963422		X12314005	
		Actual	TWA	Actual	TWA
Initial		0.0086	-	0.0007	-
Short term	1 d	0.0075	0.0080	<0.0001	0.0003
	2 d	0.0065	0.0075	<0.0001	0.0003
	4 d	0.0049	0.0066	<0.0001	0.0002
Long term	7 d	0.0032	0.0056	<0.0001	0.0001
	14 d	0.0012	0.0040	<0.0001	<0.0001
	21 d	0.0005	0.0030	<0.0001	<0.0001
	28 d	0.0002	0.0035	<0.0001	<0.0001
	42 d	<0.0001	0.0028	<0.0001	<0.0001
	50 d	<0.0001	0.0024	<0.0001	<0.0001
	100 d	<0.0001	0.0012	<0.0001	<0.0001
Final bkg. conc.		<0.0001	-	<0.0001	-
PECacc		0.0086	-	0.0007	-

Table 8.7-9: X12019520 and X12255349 PECsoil for sugar beet

PECsoil (mg/kg)		Sugar beet			
		X12019520		X12255349	
		Actual	TWA	Actual	TWA
Initial		0.0010	-	0.0018	-
Short term	1 d	0.0009	0.0010	0.0015	0.0017
	2 d	0.0008	0.0009	0.0013	0.0015
	4 d	0.0007	0.0008	0.0010	0.0013
Long term	7 d	0.0005	0.0007	0.0006	0.0011
	14 d	0.0002	0.0005	0.0002	0.0008
	21 d	0.0001	0.0004	0.0001	0.0006
	28 d	<0.0001	0.0005	<0.0001	0.0007
	42 d	<0.0001	0.0004	<0.0001	0.0005
	50 d	<0.0001	0.0003	<0.0001	0.0005
	100 d	<0.0001	0.0002	<0.0001	0.0002
Final bkg. conc.		<0.0001	-	<0.0001	-
PECacc		0.0010	-	0.0018	-

zRMS comments:

The soil exposure for fenpicoxamid and its metabolites has been independently validated by the zRMS using FOCUS methods with consideration of the pseudo-application rates of metabolites 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 8.7-4 to 8.7-9 above may be used for the soil risk assessment purposes.

Prothioconazole

Table 8.7-10: Prothioconazole PECsoil for sugar beet

PECsoil (mg/kg)		Sugar beet	
		Actual	TWA
Initial		0.0603	-
Short term	1 d	0.0471	0.0537
	2 d	0.0368	0.0478
	4 d	0.0224	0.0397
Long term	7 d	0.0107	0.0314
	14 d	0.0019	0.0190
	21 d	0.0003	0.0130
	28 d	0.0001	0.0169
	42 d	<0.0001	0.0123
	50 d	<0.0001	0.0103
	100 d	<0.0001	0.0052
Final bkg. conc.		<0.0001	-
PECacc		0.0603	-

Table 8.7-11: JAU 6476-S-methyl (M01) and JAU 6476-desthio (M04) PECsoil for sugar beet

PECsoil (mg/kg)		Sugar beet			
		JAU 6476-S-methyl (M01)		JAU 6476-desthio (M04)	
		Actual	TWA	Actual	TWA
Initial		0.0157	-	0.0565	-
Short term	1 d	0.0154	0.0156	0.0559	0.0562
	2 d	0.0152	0.0154	0.0554	0.0559
	4 d	0.0148	0.0152	0.0543	0.0554
Long term	7 d	0.0141	0.0149	0.0528	0.0546
	14 d	0.0127	0.0141	0.0494	0.0528
	21 d	0.0114	0.0134	0.0462	0.0511
	28 d	0.0103	0.0128	0.0432	0.0495
	42 d	0.0083	0.0117	0.0378	0.0466
	50 d	0.0074	0.0111	0.0350	0.0450
	100 d	0.0035	0.0089	0.0216	0.0373
Final bkg. conc.		0.0001	-	0.0018	-
PECacc		0.0157	-	0.0582	-

zRMS comments:

The soil exposure for prothioconazole and its metabolites has been independently validated by the zRMS using FOCUS methods with consideration of the pseudo-application rates of metabolites 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 8.7-10 and 8.7-11 above may be used for the soil risk assessment purposes.

GF-3307 (S7K-3-3)

The formulation will not remain intact in soil after application due to breakdown of its individual components. Therefore, only an initial PECsoil was calculated (time-aged values are not appropriate).

Table 8.7-12: GF-3307 (S7K-3-3) PECsoil for sugar beet

PECsoil (mg/kg)	Sugar beet			
	Application rate (L FP/ha)	Application rate (g FP/ha)	Effective application rate (g FP/ha)	PECsoil (mg/kg)
Initial	3*	3,132**	939.6***	1.253

* A worst case application of GF-3307 (S7K-3-3) was assumed where 2×1.5 L FP/ha was applied at once resulting in a 1×3 L FP/ha being used in the PECsoil calculation..

** Assuming nominal formulation density of 1.044 g/mL

*** Assuming 70% interception for sugar beets at BBCH 39.

The above PECsoil values can be used to perform the risk assessment for non-target organisms.

zRMS comments:

PEC_{SOIL} value for the formulated product GF-3307 (S7K-3-3) presented in Table 8.7-12 above is agreed by the zRMS, and may be used in the risk assessment for soil organisms.

8.8 Predicted environmental concentrations in groundwater (PEC_{gw}) (KCP 9.2.4)

PEC_{gw} values were calculated for fenpicoxamid and major (>5% AR) soil metabolites: X642188, X696872, X12264475, X763024, X12313581, X696476, X11963422, X12314005, X12019520, X12255349.

PEC_{gw} values were calculated for prothioconazole and major (>5% AR) soil metabolites: JAU 6476-S-methyl (M01), JAU 6476-desthio (M04).

8.8.1 Justification for new endpoints

Fenpicoxamid

EFSA endpoints (2018) were used for the PEC_{gw} calculations.

Prothioconazole

EFSA endpoints (2007) were used for the PEC_{gw} calculations.

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

Table 8.8-1: Inputs related to application for PEC_{gw}

Use no.	1-2
Crop category	Sugar beet
Application rate (g as/ha)	75 (Fenpicoxamid) 150 (Prothioconazole)
Number of applications / interval (days)	2 / 21
Growth stage	From BBCH 39
Crop interception (%)	70%
Effective soil loading (g as/ha)	22.5 (Fenpicoxamid) 45 (Prothioconazole)
Application mode	Soil; effective application rates
Relative application date	Absolute (see below)
Frequency of application	Annual
Models used	FOCUS PELMO 6.6.4**, FOCUS PEARL 5.5.5** (with SPIN 3.3) FOCUS MACRO 5.5.4

** 21 September 2021 versions

The dates modelled for application to sugar beets corresponding to BBCH 39 were selected for each relevant FOCUS groundwater scenario using AppDate 3.06 (June, 2019). All scenarios available for the crop were modelled and reported for completeness.

Table 8.8-2: Application dates used for PEC_{gw}

FOCUS GW scenario*	Appn. date (absolute) (BBCH 39)*
	Sugar beet
CHA	11 Jul and 1 Aug
HAM	23 Aug and 13 Sep
JOK	6 Aug and 27 Aug
KRE	23 Aug and 13 Sep
OKE	24 Aug and 14 Sep
PIA	12 Jul and 2 Aug
POR	28 Apr and 19 May
SEV	7 Apr and 28 Apr
THI	27 Jun and 18 Jul

* AppDate 3.06 (June, 2019)

Fenpicoxamid

The PECgw calculations for fenpicoxamid and its metabolites when using the GAP and models described in Table 8.81, in conjunction with the calendar timings shown in Table 8.82, are described below.

Parent and aerobic/anaerobic soil metabolites

To cover the complexity of the degradation route, two modelling runs were carried out according to the diagram presented below. The relevant EU agreed input parameters used in PECgw modelling of fenpicoxamid and its relevant aerobic/anaerobic metabolites are summarised in Table 8.8-3 and Table 8.8-4.

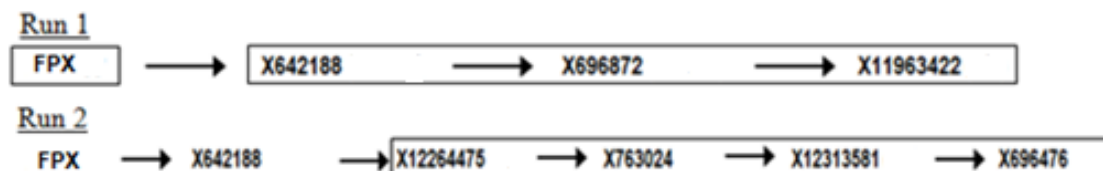


Table 8.8-3: Inputs for fenpicoxamid and aerobic/anaerobic metabolites for PECgw*

Compound	Fenpicoxamid	X642188	X696872	X11963422	Evaluated at EU level
Molar mass (g/mol)	614.2	514.2	444.2	206.1	Yes (EFSA, 2018)
Water solubility (20°C) (mg/L)	1000** (nominal)	Parent as surrogate	Parent as surrogate	Parent as surrogate	
Vapour pressure (20°C) (Pa)	1.2×10^{-7} **	Parent as surrogate	Parent as surrogate	Parent as surrogate	
DT ₅₀ soil (d) (20°C/pF2) (geometric mean)	3.5	31.7	31.3	31.9 (n=1)	
Formation fraction (arithmetic mean)	-	1 from parent	1 from X642188	1 from X696872	
K _{foc} (geometric mean)	5776	4518	673	86	
1/n (arithmetic mean)	0.818	0.934	0.95	0.89	
Plant uptake factor	0	0	0	0	

* Parameters not listed are left to model default value

** Required for parent in FOCUSPELMO: solubility at T2 (T1 + 10°C) = 2 x solubility at T1 and vapour pressure at T2 (T1 + 10°C) = 4 x vapour pressure at T1

Table 8.8-4: Inputs for fenpicoxamid and aerobic/anaerobic metabolites for PECgw*

Compound	X12264475	X763024	X12313581	X696476	Evaluated at EU level
Molar mass (g/mol)	256.1	226.1	168.0	169.0	Yes (EFSA, 2018)
Water solubility (20°C) (mg/L)	Parent as surrogate	Parent as surrogate	Parent as surrogate	Parent as surrogate	
Vapour pressure (20°C) (Pa)	Parent as surrogate	Parent as surrogate	Parent as surrogate	Parent as surrogate	
DT ₅₀ soil (d) (20°C/pF2) (geometric mean)	105.4	32.8	113.6	1000 (nominal)	
Formation fraction (arithmetic mean)	1 from X642188	1 from X12264475	1 from X763024	1 from X12313581	
K _{foc} (geometric mean)	315	388	669	8871	
1/n (arithmetic mean)	0.93	0.92	0.88	0.81	
Plant uptake factor	0	0	0	0	

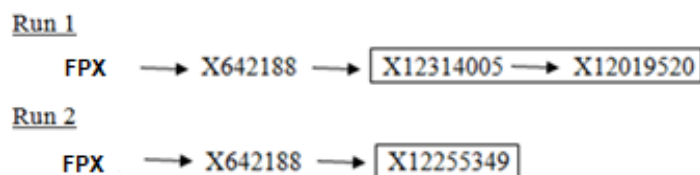
* Parameters not listed are left to model default value

Table 8.8-5: Fenpicoxamid and aerobic/anaerobic metabolites PECgw for sugar beet

FOCUS GW scenario	Sugar beet							
	80 th Percentile PECgw at 1 m soil depth (µg/L)							
	FPX	X642188	X696872	X11963422	X12264475	X763024	X12313581	X696476
FOCUS PELMO 6.6.4								
CHA	<0.001	<0.001	<0.001	0.001	0.008	0.002	0.002	<0.001
HAM	<0.001	<0.001	<0.001	0.003	0.011	0.003	0.003	<0.001
JOK	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001
KRE	<0.001	<0.001	<0.001	0.002	0.009	0.002	0.002	<0.001
OKE	<0.001	<0.001	<0.001	0.004	0.017	0.004	0.005	<0.001
PIA	<0.001	<0.001	<0.001	0.004	0.015	0.004	0.004	<0.001
POR	<0.001	<0.001	<0.001	0.004	0.011	0.002	0.003	<0.001
SEV	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
THI	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
FOCUS PEARL 5.5.5								
CHA	<0.001	<0.001	<0.001	0.002	0.018	0.004	0.005	<0.001
HAM	<0.001	<0.001	<0.001	0.004	0.017	0.004	0.005	<0.001
JOK	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001
KRE	<0.001	<0.001	<0.001	0.001	0.010	0.002	0.003	<0.001
OKE	<0.001	<0.001	<0.001	0.003	0.014	0.003	0.004	<0.001
PIA	<0.001	<0.001	<0.001	0.003	0.014	0.003	0.004	<0.001
POR	<0.001	<0.001	<0.001	0.001	0.006	0.001	0.001	<0.001
SEV	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
THI	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001
FOCUS MACRO 5.5.4								
CHA	<0.001	<0.001	<0.001	0.001	0.004	0.001	<0.001	<0.001

Soil photodegradates

To cover the complexity of the degradation route, two modelling runs were carried out.



Endpoints used for fenpicoxamid and X642188 are shown as they are needed to model the photodegradates in sequence. However, their PEC_{gw} values were derived from the modelling described for the aerobic/anaerobic metabolites, since the photodegrade modelling gives identical values for these residues.

Table 8.8-6: Inputs for photodegradates for PEC_{gw}^a

Compound	Fenpicoxamid	X642188	X12314005	X12019520	X12255349	Evaluated at EU level
Molar mass (g/mol)	614.2	514.2	276.3	188.2	514.5	Yes (EFSA, 2018)
Water solubility (20°C) (mg/L)	1000** (nominal)	Parent as surrogate	Parent as surrogate	Parent as surrogate	Parent as surrogate	
Vapour pressure (20°C) (Pa) ^b	1.2 x 10 ⁻⁷	Parent as surrogate	Parent as surrogate	Parent as surrogate	Parent as surrogate	
DT ₅₀ soil (d) (20°C/pF2) (geometric mean)	3.5	31.7	0.1 ^c	3.1	2.4 ^d	
Formation fraction (arithmetic mean)	-	1	1	1	1	
K _{foc} (geometric mean)	5776	4518	118	68	594	
1/n (arithmetic mean)	0.818	0.934	1.00	0.90	1.06	
Plant uptake factor	0	0	0	0	0	

a Parameters not listed are left to model default value

b Required for parent in FOCUSPELMO: solubility at T2 (T1 + 10°C) = 2 x solubility at T1 and vapour pressure at T2 (T1 + 10°C) = 4 x vapour pressure at T1

c DT₅₀ of 0.1 d used in modeling of X12314005 instead of 0.03 d due to limitation of FOCUS PEARL not accepting DT₅₀ < 0.1 d.

d In agreement with GF 3307 Registration Report Part B8 (core assessment) published by CEU zRMS Poland in January 2023, a DT₅₀ of 2.4 d used instead of EFSA (2018) agreed modelling endpoint of 3.4 d.

Table 8.8-7: Fenpicoxamid photodegradates PECgw for sugar beet

FOCUS GW scenario	Sugar beet		
	80 th Percentile PECgw at 1 m soil depth (µg/L)		
	X12314005	X12019520	X12255349
FOCUSPELMO 6.6.4			
CHA	<0.001	<0.001	<0.001
HAM	<0.001	<0.001	<0.001
KRE	<0.001	<0.001	<0.001
OKE	<0.001	<0.001	<0.001
PIA	<0.001	<0.001	<0.001
POR	<0.001	<0.001	<0.001
FOCUSPEARL 5.5.5			
CHA	<0.001	<0.001	<0.001
HAM	<0.001	<0.001	<0.001
KRE	<0.001	<0.001	<0.001
OKE	<0.001	<0.001	<0.001
PIA	<0.001	<0.001	<0.001
POR	<0.001	<0.001	<0.001
FOCUS MACRO 5.5.4			
CHA	<0.001	<0.001	<0.001

Conclusion

PECgw for Fenpicoxamid and its metabolites are below 0.1 µg/L for sugar beet/fodder beet use in all scenarios. No unacceptable risk of groundwater contamination is expected for the intended uses of GF-3307 (S7K-3-3).

zRMS comments:

The input parameters considered in the groundwater modelling for fenpicoxamid and presented in Tables 8.8-4 and 8.8-6 are in line with these reported in EFSA Journal 2016;16(1):5146. The metabolic pathways given in graphs above are in line with these provided in Vol. 3CP, B.8 (October 2017).

In simulations PUF value of 0 was assumed for all compounds, which is in line with recommendations of the most recent version of the FOCUS Groundwater Guidance (2023).

The groundwater modelling was independently validated by the zRMS in additional modelling with FOCUS PEARL 5.5.5, FOCUS PELMO 6.6.4 and FOCUS MACRO 5.5.4 using the EU agreed input parameters and application dates as suggested by AppDate 3.06 and presented in Table 8.8-2.

Obtained results were in good agreement with these derived by the Applicant for fenpicoxamid. No unacceptable leaching of fenpicoxamid and its metabolites are expected following application of GF-3307 (S7K-3-3).

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

Prothioconazole

The PECgw calculations for prothioconazole and its metabolites when using the GAP and models described in Table 8.8-1, in conjunction with the calendar timings shown in Table 8.8-2, are described below. The degradation route modelled according to EFSA (2007) is presented below, with corresponding endpoints presented Table 8.8-8.

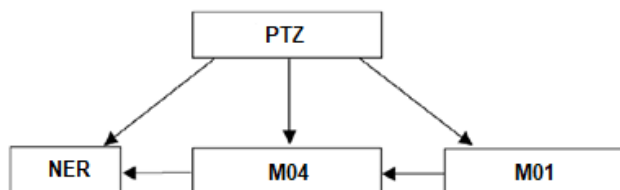


Table 8.8-8: Inputs for prothioconazole and metabolites for PECgw*

Compound	Prothioconazole	JAU 6476-S-methyl (M01)	JAU 6476-desthio (M04)	Evaluated at at EU level
Molar mass (g/mol)	344.3	358.3	312.2	Yes (EFSA, 2007)
Water solubility (20°C) (mg/L)	300**	1.5 (25°C)	50.6	
Vapour pressure (20°C) (Pa)	1 x 10 ⁻¹⁰ **	2.9 x 10 ⁻⁸ (25°C)	1 x 10 ⁻¹⁰	
DT ₅₀ soil (d) (20°C/pF2) (geometric mean)	1.2	15.7	22.7	
Formation fraction (arithmetic mean)	-	0.14 (parent)	0.57 (parent)/1 (M01)	
K _{foc} (geometric mean)	1765 (n=1)	2525.9	573.5	
1/n (arithmetic mean)	1 (default)	0.88	0.81	
Plant uptake factor	0	0	0	

* Parameters not listed are left to model default value

** Required for parent in FOCUSPELMO: solubility at T2 (T1 + 10°C) = 2 x solubility at T1 and vapour pressure at T2 (T1 + 10°C) = 4 x vapour pressure at T1

Table 8.8-9: Prothioconazole and metabolites PECgw for sugar beet

FOCUS GW scenario	Sugar beet		
	80 th Percentile PECgw at 1 m soil depth (µg/L)		
	Prothioconazole	JAU 6476-S-methyl (M01)	JAU 6476-desthio (M04)
FOCUS PELMO 6.6.4			
CHA	<0.001	<0.001	<0.001
HAM	<0.001	<0.001	<0.001
JOK	<0.001	<0.001	<0.001
KRE	<0.001	<0.001	<0.001
OKE	<0.001	<0.001	<0.001
PIA	<0.001	<0.001	<0.001
POR	<0.001	<0.001	<0.001
SEV	<0.001	<0.001	<0.001
THI	<0.001	<0.001	<0.001
FOCUS PEARL 5.5.5			
CHA	<0.001	<0.001	<0.001
HAM	<0.001	<0.001	<0.001
JOK	<0.001	<0.001	<0.001
KRE	<0.001	<0.001	<0.001
OKE	<0.001	<0.001	<0.001
PIA	<0.001	<0.001	<0.001
POR	<0.001	<0.001	<0.001

SEV	<0.001	<0.001	<0.001
THI	<0.001	<0.001	<0.001
FOCUS MACRO 5.5.4			
CHA	<0.001	<0.001	<0.001

Conclusion

PEC_{gw} for Prothioconazole and its metabolites are below 0.1 µg/L for sugar beet use in all scenarios. No unacceptable risk of groundwater contamination is expected for the intended uses of GF-3307 (S7K-3-3).

zRMS comments:

Input parameters for prothioconazole and its metabolites presented in Table 8.8-8 and used in the modelling are in general in line with the EU agreed endpoints reported in EFSA Scientific Report (2007) 106.

For metabolites JAU 6476-S-methyl (M01) and JAU 6476-desthio (M04) the geometric mean K_{FOC} values were considered instead of the arithmetic mean. It is agreed by the zRMS since geometric mean K_{FOC} values were calculated from the EU agreed values and consideration of the lower K_{FOC} represents worst case. Moreover, consideration of geometric mean K_{foc} values is in line with current EFSA recommendations.

In simulations PUF value of 0 was assumed for all compounds, which is in line with recommendations of the most recent version of the FOCUS Groundwater Guidance (2023).

The groundwater modelling was independently validated by the zRMS in additional modelling with FOCUS PEARL 5.5.5 and FOCUS PELMO 6.6.4 using the EU agreed input parameters and application dates as suggested by AppDate 3.06.

Obtained results were in good agreement with these derived by the Applicant for prothioconazole and its metabolites presented in Table 8.8-9.

Overall, no unacceptable leaching of prothioconazole and its metabolites is expected following application of GF-3307 (S7K-3-3) according to the intended use pattern.

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/sed}) (KCP 9.2.5)

PEC_{sw/sed} values were calculated for fenpicoxamid and major (>5% AR) soil, water and sediment metabolites: X642188, X696872, X12264475, X763024, X12313581, X696476, X11963422, X12314005, X12019520, X12255349, X12335723, X12386481, X12446477, X12433979.

PEC_{sw/sed} values were calculated for prothioconazole and major (>5% AR) soil, water and sediment metabolites: JAU 6476Smethyl (M01), JAU 6476desthio (M04), 1,2,4triazole.

PEC_{sw} values were calculated for the formulation: GF-3307 (S7K-3-3).

Update November 2025:

In response to a request by zRMS Poland (email title: Otrzymane komentarze do oceny środka ochrony roślin Queen; date 3 November 2025) on behalf of Austria as cMS, PEC_{sw/sed} modelling has been updated with additional Step 4 mitigation calculations to include 20 m no-spray zone, accordingly:

- 20 m NSZ + 10 m VFS
- 20 m NSZ + 10 m VFS + 75% DRN

Update February 2026

In response to a request by zRMS Poland (Email title: RE: Otrzymane komentarze do oceny środka ochrony roślin Queen - prośba do wnioskodawcy - ekotoksykologia, date 15 January 2026), the following has been included in an update to this dossier:

- The comparison of exposure profiles in the mesocosm study of fenpicoxamid with those from the corresponding FOCUS modelling must be presented for all relevant FOCUS scenarios, not only those selected by the applicant.

We have extended this timeseries analysis to scenarios D3, D4, R1 and R3 scenarios in this document. The comparison to the mesocosm study is presented in the dRR Part B9. This update in the dRR Part B8 is highlighted in green.

8.9.1 Justification for new endpoints

Fenpicoxamid

EFSA endpoints (2018) were used for the PEC_{sw/sed} calculations.

Prothioconazole

EFSA endpoints (2007) were used for the PEC_{sw/sed} calculations.

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

FOCUS Steps 1 and 2

The GAP modelled (using Steps 1-2 in FOCUS v3.2) for fenpicoxamid and prothioconazole was 2 x 75 g as/ha and 2 x 150 g as/ha, respectively, assuming “intermediate crop cover” (i.e. 70%) as relevant for BBCH 39. The Mar-May and Jun-Sep application window were selected as representative for sugar beet, for both the “North Europe” and “South Europe” scenarios. The Steps 1 and 2 PEC_{sw/sed} modelling is not reported since it can be fully described within this dRR.

Fenpicoxamid

The relevant EU agreed input parameters used in Steps 1 and 2 PEC_{sw/sed} modelling of fenpicoxamid and its relevant metabolites are summarised in Table 8.9-1. A nominal water solubility value of 1000 mg/L (20°C) was used for fenpicoxamid and its metabolites.

Table 8.9-1: Inputs related to fenpicoxamid and metabolites for PECsw/sed - Steps 1 and 2

Compound	Molar mass (g/mol)	Kfoc (geometric mean)	DT ₅₀ water, sediment, wat/sed (d) (20°C) (geometric mean)	DT ₅₀ soil (d) (20°C/pF2) (geometric mean)	Max. wat/sed (% AR)	Max. soil (% AR)	Evaluated at EU level
Fenpicoxamid	614.2	5776	0.7	3.5	-	-	Yes (EFSA, 2018)
X642188	514.2	4518	2.7	31.7	19.5%	39.2%	
X696872	444.2	673	1000	31.3	-**	17.2%	
X12264475	256.1	315	49	105.4	65.3%	49.4%	
X763024	226.1	388	1000	32.8	-**	5.7%	
X12313581	168.0	669	1000	113.6	9.3%	17.1%	
X696476	169.0	8871	1000	1000	67.1%	46.9%	
X11963422	206.1	86	1000	31.9 (n=1)	45.0%	80.3%	
X12314005	276.3	118	0.84	0.03	35.1%	5.4%	
X12019520	188.2	68	8.8	3.1	15.3%	9.8%	
X12255349	514.5	594	1000	3.4	-**	6.9%	
X12335723	356	1*	2.6	1000	45.9%	-**	
X12386481	326	1*	1000	1000	69.5% ⁺	-**	
X12446477	312	1*	1000	1000	12.5% ⁺	-**	
X12433979	294	1*	1000	1000	35.7% ⁺⁺	-**	

* Nominal default for non-soil metabolite

** Nominal default of 0.001% used to allow model to run

+ Aqueous photolysis only (not seen in water/sediment)

++ Hydrolysis (pH9, 25°C) (not seen in water/sediment)

Table 8.9-2: Steps 1 & 2 PECsw/sed for fenpicoxamid and metabolites on sugar beet

Compound	FOCUS SW scenario		Period	Sugar beet		
				Max. PEC _{sw} (µg/L)	Max. 21 d TWA PEC _{sw} (µg/L)	Max. PEC _{sed} (µg/kg)
Fenpicoxa mid	Step 1		-	7.1257	0.3274	331.9032
	Step 2	N Europe	Mar – May	0.6898*	0.0289*	4.652
			Jun - Sep	0.6898*	0.0289*	4.652
		S Europe	Mar – May	0.6898*	0.0348*	9.2316
			Jun - Sep	0.6898*	0.0318*	6.9418
X642188	Step 1		-	3.7234	0.6573	158.0491
	Step 2	N Europe	Mar – May	0.1281	0.0238*	5.6721
			Jun - Sep	0.1281	0.0238*	5.6721
		S Europe	Mar – May	0.2490	0.0459	11.1307
			Jun - Sep	0.1886	0.0346	8.4014
X696872	Step 1		-	3.2783	3.2546	22.063
	Step 2	N Europe	Mar – May	0.1465	0.1455	0.9863
			Jun - Sep	0.1465	0.1455	0.9863
		S Europe	Mar – May	0.2931	0.291	1.9725
			Jun - Sep	0.2198	0.2182	1.4794
X12264475	Step 1		-	17.2157	14.8006	53.1227
	Step 2	N Europe	Mar – May	0.7424	0.6246	2.2402
			Jun - Sep	0.7424	0.6246	2.2402
		S	Mar – May	1.2712	1.0821	3.8826

Compound	FOCUS SW scenario		Period	Sugar beet		
				Max. PECsw (µg/L)	Max. 21 d TWA PECsw (µg/L)	Max. PECsed (µg/kg)
		Europe	Jun - Sep	1.0068	0.8533	3.0614
X763024	Step 1		-	0.6916	0.6866	2.6833
	Step 2	N Europe	Mar – May	0.0313	0.0311	0.1214
			Jun - Sep	0.0313	0.0311	0.1214
		S Europe	Mar – May	0.0626	0.0621	0.2428
			Jun - Sep	0.0469	0.0466	0.1821
X12313581	Step 1		-	1.9434	0.9742	12.7667
	Step 2	N Europe	Mar – May	0.086	0.0428	0.556
			Jun - Sep	0.086	0.0428	0.556
		S Europe	Mar – May	0.1633	0.0819	1.0732
			Jun - Sep	0.1247	0.0624	0.8146
X696476	Step 1		-	1.4773	1.2391	110.1439
	Step 2	N Europe	Mar – May	0.1273*	0.0564	5.0687
			Jun - Sep	0.1273*	0.0564	5.0687
		S Europe	Mar – May	0.1273*	0.0894	8.5976
			Jun - Sep	0.1273*	0.0729	6.8332
X11963422	Step 1		-	19.0684	18.9095	16.3691
	Step 2	N Europe	Mar – May	0.8058	0.7943	0.6875
			Jun - Sep	0.8058	0.7943	0.6875
		S Europe	Mar – May	1.4423	1.4262	1.2345
			Jun - Sep	1.124	1.1103	0.961
X12314005	Step 1		-	8.089	0.4805	9.2879
	Step 2	N Europe	Mar – May	0.1089*	0.0141*	0.1136
			Jun - Sep	0.1089*	0.0141*	0.1136
		S Europe	Mar – May	0.1915	0.0117	0.2247
			Jun - Sep	0.1444	0.0088	0.1691
X12019520	Step 1		-	3.5905	1.7531	2.3976
	Step 2	N Europe	Mar – May	0.0701	0.034	0.0437
			Jun - Sep	0.0701	0.034	0.0437
		S Europe	Mar – May	0.1168	0.0568	0.0741
			Jun - Sep	0.0935	0.0454	0.0583
X12255349	Step 1		-	1.613	1.6013	9.5809
	Step 2	N Europe	Mar – May	0.0217	0.0216	0.129
			Jun - Sep	0.0217	0.0216	0.129
		S Europe	Mar – May	0.0434	0.0431	0.2579
			Jun - Sep	0.0326	0.0323	0.1934
X12335723	Step 1		-	13.6515	2.4327	0.1328
	Step 2	N Europe	Mar – May	0.2436*	0.0436*	0.0022*
			Jun - Sep	0.2436*	0.0436*	0.0022*
		S Europe	Mar – May	0.4241*	0.0759*	0.004*
			Jun - Sep	0.3338*	0.0598*	0.0031*
X12386481	Step 1		-	18.9286	18.7909	0.1891
	Step 2	N	Mar – May	0.699	0.6937	0.007

Compound	FOCUS SW scenario		Period	Sugar beet		
				Max. PEC _{sw} (µg/L)	Max. 21 d TWA PEC _{sw} (µg/L)	Max. PEC _{sed} (µg/kg)
	Europe	Jun - Sep	0.699	0.6937	0.007	
	S Europe	Mar – May	0.9531	0.946	0.0095	
Jun - Sep		0.826	0.8199	0.0083		
X12446477	Step 1		-	3.2582	3.2345	0.0326
	Step 2	N Europe	Mar – May	0.1203	0.1194	0.0012
			Jun - Sep	0.1203	0.1194	0.0012
		S Europe	Mar – May	0.1641	0.1628	0.0016
			Jun - Sep	0.1422	0.1411	0.0014
	X12433979	Step 1		-	8.7686	8.7048
Step 2		N Europe	Mar – May	0.3238	0.3214	0.0032
			Jun - Sep	0.3238	0.3214	0.0032
		S Europe	Mar – May	0.4415	0.4382	0.0044
			Jun - Sep	0.3827	0.3798	0.0038

* Maximum PEC_{sw} from calculation with single application.

zRMS comments:

Input parameters for fenpicoxamid presented in Tables 8.9-1 relevant for Step1-2 are in line with EU agreed end-points reported in EFSA Journal 2018;16(1):5146.

The correct crop interception as average crop cover was assumed for sugar beet at BBCH 39 in line with the FOCUS surface water generic guidance (2015).

The surface water exposure was independently validated by the zRMS in additional modelling using the EU agreed endpoints. Results obtained at Step 1-2 and presented in Table 8.9-4 for fenpicoxamid and its metabolites were lower from this presented by the Applicant. Therefore results presented in Table 8.9-2 may be used in the aquatic risk assessment.

Prothioconazole

Table 8.9-3: Inputs related to prothioconazole and metabolites for PEC_{sw}/sed - Steps 1 and 2

Compound	Water solubility (mg/L) (20°C)	K _{foc} (arithmetic mean)	DT ₅₀ soil (d) (20°C) (geomean)	DT ₅₀ water, sediment, wat/sed (d) (20°C) (maximum)	Max. occurrence, soil (% AR)	Max. occurrence, wat/sed (% AR)	Evaluated at EU level
Prothioconazole	300 (pH 8)	1765 (n=1)	1.2	2.8	-	-	Yes (EFSA, 2007)
JAU 6476-S-methyl (M01)	1.5 (25°C)	2556.3	15.7	1000	14.6	12.7	
JAU 6476-desthio (M04)	50.6	575.4	22.7	1000	57.1	54.4	
1,2,4-triazole ⁺	700000	89	1000*	1000	0.001**	41.8	

* Nominal default for non-soil metabolite

** Nominal default to allow model to run

+ Aquatic metabolite only

Table 8.9-4: Steps 1 & 2 PEC_{sw}/sed for prothioconazole and metabolites on sugar beet

Compound	FOCUS SW scenario		Period	Sugar beet		
				Max. PEC _{sw} (µg/L)	Max. 21 d TWA PEC _{sw} (µg/L)	Max. PEC _{sed} (µg/kg)
Prothioco nazole	Step 1		-	32.5801	5.9148	526.3419
	Step 2	N Europe	Mar – May	1.3795*	0.1752*	6.5179*
			Jun - Sep	1.3795*	0.1752*	6.5179*
		S Europe	Mar – May	1.3795*	0.2259*	5.2127
			Jun - Sep	1.3795*	0.2006*	8.6067*
JAU 6476 -S-methyl (M01)	Step 1		-	6.8092	6.4867	83.3702*
	Step 2	N Europe	Mar – May	0.3110*	0.2943*	7.5646*
			Jun - Sep	0.3110*	0.2943*	7.5646*
		S Europe	Mar – May	0.5659*	0.5474*	8.4837
			Jun - Sep	0.4384*	0.4209*	6.8249
JAU 6476 -desthio (M04)	Step 1		-	58.5727	57.5760	333.3964
	Step 2	N Europe	Mar – May	2.7450*	2.6621*	15.4097*
			Jun - Sep	2.7450*	2.6621*	15.4097*
		S Europe	Mar – May	5.0409*	4.9414*	28.6114*
			Jun - Sep	3.8930*	3.8017*	22.0105*
1,2,4-triazole	Step 1		-	7.7309	7.6511	6.8539
	Step 2	N Europe	Mar – May	0.2100	0.2020	0.1808
			Jun - Sep	0.2100	0.2020	0.1808
		S Europe	Mar – May	0.2323	0.2242	0.2007
			Jun - Sep	0.2211	0.2131	0.1908

* Maximum PEC_{sw} from calculation with single application.

zRMS comments:

Input parameters for prothioconazole presented in Tables 8.9-3 relevant for Step1-2 are in general in line with EU agreed endpoints with exception of water DT₅₀ for prothioconazole: 2.8 days was used instead of 1.0 days agreed in the course of the EU review. Nevertheless, in opinion of the zRMS this deviation is not expected to have significant impact on the obtained results.

No DT₅₀ values for aquatic systems were available for metabolites, so worst case default of 1000 days was used, which is accepted by the zRMS.

The surface water exposure was independently validated by the zRMS in additional modelling using the EU agreed endpoints.

Results obtained at Step 1-2 and presented in Table 8.9-4 for prothioconazole and its metabolites were lower from this presented by the Applicant. Therefore results presente in Table 8.9-4 may be used in the aquatic risk assessment.

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

Steps 3 and 4

Table 8.9-5: Inputs related to application for PECsw/sed

Use no.	1-2
Crop group	Sugar beet
Application rate (g as/ha)	75 (Fenpicoxamid) 150 (Prothioconazole)
Number of applications / interval (days)	2 / 21
Growth stage	From BBCH 39
Relative application date	Absolute (see below)
Frequency of application	Annual*
Application method	Ground spray
Chemical appn. method (CAM)	2 – appn. foliar linear
Depth incorporated (cm)	4
Models used	FOCUS SWASH 5.3 FOCUS MACRO 5.5.4 FOCUS PRZM 4.3.1 FOCUS TOXSWA 5.5.3 SWAN 5.0.1 (Step 4)

The dates modelled for application to sugar beet corresponding to BBCH 39 were selected for each relevant FOCUS surface water scenario using AppDate 3.06 (June, 2019). All scenarios available for the crop were modelled and reported for completeness.

Table 8.9-6: Application dates used for PECsw/sed

FOCUS SW scenario*	Application window sugar beet(BBCH 39)*	
	One application	Two applications
D1	_**	_**
D2	_**	_**
D3	21 Jul – 20 Aug	21 Jul – 10 Sep
D4	24 Jul – 23 Aug	24 Jul – 13 Sep
D5	_**	_**
D6	_**	_**
R1	11 Jul – 10 Aug	11 Jul – 31 Aug
R2	_**	_**
R3	20 Jun – 20 Jul	20 Jun – 10 Aug
R4	_**	_**

* Given by AppDate 3.06 (June, 2019)

** Scenarios not relevant for crop

The following mitigation options of drift reduction, including no-spray zone (NSZ) and drift reducing nozzles (DRN), and vegetated filter strip (VFS) were explored at Step 4 using SWAN 5.0.1:

- 10 m NSZ + 10 m VFS
- 10 m NSZ + 10 m VFS + 75% DRN
- 30 m NSZ + 10 m VFS
- 20 m NSZ + 10 m VFS
- 20 m NSZ + 10 m VFS + 75% DRN

To mitigate run-off at Step 4, a vegetated filter strip (VFS) of 10 m reduction factors of 0.6 and 0.85 were applied. These were prescribed by the FOCUS Landscape and Mitigation report (2007).

Fenpicoxamid

The relevant input parameters used in Step 3 and 4 PECsw/sed modelling of fenpicoxamid and the X642188 metabolite are summarised in Table 8.9-7. These parameters were used in conjunction with the sugar beet GAP and models described in Table 8.9-7 and timings shown in Table 8.9-8.

Table 8.9-7: Inputs related to fenpicoxamid and X642188 for PECsw/sed - Steps 3 and 4

Compound	Fenpicoxamid	X642188	Evaluated at EU level
Molar mass (g/mol)	614.2	514.2	Yes (EFSA, 2018)
Water solubility (mg/L)	1000 (nominal)	Parent as surrogate	
Vapour pressure (Pa)	1.2×10^{-7}	Parent as surrogate	
Molar enthalpy of vapourisation (kJ/mol)	95	95	
Molar enthalpy of dissolution (kJ/mol)	27	27	
Ref. diffusion co-efficient in water (m ² /d)	4.3×10^{-5}	4.3×10^{-5}	
Ref. diffusion co-efficient in air (m ² /d)	0.43	0.43	
Kfoc (pH independent) (geometric mean)	5776	4518	
1/n (arithmetic mean)	0.818	0.934	
DT ₅₀ soil (d) (20°C/pF2) (geometric mean)	3.5	31.7	
DT ₅₀ water (d) (20°C) (geometric mean)	1000*	1000	
DT ₅₀ sediment (d) (20°C) (geometric mean)	0.7	2.7	
Formation fraction, soil	-	0.6	
Formation fraction, water	-	1	
Formation fraction, sediment	-	1	
Crop wash-off factor (1/m)	50	50	
Half-life on crop canopy (d)	10	10	
Plant uptake factor	0	0	

* Endpoint (0.7 d) given by EFSA, 2018 is for total system, however, 1000 d is more correct when a compound is strongly sorbed to sediment (K_{oc} >2000)

Step 3

Table 8.9-8: Step 3 PECsw/sed for fenpicoxamid on sugar beet

FOCUS SW scenario	Sugar beet			
	Max. PECsw (µg/L)	Dominant entry route	Max. 21 d TWA PECsw (µg/L)	Max. PECsed (µg/kg)
D3 ditch	0.3863*	Spray drift	0.0203*	0.1525*
D4 pond	0.0160	Spray drift	0.0155	0.0184
D4 stream	0.3211*	Spray drift	0.0010*	0.0148*
R1 pond	0.0156	Spray drift	0.0125	0.0217*
R1 stream	0.2654*	Spray drift	0.0215	0.2591*
R3 stream	0.3775*	Spray drift	0.0258	0.2745*

* Maximum PECsw from calculation with single application.

Table 8.9-9: Step 3 PECsw/sed for X642188 on sugar beet

FOCUS SW scenario	Sugar beet			
	Max. PECsw (µg/L)	Dominant entry route	Max. 21 d TWA PECsw (µg/L)	Max. PECsed (µg/kg)
D3 ditch	0.0013	Drainage	0.0004	0.1504
D4 pond	0.0018	Drainage	0.0018	0.0404
D4 stream	0.0020	Drainage	0.0001	0.0076*
R1 pond	0.0134	Runoff	0.0104	0.0786
R1 stream	0.0294	Runoff	0.0028	0.8269
R3 stream	0.0447	Runoff	0.0059	0.4226

* Maximum PECsw from calculation with single application.

Step 3 Additive (summed) approach

The surface water exposure assessment for fenpicoxamid and X642188 in the Central Zone follows a “summed” residue approach (fenpicoxamid plus X642188 parent equivalent). A worst case additive approach (Tier 1) where the fenpicoxamid and X642188 parent equivalent maximum PECsw values were “summed”. Note that for X642188, the PECsw was converted to a parent equivalent by multiplication with molar ratio of the fenpicoxamid and X642188 (614.2/514.2) so that a “summed” PECsw (fenpicoxamid plus X642188 parent equivalent) could be used for risk assessment.

Table 8.9-10: Max. “summed” PECsw Step 3 PECsw/sed for fenpicoxamid and X642188 on sugar beet

FOCUS scenario	Sugar beet			
	Max. Fenpicoxamid PECsw (µg/L)	Max. X642188 PECsw (µg/L)	Max. X642188 PECsw par. eq. (µg/L)	“Summed” PECsw (µg/L)
D3 ditch	0.3863*	0.0013	0.0015	0.3876*
D4 pond	0.0160	0.0018	0.0022	0.0182
D4 stream	0.3211*	0.0020	0.0024	0.3222*
R1 pond	0.0156	0.0134	0.0160	0.0316
R1 stream	0.2654*	0.0294	0.0351	0.2810*
R3 stream	0.3775*	0.0447	0.0534	0.4207*

* Maximum PECsw from calculation with single application.

Step 4

For fenpicoxamid, the following mitigation options of drift reduction, including no-spray zone (NSZ) and drift reducing nozzles (DRN), and vegetated filter strip (VFS) were explored at Step 4 using SWAN 5.0.1:

- 10 m NSZ + 10 m VFS
- 10 m NSZ + 10 m VFS + 75% DRN
- 30 m NSZ + 10 m VFS
- 20 m NSZ + 10 m VFS
- 20 m NSZ + 10 m VFS + 75% DRN

Table 8.9-11: Step 4 PECsw/sed for fenpicoxamid on sugar beet

FOCUS SW scenario	Sugar beet			
	Max. PECsw (µg/L)	Dominant entry route	Max. 21 d TWA PECsw (µg/L)	Max. PECsed (µg/kg)
10 m NSZ + 10 m VFS				
D3 ditch	0.0667*	Spray drift	0.0035*	0.0264*
D4 pond	0.0101	Spray drift	0.0070	0.0116
D4 stream	0.0713*	Spray drift	0.0002*	0.0033*
R1 pond	0.0098*	Spray drift	0.0070*	0.0095*
R1 stream	0.0589*	Spray drift	0.0006*	0.0400*
R3 stream	0.0838*	Spray drift	0.0017*	0.0421*
10 m NSZ + 10 m VFS + 75% DRN				
D3 ditch	0.0166*	Spray drift	0.0009*	0.0066*
D4 pond	0.0025	Spray drift	0.0017	0.0029
D4 stream	0.0177*	Spray drift	0.0001*	0.0008*
R1 pond	0.0025	Spray drift	0.0018*	0.0034*
R1 stream	0.0146*	Spray drift	0.0003*	0.0400*
R3 stream	0.0208*	Spray drift	0.0006*	0.0420*
30 m NSZ + 10 m VFS				
D3 ditch	0.0234*	Spray drift	0.0012*	0.0093*
D4 pond	0.0050	Spray drift	0.0035	0.0058
D4 stream	0.0250*	Spray drift	0.0001*	0.0012*
R1 pond	0.0050*	Spray drift	0.0036*	0.0055*
R1 stream	0.0206*	Spray drift	0.0003*	0.0400
R3 stream	0.0294*	Spray drift	0.0007*	0.0420*
20 m NSZ + 10 m VFS				
D3 ditch	0.0345*	Spray drift	0.0018*	0.0137*
D4 pond	0.0066	Spray drift	0.0046	0.0076
D4 stream	0.0369*	Spray drift	0.0001*	0.0017*
R1 pond	0.0066*	Spray drift	0.0047*	0.0068*
R1 stream	0.0305*	Spray drift	0.0004*	0.0400*
R3 stream	0.0434*	Spray drift	0.0010*	0.0420*
20 m NSZ + 10 m VFS + 75% DRN				
D3 ditch	0.0086*	Spray drift	0.0004*	0.0034*
D4 pond	0.0016	Spray drift	0.0011	0.0019
D4 stream	0.0092*	Spray drift	0.0000*	0.0004*
R1 pond	0.0017	Spray drift	0.0013*	0.0027*
R1 stream	0.0076*	Spray drift	0.0002*	0.0400
R3 stream	0.0108*	Spray drift	0.0004*	0.0420

* Maximum PECsw from calculation with single application.

Table 8.9-12: Step 4 PECsw/sed for X642188 on sugar beet

FOCUS SW scenario	Sugar beet			
	Max. PECsw (µg/L)	Dominant entry route	Max. 21 d TWA PECsw (µg/L)	Max. PECsed (µg/kg)
10 m NSZ + 10 m VFS				
D3 ditch	0.0001 0.0667*	Spray drift	0.00005 0.0035*	0.0248 0.0264*
D4 pond	0.0011 0.0101	Spray drift	0.0011 0.0070	0.2560 0.0116
D4 stream	0.0020 0.0713*	Spray drift	0.00005 0.0002*	0.0017* 0.0033*
R1 pond	0.0057 0.0098*	Spray drift	0.0044 0.0070*	0.0308 0.0095*
R1 stream	0.0133 0.0589*	Spray drift	0.0013 0.0006*	0.1325 0.0400*
R3 stream	0.0204 0.0838*	Spray drift	0.0027 0.0017*	0.0710 0.0421*
10 m NSZ + 10 m VFS + 75% DRN				
D3 ditch	0.00004 0.0166*	Spray drift	0.00001 0.0009*	0.0062 0.0066*
D4 pond	0.0003 0.0025	Spray drift	0.0002 0.0017	0.0065 0.0029
D4 stream	0.0020 0.0177*	Spray drift	0.00005 0.0001*	0.0006 0.0008*
R1 pond	0.0054 0.0025	Spray drift	0.0042 0.0018*	0.0298 0.0034*
R1 stream	0.0134 0.0146*	Spray drift	0.0013 0.0003*	0.1325 0.0400*
R3 stream	0.0204 0.0208*	Spray drift	0.0027 0.0006*	0.0695 0.0420*
30 m NSZ + 10 m VFS				
D3 ditch	0.00006 0.0234*	Spray drift	0.00002 0.0012*	0.0085 0.0093*
D4 pond	0.0005 0.0050	Spray drift	0.0005 0.0035	0.0128 0.0058
D4 stream	0.0020 0.0250*	Spray drift	0.00005 0.0001*	0.0006 0.0012*
R1 pond	0.0055 0.0050*	Spray drift	0.0042 0.0036*	0.0300 0.0055*
R1 stream	0.0134 0.0206*	Spray drift	0.0013 0.0003*	0.1325 0.0400
R3 stream	0.0204 0.0294*	Spray drift	0.0027 0.0007*	0.0697 0.0420*
20 m NSZ + 10 m VFS				
D3 ditch	0.0001	Drainage	0.0000	0.0136*
D4 pond	0.0007	Drainage	0.0007	0.0169
D4 stream	0.0020	Drainage	0.0001	0.0009*
R1 pond	0.0056	Runoff	0.0043	0.0303
R1 stream	0.0134	Runoff	0.0013	0.1325
R3 stream	0.0204	Runoff	0.0027	0.0700
20 m NSZ + 10 m VFS + 75% DRN				
D3 ditch	0.0000	Drainage	0.0000	0.0034*
D4 pond	0.0003	Drainage	0.0002	0.0043
D4 stream	0.0020	Drainage	0.0001	0.0007
R1 pond	0.0054	Runoff	0.0042	0.0297
R1 stream	0.0134	Runoff	0.0013	0.1325
R3 stream	0.0204	Runoff	0.0027	0.0692

* Maximum PECsw from calculation with single application.

Step 4 Additive (summed) approach

Table 8.9-13: Max. “summed” Step 4 ~~Step 3~~ PECsw/sed for fenpicoxamid and X642188 on sugar beet

FOCUS scenario	Sugar beet			
	Max. Fenpicoxamid PECsw (µg/L)	Max. X642188 PECsw (µg/L)	Max. X642188 PECsw par. eq. (µg/L)	“Summed” PECsw (µg/L)
10 m NSZ + 10 m VFS				
D3 ditch	0.0667*	0.0002	0.0002	0.0669*
D4 pond	0.0101	0.0011	0.0014	0.0114
D4 stream	0.0713*	0.0020	0.0024	0.0724*
R1 pond	0.0098*	0.0057	0.0067	0.0166
R1 stream	0.0589*	0.0134	0.0159	0.0660*
R3 stream	0.0838*	0.0204	0.0243	0.1035*
10 m NSZ + 10 m VFS + 75% DRN				
D3 ditch	0.0166*	0.0000	0.0001	0.0166*
D4 pond	0.0025	0.0003	0.0004	0.0029
D4 stream	0.0177*	0.0020	0.0024	0.0188*
R1 pond	0.0025	0.0054	0.0065	0.0090
R1 stream	0.0146*	0.0134	0.0159	0.0280
R3 stream	0.0208*	0.0204	0.0243	0.0414
30 m NSZ + 10 m VFS				
D3 ditch	0.0234*	0.0001	0.0001	0.0234*
D4 pond	0.0050	0.0005	0.0006	0.0056
D4 stream	0.0250*	0.0020	0.0024	0.0261*
R1 pond	0.0050*	0.0055	0.0066	0.0115
R1 stream	0.0206*	0.0134	0.0159	0.0324
R3 stream	0.0294*	0.0204	0.0243	0.0491*
20 m NSZ + 10 m VFS				
D3 ditch	0.0345*	0.0001	0.0001	0.0346*
D4 pond	0.0066	0.0007	0.0009	0.0075
D4 stream	0.0369*	0.002	0.0024	0.038*
R1 pond	0.0066*	0.0056	0.0066	0.0131
R1 stream	0.0305*	0.0134	0.0159	0.0406
R3 stream	0.0434*	0.0204	0.0243	0.0631*
20 m NSZ + 10 m VFS + 75% DRN				
D3 ditch	0.0086*	0.0000	0.0000	0.0086*
D4 pond	0.0016	0.0003	0.0003	0.0020
D4 stream	0.0092*	0.002	0.0024	0.0103*
R1 pond	0.0017	0.0054	0.0065	0.0081
R1 stream	0.0076*	0.0134	0.0159	0.0220
R3 stream	0.0108*	0.0204	0.0243	0.0329

* Maximum PECsw from calculation with single application.

Hourly extraction and alignment of profiles (Tier 2)

For Tier 2, the SwashProjects which produced the Step 4 data previously shown under Point 8.9 of this dRR. Data from the run off stream scenarios for **D3 ditch, D4 pond, D4 stream, R1 pond, R1 stream and R3** scenario were used for an assessment where the hourly PEC_{sw} values for fenpicoxamid and X642188 from the full year profile were extracted and “summed” (after converting X642188 to parent equivalent), and compared to the “summed” RAC of 0.033 µg/L. The Tier 2 procedure is described as follows.

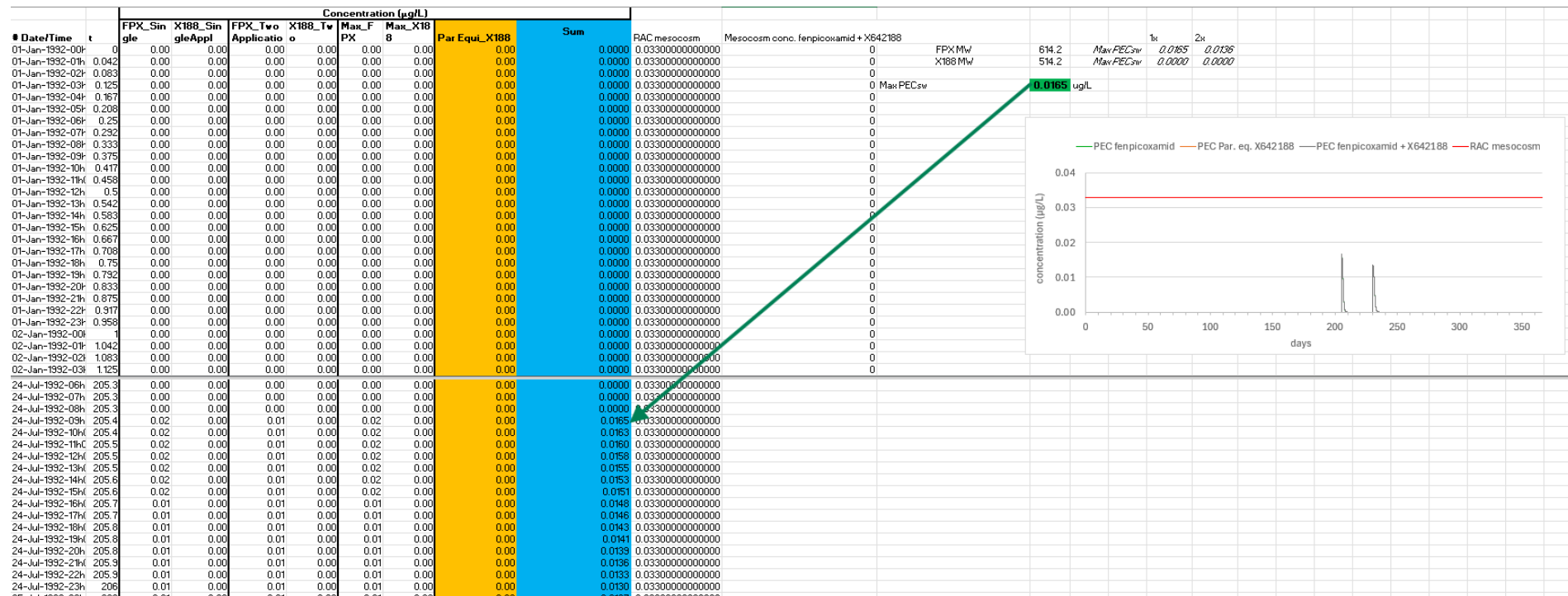
Firstly, EPAT v1.2.0 was used to generate “seg20.con” text files separately for fenpicoxamid and X642188, focussing on Step 4 with a **10 m NSZ + 10 m VFS + 75% DRN** and **30 m NSZ + 10 m VFS, 20 m NSZ + 10 m VFS and 20 m NSZ + 10 m VFS + 75%DRN** for 2 × 75 g as/ha. Files were generated for both 1 × and 2 × application. The hourly PEC_{sw} values for both residues were then copied from the text file into a spreadsheet and aligned according to hour and day. For the “summed” approach it was necessary to convert the X642188 PEC_{sw} to a parent equivalent to add to the parent PEC_{sw}. Once the hourly “summed” PEC_{sw} values were obtained, the maximum was located using the MAX function in EXCEL from the >8000 lines of data. The “summed” PEC_{sw} (fenpicoxamid plus X642188 parent equivalent) values generated here were then compared to the “summed” RAC of 0.033 µg/L, as below.

Table 8.9-14: Max. “summed” Step 4 PEC_{sw} (2 × 75 g as/ha) for fenpicoxamid and X642188 (parent equiv.) on sugar beet – Tier 2

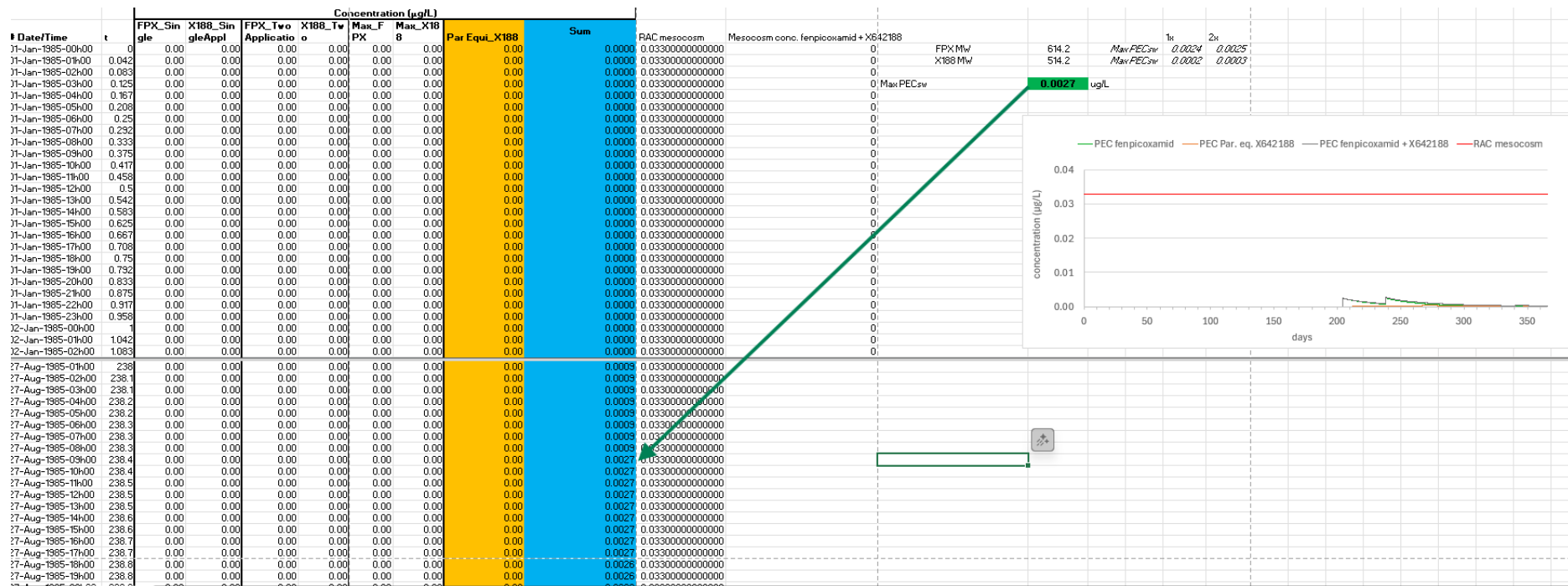
Crop	Application rate	Step 4 mitigation	Max "Summed" Step 4 PEC _{sw} (µg/L) (fenpicoxamid plus X642188 parent equiv.)					
			D3 ditch	D4 pond	D4 stream	R1 pond	R1 stream	R3 stream
Sugar beet	2 × 75 g as/ha	10 m NSZ, 75% DRN, 10 m VFS	0.0165	0.0027	0.0177	0.0065	0.0160	0.0248
		30 m NSZ, 10 m VFS	0.0234	0.0054	0.0250	0.0066	0.0206	0.0294
		20 m NSZ + 10 m VFS	-	-	-	-	-	0.0434
		20 m NSZ + 10 m VFS + 75%DRN	0.0086	0.0018	0.0092	0.0084	0.0160	0.0248

Spreadsheets from these analyses are provided that contains the raw data and summary, but a small excerpt is presented from **D3 ditch, D4 pond, D4 stream, R1 pond, R1 stream and R3 stream** at 2 × 75 g a.s./ha as an example at Step 4 for two mitigation combinations: **10 m NSZ + 10 m VFS + 75% DRN** and **30 m NSZ + 10 m VFS, 20 m NSZ + 10 m VFS and 20 m NSZ + 10 m VFS + 75%DRN** below. The column highlighted in orange is the X642188 parent equivalent PEC_{sw} derived from the X642188 PEC_{sw} multiplied by 614.2/514.2. The “summed” PEC_{sw} is then given in the blue column. The green cell presents the max of the summed PEC_{sw} for fenpicoxamid and parent equivalent X642188 for the entire time series and the corresponding time when this occurs is indicated by the green arrow.

Excerpt from D3 ditch at 1 × and 2 × 75 g as/ha extraction for 10 m NSZ, 75% DRN and 10 m VFS (Tier 2 example)

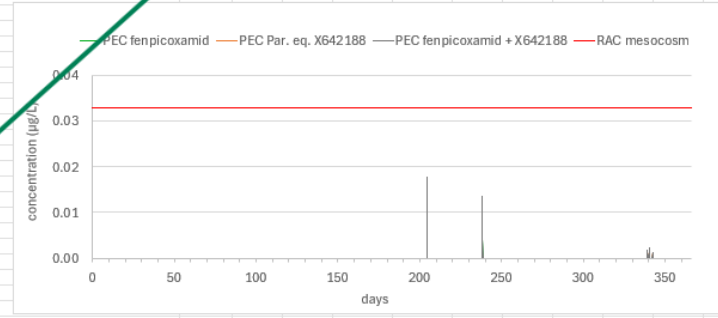


Excerpt from D4 pond at 1 × and 2 × 75 g as/ha extraction for 10 m NSZ, 75% DRN and 10 m VFS (Tier 2 example)

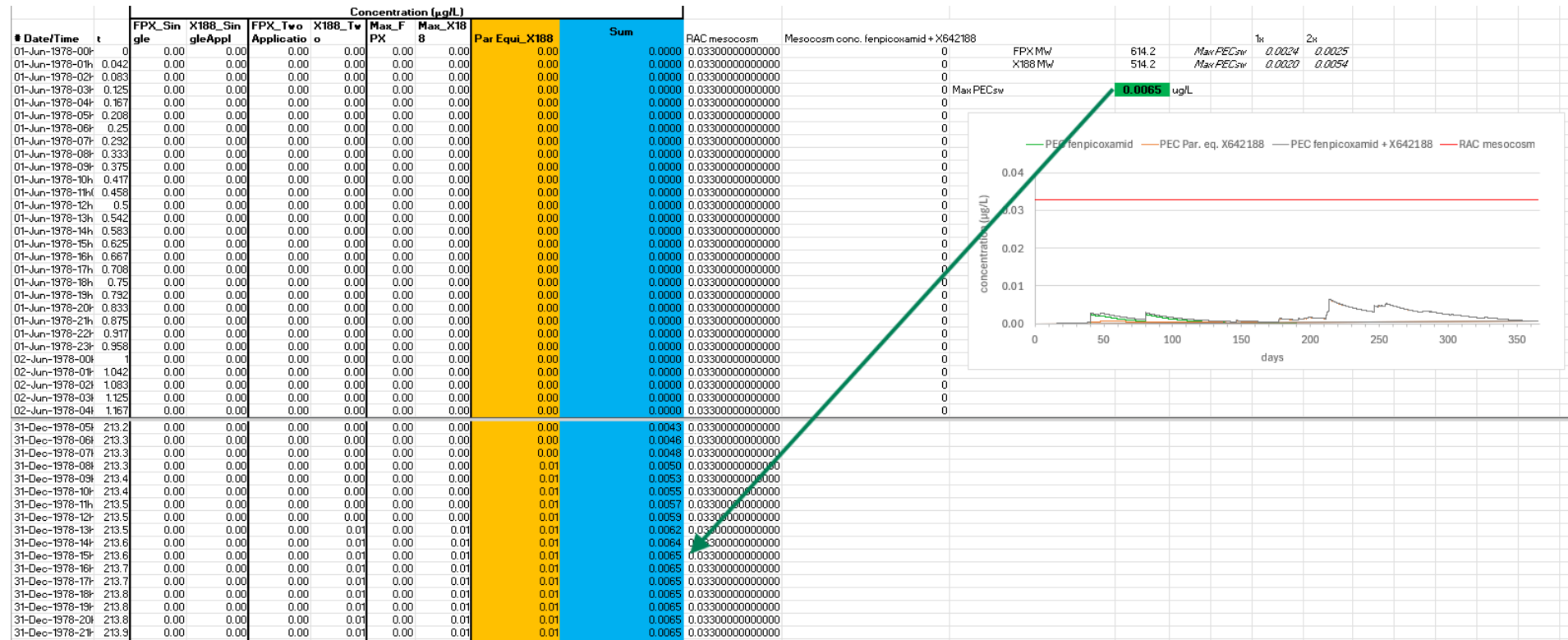


Excerpt from D4 stream at 1 × and 2 × 75 g as/ha extraction for 10 m NSZ, 75% DRN and 10 m VFS (Tier 2 example)

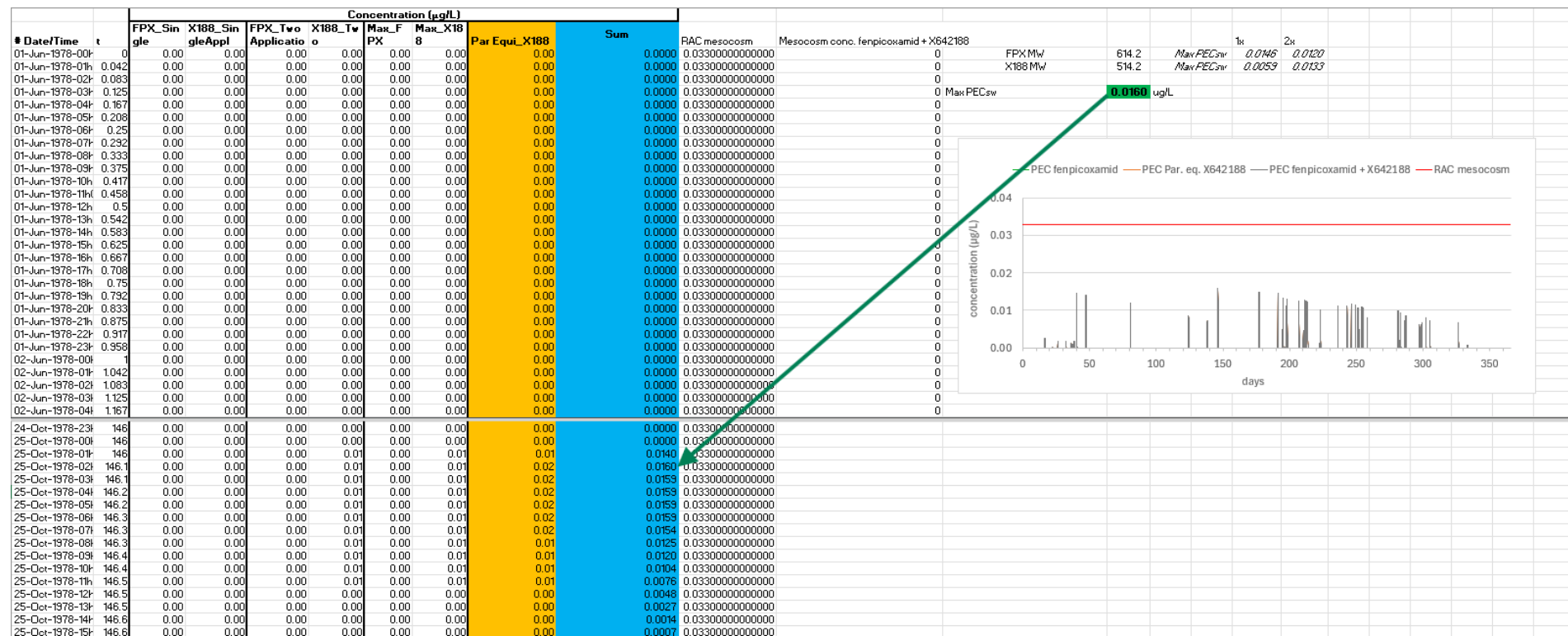
# Date/Time	t	Concentration (µg/L)						Par Equi_X188	Sum	RAC mesocosm	Mesocosm conc. fenpicoxamid + X642188	FPX MW X188 MW	614.2 514.2	Max PEC _{SW} Max PEC _{SW}	1x 0.0177 0.0009	2x 0.0145 0.0020
		FPX_Sin gle	X188_Sin gleAppl	FPX_Two Applicatio	X188_Two o	Max_F PX	Max_X188									
01-Jan-1985-00h	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-01h	0.042	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-02h	0.083	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-03h	0.125	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-04h	0.167	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-05h	0.208	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-06h	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-07h	0.292	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-08h	0.333	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-09h	0.375	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-10h	0.417	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-11h	0.458	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-12h	0.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-13h	0.542	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-14h	0.583	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-15h	0.625	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-16h	0.667	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-17h	0.708	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-18h	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-19h	0.792	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-20h	0.833	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-21h	0.875	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-22h	0.917	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-23h	0.958	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
02-Jan-1985-00h	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
02-Jan-1985-01h	1.042	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
02-Jan-1985-02h	1.083	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
02-Jan-1985-03h	1.125	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
02-Jan-1985-04h	1.167	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
24-Jul-1985-05h	204.2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
24-Jul-1985-06h	204.3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
24-Jul-1985-07h	204.3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
24-Jul-1985-08h	204.3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
24-Jul-1985-09h	204.4	0.02	0.00	0.01	0.00	0.02	0.00	0.00	0.0177	0.0330000000000000	0					
24-Jul-1985-10h	204.4	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.0147	0.0330000000000000	0					
24-Jul-1985-11h	204.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0033	0.0330000000000000	0					
24-Jul-1985-12h	204.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0004	0.0330000000000000	0					
24-Jul-1985-13h	204.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
24-Jul-1985-14h	204.6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
24-Jul-1985-15h	204.6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
24-Jul-1985-16h	204.7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
24-Jul-1985-17h	204.7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
24-Jul-1985-18h	204.8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
24-Jul-1985-19h	204.8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
24-Jul-1985-20h	204.8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
24-Jul-1985-21h	204.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					



Excerpt from R1 pond at 1 × and 2 × 75 g as/ha extraction for 10 m NSZ, 75% DRN and 10 m VFS (Tier 2 example)

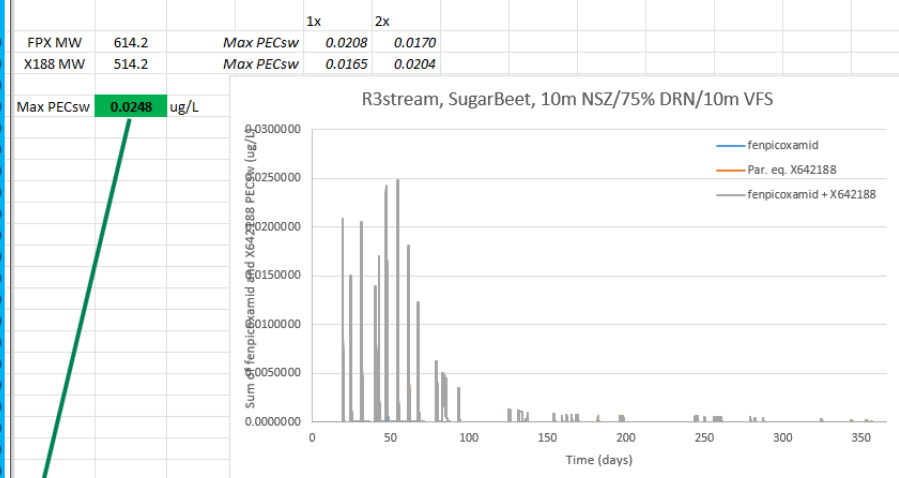


Excerpt from R1 stream at 1 × and 2 × 75 g as/ha extraction for 10 m NSZ, 75% DRN and 10 m VFS (Tier 2 example)



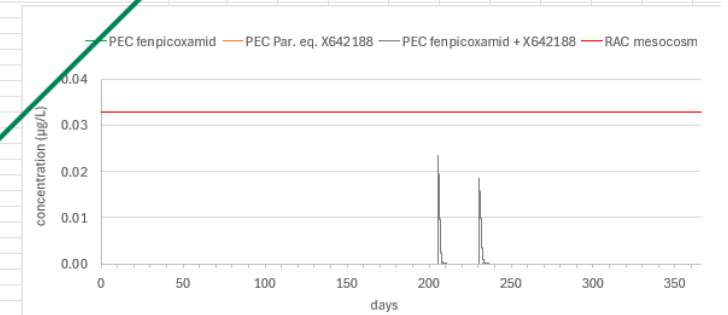
Excerpt from R3 stream at 1 × and 2 × 75 g as/ha extraction for 10 m NSZ, 75% DRN and 10 m VFS (Tier 2 example)

# Date/Time	t	Concentration (µg/L)											
		FPX_Single Application	X188_SingleAp plication	FPX_Two Applications	X188_Two Applications	Max_FPX	Max_X188	Par Equi_X188	Sum	FPX MW	614.2	Max PECsw	0.0208
01-Jun-1975-00h00	0	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	X188 MW	514.2	Max PECsw	0.0165
01-Jun-1975-01h00	0.042	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000				0.0204
01-Jun-1975-02h00	0.083	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000				
01-Jun-1975-03h00	0.125	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000				
01-Jun-1975-04h00	0.167	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000				
01-Jun-1975-05h00	0.208	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000				
01-Jun-1975-06h00	0.25	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000				
01-Jun-1975-07h00	0.292	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000				
01-Jun-1975-08h00	0.333	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000				
01-Jun-1975-09h00	0.375	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000				
01-Jun-1975-10h00	0.417	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000				
01-Jun-1975-11h00	0.458	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000				
01-Jun-1975-12h00	0.5	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000				
01-Jun-1975-13h00	0.542	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000				
01-Jun-1975-14h00	0.583	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000				
01-Jun-1975-15h00	0.625	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000				
01-Jun-1975-16h00	0.667	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000				
01-Jun-1975-17h00	0.708	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000				
01-Jun-1975-18h00	0.75	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000				
01-Jun-1975-19h00	0.792	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000				
01-Jun-1975-20h00	0.833	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000				
25-Jul-1975-08h00	54.333	0.0000001	0.0045297	0.0004964	0.0203658	0.0004964	0.0203658	0.0243265	0.0248228				
25-Jul-1975-09h00	54.375	0.0000001	0.0045297	0.0004964	0.0203659	0.0004964	0.0203659	0.0243266	0.0248230				
25-Jul-1975-10h00	54.417	0.0000001	0.0045297	0.0004964	0.0203659	0.0004964	0.0203659	0.0243266	0.0248230				
25-Jul-1975-11h00	54.458	0.0000001	0.0045297	0.0004964	0.0203660	0.0004964	0.0203660	0.0243267	0.0248231				
25-Jul-1975-12h00	54.5	0.0000001	0.0045297	0.0004964	0.0203660	0.0004964	0.0203660	0.0243267	0.0248231				
25-Jul-1975-13h00	54.542	0.0000001	0.0045297	0.0004964	0.0203661	0.0004964	0.0203661	0.0243268	0.0248232				
25-Jul-1975-14h00	54.583	0.0000001	0.0045297	0.0004964	0.0203661	0.0004964	0.0203661	0.0243268	0.0248232				
25-Jul-1975-15h00	54.625	0.0000001	0.0045298	0.0004964	0.0203662	0.0004964	0.0203662	0.0243270	0.0248233				
25-Jul-1975-16h00	54.667	0.0000001	0.0042429	0.0004646	0.0190768	0.0004646	0.0190768	0.0227868	0.0232514				
25-Jul-1975-17h00	54.708	0.0000001	0.0030688	0.0003349	0.0137989	0.0003349	0.0137989	0.0164825	0.0168173				
25-Jul-1975-18h00	54.75	0.0000001	0.0030313	0.0003307	0.0136312	0.0003307	0.0136312	0.0162822	0.0166129				
25-Jul-1975-19h00	54.792	0.0000001	0.0029699	0.0003239	0.0133560	0.0003239	0.0133560	0.0159534	0.0162773				
25-Jul-1975-20h00	54.833	0.0000001	0.0028387	0.0003094	0.0127674	0.0003094	0.0127674	0.0152504	0.0155598				

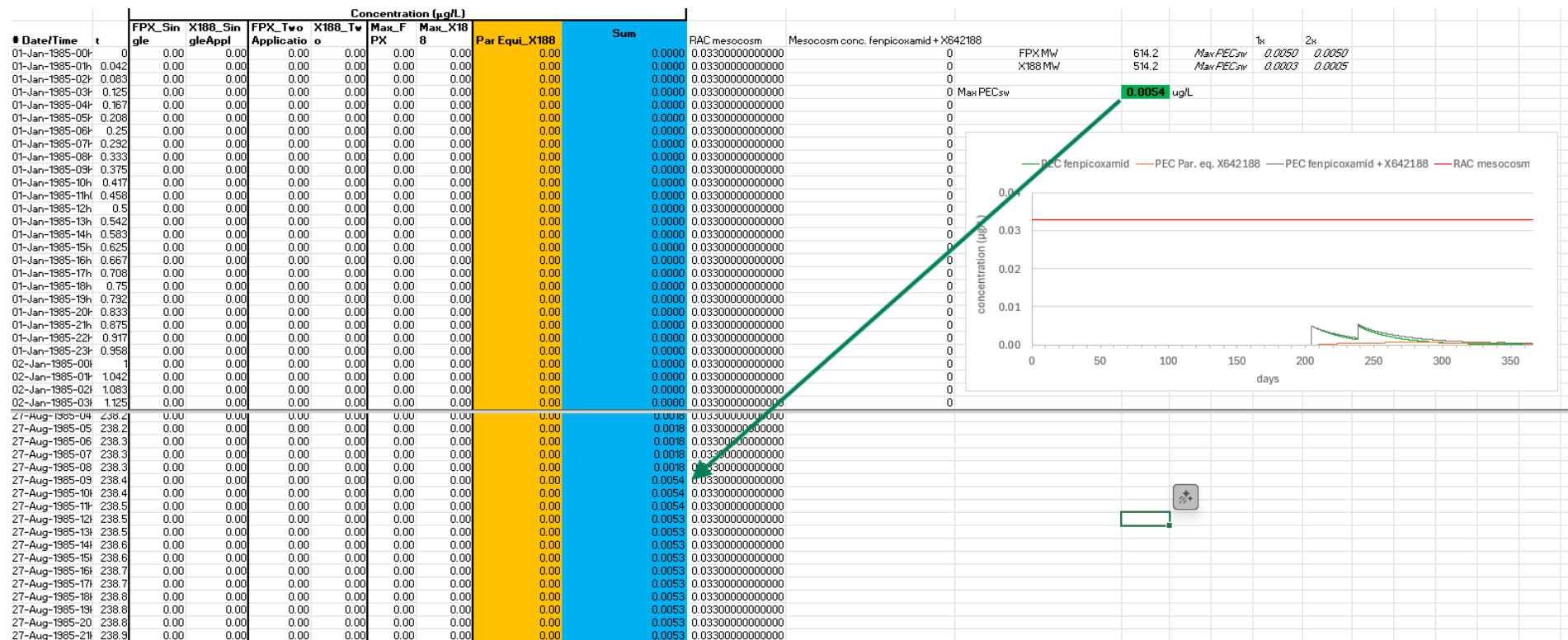


Excerpt from D3 ditch at 1 × and 2 × 75 g/ha extraction for 30 m NSZ and 10 m VFS (Tier 2 example)

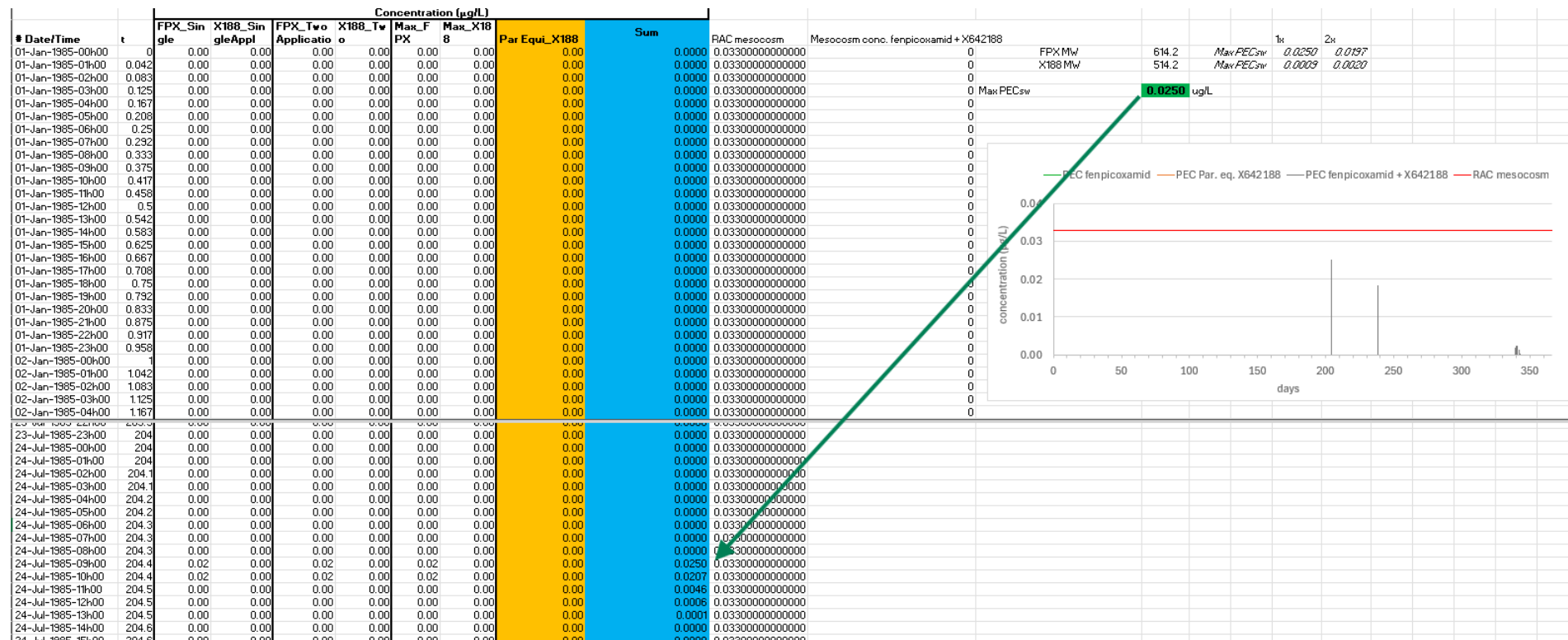
#	Date/Time	t	Concentration (µg/L)						Sum	RAC mesocosm	Mesocosm conc. fenpicoxamid + X642188	FPX Mw	X188 Mw	Max PECsw	0.0234	0.0001	1x	2x
			FPX_Sin	X188_Sin	FPX_Two	X188_Two	Max_F	Max_X188										
			gle	gleAppl	Applicatio	o	FX	8	Par Equi_X188									
01-Jan-1992-00h		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0	0	0	0	0	0
01-Jan-1992-01h		0.042	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0	0	0	0	0	0
01-Jan-1992-02h		0.083	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0	0	0	0	0	0
01-Jan-1992-03h		0.125	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0	0	0	0	0	0
01-Jan-1992-04h		0.167	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0	0	0	0	0	0
01-Jan-1992-05h		0.208	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0	0	0	0	0	0
01-Jan-1992-06h		0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0	0	0	0	0	0
01-Jan-1992-07h		0.292	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0	0	0	0	0	0
01-Jan-1992-08h		0.333	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0	0	0	0	0	0
01-Jan-1992-09h		0.375	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0	0	0	0	0	0
01-Jan-1992-10h		0.417	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0	0	0	0	0	0
01-Jan-1992-11h		0.458	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0	0	0	0	0	0
01-Jan-1992-12h		0.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0	0	0	0	0	0
01-Jan-1992-13h		0.542	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0	0	0	0	0	0
01-Jan-1992-14h		0.583	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0	0	0	0	0	0
01-Jan-1992-15h		0.625	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0	0	0	0	0	0
01-Jan-1992-16h		0.667	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0	0	0	0	0	0
01-Jan-1992-17h		0.708	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0	0	0	0	0	0
01-Jan-1992-18h		0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0	0	0	0	0	0
01-Jan-1992-19h		0.792	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0	0	0	0	0	0
01-Jan-1992-20h		0.833	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0	0	0	0	0	0
01-Jan-1992-21h		0.875	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0	0	0	0	0	0
01-Jan-1992-22h		0.917	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0	0	0	0	0	0
01-Jan-1992-23h		0.958	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0	0	0	0	0	0
02-Jan-1992-00h		1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0	0	0	0	0	0
02-Jan-1992-01h		1.042	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0	0	0	0	0	0
02-Jan-1992-02h		1.083	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0	0	0	0	0	0
02-Jan-1992-03h		1.125	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0	0	0	0	0	0
24-Jul-1992-00h		205	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0	0	0	0	0	0
24-Jul-1992-01h		205	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0	0	0	0	0	0
24-Jul-1992-02h		205.1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0	0	0	0	0	0
24-Jul-1992-03h		205.1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0	0	0	0	0	0
24-Jul-1992-04h		205.2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0	0	0	0	0	0
24-Jul-1992-05h		205.2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0	0	0	0	0	0
24-Jul-1992-06h		205.3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0	0	0	0	0	0
24-Jul-1992-07h		205.3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0	0	0	0	0	0
24-Jul-1992-08h		205.3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0	0	0	0	0	0
24-Jul-1992-09h		205.4	0.02	0.00	0.02	0.00	0.02	0.00	0.00	0.0234	0.0330000000000000	0	0	0	0	0	0	0
24-Jul-1992-10h		205.4	0.02	0.00	0.02	0.00	0.02	0.00	0.00	0.0230	0.0330000000000000	0	0	0	0	0	0	0
24-Jul-1992-11h		205.5	0.02	0.00	0.02	0.00	0.02	0.00	0.00	0.0226	0.0330000000000000	0	0	0	0	0	0	0
24-Jul-1992-12h		205.5	0.02	0.00	0.02	0.00	0.02	0.00	0.00	0.0223	0.0330000000000000	0	0	0	0	0	0	0
24-Jul-1992-13h		205.5	0.02	0.00	0.02	0.00	0.02	0.00	0.00	0.0219	0.0330000000000000	0	0	0	0	0	0	0
24-Jul-1992-14h		205.6	0.02	0.00	0.02	0.00	0.02	0.00	0.00	0.0216	0.0330000000000000	0	0	0	0	0	0	0
24-Jul-1992-15h		205.6	0.02	0.00	0.02	0.00	0.02	0.00	0.00	0.0213	0.0330000000000000	0	0	0	0	0	0	0
24-Jul-1992-16h		205.7	0.02	0.00	0.02	0.00	0.02	0.00	0.00	0.0209	0.0330000000000000	0	0	0	0	0	0	0
24-Jul-1992-17h		205.7	0.02	0.00	0.02	0.00	0.02	0.00	0.00	0.0206	0.0330000000000000	0	0	0	0	0	0	0



Excerpt from D4 pond at 1 × and 2 × 75 g as/ha extraction for 30 m NSZ and 10 m VFS (Tier 2 example)



Excerpt from D4 stream at 1 × and 2 × 75 g as/ha extraction for 30 m NSZ and 10 m VFS (Tier 2 example)



Excerpt from R1 pond at 1 × and 2 × 75 g as/ha extraction for 30 m NSZ and 10 m VFS (Tier 2 example)

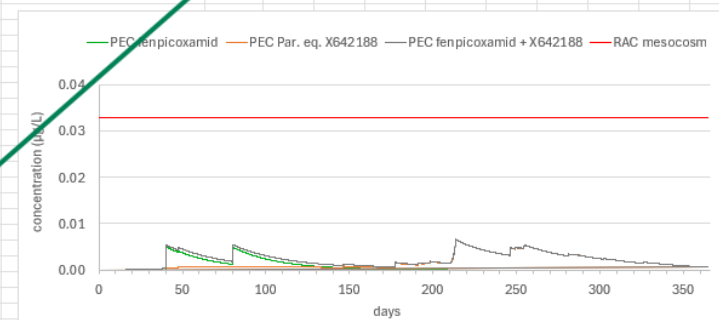
# Date/Time	t	Concentration (µg/L)								Sum	RAC mesocosm	Mesocosm conc. fenpicoxamid + X642188	FPX MW	X188 MW	Max PECsw	1x	2x
		FPX_Single	X188_SingleAppl	FPX_Two Application	X188_Two o	Max_FPX	Max_X188	Par Equi_X188									
01-Jun-1978-00h00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0	614.2	514.2	Max PECsw	0.0050	0.0049
01-Jun-1978-01h00	0.042	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-02h00	0.083	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-03h00	0.125	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-04h00	0.167	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-05h00	0.208	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-06h00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-07h00	0.292	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-08h00	0.333	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-09h00	0.375	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-10h00	0.417	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-11h00	0.458	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-12h00	0.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-13h00	0.542	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-14h00	0.583	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-15h00	0.625	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-16h00	0.667	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-17h00	0.708	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-18h00	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-19h00	0.792	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-20h00	0.833	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-21h00	0.875	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-22h00	0.917	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-23h00	0.958	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
02-Jun-1978-00h00	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
02-Jun-1978-01h00	1.042	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
02-Jun-1978-02h00	1.083	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
31-Dec-1978-10h00	213.4	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.0056	0.0330000000000000	0	0					
31-Dec-1978-11h00	213.5	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.0058	0.0330000000000000	0	0					
31-Dec-1978-12h00	213.5	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.0060	0.0330000000000000	0	0					
31-Dec-1978-13h00	213.5	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.0063	0.0330000000000000	0	0					
31-Dec-1978-14h00	213.6	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.0065	0.0330000000000000	0	0					
31-Dec-1978-15h00	213.6	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.0066	0.0330000000000000	0	0					
31-Dec-1978-16h00	213.7	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.0066	0.0330000000000000	0	0					
31-Dec-1978-17h00	213.7	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.0066	0.0330000000000000	0	0					
31-Dec-1978-18h00	213.8	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.0066	0.0330000000000000	0	0					
31-Dec-1978-19h00	213.8	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.0066	0.0330000000000000	0	0					
31-Dec-1978-20h00	213.8	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.0066	0.0330000000000000	0	0					
31-Dec-1978-21h00	213.9	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.0066	0.0330000000000000	0	0					
31-Dec-1978-22h00	213.9	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.0066	0.0330000000000000	0	0					
31-Dec-1978-23h00	214	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.0065	0.0330000000000000	0	0					
01-Jan-1979-00h00	214	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.0065	0.0330000000000000	0	0					
01-Jan-1979-01h00	214	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.0065	0.0330000000000000	0	0					
01-Jan-1979-02h00	214.1	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.0065	0.0330000000000000	0	0					
01-Jan-1979-03h00	214.1	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.0065	0.0330000000000000	0	0					
01-Jan-1979-04h00	214.2	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.0065	0.0330000000000000	0	0					

PEC fenpicoxamid PEC Par. eq. X642188 PEC fenpicoxamid + X642188 RAC mesocosm

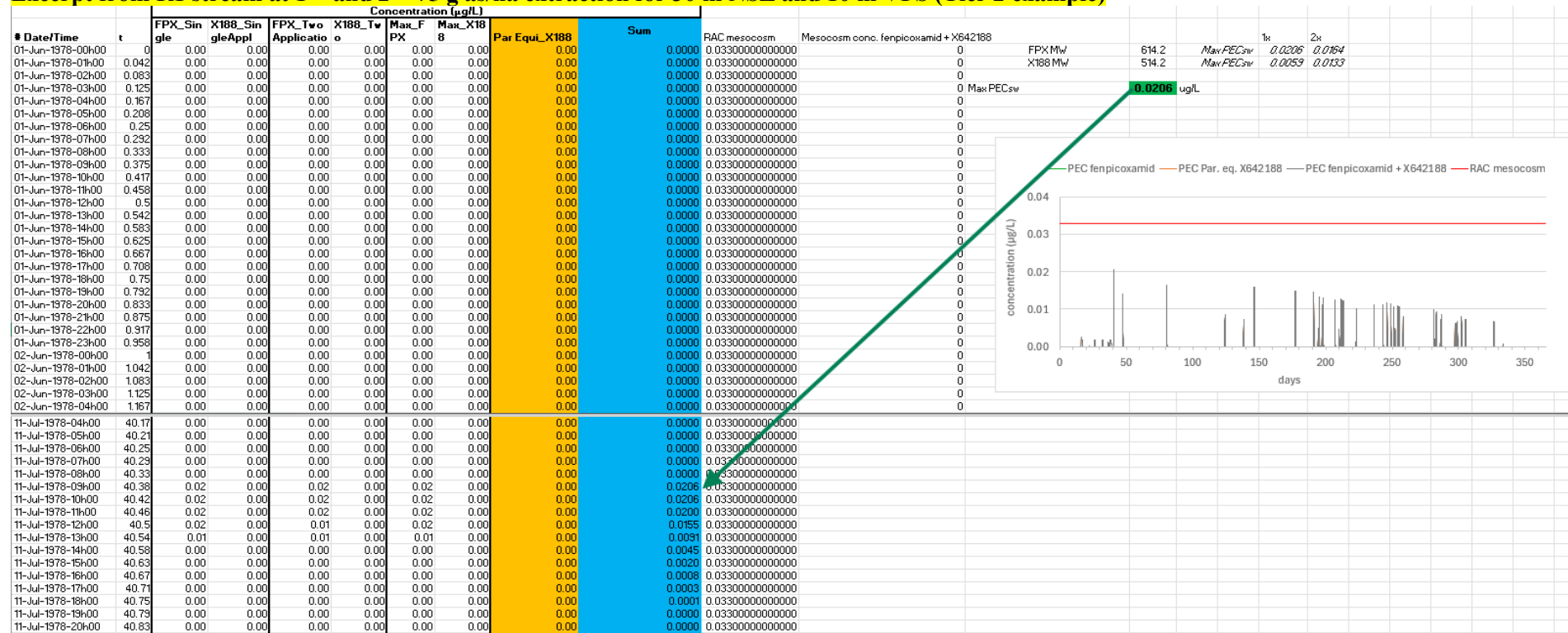
concentration (µg/L)

days

0.0066 µg/L



Excerpt from R1 stream at 1 × and 2 × 75 g as/ha extraction for 30 m NSZ and 10 m VFS (Tier 2 example)



Excerpt from R3 stream at 1 × and 2 × 75 g as/ha extraction for 30 m NSZ and 10 m VFS (Tier 2 example)

# Date/Time	t	Concentration (ug/L)								FPX MW	614.2	X188 MW	514.2	Max PECsw	0.0294	ug/L	
		FPX_Single Application	X188_Single Application	FPX_Two Applications	X188_Two Applications	Max_FPX	Max_X188	Par Equi_X188	Sum								
01-Jun-1975-00h00	0	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000								
01-Jun-1975-01h00	0.042	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000								
01-Jun-1975-02h00	0.083	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000								
01-Jun-1975-03h00	0.125	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000								
01-Jun-1975-04h00	0.167	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000								
01-Jun-1975-05h00	0.208	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000								
01-Jun-1975-06h00	0.25	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000								
01-Jun-1975-07h00	0.292	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000								
01-Jun-1975-08h00	0.333	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000								
01-Jun-1975-09h00	0.375	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000								
01-Jun-1975-10h00	0.417	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000								
01-Jun-1975-11h00	0.458	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000								
01-Jun-1975-12h00	0.5	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000								
01-Jun-1975-13h00	0.542	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000								
01-Jun-1975-14h00	0.583	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000								
01-Jun-1975-15h00	0.625	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000								
01-Jun-1975-16h00	0.667	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000								
01-Jun-1975-17h00	0.708	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000								
01-Jun-1975-18h00	0.75	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000								
01-Jun-1975-19h00	0.792	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000								
01-Jun-1975-20h00	0.833	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000								
20-Jun-1975-01h00	19.042	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000								
20-Jun-1975-02h00	19.083	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000								
20-Jun-1975-03h00	19.125	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000								
20-Jun-1975-04h00	19.167	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000								
20-Jun-1975-05h00	19.208	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000								
20-Jun-1975-06h00	19.25	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000								
20-Jun-1975-07h00	19.292	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000								
20-Jun-1975-08h00	19.333	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000								
20-Jun-1975-09h00	19.375	0.029372	0.000017	0.023214	0.000013	0.029372	0.000017	0.0000	0.0294								
20-Jun-1975-10h00	19.417	0.029242	0.000017	0.023111	0.000014	0.029242	0.000017	0.0000	0.0293								
20-Jun-1975-11h00	19.458	0.029112	0.000018	0.023008	0.000014	0.029112	0.000018	0.0000	0.0291								
20-Jun-1975-12h00	19.5	0.028895	0.000019	0.022837	0.000015	0.028895	0.000019	0.0000	0.0289								
20-Jun-1975-13h00	19.542	0.028027	0.000019	0.022151	0.000015	0.028027	0.000019	0.0000	0.0280								
20-Jun-1975-14h00	19.583	0.025945	0.000018	0.020506	0.000014	0.025945	0.000018	0.0000	0.0260								
20-Jun-1975-15h00	19.625	0.022785	0.000017	0.018008	0.000013	0.022785	0.000017	0.0000	0.0228								
20-Jun-1975-16h00	19.667	0.019097	0.000015	0.015092	0.000012	0.019097	0.000015	0.0000	0.0191								
20-Jun-1975-17h00	19.708	0.015415	0.000013	0.012182	0.000010	0.015415	0.000013	0.0000	0.0154								

1x2x

R3stream, SugarBeet, 30m NSZ/10m VFS

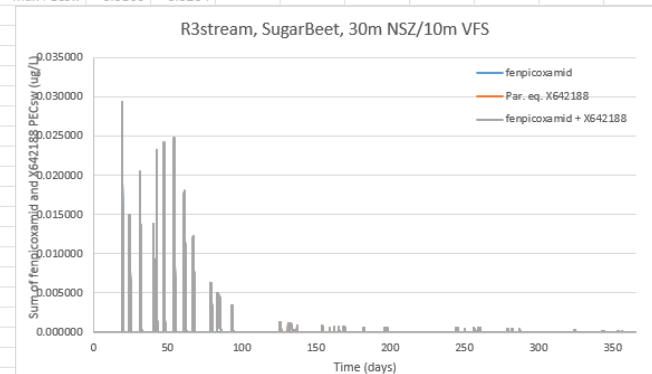
ferpicoxamid

Par. eq. X642188

ferpicoxamid + X642188

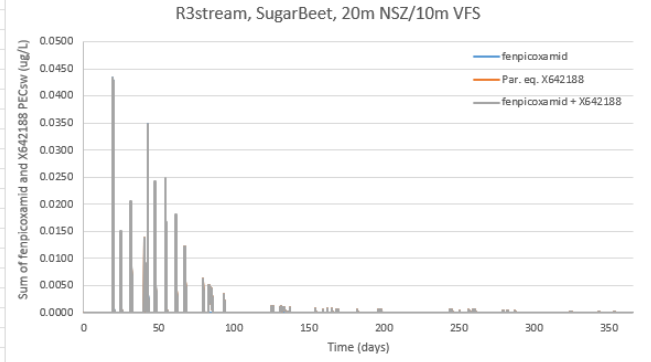
Sum of ferpicoxamid and X642188 PECsw (ug/L)

Time (days)



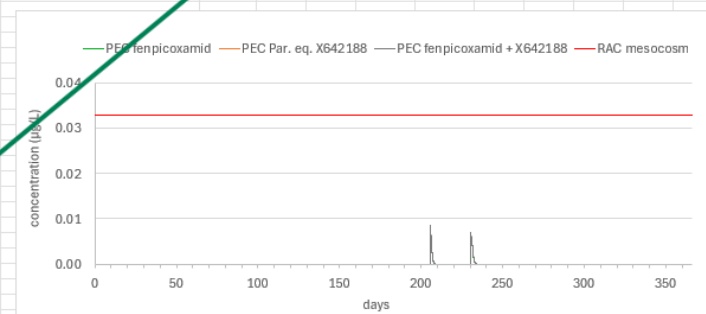
Excerpt from R3 stream at 1 × and 2 × 75 g as/ha extraction for 20 m NSZ and 10 m VFS (Tier 2 example)

# Date/Time	t	Concentration (µg/L)						Par_Equi_X188	Sum	FPX MW	X188 MW	Max PECsw	0.0434	ug/L	R3stream, SugarBeet, 20m NSZ/10m VFS
		FPX_Single Application	X188_Single Application	FPX_Two Applications	X188_Two Applications	Max_FPX	Max_X188								
01-Jun-1975-00h00	0	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000					
01-Jun-1975-01h00	0.042	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000					
01-Jun-1975-02h00	0.083	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000					
01-Jun-1975-03h00	0.125	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000					
01-Jun-1975-04h00	0.167	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000					
01-Jun-1975-05h00	0.208	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000					
01-Jun-1975-06h00	0.25	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000					
01-Jun-1975-07h00	0.292	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000					
01-Jun-1975-08h00	0.333	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000					
01-Jun-1975-09h00	0.375	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000					
01-Jun-1975-10h00	0.417	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000					
01-Jun-1975-11h00	0.458	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000					
01-Jun-1975-12h00	0.5	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000					
01-Jun-1975-13h00	0.542	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000					
01-Jun-1975-14h00	0.583	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000					
01-Jun-1975-15h00	0.625	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000					
01-Jun-1975-16h00	0.667	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000					
01-Jun-1975-17h00	0.708	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000					
01-Jun-1975-18h00	0.75	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000					
01-Jun-1975-19h00	0.792	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000					
01-Jun-1975-20h00	0.833	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000					
20-Jun-1975-07h00	19.292	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000						
20-Jun-1975-08h00	19.333	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0000	0.0000						
20-Jun-1975-09h00	19.375	0.043419	0.000025	0.034769	0.000020	0.043419	0.000025	0.0000	0.0434						
20-Jun-1975-10h00	19.417	0.043225	0.000026	0.034615	0.000021	0.043225	0.000026	0.0000	0.0433						
20-Jun-1975-11h00	19.458	0.043033	0.000027	0.034461	0.000021	0.043033	0.000027	0.0000	0.0431						
20-Jun-1975-12h00	19.5	0.042712	0.000027	0.034204	0.000022	0.042712	0.000027	0.0000	0.0427						
20-Jun-1975-13h00	19.542	0.041429	0.000028	0.033177	0.000022	0.041429	0.000028	0.0000	0.0415						
20-Jun-1975-14h00	19.583	0.038353	0.000027	0.030713	0.000021	0.038353	0.000027	0.0000	0.0384						
20-Jun-1975-15h00	19.625	0.033683	0.000025	0.026973	0.000020	0.033683	0.000025	0.0000	0.0337						
20-Jun-1975-16h00	19.667	0.028232	0.000022	0.022607	0.000017	0.028232	0.000022	0.0000	0.0283						
20-Jun-1975-17h00	19.708	0.022791	0.000019	0.018249	0.000015	0.022791	0.000019	0.0000	0.0228						



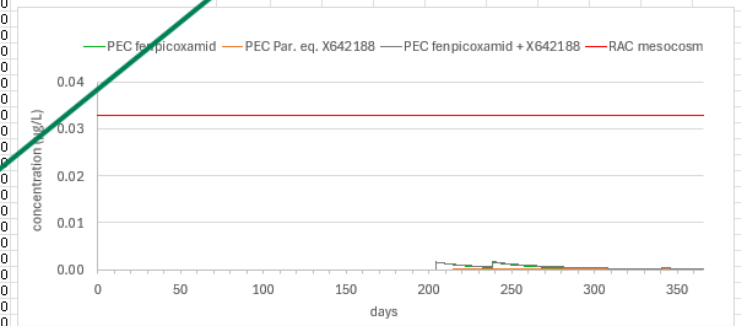
Excerpt from D3 ditch at 1 × and 2 × 75 g as/ha extraction for 20 m NSZ, 75% DRN and 10 m VFS (Tier 2 example)

# Date/Time	t	Concentration [µg/L]								RAC mesocosm	Mesocosm conc. fenpicoxamid + X642188	FPX Mw	X188 Mw	Max PEC _{sw}	1x	2x
		FPX_Sin	X188_Sin	FPX_Two	X188_Two	Max_F	Max_X188	Par Equi_X188	Sum							
gle		gleAppl	Application	o	PX	8										
01-Jan-1992-00h00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	614.2	514.2	Max PEC _{sw}	0.0086	0.0069
01-Jan-1992-01h00	0.042	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0			Max PEC _{sw}	0.0000	0.0000
01-Jan-1992-02h00	0.083	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1992-03h00	0.125	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1992-04h00	0.167	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1992-05h00	0.208	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1992-06h00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1992-07h00	0.292	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1992-08h00	0.333	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1992-09h00	0.375	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1992-10h00	0.417	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1992-11h00	0.458	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1992-12h00	0.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1992-13h00	0.542	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1992-14h00	0.583	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1992-15h00	0.625	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1992-16h00	0.667	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1992-17h00	0.708	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1992-18h00	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1992-19h00	0.792	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1992-20h00	0.833	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1992-21h00	0.875	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1992-22h00	0.917	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1992-23h00	0.958	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
02-Jan-1992-00h00	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
02-Jan-1992-01h00	1.042	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
02-Jan-1992-02h00	1.083	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
02-Jan-1992-03h00	1.125	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
24-Jul-1992-06h00	205.3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
24-Jul-1992-07h00	205.3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
24-Jul-1992-08h00	205.3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
24-Jul-1992-09h00	205.4	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.0086	0.0330000000000000	0					
24-Jul-1992-10h00	205.4	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.0084	0.0330000000000000	0					
24-Jul-1992-11h00	205.5	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.0083	0.0330000000000000	0					
24-Jul-1992-12h00	205.5	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.0082	0.0330000000000000	0					
24-Jul-1992-13h00	205.5	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.0080	0.0330000000000000	0					
24-Jul-1992-14h00	205.6	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.0079	0.0330000000000000	0					
24-Jul-1992-15h00	205.6	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.0078	0.0330000000000000	0					
24-Jul-1992-16h00	205.7	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.0077	0.0330000000000000	0					
24-Jul-1992-17h00	205.7	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.0075	0.0330000000000000	0					
24-Jul-1992-18h00	205.8	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.0074	0.0330000000000000	0					
24-Jul-1992-19h00	205.8	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.0073	0.0330000000000000	0					
24-Jul-1992-20h00	205.8	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.0072	0.0330000000000000	0					
24-Jul-1992-21h00	205.9	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.0070	0.0330000000000000	0					
24-Jul-1992-22h00	205.9	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.0069	0.0330000000000000	0					
24-Jul-1992-23h00	206	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.0067	0.0330000000000000	0					



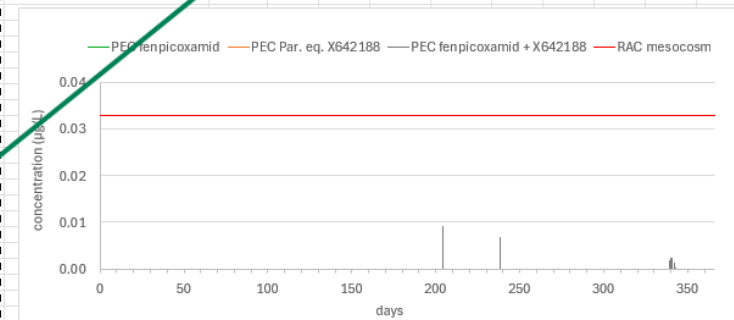
Excerpt from D4 pond at 1 × and 2 × 75 g as/ha extraction for 20 m NSZ, 75% DRN and 10 m VFS (Tier 2 example)

#	Date/Time	t	Concentration (µg/L)								RAC mesocosm	Mesocosm conc. fenpicoxamid + X642188	FPX Mw	X188 Mw	Max PEC _{sw}	1x	2x
			FPX_Sin	X188_Sin	FPX_Two	X188_Two	Max_F	Max_X188	Par Equi_X188	Sum							
			gle	gleAppl	Applicatio	o	PX	8									
01-Jan-1985-00h		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-01h		0.042	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-02h		0.083	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-03h		0.125	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-04h		0.167	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-05h		0.208	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-06h		0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-07h		0.292	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-08h		0.333	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-09h		0.375	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-10h		0.417	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-11h		0.458	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-12h		0.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-13h		0.542	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-14h		0.583	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-15h		0.625	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-16h		0.667	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-17h		0.708	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-18h		0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-19h		0.792	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-20h		0.833	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-21h		0.875	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-22h		0.917	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-23h		0.958	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
02-Jan-1985-00h		1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
02-Jan-1985-01h		1.042	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
27-Aug-1985-05	238.2		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0006	0.0330000000000000						
27-Aug-1985-06	238.3		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0006	0.0330000000000000						
27-Aug-1985-07	238.3		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0006	0.0330000000000000						
27-Aug-1985-08	238.3		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0006	0.0330000000000000						
27-Aug-1985-09	238.4		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0018	0.0330000000000000						
27-Aug-1985-10h	238.4		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0018	0.0330000000000000						
27-Aug-1985-11h	238.5		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0018	0.0330000000000000						
27-Aug-1985-12h	238.5		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0018	0.0330000000000000						
27-Aug-1985-13h	238.5		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0017	0.0330000000000000						
27-Aug-1985-14h	238.6		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0017	0.0330000000000000						
27-Aug-1985-15h	238.6		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0017	0.0330000000000000						
27-Aug-1985-16h	238.7		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0017	0.0330000000000000						
27-Aug-1985-17h	238.7		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0017	0.0330000000000000						
27-Aug-1985-18h	238.8		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0017	0.0330000000000000						
27-Aug-1985-19h	238.8		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0017	0.0330000000000000						
27-Aug-1985-20h	238.8		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0017	0.0330000000000000						
27-Aug-1985-21h	238.9		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0017	0.0330000000000000						
27-Aug-1985-22h	238.9		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0017	0.0330000000000000						
27-Aug-1985-23h	239		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0017	0.0330000000000000						
28-Aug-1985-00h	239		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0017	0.0330000000000000						



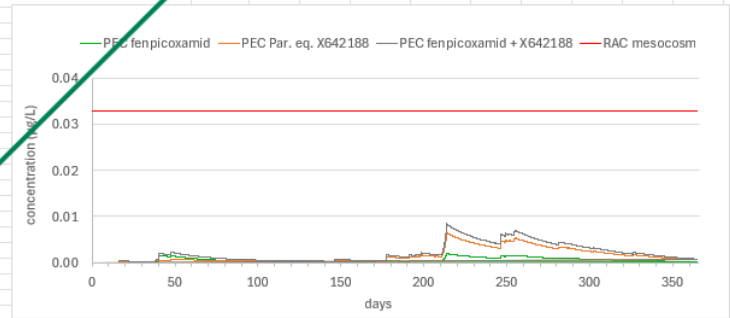
Excerpt from D4 stream at 1 × and 2 × 75 g as/ha extraction for 20 m NSZ, 75% DRN and 10 m VFS (Tier 2 example)

#	Date/Time	t	Concentration (µg/L)						Sum	RAC mesocosm	Mesocosm conc. fenpicoxamid + X642188	FPX Mw	X188 Mw	Max PEC _{sw}	1x	2x
			FPX_Sin gle	X188_Sin gleAppl	FPX_Two Applicatio	X188_Two	Max_F PX	Max_X18								
01-Jan-1985-00h		0	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	614.2	514.2	Max PEC _{sw}	0.0032	0.0073
01-Jan-1985-01h		0.042	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0			Max PEC _{sw}	0.0009	0.0020
01-Jan-1985-02h		0.083	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-03h		0.125	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-04h		0.167	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-05h		0.208	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-06h		0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-07h		0.292	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-08h		0.333	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-09h		0.375	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-10h		0.417	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-11h		0.458	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-12h		0.5	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-13h		0.542	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-14h		0.583	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-15h		0.625	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-16h		0.667	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-17h		0.708	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-18h		0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-19h		0.792	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-20h		0.833	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-21h		0.875	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-22h		0.917	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
01-Jan-1985-23h		0.958	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
02-Jan-1985-00h		1	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
02-Jan-1985-01h		1.042	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
24-Jul-1985-05h		204.2	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
24-Jul-1985-06h		204.3	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
24-Jul-1985-07h		204.3	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
24-Jul-1985-08h		204.3	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
24-Jul-1985-09h		204.4	0.01	0.00	0.01	0.00	0.01	0.00	0.0032	0.0330000000000000	0					
24-Jul-1985-10h		204.4	0.01	0.00	0.01	0.00	0.01	0.00	0.0076	0.0330000000000000	0					
24-Jul-1985-11h		204.5	0.00	0.00	0.00	0.00	0.00	0.00	0.0017	0.0330000000000000	0					
24-Jul-1985-12h		204.5	0.00	0.00	0.00	0.00	0.00	0.00	0.0002	0.0330000000000000	0					
24-Jul-1985-13h		204.5	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
24-Jul-1985-14h		204.6	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
24-Jul-1985-15h		204.6	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
24-Jul-1985-16h		204.7	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
24-Jul-1985-17h		204.7	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
24-Jul-1985-18h		204.8	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
24-Jul-1985-19h		204.8	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
24-Jul-1985-20h		204.8	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
24-Jul-1985-21h		204.9	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
24-Jul-1985-22h		204.9	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
24-Jul-1985-23h		205	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					
25-Jul-1985-00h		205	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0					



Excerpt from R1 pond at 1 × and 2 × 75 g/ha extraction for 20 m NSZ, 75% DRN and 10 m VFS (Tier 2 example)

# Date/Time	t	Concentration (µg/L)								RAC mesocosm	Mesocosm conc. fenpicoxamid + X642188	FPX Mw	X188 Mw	1x	2x
		FPX_Sin	X188_Sin	FPX_Two	X188_Two	Max_F	Max_X188	Par Equi_X188	Sum						
gle	gleAppl	Application	o	PX	8										
01-Jun-1978-00h	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	614.2	Max PEC _{SW}	0.0016	0.0020
01-Jun-1978-01h	0.042	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	514.2	Max PEC _{SW}	0.0020	0.0054
01-Jun-1978-02h	0.083	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0				
01-Jun-1978-03h	0.125	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0				
01-Jun-1978-04h	0.167	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0				
01-Jun-1978-05h	0.208	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0				
01-Jun-1978-06h	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0				
01-Jun-1978-07h	0.292	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0				
01-Jun-1978-08h	0.333	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0				
01-Jun-1978-09h	0.375	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0				
01-Jun-1978-10h	0.417	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0				
01-Jun-1978-11h	0.458	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0				
01-Jun-1978-12h	0.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0				
01-Jun-1978-13h	0.542	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0				
01-Jun-1978-14h	0.583	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0				
01-Jun-1978-15h	0.625	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0				
01-Jun-1978-16h	0.667	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0				
01-Jun-1978-17h	0.708	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0				
01-Jun-1978-18h	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0				
01-Jun-1978-19h	0.792	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0				
01-Jun-1978-20h	0.833	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0				
01-Jun-1978-21h	0.875	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0				
01-Jun-1978-22h	0.917	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0				
01-Jun-1978-23h	0.958	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0				
02-Jun-1978-00h	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0				
02-Jun-1978-01h	1.042	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0				
02-Jun-1978-02h	1.083	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0				
31-Dec-1978-03h	213.2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0066	0.0330000000000000	0				
31-Dec-1978-06h	213.3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0059	0.0330000000000000	0				
31-Dec-1978-07h	213.3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0062	0.0330000000000000	0				
31-Dec-1978-08h	213.3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0065	0.0330000000000000	0				
31-Dec-1978-09h	213.4	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.0068	0.0330000000000000	0				
31-Dec-1978-10h	213.4	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.0071	0.0330000000000000	0				
31-Dec-1978-11h	213.5	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.0074	0.0330000000000000	0				
31-Dec-1978-12h	213.5	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.0077	0.0330000000000000	0				
31-Dec-1978-13h	213.5	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.0080	0.0330000000000000	0				
31-Dec-1978-14h	213.6	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.0083	0.0330000000000000	0				
31-Dec-1978-15h	213.6	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.0084	0.0330000000000000	0				
31-Dec-1978-16h	213.7	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.0084	0.0330000000000000	0				
31-Dec-1978-17h	213.7	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.0084	0.0330000000000000	0				
31-Dec-1978-18h	213.8	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.0084	0.0330000000000000	0				
31-Dec-1978-19h	213.8	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.0084	0.0330000000000000	0				
31-Dec-1978-20h	213.8	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.0084	0.0330000000000000	0				
31-Dec-1978-21h	213.9	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.0084	0.0330000000000000	0				
31-Dec-1978-22h	213.9	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.0084	0.0330000000000000	0				
31-Dec-1978-23h	214	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.0083	0.0330000000000000	0				
01-Jan-1979-00h	214	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.0083	0.0330000000000000	0				



Excerpt from R1 stream at 1 × and 2 × 75 g as/ha extraction for 20 m NSZ, 75% DRN and 10 m VFS (Tier 2 example)

# Date/Time	t	Concentration (µg/L)								RAC mesocosm	Mesocosm conc. fenpicoxamid + X642188	FPX MW	X188 MW	Max PEC _{sw}	Max PEC _{sw}	1x	2x
		FPX_Single	X188_Single	FPX_Two	X188_Two	Max_F	Max_X188	Par Equi_X188	Sum								
01-Jun-1978-00h00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0	614.2	Max PEC _{sw}	0.0078	0.0061	
01-Jun-1978-01h00	0.042	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0	514.2	Max PEC _{sw}	0.0059	0.0133	
01-Jun-1978-02h00	0.083	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-03h00	0.125	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-04h00	0.167	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-05h00	0.208	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-06h00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-07h00	0.292	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-08h00	0.333	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-09h00	0.375	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-10h00	0.417	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-11h00	0.458	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-12h00	0.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-13h00	0.542	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-14h00	0.583	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-15h00	0.625	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-16h00	0.667	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-17h00	0.708	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-18h00	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-19h00	0.792	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-20h00	0.833	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-21h00	0.875	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-22h00	0.917	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
01-Jun-1978-23h00	0.958	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
02-Jun-1978-00h00	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
02-Jun-1978-01h00	1.042	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
24-Oct-1978-21h00	145.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
24-Oct-1978-22h00	145.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
24-Oct-1978-23h00	146	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
25-Oct-1978-00h00	146	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.0330000000000000	0	0					
25-Oct-1978-01h00	146	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.0140	0.0330000000000000	0	0					
25-Oct-1978-02h00	146.1	0.00	0.00	0.00	0.01	0.00	0.01	0.02	0.0160	0.0330000000000000	0	0					
25-Oct-1978-03h00	146.1	0.00	0.00	0.00	0.01	0.00	0.01	0.02	0.0159	0.0330000000000000	0	0					
25-Oct-1978-04h00	146.2	0.00	0.00	0.00	0.01	0.00	0.01	0.02	0.0159	0.0330000000000000	0	0					
25-Oct-1978-05h00	146.2	0.00	0.00	0.00	0.01	0.00	0.01	0.02	0.0159	0.0330000000000000	0	0					
25-Oct-1978-06h00	146.3	0.00	0.00	0.00	0.01	0.00	0.01	0.02	0.0159	0.0330000000000000	0	0					
25-Oct-1978-07h00	146.3	0.00	0.00	0.00	0.01	0.00	0.01	0.02	0.0154	0.0330000000000000	0	0					
25-Oct-1978-08h00	146.3	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.0125	0.0330000000000000	0	0					
25-Oct-1978-09h00	146.4	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.0120	0.0330000000000000	0	0					
25-Oct-1978-10h00	146.4	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.0104	0.0330000000000000	0	0					
25-Oct-1978-11h00	146.5	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.0076	0.0330000000000000	0	0					
25-Oct-1978-12h00	146.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0048	0.0330000000000000	0	0					
25-Oct-1978-13h00	146.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0027	0.0330000000000000	0	0					
25-Oct-1978-14h00	146.6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0014	0.0330000000000000	0	0					
25-Oct-1978-15h00	146.6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0007	0.0330000000000000	0	0					
25-Oct-1978-16h00	146.7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0004	0.0330000000000000	0	0					

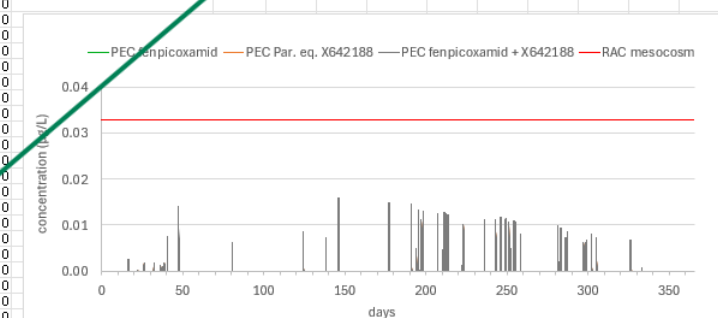
concentration (µg/L)

days

PEC fenpicoxamid PEC Par. eq. X642188 PEC fenpicoxamid + X642188 RAC mesocosm

Max PEC_{sw}

0.0168 µg/L



Excerpt from R3 stream at 1 × and 2 × 75 g as/ha extraction for 20 m NSZ, 75% DRN and 10 m VFS (Tier 2 example)

# Date/Time	t	Concentration (ug/L)								Sum
		FPX_Single Application	X188_SingleAp plication	FPX_Two Applications	X188_Two Applications	Max_FPX	Max_X188	Par Equi_X188		
01-Jun-1975-00h00	0	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000	0.0000	
01-Jun-1975-01h00	0.042	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000	0.0000	
01-Jun-1975-02h00	0.083	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000	0.0000	
01-Jun-1975-03h00	0.125	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000	0.0000	
01-Jun-1975-04h00	0.167	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000	0.0000	
01-Jun-1975-05h00	0.208	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000	0.0000	
01-Jun-1975-06h00	0.25	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000	0.0000	
01-Jun-1975-07h00	0.292	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000	0.0000	
01-Jun-1975-08h00	0.333	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000	0.0000	
01-Jun-1975-09h00	0.375	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000	0.0000	
01-Jun-1975-10h00	0.417	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000	0.0000	
01-Jun-1975-11h00	0.458	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000	0.0000	
01-Jun-1975-12h00	0.5	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000	0.0000	
01-Jun-1975-13h00	0.542	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000	0.0000	
01-Jun-1975-14h00	0.583	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000	0.0000	
01-Jun-1975-15h00	0.625	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000	0.0000	
01-Jun-1975-16h00	0.667	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000	0.0000	
01-Jun-1975-17h00	0.708	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000	0.0000	
01-Jun-1975-18h00	0.75	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000	0.0000	
01-Jun-1975-19h00	0.792	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000	0.0000	
01-Jun-1975-20h00	0.833	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000	0.0000	
24-Jul-1975-22h00	53.917	0.0000000	0.0000009	0.0000000	0.0000041	0.0000000	0.0000041	0.0000	0.0000	
24-Jul-1975-23h00	53.958	0.0000000	0.0000009	0.0000000	0.0000040	0.0000000	0.0000040	0.0000	0.0000	
25-Jul-1975-00h00	54	0.0000000	0.0000009	0.0000000	0.0000040	0.0000000	0.0000040	0.0000	0.0000	
25-Jul-1975-01h00	54.042	0.0000001	0.0043864	0.0004805	0.0197216	0.0004805	0.0197216	0.0236	0.0240	
25-Jul-1975-02h00	54.083	0.0000001	0.0045220	0.0004955	0.0203310	0.0004955	0.0203310	0.0243	0.0248	
25-Jul-1975-03h00	54.125	0.0000001	0.0045296	0.0004964	0.0203656	0.0004964	0.0203656	0.0243	0.0248	
25-Jul-1975-04h00	54.167	0.0000001	0.0045297	0.0004964	0.0203656	0.0004964	0.0203656	0.0243	0.0248	
25-Jul-1975-05h00	54.208	0.0000001	0.0045297	0.0004964	0.0203657	0.0004964	0.0203657	0.0243	0.0248	
25-Jul-1975-06h00	54.25	0.0000001	0.0045297	0.0004964	0.0203657	0.0004964	0.0203657	0.0243	0.0248	
25-Jul-1975-07h00	54.292	0.0000001	0.0045297	0.0004964	0.0203658	0.0004964	0.0203658	0.0243	0.0248	
25-Jul-1975-08h00	54.333	0.0000001	0.0045297	0.0004964	0.0203658	0.0004964	0.0203658	0.0243	0.0248	

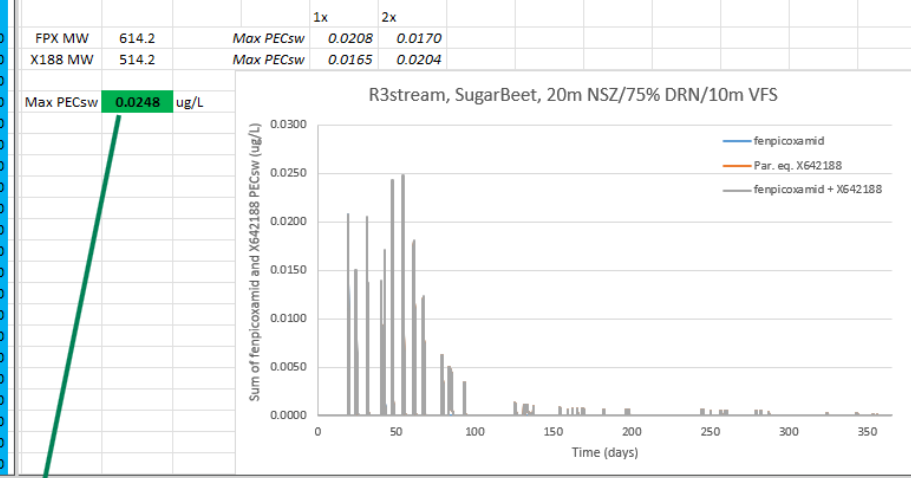
FPX MW	614.2	Max PECsw	0.0208	1x	2x	0.0170
X188 MW	514.2	Max PECsw	0.0165	0.0204		
Max PECsw	0.0248	ug/L				

R3stream, SugarBeet, 20m NSZ/75% DRN/10m VFS

Sum of fenpicoxamid and X642188 PECsw (ug/L)

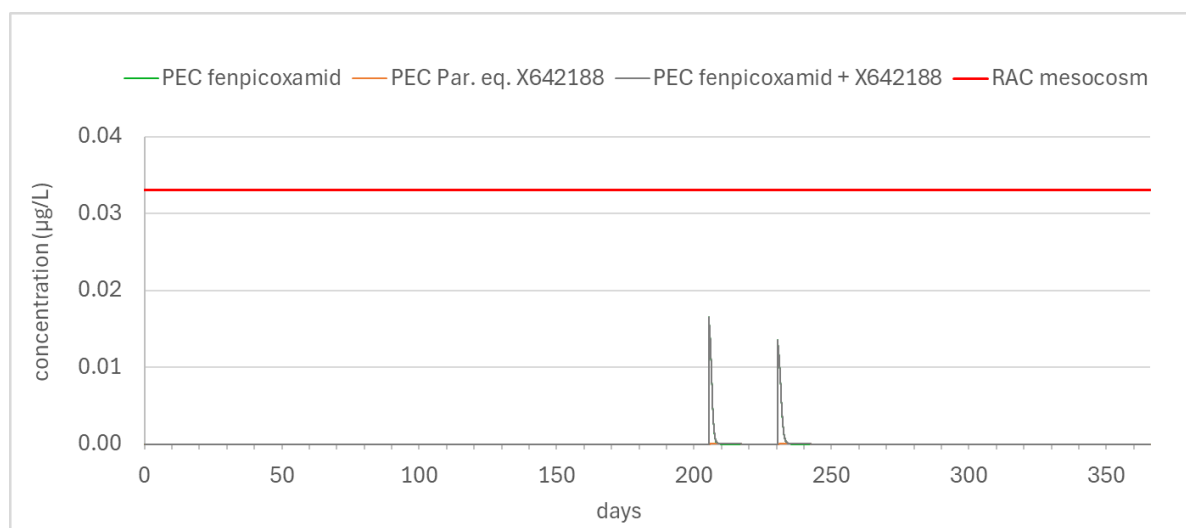
Time (days)

fenpicoxamid
Par. eq. X642188
fenpicoxamid + X642188

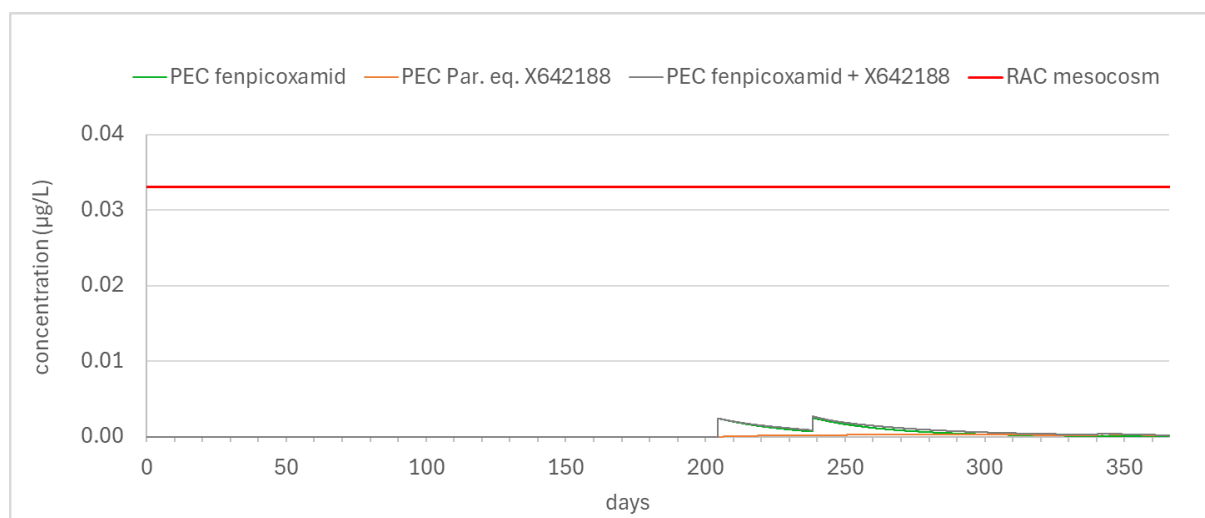


To illustrate the process and derivation of the “summed” PECsw values further, graphs were generated of the fenpicoxamid (blue or green line) and X642188 (parent equivalent; orange line) concentrations and the “summed” total (grey line) against time (days). These are presented for the D3 ditch, D4 pond, D4 stream, R1 pond, R1 stream and R3 scenario for maximum of $1 \times$ and 2×75 g as/ha with two mitigation combinations: 10 m NSZ + 10 m VFS + 75% DRN and 30 m NSZ + 10 m VFS, 20 m NSZ + 10 m VFS and 20 m NSZ + 10 m VFS + 75% DRN. Note that for the stream scenarios, the fenpicoxamid and X642188 exposures cannot easily be seen from the graphs because the peaks co-occur and are very short lived due to stream dilution.

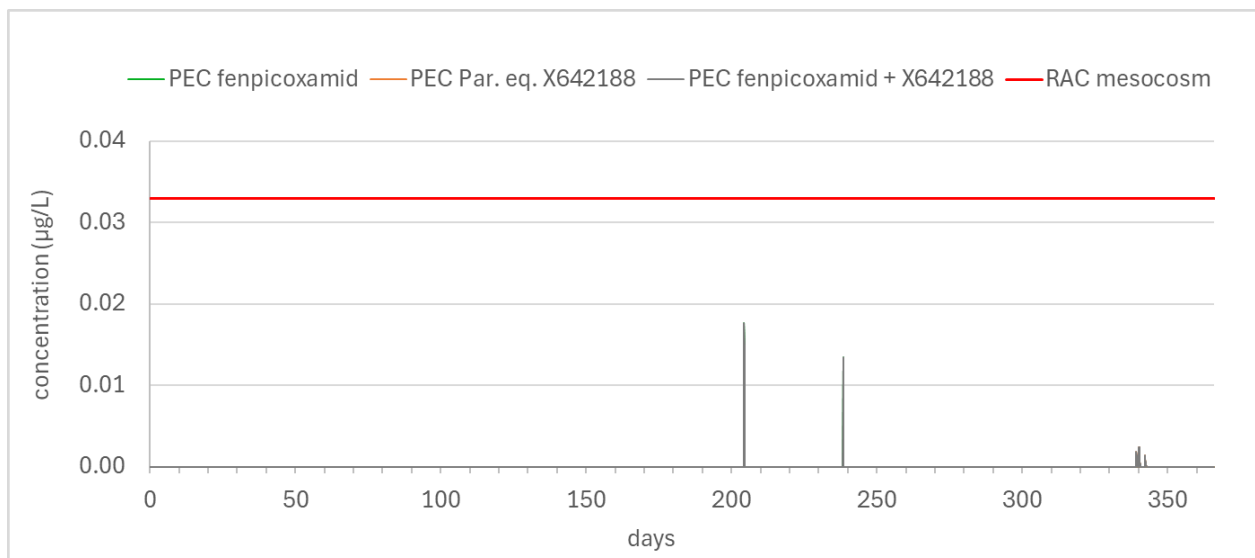
Maximum of $1 \times$ and 2×75 g a.s./ha, D3 ditch for sugar beet, 10 m NSZ + 10 m VFS + 75% DRN (Tier 2 example)



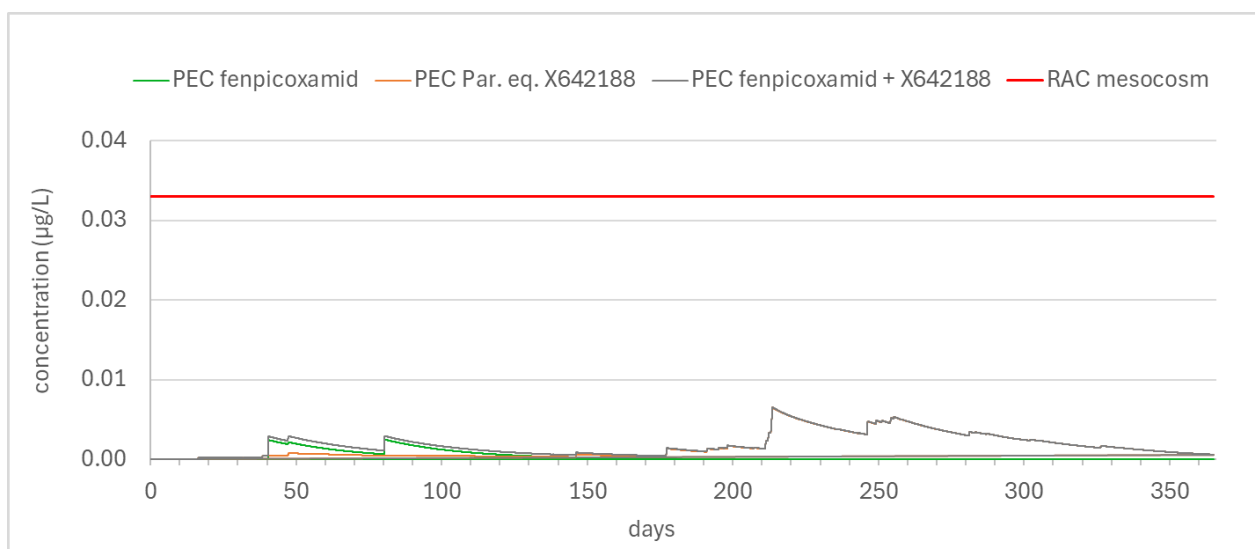
Maximum of $1 \times$ and 2×75 g a.s./ha, D4 pond for sugar beet, 10 m NSZ + 10 m VFS + 75% DRN (Tier 2 example)



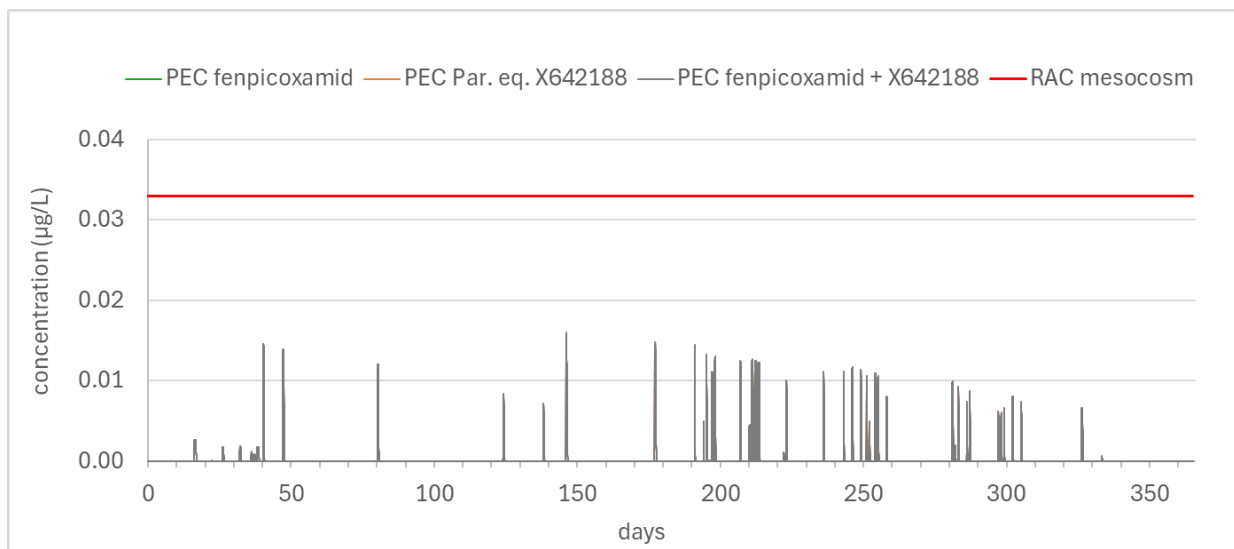
**Maximum of 1 × and 2 × 75 g a.s./ha, D4 stream for sugar beet, 10 m NSZ + 10 m VFS + 75% DRN
(Tier 2 example)**



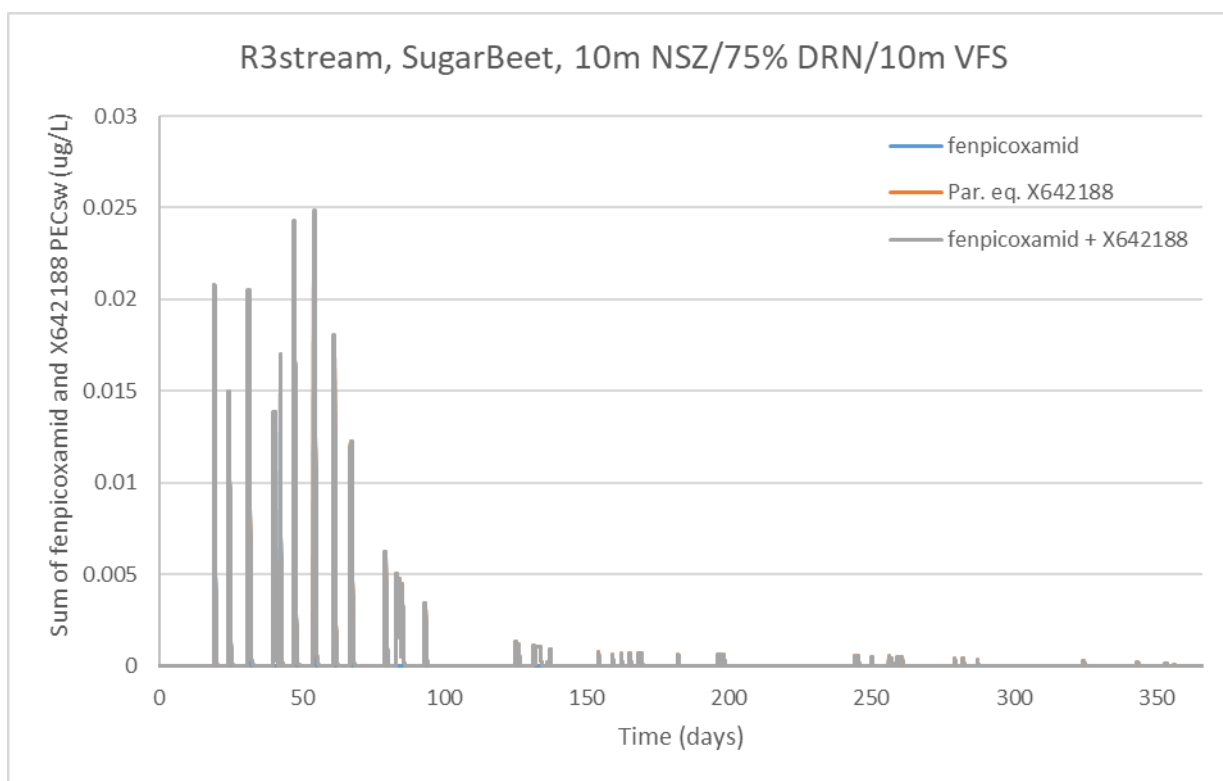
**Maximum of 1 × and 2 × 75 g a.s./ha, R1 pond for sugar beet, 10 m NSZ + 10 m VFS + 75% DRN
(Tier 2 example)**



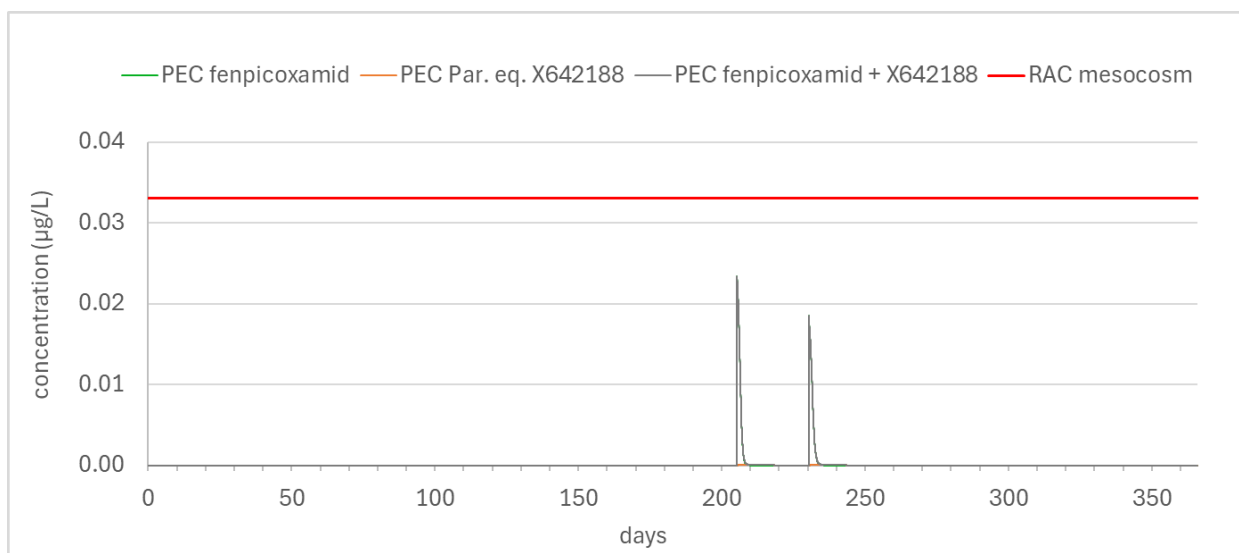
Maximum of 1 × and 2 × 75 g a.s./ha, R1 stream for sugar beet, 10 m NSZ + 10 m VFS + 75% DRN (Tier 2 example)



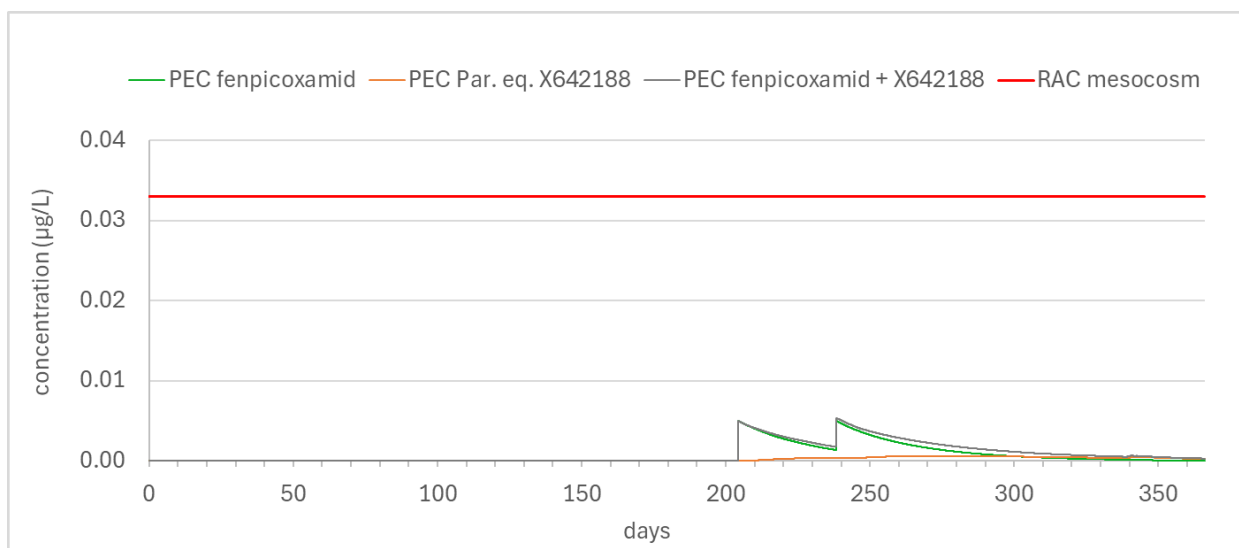
Maximum of 1 × and 2 × 75 g a.s./ha, R3 stream for sugar beet, 10 m NSZ + 10 m VFS + 75% DRN (Tier 2 example)



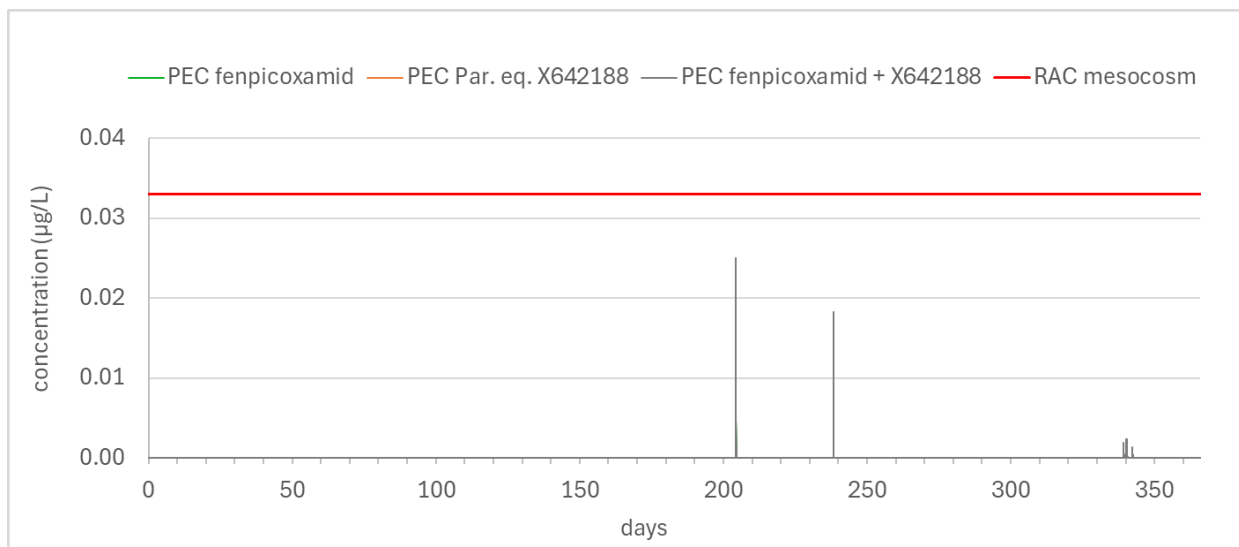
Maximum of 1 × and 2 × 75 g a.s./ha, D3 ditch for sugar beet, 30 m NSZ + 10 m VFS (Tier 2 example)



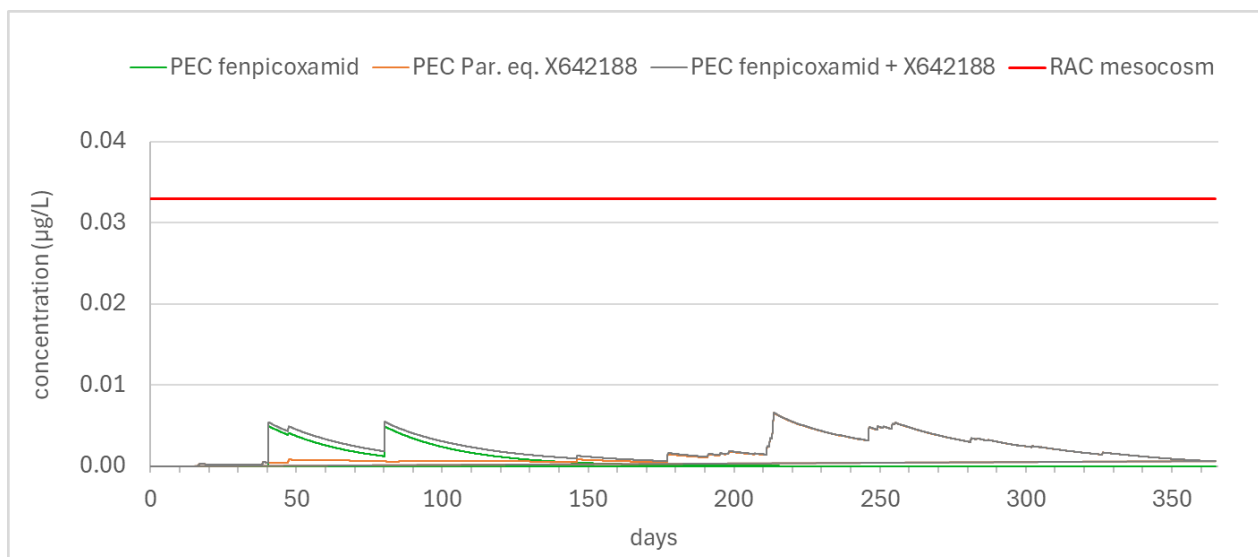
Maximum of 1 × and 2 × 75 g a.s./ha, D4 pond for sugar beet, 30 m NSZ + 10 m VFS (Tier 2 example)



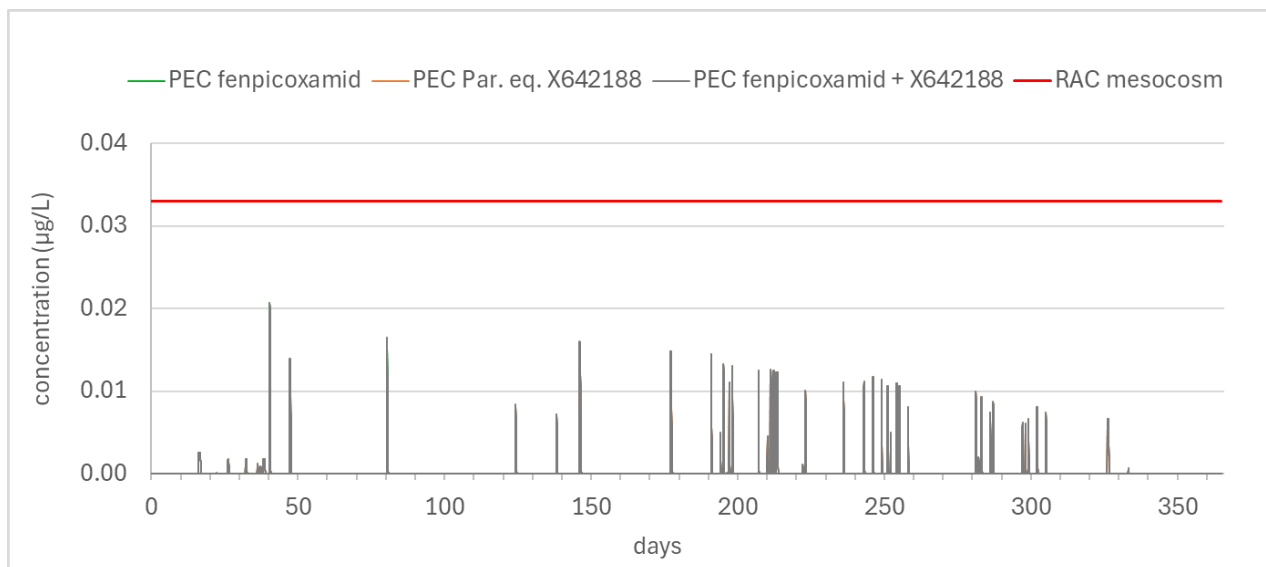
Maximum of $1 \times$ and 2×75 g a.s./ha, D4 stream for sugar beet, 30 m NSZ + 10 m VFS (Tier 2 example)



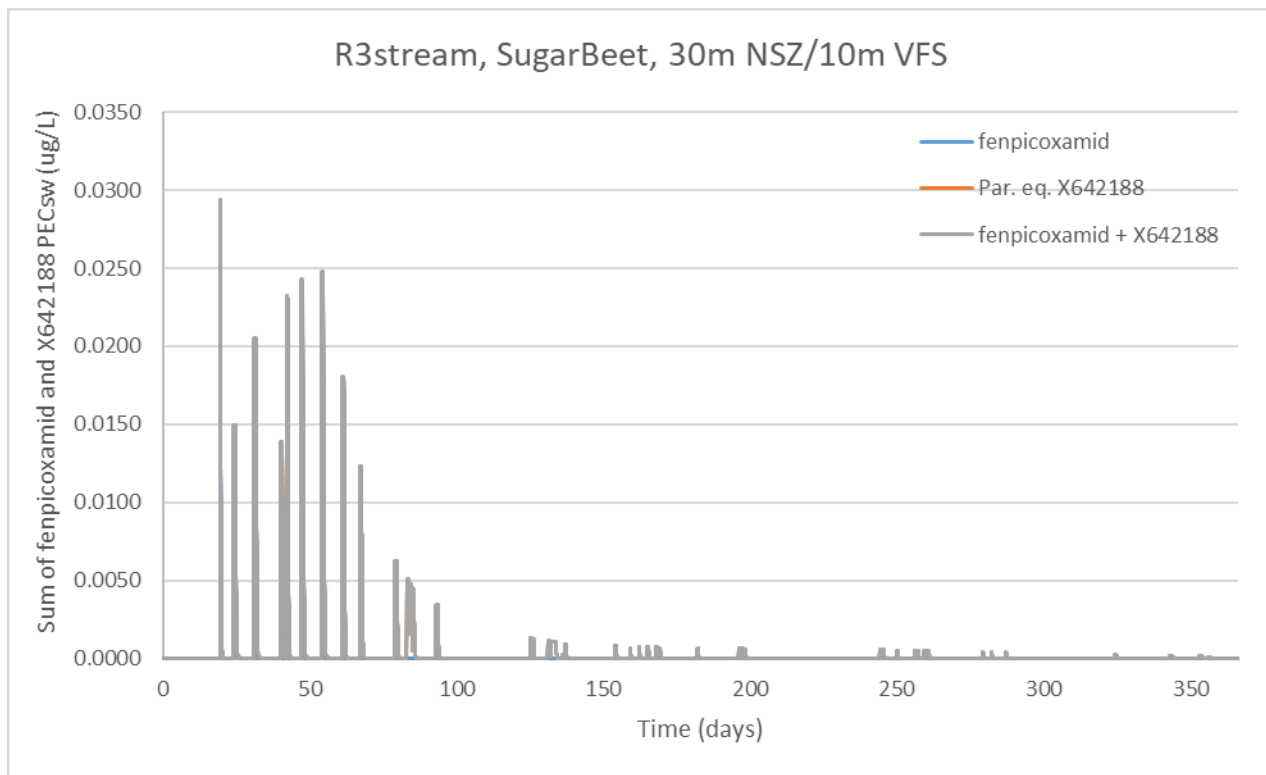
Maximum of $1 \times$ and 2×75 g a.s./ha, R1 pond for sugar beet, 30 m NSZ + 10 m VFS (Tier 2 example)



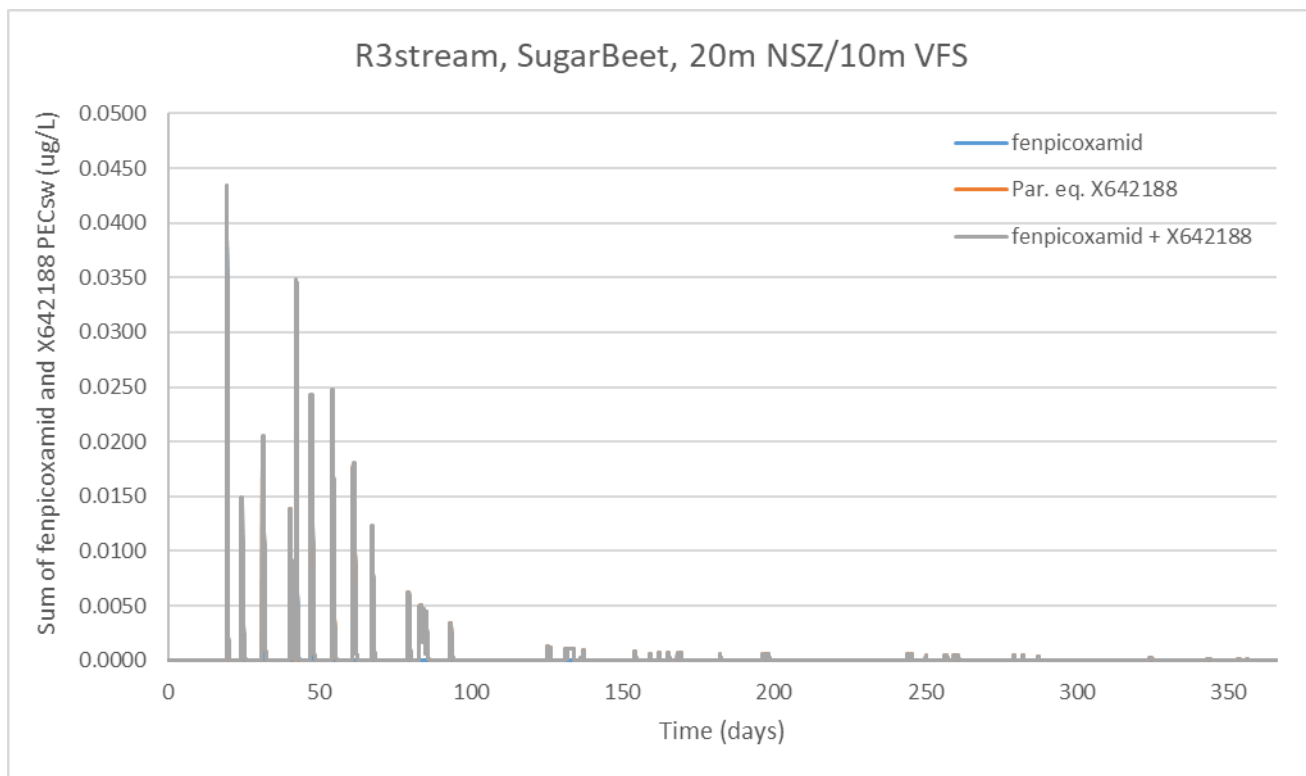
Maximum of $1 \times$ and 2×75 g a.s./ha, R1 stream for sugar beet, 30 m NSZ + 10 m VFS (Tier 2 example)



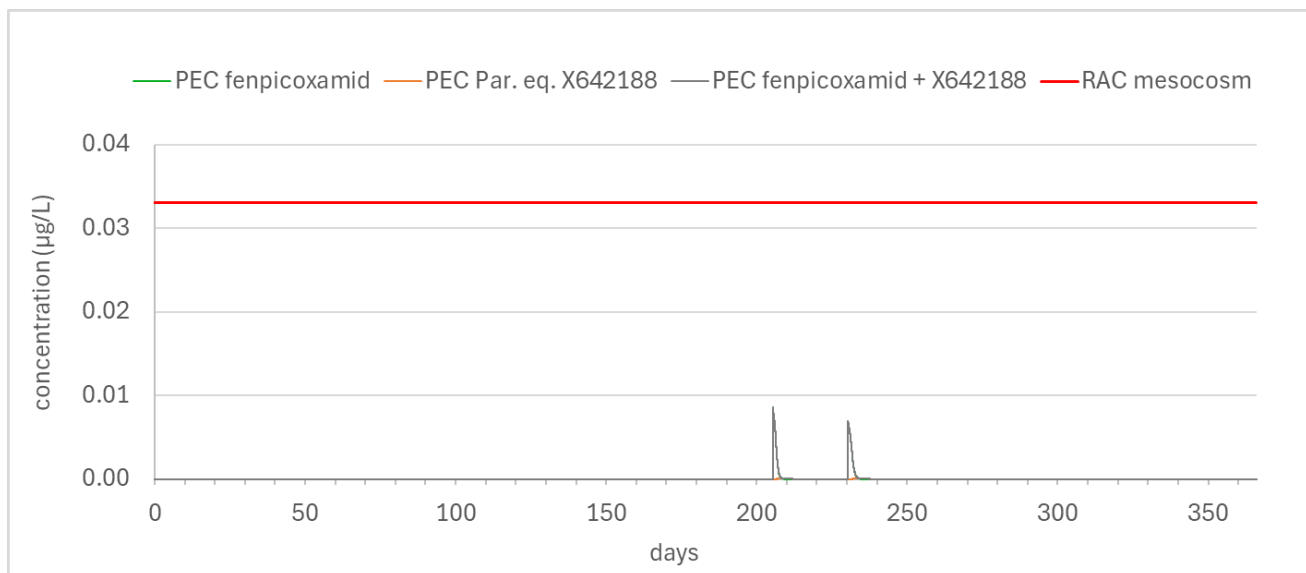
Maximum of $1 \times$ and 2×75 g a.s./ha, R3 stream for sugar beet, 30 m NSZ + 10 m VFS (Tier 2 example)



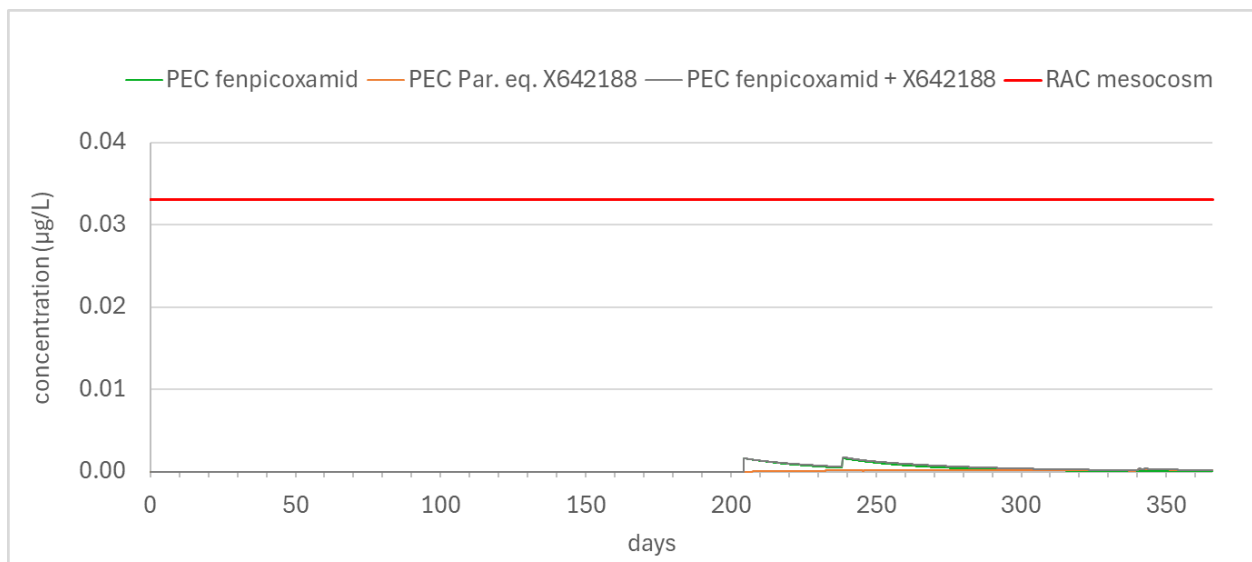
Maximum of 1 × and 2 × 75 g a.s./ha, R3 stream for sugar beet, 20 m NSZ + 10 m VFS (Tier 2 example)



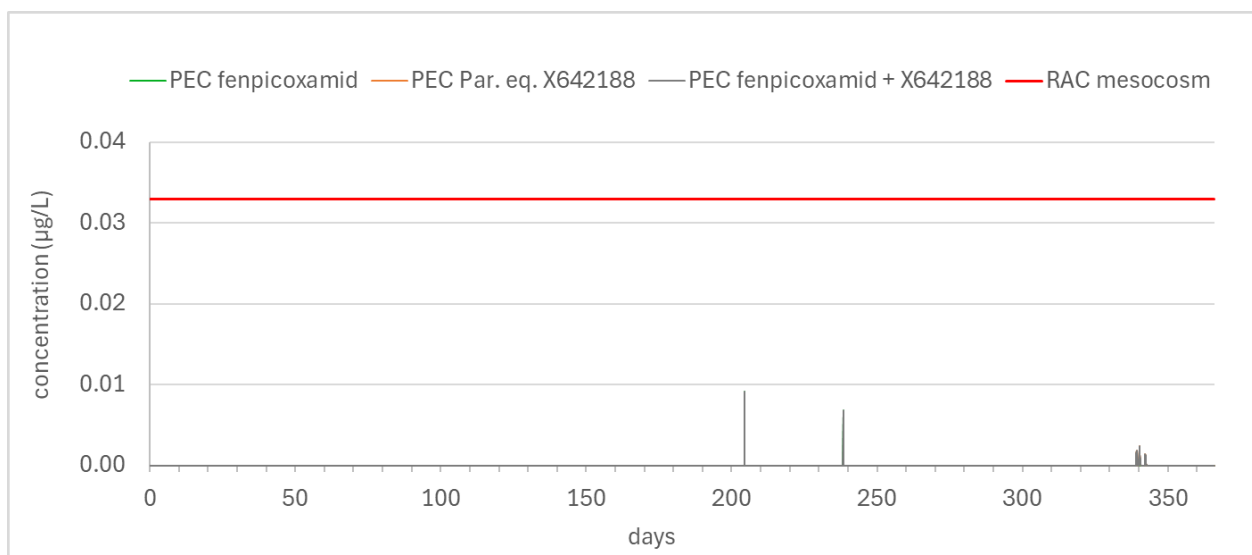
Maximum of 1 × and 2 × 75 g a.s./ha, D3 ditch for sugar beet, 20 m NSZ + 10 m VFS + 75% DRN (Tier 2 example)



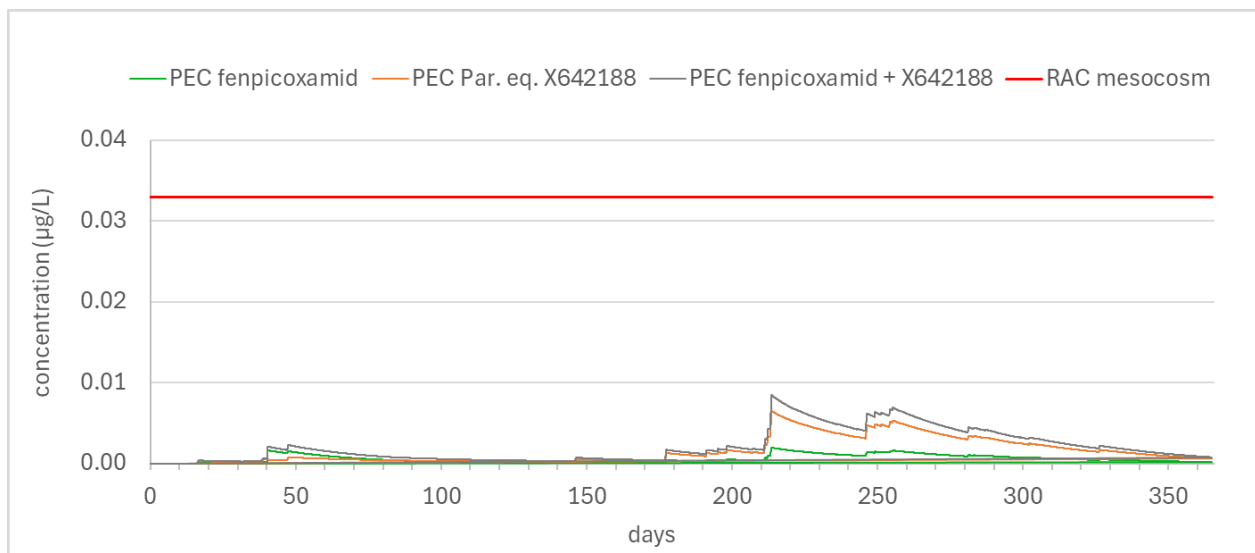
**Maximum of 1 × and 2 × 75 g a.s./ha, D4 pond for sugar beet, 20 m NSZ + 10 m VFS + 75% DRN
(Tier 2 example)**



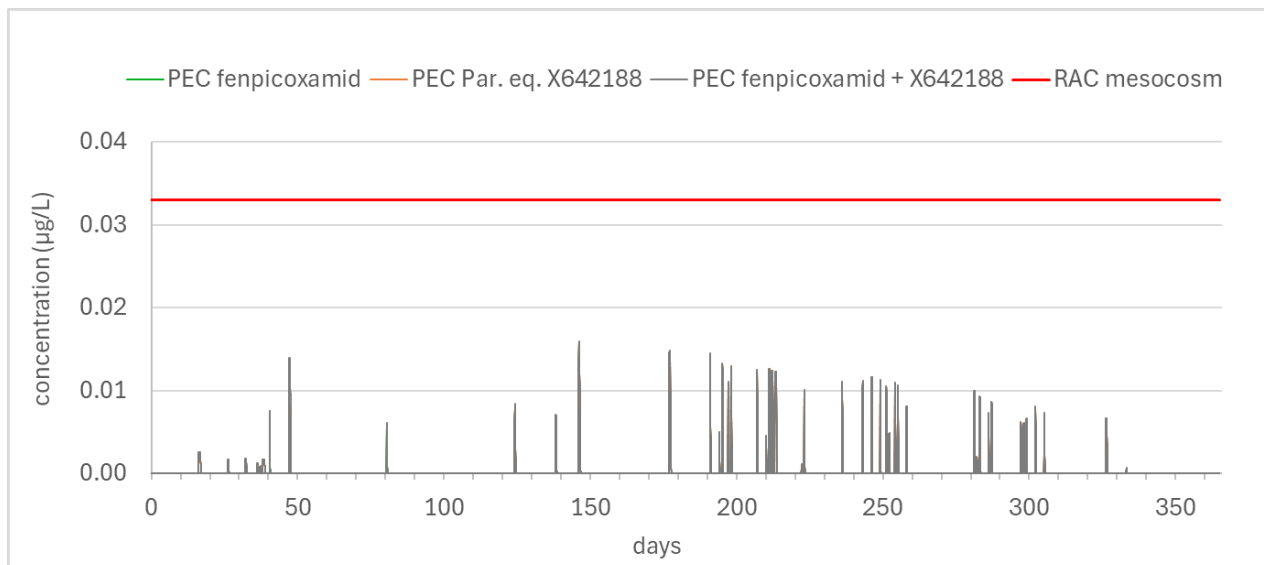
**Maximum of 1 × and 2 × 75 g a.s./ha, D4 stream for sugar beet, 20 m NSZ + 10 m VFS + 75% DRN
(Tier 2 example)**



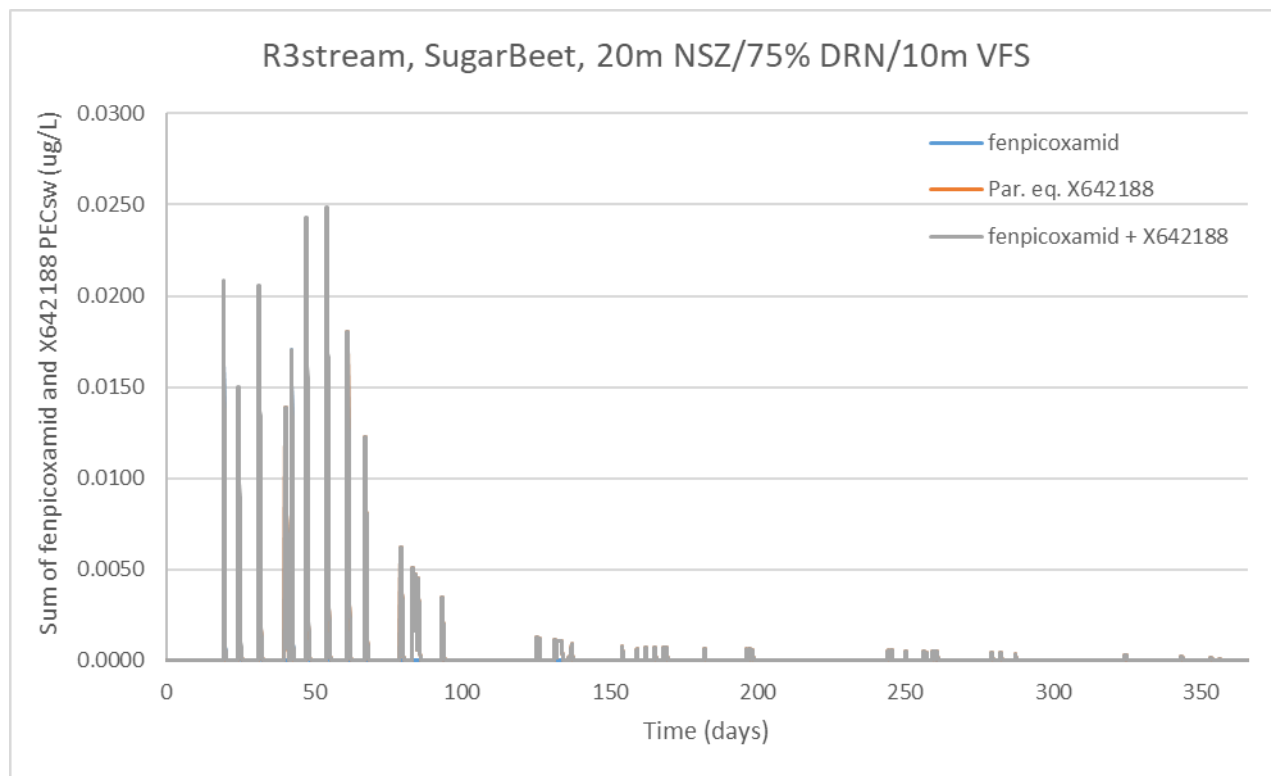
**Maximum of 1 × and 2 × 75 g a.s./ha, R1 pond for sugar beet, 20 m NSZ + 10 m VFS + 75% DRN
(Tier 2 example)**



**Maximum of 1 × and 2 × 75 g a.s./ha, R1 stream for sugar beet, 20 m NSZ + 10 m VFS + 75% DRN
(Tier 2 example)**



Maximum of 1 × and 2 × 75 g a.s./ha, R3 stream for sugar beet, 20 m NSZ + 10 m VFS + 75% DRN (Tier 2 example)



zRMS comments:

The input parameters for fenpicoxamid presented in Tables 8.9-7 relevant for Step 3-4 are in line with EU agreed endpoints reported in EFSA Journal 2018;16(1):5146. Application pattern was in line with the Central Zone GAP.

Application dates assumed in updated modelling and presented in Table 8.9-6 were checked by the zRMS using AppDate ver. 3.06 tool and are considered acceptable and relevant for BBCH 39 of sugar beet.

At Step 3 PUF value of 0 was assumed for fenpicoxamid and the X642188 metabolite, as it is in line with current recommendations.

Step 4 simulations were performed according to recommendations of the FOCUS work group on landscape and mitigation factors.

The surface water exposure at Step 3-4 together with the EPAT analysis were independently validated by the zRMS in additional modelling using the same parameters as indicated above. The PEC_{sw}/PEC_{sed} values obtained at Step 3 for fenpicoxamid and the X642188 metabolite are in a good agreement with the results presented by the Applicant in Table 8.9-8 and 8.9-9, and therefore may be used in the aquatic risk assessment.

However it was noted that in Table 8.9-12 in the presented results at Step 4 for fenpicoxamid metabolite X642188, the Applicant insert incorrect values, as the results correspond to the PEC_{sw}/PEC_{sed} values obtained at Step 4 for fenpicoxamid instead of the X642188 metabolite. Therefore the Table 8.9-12 was amended accordingly, and incorrect results were struck through.

Results presented in Table 8.9-13 corresponds the “summed PEC_{sw} ” values (after converting metabolite X642188 to parent equivalent) obtained at Step 4, the “summed PEC_{sw} ” values were checked by the zRMS and are confirmed to be correct.

Additional calculations at Step 4 of PEC_{sw}/PEC_{sed} modelling consideration of 20 m no-spray zone (NSZ) with combination of 10 m vegetative filter strips (VFS) ; and 20 m NSZ + 10 m VFS + 75% drift reduction nozzles were independently verified by the zRMS using the same parameters as indicated above. Obtained results for fenpicoxamid and the X642188 metabolite are in a good agreement with results presented by the Applicant, and therefore may be used in the aquatic risk assessment.

Additional calculations performed by the Applicant at Tier 2 together with the EPAT analysis for D3 ditch, D4 pond, D4 stream, R1 pond and R1 stream scenarios has been checked by the zRMS and are confirmed to be correct.

Overall, surface water exposure presented in Tables 8.9-8 and 8.9-14 and graphs presented above may be used in the aquatic risk assessment.

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

As the metabolites of fenpicoxamid, X12313581 and X696476 are characterized with high persistence accumulation in sediment over at least 20 consecutive years, therefore it should be taken into account in exposure calculation. In order to calculate $PEC_{SED, ACCU}$, a simplified approach may be taken with calculation of PEC_{SED} by multiplication of initial PEC_{SED} by 20.

Additional calculation of the accumulated PEC_{SED} for these compounds was performed at Step 1-2 based on the maximum PEC_{SED} values presented in Table 8.9-2 and results are presented in the table below. Calculation at Step 3/4 was not required since acceptable risk to sediment dwellers could be concluded with these worst case Step 1/2 values.

Step 1-2 maximum PEC_{SED} for metabolite X12313581 and X696476 multiplied by 20 on sugar beet (1 x 75 g a.s./ha)

Metabolite	X12313581	X696476
FOCUS Scenario	Max. PEC_{SED} (µg/kg)	Max. PEC_{SED} (µg/kg)
Step 1	255.3	2202.9
Step 2 - N-Europe	21.5	172.0

Provided above sediment exposure to metabolites X12313581 and X696476 may be used in the risk assessment for sediment dwelling organisms.

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

Prothioconazole

The relevant input parameters used in Step 3 and 4 PECsw/sed modelling of prothioconazole and the JAU 6476-desthio (M04), from EFSA (2007) are summarised in Table 8.9-15. These parameters were used in conjunction with the sugar beet GAP and models described in Table 8.9-7 and timings shown in Table 8.9-8.

Table 8.9-15: Inputs related to prothioconazole and JAU 6476-desthio (M04) for PECsw/sed - Steps 3 and 4

Compound	Prothioconazole	JAU 6476-desthio (M04)	Evaluated at EU level
Molar mass (g/mol)	344.3	312.2	Yes (EFSA, 2007)
Water solubility (mg/L)	300 (pH 8)	50.6	
Vapour pressure (Pa)	1 x 10 ⁻¹⁰	Parent as surrogate	
Kfoc (pH independent)* (arithmetic mean)	1765 (n=1)	575.4	
1/n (arithmetic mean)	0.9 (default)	0.81	
DT ₅₀ soil (d) (20°C) (geometric mean)	1.2	22.7	
DT ₅₀ water (d) (20°C) (maximum)	2.8	1000 (nominal)**	
DT ₅₀ sediment (d) (20°C) (maximum)	1000 (nominal)**	1000 (nominal)**	
Formation fraction, soil	-	0.57	
Formation fraction, water	-	1	
Formation fraction, sediment	-	1	
Plant uptake factor	0	0	

* Divide by 1.724 for Kfom

** Since Kfoc <2000 mL/g, 1000 d was used for non-degrading (sediment) phase, with whole system DT₅₀ used for degrading (water) phase.

Step 3

Table 8.9-16: Step 3 PECsw/sed for prothioconazole on sugar beet

FOCUS SW scenario	Sugar beet			
	Max. PECsw (µg/L)	Dominant entry route	Max. 21 d TWA PECsw (µg/L)	Max. PECsed (µg/kg)
D3 ditch	0.7849*	Spray drift	0.0374	0.5683
D4 pond	0.0317*	Spray drift	0.0074*	0.0708
D4 stream	0.6529*	Spray drift	0.0020*	0.0317*
R1 pond	0.0317*	Spray drift	0.0086*	0.0801
R1 stream	0.5400*	Spray drift	0.0074*	0.3614*
R3 stream	0.7672*	Spray drift	0.0153*	0.5802

* Maximum PECsw from calculation with single application.

Table 8.9-17: Step 3 PECsw/sed for JAU 6476-desthio (M04) on sugar beet

FOCUS SW scenario	Sugar beet			
	Max. PECsw (µg/L)	Dominant entry route	Max. 21 d TWA PECsw (µg/L)	Max. PECsed (µg/kg)
D3 ditch	0.0798*	Drainage	0.0072	0.1065
D4 pond	0.0260	Drainage	0.0255	0.3527
D4 stream	0.0424*	Spray drift	0.0017	0.0224
R1 pond	0.0529	Runoff	0.0463	0.7994
R1 stream	0.2225	Runoff	0.0085	0.3750
R3 stream	0.3583	Runoff	0.0371	1.4720

* Maximum PECsw from calculation with single application.

Step 4

The following mitigation options of drift reduction, including no-spray zone (NSZ) and drift reducing nozzles (DRN), and vegetated filter strip (VFS) were explored at Step 4 using SWAN 5.0.1:

- 10 m NSZ + 10 m VFS
- 10 m NSZ + 10 m VFS + 75% DRN
- 30 m NSZ + 10 m VFS
- 20 m NSZ + 10 m VFS
- 20 m NSZ + 10 m VFS + 75% DRN

Table 8.9-18: Step 4 PECsw/sed for prothioconazole on sugar beet

FOCUS SW scenario	Sugar beet			
	Max. PECsw (µg/L)	Dominant entry route	Max. 21 d TWA PECsw (µg/L)	Max. PECsed (µg/kg)
10 m NSZ + 10 m VFS				
D3 ditch	0.1364*	Spray drift	0.0064*	0.0975
D4 pond	0.0203*	Spray drift	0.0047*	0.0455
D4 stream	0.1457*	Spray drift	0.0004*	0.0071*
R1 pond	0.0203*	Spray drift	0.0052*	0.0464
R1 stream	0.1205*	Spray drift	0.0024*	0.0721*
R3 stream	0.1712*	Spray drift	0.0039*	0.1044
10 m NSZ + 10 m VFS + 75% DRN				
D3 ditch	0.0341*	Spray drift	0.0016*	0.0252
D4 pond	0.0051*	Spray drift	0.0012*	0.0120
D4 stream	0.0364*	Spray drift	0.0001*	0.0018*
R1 pond	0.0051*	Spray drift	0.0017*	0.0149*
R1 stream	0.0547	Runoff	0.0017*	0.0661*
R3 stream	0.0428*	Spray drift	0.0018*	0.0822
30 m NSZ + 10 m VFS				
D3 ditch	0.0480*	Spray drift	0.0023*	0.0341
D4 pond	0.0103*	Spray drift	0.0024*	0.0232
D4 stream	0.0513*	Spray drift	0.0002*	0.0025*
R1 pond	0.0103*	Spray drift	0.0029*	0.0253
R1 stream	0.0547	Runoff	0.0018*	0.0669*
R3 stream	0.0603*	Spray drift	0.0021*	0.0849
20 m NSZ + 10 m VFS				
D3 ditch	0.0708*	Spray drift	0.0033*	0.0504
D4 pond	0.0136*	Spray drift	0.0032*	0.0305
D4 stream	0.0757*	Spray drift	0.0002*	0.0037*
R1 pond	0.0136*	Spray drift	0.0036*	0.0322

FOCUS SW scenario	Sugar beet			
	Max. PEC _{sw} (µg/L)	Dominant entry route	Max. 21 d TWA PEC _{sw} (µg/L)	Max. PEC _{sed} (µg/kg)
R1 stream	0.0626*	Runoff	0.0019*	0.0683*
R3 stream	0.0889*	Spray drift	0.0025*	0.0900
20 m NSZ + 10 m VFS + 75% DRN				
D3 ditch	0.0177*	Spray drift	0.0008*	0.0130
D4 pond	0.0034*	Spray drift	0.0008*	0.0081
D4 stream	0.0189*	Spray drift	0.0001*	0.0009*
R1 pond	0.0034*	Runoff	0.0013*	0.0120*
R1 stream	0.0547	Runoff	0.0016*	0.0651*
R3 stream	0.0222*	Runoff	0.0014*	0.0790

* Maximum PEC_{sw} from calculation with single application.

Table 8.9-19: Step 4 PEC_{sw}/sed for JAU 6476-desthio (M04) on sugar beet

FOCUS SW scenario	Sugar beet			
	Max. PEC _{sw} (µg/L)	Dominant entry route	Max. 21 d TWA PEC _{sw} (µg/L)	Max. PEC _{sed} (µg/kg)
10 m NSZ + 10 m VFS				
D3 ditch	0.0138*	Drainage	0.0012	0.0191
D4 pond	0.0162	Drainage	0.0159	0.2381
D4 stream	0.0357	Drainage	0.0017	0.0218
R1 pond	0.0245	Runoff	0.0215	0.4160
R1 stream	0.1010	Runoff	0.0038	0.0957
R3 stream	0.1633	Runoff	0.0169	0.3475
10 m NSZ + 10 m VFS + 75% DRN				
D3 ditch	0.0035*	Drainage	0.0003	0.0051
D4 pond	0.0074	Drainage	0.0059	0.0906
D4 stream	0.0357	Drainage	0.0017	0.0217
R1 pond	0.0195	Runoff	0.0167	0.2880
R1 stream	0.1010	Runoff	0.0038	0.0954
R3 stream	0.1633	Runoff	0.0169	0.3447
30 m NSZ + 10 m VFS				
D3 ditch	0.0049*	Drainage	0.0004	0.0068
D4 pond	0.0095	Drainage	0.0078	0.1396
D4 stream	0.0357	Drainage	0.0017	0.0217
R1 pond	0.0211	Runoff	0.0183	0.3301
R1 stream	0.1010	Runoff	0.0038	0.0955
R3 stream	0.1633	Runoff	0.0169	0.3451
20 m NSZ + 10 m VFS				
D3 ditch	0.0072*	Drainage	0.0006	0.0100
D4 pond	0.0110	Drainage	0.0104	0.1711
D4 stream	0.0357	Drainage	0.0017	0.0217
R1 pond	0.0222	Runoff	0.0193	0.3578
R1 stream	0.1010	Runoff	0.0038	0.0955
R3 stream	0.1633	Runoff	0.0169	0.3457
20 m NSZ + 10 m VFS + 75% DRN				
D3 ditch	0.0018*	Drainage	0.0001	0.0027
D4 pond	0.0067	Drainage	0.0053	0.0734
D4 stream	0.0357	Drainage	0.0017	0.0217
R1 pond	0.0189	Runoff	0.0161	0.2734
R1 stream	0.1010	Runoff	0.0038	0.0954
R3 stream	0.1633	Runoff	0.0169	0.3443

* Maximum PEC_{sw} from calculation with single application.

zRMS comments:

Input parameters for prothioconazole presented in Tables 8.9-15 relevant for Step 3-4 are in general in line with EU agreed endpoints with exception of water DT₅₀ for prothioconazole: 2.8 days was used instead of 1.0 days agreed in the course of the EU review. Nevertheless, in opinion of the zRMS this deviation is not expected to have significant impact on the obtained results.

Application dates assumed in updated modelling and presented in Table 8.9-6 were checked by the zRMS using AppDate ver. 3.06 tool and are considered acceptable and relevant for BBCH 39 of sugar beet.

With regard to parametrisation of the model at Step 3 and 4, it is noted that the K_{FOC} of JAU 6476-desthio is between 100 and 2000 mL/g and guidance indicates that in such case the whole system degradation values should be applied to one compartment (water or sediment) and a default of 1000 days applied to the other compartment. The same applies to the parent with EU agreed K_{OC} of 1765 mL/g. This approach gives four combinations for parent and metabolite modelling. Since the risk is driven by exposure via water and not sediment (endpoints for sediment dwellers are expressed in terms of mg/L) the four combinations indicated in table below were tested by the zRMS in order to check which gives the highest PEC_{sw} values. It turned out that the worst case combination was when the shortest DT₅₀ value was applied to prothioconazole and the default of 1000 days was applied to JAU 6476-desthio in the water phase (combination 2 in table below). This combination was then used in the zRMS modelling performed for purposes of validation of the Applicant's results.

Potential combinations of water and sediment DT₅₀ values for use in Step 3 modelling.

Component	Endpoint	Combination run in FOCUS Step 3 modelling			
		1	2	3	4
Prothioconazole	DT ₅₀ (water phase)	2.1	2.1	1000	1000
	DT ₅₀ (sediment)	1000	1000	2.1	2.1
JAU 6476-desthio	DT ₅₀ (water phase)	49.9	1000	49.9	1000
	DT ₅₀ (sediment)	1000	49.9	1000	49.9

At Step 3 for PUF value of 0 was assumed for prothioconazole and JAU 6476-desthio, in line with current recommendations.

Step 4 simulations were performed according to recommendations of the FOCUS work group on landscape and mitigation factors and were validated by the zRMS for convenience of the concerned Member States that consider FOCUS simulations as Step 1-4 at the national level.

The surface water exposure at Step 3-4 was independently validated by the zRMS in additional modelling using the same parameters as indicated above.

Results obtained at Step 3-4 for prothioconazole and its metabolites were insignificantly lower from these presented by the Applicant, and therefore may be used in the aquatic risk assessment.

Results of PEC_{sw} and PEC_{sed} for prothioconazole metabolite JAU 6476-desthio at Step 3-4 obtained by the zRMS in independent modelling were slightly lower when compare with the results obtained by the Applicant.

Additional calculations at Step 4 of PEC_{sw}/PEC_{sed} modelling consideration of 20 m no-spray zone (NSZ) with combination of 10 m vegetative filter strips (VFS) ; and 20 m NSZ + 10 m VFS + 75% drift reduction nozzles were independently verified by the zRMS using the same parameters as indicated above. Obtained results for prothioconazole and metabolite JAU 6476-desthio were insignificantly lower from these presented by the Applicant, and therefore may be used in the aquatic risk assessment.

Overall, surface water exposure presented in Tables 8.9-16 and 8.9-19 may be used in the aquatic risk assessment. Please note that additional surface water modelling may be required by the concerned Member States that do not accept simulations performed according to FOCUS recommendations.

GF-3307 (S7K-3-3)

Steps 3 and 4 (spray drift only)

The formulation GF-3307 (S7K-3-3) will not remain intact in aquatic systems after application due to breakdown of its individual components. Therefore, only an initial spray drift PEC_{sw} was calculated (time-aged values are not appropriate) based upon the application rate of 1566 g FP/ha. The initial Step 3 PEC_{sw} was calculated using the SWASH drift calculator in addition to Step 4 using increased no-spray zones (NSZ) and drift reducing nozzles (DRN).

Table 8.9-20: PEC_{sw} for GF-3307 (S7K-3-3) on sugar beet

DRN%	Use No.	Rate (L of Prod./ha)	Rate (g of GF-3307/ha)	PEC _{sw} of product (µg/L)											
				FOCUS default distance			10 m buffer			20 m buffer			30 m buffer		
				Pond	Ditch	Stream	Pond	Ditch	Stream	Pond	Ditch	Stream	Pond	Ditch	Stream
0%	1-2	1.50	1566	0.332	8.318	6.479	0.213	1.446	1.446	0.143	0.752	0.752	0.109	0.510	0.510
50%	1-2	1.50	1566	0.166	4.159	3.240	0.107	0.723	0.723	0.071	0.376	0.376	0.054	0.255	0.255
75%	1-2	1.50	1566	0.083	2.080	1.620	0.053	0.362	0.362	0.036	0.188	0.188	0.027	0.127	0.127
90%	1-2	1.50	1566	0.033	0.832	0.648	0.021	0.145	0.145	0.014	0.075	0.075	0.011	0.051	0.051

zRMS comments:

The risk assessment for the formulated product can be extrapolated from the PEC_{sw} and PEC_{sed} values of the active substance and its metabolites, therefore calculation of the surface water exposure for the formulated product is not necessary. Nevertheless, the surface water exposure to formulation was validated by the zRMS using Spray Drift Calculator. Obtained results were in agreement with these reported in Tables 8.9-20, and may be used in the risk assessment.

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

Table 8.10-1: Summary of atmospheric degradation and behaviour

Compound	Fenpicoxamid	Prothioconazole
Direct photolysis in air	Not applicable	Not applicable
Quantum yield of direct phototransformation	Not applicable	Not applicable
Photochemical oxidative degradation in air	DT ₅₀ : 0.261 d (Atkinson)	DT ₅₀ : <1 d (Atkinson)
Vapour pressure	1.2 x 10 ⁻⁷ Pa	<4 x 10 ⁻⁷ Pa
Metabolites	Metabolite DT ₅₀ values (Atkinson) <2 d except for X696476 (3 d). However, this is a terminal metabolite so there will be little potential for long-range transport. Also, POP criteria only apply to active substances.	Not applicable

Fenpicoxamid

The vapour pressure at 20°C of fenpicoxamid is <10⁻⁵ Pa. Hence the active substance is regarded as non-volatile from both soil and plant surfaces. Therefore, assessment of exposure of adjacent surface waters and terrestrial ecosystems by fenpicoxamid due to volatilization and subsequent deposition is not required.

Prothioconazole

The vapour pressure at 20°C of prothioconazole is <10⁻⁵ Pa. Hence the active substance is regarded as non-volatile from both soil and plant surfaces. Therefore, assessment of exposure of adjacent surface waters and terrestrial ecosystems by prothioconazole due to volatilization and subsequent deposition is not required.

zRMS comments:

Provided above information is in line with EU agreed data reported in EFSA Journal 2018;16(1):5145 and EFSA Scientific Report (2007) 106 for fenpicoxamid and prothioconazole, respectively.

Taking into account the low vapour pressure (<10⁻⁵ Pa) and DT₅₀ in air <2 days, fenpicoxamid and prothioconazole is not expected to be subject to volatilisation and the long- or short-range transport.

With regard to metabolite X696476 the following is stated in the EFSA report:

[...] X696476 is the terminal metabolite there will be little potential for the formation of aerosols and therefore long-range transport of this metabolite is not expected.

Taking this into account the contamination of the atmosphere with fenpicoxamid and prothioconazole and its metabolites from the intended uses of GF-3307 (S7K-3-3) 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 (where different from company) GLP or GEP status Published or not	Vertebrate study Y/N	Owner
KCP 9.1.1.2.1/01 9.2.4 9.2.5	Hardy IAJ	2012	Kinetic modelling analysis of prothioconazole from field soil residue studies conducted in Europe normalised to 20°C and pH2 Report No.: VC/11/022F, Edition Number: M 429069-01-1, Date: 2012-04-11 Battelle UK Ltd., Ongar, Essex, United Kingdom, Bayer CropScience, GLP/GEP (Y/N): N Published (Y/N): N	N	Bayer Crop-Science*
KCP 9.2/01 9.2.1 9.2.2 9.2.3	Schad T Zerbe P	2008	Dissipation of prothioconazole and IAU6476-dethio under field conditions in Europe. Kinetic evaluation and calculation of non-referenced DT50 Report No.: M298575-01-1 Bayer Crop Science, GLP/GEP (Y/N): N Published (Y/N): N	N	Bayer Crop-Science*

*—— Letter of Access is provided in Part A for Bayer CropScience data

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

zRMS comments:

As all endpoints for fenpicoxamid and its relevant metabolites were taken from the EU review, for the list of respective studies please refer to Volume 2 of the RAR for fenpicoxamid. The below list was not validated by the zRMS.

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 7.1.1.1/01 KCA 7.1.2.1.1/01	Hastings MJ Jackson AU	2013	Degradation of 14C-XDE-777 in Four Soils Under Aerobic Conditions (Revision) Report No.: 110492 Dow AgroSciences LLC GLP/GEP (Y/N): Y Published (Y/N): N	N	Corteva Agriscience

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 7.1.1.2/01 KCA 7.1.2.1.3	Liu D Balcer J Kish B	2013	Degradation of 14C-XDE-777 in One Soil Under Anaerobic Conditions Report No.: 120539 Dow AgroSciences LLC GLP/GEP (Y/N): Y Published (Y/N): N	N	Corteva Agriscience
KCA 7.1.1.3/01	Cooke L	2013	XDE-777: Soil Photolysis Report No.: 130655 Symbiotic Research, LLC GLP/GEP (Y/N): Y Published (Y/N): N	N	Corteva Agriscience
KCA 7.1.2.1.2/03	Austin R	2013	X12264475: Rate of Degradation under Aerobic Conditions in Four Soils at 20 °C Report No.: 121010 Battelle UK Ltd GLP/GEP (Y/N): Y Published (Y/N): N	N	Corteva Agriscience
KCA 7.1.2.1.2/04	Seck C	2013	X763024: Rate of Degradation under Aerobic Conditions in Four Soils at 20 °C Report No.: 121012 Battelle UK Ltd GLP/GEP (Y/N): Y Published (Y/N): N	N	Corteva Agriscience
KCA 7.1.2.1.2/05	Oddy A	2013	X12313581: Rate of Degradation under Aerobic Conditions in Four Soils at 20 °C Report No.: 121011 Battelle UK Ltd GLP/GEP (Y/N): Y Published (Y/N): N	N	Corteva Agriscience
KCA 7.1.2.1.2/06	Oddy A	2013	X696476: Rate of Degradation under Aerobic Conditions in Four Soils at 20 °C Report No.: 121009 Battelle UK Ltd GLP/GEP (Y/N): Y Published (Y/N): N	N	Corteva Agriscience
KCA 7.1.2.1.2/07	Oddy A	2013	X11963422: Rate of Degradation under Aerobic Conditions in Four Soils at 20 °C Report No.: 121013 Battelle UK Ltd GLP/GEP (Y/N): Y Published (Y/N): N	N	Corteva Agriscience
KCA 7.1.2.1.2/08	Ma M Li Q	2014	Degradation of X12255349, X12314005, X12019520, and X12442397 in Four Soils under Aerobic Conditions Report No.: 140543 Dow AgroSciences LLC	N	Corteva Agriscience

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
			GLP/GEP (Y/N): Y Published (Y/N): N		
KCA 7.1.2.1.2/09	Liu D Lynn KJ Adusumilli H	2014	Degradation of Multi-Component Region from the XDE-777 Anaerobic Soil Study and the Aerobic Aquatic Study in Two Soils under Aerobic Conditions Report No.: 141023 Dow AgroSciences LLC GLP/GEP (Y/N): Y Published (Y/N): N	N	Corteva Agriscience
KCA 7.1.2.2.1/01 KCP 9.1.1.2.1/01	Fischer A	2015	Soil Dissipation Study With One Spring Application of GF-2925 (XDE-777) at Five Sites to Bare Soil in Europe in 2013-2015 DAS Report No.: 130672 Eurofins Agrosience Services GmbH GLP/GEP (Y/N): Y Published (Y/N): N	N	Corteva Agriscience
KCA 7.1.2.2.1/02 KCP 9.1.1.2.1/02	Reeves G	2015a	Field Soil Degradation Kinetics for XDE-777 and its Metabolites DAS Report No.: 150411 Dow AgroSciences GLP/GEP (Y/N): N Published (Y/N): N	N	Corteva Agriscience
KCA 7.1.2.2.1/03 KCP 9.1.1.2.1/03	Li Q Slinkard E	2015	Frozen Storage Stability of XDE-777 and its Metabolites in Soil – 5 Month Interim Report DAS Report No.: 141045 Dow AgroSciences GLP/GEP (Y/N): Y Published (Y/N): N	N	Corteva Agriscience
KCA 7.1.3.1.1/01 KCA 7.1.3.1.2/01	Liu D Brackman R Zhou X	2013	Batch Equilibrium Adsorption/Desorption of XDE-777 and Adsorption of X642188 Dow AgroSciences LLC Report No.: 120540 GLP/GEP (Y/N): Y Published (Y/N): N	N	Corteva Agriscience
KCA 7.1.2.1.3/02-07	Zhou X Liu D Brackman R Jonas N	2014	Batch Equilibrium Adsorption of the Aerobic Soil Metabolites of XDE-777 (Revision) Dow AgroSciences LLC Report No.: 121024 GLP/GEP (Y/N): Y Published (Y/N): N	N	Corteva Agriscience
KCA 7.1.3.1.2/08	Zhou X	2014	Batch Equilibrium Adsorption of the Soil Photodegradates of XDE-777 Dow AgroSciences LLC Report No.: 140540 GLP/GEP (Y/N): Y	N	Corteva Agriscience

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
			Published (Y/N): N		
KCA 7.1.3.1.2/09	Blakeslee B	2017	Estimation of the Photochemical Oxidation Rates of XDE-777 metabolites X642188, X696872, X12264475, X763024, X12313581, X696476, X11963422, X12314005, X12019520, X12255349, X12335723, X12386481 and X12446477 DAS Report No. 170682 Dow AgroSciences LLC GLP/GEP (Y/N): Yes Published (Y/N): No	N	Corteva Agriscience
KCA 7.2.1.1/01	Yoder RN Jackson AU	2014	Hydrolysis of XDE-777 at pH 4, 7, and 9 (Revision) Report No.: 120538 Dow AgroSciences LLC GLP/GEP (Y/N): Y Published (Y/N): N	N	Corteva Agriscience
KCA 7.2.1.1/02	Austin R	2013	Hydrolysis of X642188 at pH 4, 7 and 9 Report No.: 130663 Battelle UK Ltd GLP/GEP (Y/N): Y Published (Y/N): N	N	Corteva Agriscience
KCA 7.2.1.1/03	Cooke L	2013	Solubility Determination of XDE-777 in 1% Acetonitrile Co-solvent in Water Report No.: 130599 Symbiotic Research, LLC GLP/GEP (Y/N): Y Published (Y/N): N	N	Corteva Agriscience
KCA 7.2.1.2/01	Blakeslee BA Jackson AU	2014	Aqueous Photolysis of XDE-777 in pH 7 Buffer under Xenon Light (Revision) Report No.: 110422 Dow AgroSciences LLC GLP/GEP (Y/N): Y Published (Y/N): N	N	Corteva Agriscience
KCA 7.2.2.1/01	Tunink A	2012	XDE-777: Determination of Ready Biodegradability Using the CO ₂ Evolution Method Report No.: 120559 ABC Laboratories, Inc. GLP/GEP (Y/N): Y Published (Y/N): N	N	Corteva Agriscience
KCA 7.2.2.2/01	Adam D	2013	[¹⁴ C]-XDE-777 – Aerobic Mineralisation in Surface Water – Simulation Biodegradation Test Report No.: 130702 Innovative Environmental Services (IES) Ltd GLP/GEP (Y/N): Y Published (Y/N): N	N	Corteva Agriscience

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 7.2.2.3/01	Adusumilli H Jackson AU	2014	Aerobic Aquatic Degradation of XDE-777 in Two Sediment and Pond Water Systems (Revision) Report No.: 120839 Dow AgroSciences LLC GLP/GEP (Y/N): Y Published (Y/N): N	N	Corteva Agriscience
KCA 7.3.1/01	Zhou X	2013	Estimation of the Photochemical Oxidation Rate of XDE-777 Report No.: 131075 Dow AgroSciences LLC GLP/GEP (Y/N): N Published (Y/N): N	N	Corteva Agriscience
CP 9.1.1.1/1	Reeves G	2014a	Laboratory Soil Degradation Kinetics for XDE-777 and its Aerobic Metabolites for Model Input in the EU Derived From the Parent Applied Study DAS Report No.: 140267 Dow AgroSciences GLP/GEP (Y/N): N Published (Y/N): N	N	Corteva Agriscience
CP 9.1.1.1/2	Reeves G	2014b	Laboratory Soil Degradation Kinetics for XDE-777 Aerobic Metabolites for Model Input in the EU Derived From the Metabolite Applied Studies DAS Report No.: 140308 Dow AgroSciences GLP/GEP (Y/N): N Published (Y/N): N	N	Corteva Agriscience
CP 9.1.1.1/3	Reeves G	2014c	Laboratory Degradation Kinetics for XDE-777 Soil Photodegradates for Model Input in the EU Derived From the Metabolite Applied Studies DAS Report No.: 140626 Dow AgroSciences GLP/GEP (Y/N): N Published (Y/N): N	N	Corteva Agriscience
CP 9.1.1.2.1/1 Submitted under CA 7.1.2.2.1/1	Fischer A	2015	Soil Dissipation Study With One Spring Application of GF-2925 (XDE-777) at Five Sites to Bare Soil in Europe in 2013-2015 DAS Report No.: 130672 Eurofins Agrosience Services GmbH GLP/GEP (Y/N): Y Published (Y/N): N	N	Corteva Agriscience
CP 9.1.1.2.1/2 Submitted under CA 7.1.2.2.1/2	Reeves G	2015a	Field Soil Degradation Kinetics for XDE-777 and its Metabolites DAS Report No.: 150411 Dow AgroSciences GLP/GEP (Y/N): N	N	Corteva Agriscience

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
			Published (Y/N): N		
CP 9.1.1.2.1/3 Submitted under CA 7.1.2.2.1/3	Li Q Slinkard, EW	2015	Frozen Storage Stability of XDE-777 and its Metabolites in Soil – 5 Month Interim Report DAS Report No.: 141045 Dow AgroSciences GLP/GEP (Y/N): Y Published (Y/N): N	N	Corteva Agriscience
CP 9.2.2/1	Reeves G	2014d	Laboratory Water/Sediment Degradation Kinetics for XDE-777 and its Metabolites for Model Input in the EU Derived From the Parent Applied Study DAS Report No.: 140309 Dow AgroSciences GLP/GEP (Y/N): N Published (Y/N): N	N	Corteva Agriscience
CP 9.2.4.1/1	Reeves G	2014e	Modelling the Leaching of XDE-777 and its Aerobic Soil Metabolites to Groundwater in the EU DAS Report No.: 140269 Dow AgroSciences GLP/GEP (Y/N): N Published (Y/N): N	N	Corteva Agriscience
CP 9.2.4.1/2	Reeves G	2014f	Modelling the Leaching of Three Soil Photodegradates of XDE-777 to Groundwater in the EU DAS Report No.: 141067 Dow AgroSciences GLP/GEP (Y/N): N Published (Y/N): N	N	Corteva Agriscience
CP 9.2.4.1/3	Reeves G	2015b	Modelling the Leaching of XDE-777 to Groundwater in the EU When Using a Field DT50 DAS Report No.: 150551 Dow AgroSciences GLP/GEP (Y/N): N Published (Y/N): N	N	Corteva Agriscience
CP 9.2.5/1	Reeves G	2015c	Modelling the Predicted Environmental Concentrations of XDE-777 and its Metabolites in Surface Water and Sediment in the EU Using a 10-12 m VBS DAS Report No.: 150623 Dow AgroSciences GLP/GEP (Y/N): N Published (Y/N): N	N	Corteva Agriscience
CP 9.2.5/2	Reeves G	2015d	Modelling the Predicted Environmental Concentrations of XDE-777 and its Metabolites in Surface Water and Sediment in the EU Using a Field DT50 DAS Report No.: 150552 Dow AgroSciences GLP/GEP (Y/N): N	N	Corteva Agriscience

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
			Published (Y/N): N		

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

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

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 9.1.1.2.1/01 9.2.4 9.2.5	Hardy IAJ	2012	Kinetic modelling analysis of prothioconazole from field soil residue studies conducted in Europe normalised to 20°C and pF2 Report No.: VC/11/022F, Edition Number: M-429069-01-1, Date: 2012-04-11 Battelle UK Ltd., Ongar, Essex, United Kingdom, Bayer CropScience, GLP/GEP (Y/N): N Published (Y/N): N	N	Bayer CropScience*	New active substance data, not necessary for purposes of the evaluation, since EU agreed data were sufficient
KCP 9.2/01 9.2.1 9.2.2 9.2.3	Schad T Zerbe P	2008	Dissipation of prothioconazole and JAU6476-desthio under field conditions in Europe. Kinetic evaluation and calculation of non-referenced DT50 Report No.: M298575-01-1 Bayer Crop Science, GLP/GEP (Y/N): N Published (Y/N): N	N	Bayer CropScience*	

* Letter of Access is provided in Part A for Bayer CropScience data

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 not submitted by the Applicant and relied on					

Appendix 2 Detailed evaluation of the new Annex II studies

Not applicable.

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

Not applicable.