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Functionality testing of SWAN 5.3

FOCUS SW Step 3-4: Predicted environmental concentrations in surface water after application of three test substances to various crops

Comparison of Step 4: SWAN 5.3 GUI *vs.* Manually adapted Step 4 mitigations

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Completion date

16-03-2026

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Exponent International Ltd. Report

2508333.UK0-0806

65 pages

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Executive Summary

SWAN v5.3 (Surface Water Assessment eNabler) is a software tool with a graphical user interface (GUI) designed to support FOCUS surface water Step 4 exposure assessments in accordance with current FOCUS guidance. The tool generates Step 4 simulations by adapting the input and output files of the FOCUS surface water models SWASH, MACRO, PRZM, and TOXSWA.

The present study was conducted to evaluate the SWAN v5.3 GUI and to verify the correct technical implementation of all FOCUS Step 4 mitigation measures. Step 4 simulations generated using the SWAN GUI were compared with simulations prepared by manual modification of the corresponding Step 3 input and output files, following the SWAN User Guide and applicable FOCUS guidance.

FOCUS Step 3 projects were established for three active substances, including one substance with an associated metabolite. Different crops, application patterns, and application techniques were selected to ensure coverage of the full range of FOCUS surface water scenarios. At Step 4, spray drift mitigation measures (no-spray buffer zones and drift-reducing nozzles), runoff mitigation measures (according to FOCUS L&M), and dry deposition were applied. In addition, vegetated filter strip simulations were performed using VFSmod v4.5.2, and reference simulations were generated using the VFSmod command-line interface to verify the correct implementation within SWAN.

Across all substances, scenarios, water body types, and mitigation options evaluated, the results generated using the SWAN v5.3 GUI were numerically and temporally identical to those obtained using manually prepared FOCUS Step 4 TOXSWA simulations, within the given rounding precision. This included global maximum concentrations, dates of maximum concentrations, time-weighted average concentrations, and identification of the dominant entry route. No deviations were observed.

The study confirms that SWAN v5.3 represents an exact technical implementation of the manual FOCUS Step 4 workflow and is suitable for use in regulatory surface water exposure assessments in an EFSA context.

1. Introduction

The software tool SWAN v5.3 (Surface Water Assessment eNabler) includes a graphical user interface (GUI) to support FOCUS surface water Step 4 exposure assessments in accordance with current FOCUS guidance (FOCUS, 2003; 2015). The tool generates Step 4 simulations by adapting the input and output files of the FOCUS surface water models, namely SWASH v5.3, FOCUS MACRO v5.5.4, FOCUS PRZM v4.3.1, and FOCUS TOXSWA v5.5.3.

At FOCUS Step 4, risk mitigation measures are applied to refine surface water exposure estimates and the resulting predicted environmental concentrations in surface water (PEC_{SW}). These mitigation measures include spray drift buffer zones, drift-reducing nozzles, runoff mitigation with vegetated filter strips according to FOCUS L&M (FOCUS, 2007a and 2007b) and VFSmod v4.5.2 (Muñoz-Carpena, 2023), and dry deposition. Correct and consistent implementation of these measures is essential, as they directly affect PEC_{SW} values used in the aquatic risk assessment.

The objective of the present study was to evaluate the SWAN v5.3 GUI and to verify the correct technical implementation of all Step 4 mitigation measures. Step 4 simulations generated using the SWAN GUI were compared with simulations prepared by manual modification of the corresponding Step 3 input and output files, following the SWAN User Guide and applicable FOCUS guidance.

A representative selection of active substances, crops, and application patterns was used to ensure coverage of a wide range of FOCUS surface water scenarios. The simulation results were compared to demonstrate that the SWAN GUI applies Step 4 mitigation measures correctly and yields PEC_{SW} results equivalent to those obtained using a manual Step 4 implementation. This comparison is intended to support the suitability of the SWAN v5.3 GUI for regulatory Step 4 surface water exposure assessments in an EFSA context.

2. FOCUS SW and SWAN test calculations

2.1 Test compounds

FOCUS surface water Step 3 projects were created for three substances, *i.e.* test substance 2 (TS2), test substance 5 (TS5) and test substance 6 (TS6), with test substance 6 coupled to a metabolite), and three crops. The substance properties used are provided in the table below (FOCUS 2001, appendix G).

Table 2.1-1: Overview of Step 3-4 input data

Parameter	FOCUS surface water TS2	FOCUS surface water TS5 with modified Koc	FOCUS surface water TS6	FOCUS surface water Metabolite of TS6
Molecular weight [g/mol]	215.7	376	255	197
Vapor pressure [Pa] at 20°C	3.85×10^{-5}	6.40×10^{-9}	3.78×10^{-9}	0
Molar enthalpy for vaporization [J/mol]	95000	95000	95000	95000
Water solubility [mg/L] at 20°C	30	1.15	91	91
Molar enthalpy for dissolution [J/mol]	27000	27000	27000	27000
K_{FOC} [L/kg]	91	500	66	580
1/n [-]	0.88	1.0	1.0	1.0
Reference concentration in liquid phase [g/m³]	1.0	1.0	1.0	1.0
Crop uptake factor [-]	0	0	0	0
DT_{50} (soil) [d] at 20°C	43	250	28	58
DT_{50} water [d] at 20°C	26	6	24	33
DT_{50} sediment [d] at 20°C	26	118	24	33
DT_{50} crop [d]	10	10	10	10
Reference temperature [°C]	20	20	20	20
MACRO temp. exponent [1/K]	0.0948	0.0948	0.0948	0.0948
PRZM Q_{10} [-]	2.58	2.58	2.58	2.58
Reference moisture [-]	pF 2	pF 2	pF 2	pF 2
PRZM / MACRO moisture exponent [-]	0.7 / 0.49	0.7 / 0.49	0.7 / 0.49	0.7 / 0.49
TOXSWA: activation energy [J/mol]	65400	65400	65400	65400
Wash off coefficient MACRO: [1/mm]	0.05	0.05	0.05	0.05
Wash off coefficient PRZM: [1/cm]	0.5	0.5	0.5	0.5
Diffusion coefficient in water [m²/day]	4.30×10^{-5}	4.30×10^{-5}	4.30×10^{-5}	4.30×10^{-5}
Diffusion coefficient in air [m²/day]	0.43	0.43	0.43	0.43
Formation fraction in soil [-]	-	-	-	0.5
Formation fraction in water [-]	-	-	-	0.7

2.2 Intended uses and cropping

2.2.1 Good Agricultural Practice (GAP)

The intended uses considered, and corresponding information is given below.

Table 2.2.1-1: Crop types and FOCUS crop groups to cover the intended uses

Substance	FOCUS crop	Application rate [g/ha]	Intended growth stage	Remarks
Test Substance 2	Winter cereals	1×1000	Pre-emergence	FOCUS default
Test Substance 5	Pome/stone fruit (early application)	3×1000 21d interval	Pre-emergence	FOCUS default
Test Substance 6	Leafy vegetables	1×375 1×250 10d interval	Pre-emergence	FOCUS default

Simulations were performed with the default model values, *i.e*. application directly to soil (*soil linear)* assuming no crop interception for pre-emergence.

2.2.2 Application windows

The test applications used in this study follow the default FOCUS application windows defined in SWASH. The substance is applied once per year at the maximum application rate to monocultures of the relevant crops. All simulations were performed using the default model settings. This means that the application was applied directly to the soil, with no crop interception, as for pre-emergence applications. The actual application dates were calculated by the models using the Pesticide Application Timer (PAT), following the FOCUS methodology. The default FOCUS application window for a single application is 30 days. For multiple applications per year, this window was extended using the SWASH shell, according to the formula: 30 days + (number of applications − 1) × application interval.

The specific application windows are shown in the table below.

Table 2.2.2-1: Description of application windows

FOCUS Crop Group	Application window	Application windows description	Length
Winter cereals	Single	FOCUS default, pre-emergence	30 days
Pome/stone fruit (early application)	Multiple 30d+(3-1)*21d interval	FOCUS default, pre-emergence	72 days
Leafy vegetables	Multiple 30d+(2-1)*10d interval	FOCUS default, pre-emergence	40 days

2.2.3 Application dates

The application dates selected by PAT for each test substance, crop and scenario are shown in the tables below.

Table 2.2.3-1: Overview of application and cropping, winter cereals, test Substance 2

Scenario	Crop	CropNr	Emergence	Harvest	Appl. window	Days of year	Year	Appl. date	Appl. rate g/ha	Min interval	Timing
D1	Winter cereals	1st	25-Sep	26-Aug	11-Sep-11-Oct	254-284	1982	11-09-1982	1000	1	pre-emergence
D2		1st	25-Oct	07-Aug	11-Oct-10-Nov	284-314	1986	11-10-1986	1000	1	pre-emergence
D3		1st	21-Nov	15-Aug	7-Nov-7-Dec	311-341	1992	06-11-1992	1000	1	pre-emergence
D4		1st	22-Sep	21-Aug	8-Sep-8-Oct	251-281	1985	10-09-1985	1000	1	pre-emergence
D5		1st	10-Nov	15-Jul	27-Oct-26-Nov	300-330	1978	26-11-1978	1000	1	post-emergence
D6		1st	30-Nov	30-Jun	16-Nov-16-Dec	320-350	1986	06-12-1986	1000	1	post-emergence
R1		1st	12-Nov	31-Jul	29-Oct-28-Nov	302-332	1978	14-11-1978	1000	1	post-emergence
R3		1st	01-Dec	01-Jul	17-Nov-17-Dec	321-351	1980	17-11-1980	1000	1	pre-emergence
R4		1st	10-Nov	15-Jul	27-Oct-26-Nov	300-330	1979	03-11-1979	1000	1	pre-emergence

Table 2.2.3-2: Overview of application and cropping, pome/stone fruit, test Substance 5

Scenario	Crop	CropNr	Emergence	Harvest	Appl. window	Days of year	Year	Appl. date	Appl. rate g/ha	Min interval	Timing
D3	Pome/stone fruit, early	1st	15-Apr	30-Oct	1-Apr-12-Jun	91-163	1992	04-04-1992 04-05-1992 25-05-1992	1000 1000 1000	21	pre-emergence
D4		1st	20-Apr	30-Oct	6-Apr-17-Jun	96-168	1985	18-04-1985 24-05-1985 16-06-1985	1000 1000 1000	21	pre-emergence
D5		1st	01-Apr	10-Oct	18-Mar-29-May	77-149	1978	08-04-1978 01-05-1978 27-05-1978	1000 1000 1000	21	post-emergence
R1		1st	15-Apr	30-Oct	1-Apr-12-Jun	91-163	1984	07-04-1984 28-04-1984 31-05-1984	1000 1000 1000	21	pre-emergence
R2		1st	15-Mar	30-Sep	1-Mar-29-Jun	60-180	1977	01-03-1977 22-03-1977 22-04-1977	1000 1000 1000	21	pre-emergence
R3		1st	01-Apr	15-Oct	18-Mar-29-May	77-149	1980	28-03-1980 22-04-1980 18-05-1980	1000 1000 1000	21	pre-emergence
R4		1st	15-Mar	15-Oct	1-Mar-12-May	60-132	1984	05-03-1984 15-04-1984 10-05-1984	1000 1000 1000	21	pre-emergence

Table 2.2.3-3: Overview of application and cropping, leafy vegetables, test Substance 6

Scenario	Crop	CropNr	Emergence	Harvest	Appl. window	Days of year	Year	Appl. date	Appl. rate g/ha	Min interval	Timing
D3	Leafy vegetables	1st	25-Apr	20-Jul	11-Apr-21-May	101-141	1992	10-04-1992 20-04-1992	375 250	10	pre-emergence
D3		2nd	05-Aug	20-Oct	22-Jul-31-Aug	203-243	1992	25-07-1992 18-08-1992	375 250	10	pre-emergence
D4		1st	10-May	26-Sep	26-Apr-5-Jun	116-156	1985	16-05-1985 29-05-1985	375 250	10	post-emergence
D6		1st	15-Aug	30-Nov	1-Aug-10-Sep	213-253	1986	04-08-1986 19-08-1986	375 250	10	pre-emergence
R1		1st	20-Apr	15-Jul	6-Apr-16-May	96-136	1984	26-04-1984 09-05-1984	375 250	10	post-emergence
R1		2nd	31-Jul	15-Oct	17-Jul-26-Aug	198-238	1978	28-07-1978 20-08-1978	375 250	10	pre-emergence
R2		1st	28-Feb	01-Jul	14-Feb-26-Mar	45-85	1978	06-03-1978 25-03-1978	375 250	10	post-emergence
R2		2nd	31-Jul	15-Nov	17-Jul-26-Aug	198-238	1989	31-07-1989 10-08-1989	375 250	10	at-emergence
R3		1st	01-Mar	01-Jun	15-Feb-27-Mar	46-86	1981	19-02-1981 20-03-1981	375 250	10	pre-emergence
R3		2nd	15-Jun	15-Sep	1-Jun-11-Jul	152-192	1975	02-06-1975 14-06-1975	375 250	10	pre-emergence
R4		1st	01-Mar	01-Jun	15-Feb-27-Mar	46-86	1980	01-03-1980 15-03-1980	375 250	10	at-emergence
R4		2nd	15-Jun	15-Sep	1-Jun-11-Jul	152-192	1985	01-06-1985 13-06-1985	375 250	10	pre-emergence

2.3 Mitigation measures

Spray drift mitigation was applied at Step 4, both separate to and in combination with vegetated filter strips. Runoff reduction as vegetated filter strips was applied to TOXSWA input *.p2t files using the reduction factors from FOCUS Landscape and Mitigation (2007a and b) and in a second approach by using VFSmod. The following Step 4 mitigations were applied to each of the Step 3 projects:

Test Substance 2
1. 10 m drift buffer
2. 10 m drift buffer + 10 m VFS (L&M)
3. 10 m drift buffer + 5 m VFS (VFSmod)

Test Substance 5
1. 10 m drift buffer + 50% nozzle reduction
2. 10 m drift buffer + 50% nozzle reduction + 10 m VFS (L&M)
3. 10 m drift buffer + 50% nozzle reduction + 5 m VFS (VFSmod)

Test Substance 6
1. 10 m drift buffer
2. 10 m drift buffer + 10 m VFS (L&M)
3. 10 m drift buffer + 5 m VFS (VFSmod)

2.3.1 Drift loadings

For Step 4 calculations that were manually adapted, the respective values for ditches, streams and ponds were directly modified in the TOXSWA input files (*.txw) as drift mass loadings. The drift loadings calculated by SWAN v5.3 GUI were recalculated manually and compared, by using the equation presented in the SWAN User guide. The equation is presented in Appendix A4.1. All values for drift loadings were identically reproduced by manual adaption with the same rounding accuracy.

Table 2.3.1-1: Drift percentages and loadings

Water body	Drift loading [mg/m²]		
	Step 4 (10 m db)	**Step 4 (10 m db)**	**Step 4 (10 m db)**
	1×1000 g/ha	3×1000 g/ha	2 applications: 1×375 g/ha 1×250 g/ha
Ditch	2.7708E-001	1.9495E-001	8.5099E-002 5.6733E-002
Stream*	3.3249E-001	2.3394E-001	1.0212E-001 6.8079E-002
Pond	1.3628E-001	9.4789E-002	4.0994E-002 2.7329E-002

2.3.2 Runoff

The SWAN v5.3 GUI was used to apply runoff mitigation to the Step 3 runoff and erosion volume and fluxes in the *.p2t files by using either FOCUS Landscape & Mitigation runoff and erosion reduction factors (FOCUS, 2007) or simulation of vegetated filter strips with the VFSmod model (see VFSmod section for details). The SWAN v5.3 GUI includes a specific method to adapt the files as reported in the SWAN User guide ('RunOffCalculation.html').
The same method was used for manual adaptation, using the specific factors for the waterbodies pond and stream, taken from the 'RunOffConfigurationFile.html' file in the SWAN folder. The FOCUS Landscape & Mitigation factors used are given in the table below.

Table 2.3.2-1: FOCUS Landscape & Mitigation vegetated buffer reduction efficiencies (FOCUS, 2007)

Buffer width [m]	10	Input into GUI
Reduction in volume of runoff water [%]	60	0.6
Reduction in mass of pesticide transported in aqueous phase [%]	60	0.6
Reduction in mass of eroded sediment [%]	85	0.85
Reduction in mass of pesticide transported in sediment phase [%]	85	0.85

All runoff mitigations that take into account the corresponding Landscape & Mitigation vegetated buffers in SWAN were accurately reproduced manually to the given rounding precision in the *.p2t files. The following equations were used for runoff volume and flux, as well as for erosion mass and flux as given in the SWAN User guide ('RunOffCalculation.html').

2.3.2.1 Runoff volume

$$RVStep_4 = RVStep3 \times [Af \times (1 - frv) + Ac \times (1 - F \times frv)]/(Af + Ac)$$

Where:

Af	Area of treated field (1 ha)
Ac	Area of upgradient fields 0.45 ha for pond (value in 'RunOffConfigurationFile.html') 100 ha for stream
F	Fraction of catchment that is treated 1.0 for pond 0.2 for stream
frv	Fractional reduction in runoff volume due to buffer strip
RVStep_3	Runoff volume read from Step 3 *.p2t file
RVStep_4	Runoff volume written to Step 4 *.p2t file

2.3.2.2 Runoff flux

$$RFStep_4 = RFStep_3 \times (1 - frf)$$

Where:

frf	Fractional reduction in runoff flux due to buffer strip
RFStep_3	Runoff flux read from Step 3 *.p2t file
RFStep_4	Runoff flux written to Step 4 *.p2t file

2.3.2.3 Erosion mass

$$EMStep_4 = EMStep_3 \times (1 - fem)$$

Where:

fem	Fractional reduction in erosion mass due to buffer strip
EMStep_3	Erosion mass read from Step 3 *.p2t file
EMStep_4	Erosion mass written to Step 4 *.p2t file

2.3.2.4 Erosion flux

$$EFStep_4 = EFStep_3 \times (1 - fef)$$

Where:

fef	Fractional reduction in erosion flux due to buffer strip
EFStep_3	Erosion flux read from Step 3 *.p2t file
EFStep_4	Erosion flux written to Step 4 *.p2t file

2.3.3 Dry deposition

The vapor pressure of test Substance 2 was 3.85×10^{-5} at 20°C. In order to account for the semi-volatile property and the corresponding dry deposition at Step 4, calculations of the dry deposition values with EVA3.2 were performed. The corresponding deposition values are given in the table below.

Table 2.3.3-1: Dry deposition values for Test Substance 2

Time [h]	Deposition values [mg/m²]
	10 m
	Winter cereals, 1000 g/ha, 25% interception
0-4	0.0012
4-12	0.0006
12-24	0.0003

The deposition values were applied to the TOXSWA input files *.m2t and *.p2t, created by MACRO and PRZM. SWAN v5.3 GUI includes a specific method to adapt the files, reported in the SWAN User guide, using the equation below.
The same SWAN method was used for manual adaption, using the specific factors for the waterbodies pond, ditch and stream, taken from the 'DAV.config' file in the SWAN folder. The time setting was the day of application at 09:30 for pond and ditch. For stream a time offset of -3 hours (06:30) is used in SWAN and was also used for the manual setup. All changes that would be normally made to the input files via the SWAN GUI were accurately reproduced manually to the given rounding precision in the *.m2t and *.p2t files.

$$dav_flux_{(i,j)} = flux_{(i,j)} + load_{(i,j)} \times contribution_{waterbody} \times deposition_{waterbody}$$

Where:

i	1..n applications
j	1..24 hours
$dav_flux_{(i,j)}$	The run-off or drainage flux taking into account dry deposition ('run-off flux' in *.p2t files, 'pest._flux' in *.m2t files)
$flux_{(i,j)}$	The run-off or drainage flux without dry deposition taken into account ('run-off flux' in *.p2t files, 'pest._flux' in *.m2t files)
$load_{(i,j)}$	The user-entered loading due to deposition for the given hour and application (e.g. EVA tool). Must not exceed the application rate.
$contribution_{waterbody}$	Contribution factor to represent running length of the water body. Pond: 0.2; Ditch: 0.01; Stream: 0.00057143
$deposition_{waterbody}$	Deposition area factor to account for integral over width of water body. Pond: 0.4926; Ditch: 0.9733; Stream: 0.9733

2.3.4 VFSmod

VFSmod v4.5.2 (Muñoz-Carpena, 2023) as implemented into the SWAN GUI was executed outside the GUI via command line interface. This approach ensured that VFSmod was used in the same way as in the SWAN GUI implementation. The command-line method is described in the file *CLIOverview.html*, which can be found in the SWAN User Guide folder and given below.

Swan.CLI.exe -p parameterFilePath [-t filePath]

Where:

parameterFilePath	The parameter filename (can be absolute or relative)
filePath	The full path of the TOXSWA executable to use (optional)

Runoff mitigations of VFSmod applied from the SWAN GUI could be reproduced using the CLI.

2.4 Additional modelling information

The temperature effect on degradation was parameterized according to the recommendations of the EFSA PPR Panel (PPR Panel, 2007), *i.e*. the activation energy in TOXSWA was set to 65400 J/mol, the temperature exponent in MACRO was set to 0.0948 and the Q_{10} value in PRZM was set to 2.58. Plant uptake was set to 0.0 as worst-case default. Other model input parameters were left at the default values.

3. Results

3.1 Step 3

3.1.1 Step 3: TS2, Winter cereals, 1×1000 g/ha

Table 3.1.1-1: Step 3: TS2, Maximum PEC_{SW}, Winter cereals, 1×1000 g/ha

Scenario	Appl. rate [g/ha]	Appl. Date	Step 3		
			Date of max	Global max PEC_{SW} [µg/L]	Relevant entry route
D1 Ditch	1000	11-09-1982	20-11-1982	68.700	Drainage-related
D1 Stream	1000	11-09-1982	19-11-1982	44.400	Drainage-related
D2 Ditch	1000	11-10-1986	21-10-1986	157.200	Drainage-related
D2 Stream	1000	11-10-1986	21-10-1986	99.160	Drainage-related
D3 Ditch	1000	06-11-1992	06-11-1992	6.423	Drift-related
D4 Pond	1000	10-09-1985	27-12-1985	7.942	Drainage-related
D4 Stream	1000	10-09-1985	07-12-1985	9.142	Drainage-related
D5 Pond	1000	26-11-1978	14-02-1979	8.624	Drainage-related
D5 Stream	1000	26-11-1978	30-12-1978	12.270	Drainage-related
D6 Ditch	1000	06-12-1986	18-12-1986	39.600	Drainage-related
R1 Pond	1000	14-11-1978	25-11-1978	0.619	Runoff-related
R1 Stream	1000	14-11-1978	25-11-1978	40.720	Runoff-related
R3 Stream	1000	17-11-1980	26-11-1980	59.880	Runoff-related
R4 Stream	1000	03-11-1979	21-12-1979	5.319	Runoff-related

Highlighted cells indicate relevant entry route: drift (blue), runoff (green) or drainage (grey), global maximum PEC_{SW} highlighted red.

3.1.2 Step 3: TS5, Pome/stone fruit, early, 3×1000 g/ha

Table 3.1.2-1: Step 3: TS5, Maximum PEC_{SW}, Pome/stone fruit, early, 3×1000 g/ha

Scenario	Appl. rate [g/ha]	Appl. Date	Step 3		
			Date of max	Global max PEC_{SW} [µg/L]	Relevant entry route
D3 Ditch	1000 1000 1000	04-04-1992 04-05-1992 25-05-1992	25-05-1992	62.680	Drift-related
D4 Pond	1000 1000 1000	18-04-1985 24-05-1985 16-06-1985	23-12-1985	14.030	Drainage-related
D4 Stream	1000 1000 1000	18-04-1985 24-05-1985 16-06-1985	16-06-1985	64.980	Drift-related
D5 Pond	1000 1000 1000	08-04-1978 01-05-1978 27-05-1978	14-02-1979	9.897	Drainage-related
D5 Stream	1000 1000 1000	08-04-1978 01-05-1978 27-05-1978	27-05-1978	71.320	Drift-related
R1 Pond	1000 1000 1000	07-04-1984 28-04-1984 31-05-1984	28-04-1984	5.271	Drift-related
R1 Stream	1000 1000 1000	07-04-1984 28-04-1984 31-05-1984	28-04-1984	50.200	Drift-related
R2 Stream	1000 1000 1000	01-03-1977 22-03-1977 22-04-1977	22-04-1977	66.600	Drift-related
R3 Stream	1000 1000 1000	28-03-1980 22-04-1980 18-05-1980	22-04-1980	71.060	Drift-related
R4 Stream	1000 1000 1000	05-03-1984 15-04-1984 10-05-1984	15-04-1984	50.500	Drift-related

Highlighted cells indicate relevant entry route: drift (blue), runoff (green) or drainage (grey), global maximum PEC_{SW} highlighted red.

3.1.3 Step 3: TS6, leafy vegetables, 1×375+1×250 g/ha

Table 3.1.3-1: Step 3: TS6, Maximum PEC_{SW}, leafy vegetables, 1×375+1×250 g/ha

Scenario	Appl. rate [g/ha]	Appl. Date	Step 3		
			Date of max	Global max PEC_{SW} [µg/L]	Relevant entry route
D3 Ditch	375 250	10-04-1992 20-04-1992	10-04-1992	2.231	Drift-related
D3 Ditch 2nd	375 250	25-07-1992 18-08-1992	25-07-1992	2.388	Drift-related
D4 Pond	375 250	16-05-1985 29-05-1985	30-12-1985	1.397	Drainage-related
D4 Stream	375 250	16-05-1985 29-05-1985	16-05-1985	1.986	Drift-related
D6 Ditch	375 250	04-08-1986 19-08-1986	17-08-1986	8.086	Drainage-related
R1 Pond	375 250	26-04-1984 09-05-1984	20-05-1984	0.266	Runoff-related
R1 Pond 2nd	375 250	28-07-1978 20-08-1978	17-09-1978	0.137	Runoff-related
R1 Stream	375 250	26-04-1984 09-05-1984	20-05-1984	4.357	Runoff-related
R1 Stream 2nd	375 250	28-07-1978 20-08-1978	17-09-1978	1.557	Runoff-related
R2 Stream	375 250	06-03-1978 25-03-1978	16-03-1978	6.951	Runoff-related
R2 Stream 2nd	375 250	31-07-1989 10-08-1989	22-10-1989	2.127	Runoff-related
R3 Stream	375 250	19-02-1981 20-03-1981	03-03-1981	10.280	Runoff-related
R3 Stream 2nd	375 250	02-06-1975 14-06-1975	09-06-1975	8.924	Runoff-related
R4 Stream	375 250	01-03-1980 15-03-1980	12-03-1980	13.940	Runoff-related
R4 Stream 2nd	375 250	01-06-1985 13-06-1985	07-06-1985	16.740	Runoff-related

Highlighted cells indicate relevant entry route: drift (blue), runoff (green) or drainage (grey), global maximum PEC_{SW} highlighted red.

3.1.4 Step 3: Metabolite of TS6, leafy vegetables, 1×375+1×250 g/ha

Table 3.1.4-1: Step 3: Metabolite of TS6, Maximum PEC_{SW}, leafy vegetables, 1×375+1×250 g/ha

Scenario	Appl. rate [g/ha]	Appl. Date	Step 3		
			Date of max	Global max PEC_{SW} [µg/L]	Relevant entry route
D3 Ditch	375 250	10-04-1992 20-04-1992	11-04-1992	0.045	Not assessed
D3 Ditch 2nd	375 250	25-07-1992 18-08-1992	26-07-1992	0.087	Not assessed
D4 Pond	375 250	16-05-1985 29-05-1985	31-12-1985	0.635	Not assessed
D4 Stream	375 250	16-05-1985 29-05-1985	09-12-1985	0.474	Not assessed
D6 Ditch	375 250	04-08-1986 19-08-1986	29-10-1986	1.060	Not assessed
R1 Pond	375 250	26-04-1984 09-05-1984	21-06-1984	0.056	Not assessed
R1 Pond 2nd	375 250	28-07-1978 20-08-1978	29-09-1978	0.045	Not assessed
R1 Stream	375 250	26-04-1984 09-05-1984	20-05-1984	0.361	Not assessed
R1 Stream 2nd	375 250	28-07-1978 20-08-1978	17-09-1978	0.486	Not assessed
R2 Stream	375 250	06-03-1978 25-03-1978	16-03-1978	0.265	Not assessed
R2 Stream 2nd	375 250	31-07-1989 10-08-1989	22-10-1989	0.602	Not assessed
R3 Stream	375 250	19-02-1981 20-03-1981	03-03-1981	0.841	Not assessed
R3 Stream 2nd	375 250	02-06-1975 14-06-1975	23-06-1975	1.250	Not assessed
R4 Stream	375 250	01-03-1980 15-03-1980	12-03-1980	0.730	Not assessed
R4 Stream 2nd	375 250	01-06-1985 13-06-1985	07-06-1985	1.268	Not assessed

Red highlighted cells indicate global maximum PEC_{SW}.

3.2 Step 4 (GUI + manual adaption)

3.2.1 Step 4: TS2, Winter cereals, 1×1000 g/ha, 10 m db

Table 3.2.1-1: Step 4: TS2, Maximum PEC_{SW}, Winter cereals, 1×1000 g/ha, 10 m db

Scenario	Appl. rate [g/ha]	Appl. Date	Step 4, 10 m db			
			Date of max	Global max PEC_{SW} [µg/L]		Relevant entry route
				SWAN GUI	Manually adapted	
D1 Ditch	1000	11-09-1982	20-11-1982	68.690	68.690	Drainage-related
D1 Stream	1000	11-09-1982	19-11-1982	44.400	44.400	Drainage-related
D2 Ditch	1000	11-10-1986	21-10-1986	157.200	157.200	Drainage-related
D2 Stream	1000	11-10-1986	21-10-1986	99.160	99.160	Drainage-related
D3 Ditch	1000	06-11-1992	06-11-1992	1.010	1.010	Drift-related
D4 Pond	1000	10-09-1985	27-12-1985	7.930	7.930	Drainage-related
D4 Stream	1000	10-09-1985	07-12-1985	9.142	9.142	Drainage-related
D5 Pond	1000	26-11-1978	14-02-1979	8.608	8.608	Drainage-related
D5 Stream	1000	26-11-1978	30-12-1978	12.270	12.270	Drainage-related
D6 Ditch	1000	06-12-1986	18-12-1986	39.600	39.600	Drainage-related
R1 Pond	1000	14-11-1978	25-11-1978	0.555	0.555	Runoff-related
R1 Stream	1000	14-11-1978	25-11-1978	40.720	40.720	Runoff-related
R3 Stream	1000	17-11-1980	26-11-1980	59.880	59.880	Runoff-related
R4 Stream	1000	03-11-1979	21-12-1979	5.319	5.319	Runoff-related

Highlighted cells indicate relevant entry route: drift (blue), runoff (green) or drainage (grey), global maximum PEC_{SW} highlighted red.

3.2.2 Step 4: TS2, Winter cereals, 1×1000 g/ha, 10 m db+vfs

Table 3.2.2-1: Step 4: TS2, Maximum PEC_{SW}, Winter cereals, 1×1000 g/ha, 10 m db+vfs

Scenario	Appl. rate [g/ha]	Appl. Date	Step 4, 10 m db+vfs			
			Date of max	Global max PEC_{SW} [µg/L]		
				SWAN GUI	Manually adapted	Relevant entry route
D1 Ditch	1000	11-09-1982	20-11-1982	68.690	68.690	Drainage-related
D1 Stream	1000	11-09-1982	19-11-1982	44.400	44.400	Drainage-related
D2 Ditch	1000	11-10-1986	21-10-1986	157.200	157.200	Drainage-related
D2 Stream	1000	11-10-1986	21-10-1986	99.160	99.160	Drainage-related
D3 Ditch	1000	06-11-1992	06-11-1992	1.010	1.010	Drift-related
D4 Pond	1000	10-09-1985	27-12-1985	7.930	7.930	Drainage-related
D4 Stream	1000	10-09-1985	07-12-1985	9.142	9.142	Drainage-related
D5 Pond	1000	26-11-1978	14-02-1979	8.608	8.608	Drainage-related
D5 Stream	1000	26-11-1978	30-12-1978	12.270	12.270	Drainage-related
D6 Ditch	1000	06-12-1986	18-12-1986	39.600	39.600	Drainage-related
R1 Pond	1000	14-11-1978	25-11-1978	0.293	0.293	Runoff-related
R1 Stream	1000	14-11-1978	25-11-1978	18.260	18.260	Runoff-related
R3 Stream	1000	17-11-1980	26-11-1980	27.330	27.330	Runoff-related
R4 Stream	1000	03-11-1979	21-12-1979	2.402	2.402	Runoff-related

Highlighted cells indicate relevant entry route: drift (blue), runoff (green) or drainage (grey), global maximum PEC_{SW} highlighted red.

3.2.3 Step 4: TS2, Winter cereals, 1×1000 g/ha, 10 m db + 5 m VFSmod

Table 3.2.3-1: Step 4: TS2, Maximum PEC_{SW}, Winter cereals, 1×1000 g/ha, 10 m db + 5 m VFSmod

Scenario	Appl. rate [g/ha]	Appl. Date	Step 4, 10 m db+ 5 m VFSmod			
			Date of max	Global max PECsw [µg/L]		
				SWAN GUI	Manually adapted	Relevant entry route
D1 Ditch	1000	11-09-1982	20-11-1982	68.690	68.690	Drainage-related
D1 Stream	1000	11-09-1982	19-11-1982	44.400	44.400	Drainage-related
D2 Ditch	1000	11-10-1986	21-10-1986	157.200	157.200	Drainage-related
D2 Stream	1000	11-10-1986	21-10-1986	99.160	99.160	Drainage-related
D3 Ditch	1000	06-11-1992	06-11-1992	1.010	1.010	Drift-related
D4 Pond	1000	10-09-1985	27-12-1985	7.930	7.930	Drainage-related
D4 Stream	1000	10-09-1985	07-12-1985	9.142	9.142	Drainage-related
D5 Pond	1000	26-11-1978	14-02-1979	8.608	8.608	Drainage-related
D5 Stream	1000	26-11-1978	30-12-1978	12.270	12.270	Drainage-related
D6 Ditch	1000	06-12-1986	18-12-1986	39.600	39.600	Drainage-related
R1 Pond	1000	14-11-1978	25-11-1978	0.277	0.277	Runoff-related
R1 Stream	1000	14-11-1978	14-11-1978	0.814	0.814	Drift-related
R3 Stream	1000	17-11-1980	26-11-1980	40.620	40.620	Runoff-related
R4 Stream	1000	03-11-1979	03-11-1979	0.817	0.817	Drift-related

3.2.4 Step 4: TS5, Pome/stone fruit, early, 3×1000 g/ha, 10 m db + 50 % drn

Table 3.2.4-1: Step 4: TS5, Maximum PEC_{SW}, Pome/stone fruit, early, 3×1000 g/ha, 10 m db + 50 % drn

Scenario	Appl. rate [g/ha]	Appl. Date	Step 4, 10 m db + 50 % drn			
			Date of max	Global max PECsw [µg/L]		
				SWAN GUI	Manually adapted	Relevant entry route
D3 Ditch	1000 1000 1000	04-04-1992 04-05-1992 25-05-1992	25-05-1992	14.210	14.210	Drift-related
D4 Pond	1000 1000 1000	18-04-1985 24-05-1985 16-06-1985	23-12-1985	14.030	14.030	Drainage-related
D4 Stream	1000 1000 1000	18-04-1985 24-05-1985 16-06-1985	09-12-1985	18.380	18.380	Drainage-related
D5 Pond	1000 1000 1000	08-04-1978 01-05-1978 27-05-1978	14-02-1979	9.896	9.896	Drainage-related
D5 Stream	1000 1000 1000	08-04-1978 01-05-1978 27-05-1978	01-05-1978	17.830	17.830	Drift-related
R1 Pond	1000 1000 1000	07-04-1984 28-04-1984 31-05-1984	28-04-1984	1.679	1.679	Drift-related
R1 Stream	1000 1000 1000	07-04-1984 28-04-1984 31-05-1984	28-04-1984	12.530	12.530	Drift-related
R2 Stream	1000 1000 1000	01-03-1977 22-03-1977 22-04-1977	22-04-1977	16.620	16.620	Drift-related
R3 Stream	1000 1000 1000	28-03-1980 22-04-1980 18-05-1980	22-04-1980	17.760	17.760	Drift-related
R4 Stream	1000 1000 1000	05-03-1984 15-04-1984 10-05-1984	18-05-1984	15.400	15.400	Runoff-related

Highlighted cells indicate relevant entry route: drift (blue), runoff (green) or drainage (grey), global maximum PEC_{SW} highlighted red.

3.2.5 Step 4: TS5, Pome/stone fruit, early, 3×1000 g/ha, 10 m db+vfs, 50 % drn

Table 3.2.5-1: Step 4: TS5, Maximum PEC_{SW}, Pome/stone fruit, early, 3×1000 g/ha, 10 m db+vfs, 50 % drn

Scenario	Appl. rate [g/ha]	Appl. Date	Step 4, 10 m db+vfs, 50 % drn			
			Date of max	Global max PEC_{SW} [µg/L]		
				SWAN GUI	Manually adapted	Relevant entry route
D3 Ditch	1000 1000 1000	04-04-1992 04-05-1992 25-05-1992	25-05-1992	14.210	14.210	Drift-related
D4 Pond	1000 1000 1000	18-04-1985 24-05-1985 16-06-1985	23-12-1985	14.030	14.030	Drainage-related
D4 Stream	1000 1000 1000	18-04-1985 24-05-1985 16-06-1985	09-12-1985	18.380	18.380	Drainage-related
D5 Pond	1000 1000 1000	08-04-1978 01-05-1978 27-05-1978	14-02-1979	9.896	9.896	Drainage-related
D5 Stream	1000 1000 1000	08-04-1978 01-05-1978 27-05-1978	01-05-1978	17.830	17.830	Drift-related
R1 Pond	1000 1000 1000	07-04-1984 28-04-1984 31-05-1984	28-04-1984	1.679	1.679	Drift-related
R1 Stream	1000 1000 1000	07-04-1984 28-04-1984 31-05-1984	28-04-1984	12.530	12.530	Drift-related
R2 Stream	1000 1000 1000	01-03-1977 22-03-1977 22-04-1977	22-04-1977	16.620	16.620	Drift-related
R3 Stream	1000 1000 1000	28-03-1980 22-04-1980 18-05-1980	22-04-1980	17.740	17.740	Drift-related
R4 Stream	1000 1000 1000	05-03-1984 15-04-1984 10-05-1984	15-04-1984	12.600	12.600	Drift-related

Highlighted cells indicate relevant entry route: drift (blue), runoff (green) or drainage (grey), global maximum PEC_{SW} highlighted red.
or drainage (grey), global maximum PEC_{SW} highlighted red.

3.2.6 Step 4: TS5, Pome/stone fruit, early, 3×1000 g/ha, 10 m db + 5 m VFSmod, 50 % drn

Table 3.2.6-1: Step 4: TS5, Maximum PECsw, Pome/stone fruit, early, 3×1000 g/ha, 10 m db + 5 m VFSmod, 50 % drn

Scenario	Appl. rate [g/ha]	Appl. Date	Step 4, 10 m db + 5 m VFSmod, 50 % drn			
			Date of max	Global max PECsw [µg/L]		
				SWAN GUI	Manually adapted	Relevant entry route
D3 Ditch	1000	04-04-1992		14.210	14.210	Drift-related
	1000	04-05-1992	25-05-1992			
	1000	25-05-1992				
D4 Pond	1000	18-04-1985	23-12-1985	14.030	14.030	Drainage-related
	1000	24-05-1985				
	1000	16-06-1985				
D4 Stream	1000	18-04-1985	09-12-1985	18.380	18.380	Drainage-related
	1000	24-05-1985				
	1000	16-06-1985				
D5 Pond	1000	08-04-1978	14-02-1979	9.896	9.896	Drainage-related
	1000	01-05-1978				
	1000	27-05-1978				
D5 Stream	1000	08-04-1978		17.830	17.830	Drift-related
	1000	01-05-1978	01-05-1978			
	1000	27-05-1978				
R1 Pond	1000	07-04-1984		1.679	1.679	Drift-related
	1000	28-04-1984	28-04-1984			
	1000	31-05-1984				
R1 Stream	1000	07-04-1984		12.530	12.530	Drift-related
	1000	28-04-1984	28-04-1984			
	1000	31-05-1984				
R2 Stream	1000	01-03-1977		16.620	16.620	Drift-related
	1000	22-03-1977	22-04-1977			
	1000	22-04-1977				
R3 Stream	1000	28-03-1980		17.720	17.720	Drift-related
	1000	22-04-1980	22-04-1980			
	1000	18-05-1980				
R4 Stream	1000	05-03-1984		12.600	12.600	Drift-related
	1000	15-04-1984	15-04-1984			
	1000	10-05-1984				

Highlighted cells indicate relevant entry route: drift (blue), runoff (green) or drainage (grey), global maximum PECsw highlighted red.

3.2.7 Step 4: TS6, leafy vegetables, 1×375+1×250 g/ha, 10 m db

Table 3.2.7-1: Step 4: TS6, Maximum PECsw, leafy vegetables, 1×375+1×250 g/ha, 10 m db

Scenario	Appl. rate [g/ha]	Appl. Date	Step 4, 10 m db			
			Date of max	Global max PECsw [µg/L]		
				SWAN GUI	Manually adapted	Relevant entry route
D3 Ditch	375 250	10-04-1992 20-04-1992	10-04-1992	0.435	0.435	Drift-related
D3 Ditch 2nd	375 250	25-07-1992 18-08-1992	31-03-1993	0.636	0.636	Drainage-related
D4 Pond	375 250	16-05-1985 29-05-1985	30-12-1985	1.397	1.397	Drainage-related
D4 Stream	375 250	16-05-1985 29-05-1985	20-12-1985	0.950	0.950	Drainage-related
D6 Ditch	375 250	04-08-1986 19-08-1986	17-08-1986	8.085	8.085	Drainage-related
R1 Pond	375 250	26-04-1984 09-05-1984	20-05-1984	0.236	0.236	Runoff-related
R1 Pond 2nd	375 250	28-07-1978 20-08-1978	17-09-1978	0.123	0.123	Runoff-related
R1 Stream	375 250	26-04-1984 09-05-1984	20-05-1984	4.357	4.357	Runoff-related
R1 Stream 2nd	375 250	28-07-1978 20-08-1978	17-09-1978	1.557	1.557	Runoff-related
R2 Stream	375 250	06-03-1978 25-03-1978	16-03-1978	6.951	6.951	Runoff-related
R2 Stream 2nd	375 250	31-07-1989 10-08-1989	22-10-1989	2.127	2.127	Runoff-related
R3 Stream	375 250	19-02-1981 20-03-1981	03-03-1981	10.280	10.280	Runoff-related
R3 Stream 2nd	375 250	02-06-1975 14-06-1975	09-06-1975	8.924	8.924	Runoff-related
R4 Stream	375 250	01-03-1980 15-03-1980	12-03-1980	13.940	13.940	Runoff-related
R4 Stream 2nd	375 250	01-06-1985 13-06-1985	07-06-1985	16.740	16.740	Runoff-related

Highlighted cells indicate relevant entry route: drift (blue), runoff (green) or drainage (grey), global maximum PECsw highlighted red.

3.2.8 Step 4: TS6, leafy vegetables, 1×375+1×250 g/ha, 10 m db+vfs

Table 3.2.8-1: Step 4: TS6, Maximum PEC_{SW}, leafy vegetables, 1×375+1×250 g/ha, 10 m db+vfs

Scenario	Appl. rate [g/ha]	Appl. Date	Step 4, 10 m db+vfs			
			Date of max	Global max PEC_{SW} [µg/L]		
				SWAN GUI	Manually adapted	Relevant entry route
D3 Ditch	375 250	10-04-1992 20-04-1992	10-04-1992	0.435	0.435	Drift-related
D3 Ditch 2nd	375 250	25-07-1992 18-08-1992	31-03-1993	0.636	0.636	Drainage-related
D4 Pond	375 250	16-05-1985 29-05-1985	30-12-1985	1.397	1.397	Drainage-related
D4 Stream	375 250	16-05-1985 29-05-1985	20-12-1985	0.950	0.950	Drainage-related
D6 Ditch	375 250	04-08-1986 19-08-1986	17-08-1986	8.085	8.085	Drainage-related
R1 Pond	375 250	26-04-1984 09-05-1984	20-05-1984	0.123	0.123	Runoff-related
R1 Pond 2nd	375 250	28-07-1978 20-08-1978	17-09-1978	0.063	0.063	Runoff-related
R1 Stream	375 250	26-04-1984 09-05-1984	20-05-1984	1.976	1.976	Runoff-related
R1 Stream 2nd	375 250	28-07-1978 20-08-1978	17-09-1978	0.708	0.708	Runoff-related
R2 Stream	375 250	06-03-1978 25-03-1978	16-03-1978	3.090	3.090	Runoff-related
R2 Stream 2nd	375 250	31-07-1989 10-08-1989	22-10-1989	0.955	0.955	Runoff-related
R3 Stream	375 250	19-02-1981 20-03-1981	03-03-1981	4.595	4.595	Runoff-related
R3 Stream 2nd	375 250	02-06-1975 14-06-1975	09-06-1975	4.072	4.072	Runoff-related
R4 Stream	375 250	01-03-1980 15-03-1980	12-03-1980	6.319	6.319	Runoff-related
R4 Stream 2nd	375 250	01-06-1985 13-06-1985	07-06-1985	7.633	7.633	Runoff-related

Highlighted cells indicate relevant entry route: drift (blue), runoff (green) or drainage (grey), global maximum PEC_{SW} highlighted red.

3.2.9 Step 4: TS6, leafy vegetables, 1×375+1×250 g/ha, 10 m db + 5 m VFSmod

Table 3.2.9-1: Step 4: TS6, Maximum PEC_{SW}, leafy vegetables, 1×375+1×250 g/ha, 10 m db + 5 m VFSmod

Scenario	Appl. rate [g/ha]	Appl. Date	Step 4, 10 m db + 5 m VFSmod			
			Date of max	Global max PEC_{SW} [µg/L]		
				SWAN GUI	Manually adapted	Relevant entry route
D3 Ditch	375 250	10-04-1992 20-04-1992	10-04-1992	0.435	0.435	Drift-related
D3 Ditch 2nd	375 250	25-07-1992 18-08-1992	31-03-1993	0.636	0.636	Drainage-related
D4 Pond	375 250	16-05-1985 29-05-1985	30-12-1985	1.397	1.397	Drainage-related
D4 Stream	375 250	16-05-1985 29-05-1985	20-12-1985	0.950	0.950	Drainage-related
D6 Ditch	375 250	04-08-1986 19-08-1986	17-08-1986	8.085	8.085	Drainage-related
R1 Pond	375 250	26-04-1984 09-05-1984	20-05-1984	0.182	0.182	Runoff-related
R1 Pond 2nd	375 250	28-07-1978 20-08-1978	17-09-1978	0.095	0.095	Runoff-related
R1 Stream	375 250	26-04-1984 09-05-1984	20-05-1984	1.684	1.684	Runoff-related
R1 Stream 2nd	375 250	28-07-1978 20-08-1978	17-09-1978	0.617	0.617	Runoff-related
R2 Stream	375 250	06-03-1978 25-03-1978	06-03-1978	0.326	0.326	Drift-related
R2 Stream 2nd	375 250	31-07-1989 10-08-1989	23-10-1989	0.434	0.434	Runoff-related
R3 Stream	375 250	19-02-1981 20-03-1981	15-04-1981	0.932	0.932	Runoff-related
R3 Stream 2nd	375 250	02-06-1975 14-06-1975	09-06-1975	4.562	4.562	Runoff-related
R4 Stream	375 250	01-03-1980 15-03-1980	19-03-1980	1.676	1.676	Runoff-related
R4 Stream 2nd	375 250	01-06-1985 13-06-1985	07-06-1985	9.494	9.494	Runoff-related

Highlighted cells indicate relevant entry route: drift (blue), runoff (green) or drainage (grey), global maximum PEC_{SW} highlighted red.

3.2.10 Step 4: Metabolite of TS6, leafy vegetables, 1×375+1×250 g/ha, 10 m db

Table 3.2.10-1: Step 4: Metabolite of TS6, Maximum PECsw, leafy vegetables, 1×375+1×250 g/ha, 10 m db

Scenario	Appl. rate [g/ha]	Appl. Date	Step 4, 10 m db			
			Date of max	Global max PECsw [µg/L]		
				SWAN GUI	Manually adapted	Relevant entry route
D3 Ditch	375 250	10-04-1992 20-04-1992	31-01-1993	0.042	0.042	Not assessed
D3 Ditch 2nd	375 250	25-07-1992 18-08-1992	31-01-1993	0.084	0.084	Not assessed
D4 Pond	375 250	16-05-1985 29-05-1985	31-12-1985	0.635	0.635	Not assessed
D4 Stream	375 250	16-05-1985 29-05-1985	09-12-1985	0.474	0.474	Not assessed
D6 Ditch	375 250	04-08-1986 19-08-1986	29-10-1986	1.060	1.060	Not assessed
R1 Pond	375 250	26-04-1984 09-05-1984	21-06-1984	0.050	0.050	Not assessed
R1 Pond 2nd	375 250	28-07-1978 20-08-1978	25-11-1978	0.040	0.040	Not assessed
R1 Stream	375 250	26-04-1984 09-05-1984	20-05-1984	0.361	0.361	Not assessed
R1 Stream 2nd	375 250	28-07-1978 20-08-1978	17-09-1978	0.486	0.486	Not assessed
R2 Stream	375 250	06-03-1978 25-03-1978	16-03-1978	0.265	0.265	Not assessed
R2 Stream 2nd	375 250	31-07-1989 10-08-1989	22-10-1989	0.602	0.602	Not assessed
R3 Stream	375 250	19-02-1981 20-03-1981	03-03-1981	0.841	0.841	Not assessed
R3 Stream 2nd	375 250	02-06-1975 14-06-1975	23-06-1975	1.250	1.250	Not assessed
R4 Stream	375 250	01-03-1980 15-03-1980	12-03-1980	0.730	0.730	Not assessed
R4 Stream 2nd	375 250	01-06-1985 13-06-1985	07-06-1985	1.268	1.268	Not assessed

Highlighted cells indicate relevant entry route: drift (blue), runoff (green) or drainage (grey), global maximum PECsw highlighted red.

3.2.11 Step 4: Metabolite of TS6, leafy vegetables, 1×375+1×250 g/ha, 10 m db+vfs

Table 3.2.11-1: Step 4: Metabolite of TS6, Maximum PECsw, leafy vegetables, 1×375+1×250 g/ha, 10 m db+vfs

Scenario	Appl. rate [g/ha]	Appl. Date	Step 4, 10 m db+vfs			
			Date of max	Global max PECsw [µg/L]		
				SWAN GUI	Manually adapted	Relevant entry route
D3 Ditch	375 250	10-04-1992 20-04-1992	31-01-1993	0.042	0.042	Not assessed
D3 Ditch 2nd	375 250	25-07-1992 18-08-1992	31-01-1993	0.084	0.084	Not assessed
D4 Pond	375 250	16-05-1985 29-05-1985	31-12-1985	0.635	0.635	Not assessed
D4 Stream	375 250	16-05-1985 29-05-1985	09-12-1985	0.474	0.474	Not assessed
D6 Ditch	375 250	04-08-1986 19-08-1986	29-10-1986	1.060	1.060	Not assessed
R1 Pond	375 250	26-04-1984 09-05-1984	21-06-1984	0.026	0.026	Not assessed
R1 Pond 2nd	375 250	28-07-1978 20-08-1978	29-09-1978	0.021	0.021	Not assessed
R1 Stream	375 250	26-04-1984 09-05-1984	20-05-1984	0.164	0.164	Not assessed
R1 Stream 2nd	375 250	28-07-1978 20-08-1978	17-09-1978	0.221	0.221	Not assessed
R2 Stream	375 250	06-03-1978 25-03-1978	16-03-1978	0.118	0.118	Not assessed
R2 Stream 2nd	375 250	31-07-1989 10-08-1989	22-10-1989	0.270	0.270	Not assessed
R3 Stream	375 250	19-02-1981 20-03-1981	03-03-1981	0.376	0.376	Not assessed
R3 Stream 2nd	375 250	02-06-1975 14-06-1975	23-06-1975	0.570	0.570	Not assessed
R4 Stream	375 250	01-03-1980 15-03-1980	12-03-1980	0.331	0.331	Not assessed
R4 Stream 2nd	375 250	01-06-1985 13-06-1985	07-06-1985	0.578	0.578	Not assessed

Highlighted cells indicate relevant entry route: drift (blue), runoff (green) or drainage (grey), global maximum PECsw highlighted red.

3.2.12 Step 4: Metabolite of TS6, leafy vegetables, 1×375+1×250 g/ha, 10 m db + 5 m VFSmod

Table 3.2.12-1: Step 4: Metabolite of TS6, Maximum PEC_{SW}, leafy vegetables, 1×375+1×250 g/ha, 10 m db + 5 m VFSmod

Scenario	Appl. rate [g/ha]	Appl. Date	Step 4, 10 m db + 5 m VFSmod			
			Date of max	Global max PEC_{SW} [µg/L]		
				SWAN GUI	Manually adapted	Relevant entry route
D3 Ditch	375 250	10-04-1992 20-04-1992	31-01-1993	0.042	0.042	Not assessed
D3 Ditch 2nd	375 250	25-07-1992 18-08-1992	31-01-1993	0.084	0.084	Not assessed
D4 Pond	375 250	16-05-1985 29-05-1985	31-12-1985	0.635	0.635	Not assessed
D4 Stream	375 250	16-05-1985 29-05-1985	09-12-1985	0.474	0.474	Not assessed
D6 Ditch	375 250	04-08-1986 19-08-1986	29-10-1986	1.060	1.060	Not assessed
R1 Pond	375 250	26-04-1984 09-05-1984	21-06-1984	0.039	0.039	Not assessed
R1 Pond 2nd	375 250	28-07-1978 20-08-1978	25-11-1978	0.032	0.032	Not assessed
R1 Stream	375 250	26-04-1984 09-05-1984	20-05-1984	0.139	0.139	Not assessed
R1 Stream 2nd	375 250	28-07-1978 20-08-1978	17-09-1978	0.192	0.192	Not assessed
R2 Stream	375 250	06-03-1978 25-03-1978	29-04-1978	0.029	0.029	Not assessed
R2 Stream 2nd	375 250	31-07-1989 10-08-1989	23-10-1989	0.240	0.240	Not assessed
R3 Stream	375 250	19-02-1981 20-03-1981	15-04-1981	0.166	0.166	Not assessed
R3 Stream 2nd	375 250	02-06-1975 14-06-1975	09-06-1975	0.549	0.549	Not assessed
R4 Stream	375 250	01-03-1980 15-03-1980	19-03-1980	0.084	0.084	Not assessed
R4 Stream 2nd	375 250	01-06-1985 13-06-1985	07-06-1985	0.715	0.715	Not assessed

Highlighted cells indicate relevant entry route: drift (blue), runoff (green) or drainage (grey), global maximum PEC_{SW} highlighted red.

4. Conclusions

For all substances, crops, scenarios, and mitigation options evaluated, the FOCUS Step 4 results generated using the SWAN v5.3 GUI were fully consistent with the corresponding manually prepared TOXSWA simulations. Across the complete dataset, SWAN GUI and manual calculations yielded identical numerical results for global maximum concentrations, dates of maximum concentrations, time-weighted average concentrations, and identification of the dominant entry route. No deviations between the two approaches were observed.

For all Step 4 scenarios, global maximum concentrations calculated using the SWAN GUI and those obtained by manual preparation were identical. No differences were observed for any water body type (ditch, stream, or pond) or for any scenario group (D or R scenarios).

The date and timing of maximum concentrations were identical between SWAN GUI and manual calculations for all scenarios. No shifts in peak timing were detected. This demonstrates that SWAN correctly applies all temporal aspects of the TOXSWA input files, including application timing, runoff and drainage fluxes, and dry deposition timing.

For every scenario, the dominant entry route identified by the SWAN GUI (spray drift, runoff, or drainage) was identical to that identified in the corresponding manual calculations.
Spray drift mitigation measures (buffer zones and drift-reducing nozzles) applied via the SWAN GUI resulted in the same reductions as those obtained through manual modification of TOXSWA input files, within the given rounding precision. Runoff mitigation measures (FOCUS landscape and mitigation buffers and VFSmod) produced identical adjusted fluxes and surface water concentrations in both approaches. No differences were observed for combined mitigation measures. These results confirm that the SWAN GUI correctly translates mitigation settings into TOXSWA input parameters.

All runoff or drainage fluxes incorporating dry deposition as implemented in SWAN could be reproduced manually, within the given rounding precision, using the *.m2t and *.p2t files generated by the SWAN GUI. For Test Substance 2, implementation of dry deposition in the SWAN v5.3 GUI resulted in identical surface water concentrations compared with manual application of EVA-derived deposition fluxes. Hourly deposition profiles, water-body-specific contribution factors, and timing offsets were handled consistently in both approaches, with no numerical or temporal differences observed.
The VFSmod runoff reduction implemented via the SWAN GUI produced results fully identical to those obtained using VFSmod executed manually via the command-line interface (CLI). This demonstrates that the SWAN GUI applies the same methodology as the CLI, including the use of identical input parameters.

Overall conclusion

Across all tested substances, scenarios, and mitigation measures, the SWAN v5.3 GUI produced results that were numerically and temporally identical to manually prepared FOCUS Step 4 TOXSWA simulations. The comparison confirms that the SWAN v5.3 GUI represents an exact implementation of the manual FOCUS Step 4 workflow, within the given rounding precision, and is therefore suitable for regulatory surface water exposure assessments in an EFSA context.

5. References

5.1 Standard bibliography

FOCUS (2003): FOCUS Surface Water Scenarios in the EU Evaluation Process under 91/414/EEC, Report of the FOCUS Working Group on Surface Water Scenarios, EC Document Reference SANCO/4802/2001-rev.2, 245 pp.

FOCUS (2007a): Landscape And Mitigation Factors In Aquatic Risk Assessment. Volume 1: Extended Summary and Recommendations. Report of the FOCUS Working Group on Landscape and Mitigation Factors in Ecological Risk Assessment, EC Document Reference SANCO/10422/2005 v2.0, 169 pp.

FOCUS (2007b): Landscape and mitigation factors in aquatic risk assessment. Volume 2: Detailed technical reviews. Report of the FOCUS Working Group on Landscape and Mitigation Factors in Ecological Risk Assessment, EC Document Reference SAN-CO/10422/2005 v2.0, 436 pp.

FOCUS (2015): Generic Guidance for FOCUS surface water Scenarios. Version 1.4, FOCUS Working Group on Surface Water Scenarios, May 2015.

Muñoz-Carpena R (2023): VFSMOD-W Vegetative Filter Strips Modeling System, Model documentation & user's manual. v4.5.2. University of Florida. Gainesville, Florida, USA. URL: https://abe.ufl.edu/faculty/carpena/vfsmod/

PPR Panel (2007): Scientific Opinion of the Panel on Plant Protection Products and their Residues on a request from EFSA related to the default Q10 value used to describe the temperature effect on transformation rates of pesticides in soil. The EFSA Journal (2007) 622, 1-32.

Ter Horst MMS, Adriaanse PI, Boesten JJTI (2009): Mitigation of runoff in the FOCUS surface water scenarios. Alterra report 1794, Wageningen, The Netherlands.

Appendices

A1 Input data

Table A1-1: Overview on Step 3-4 input data – FOCUS SW test substances

Parameter	FOCUS surface water TS2	FOCUS surface water TS5 with modified Koc	FOCUS surface water TS6	FOCUS surface water Metabolite of TS6
Molecular weight [g/mol]	215.7	376	255	197
Vapor pressure [Pa] at 20°C	3.85×10^{-5}	6.40×10^{-9}	3.78×10^{-9}	0
Molar enthalpy for vaporization [J/mol]	95000	95000	95000	95000
Water solubility [mg/L] at 20°C	30	1.15	91	91
Molar enthalpy for dissolution [J/mol]	27000	27000	27000	27000
K_{FOC} [L/kg]	91	500	66	580
1/n [-]	0.88	1.0	1.0	1.0
Reference concentration in liquid phase [g/m³]	1.0	1.0	1.0	1.0
Crop uptake factor [-]	0	0	0	0
DT_{50} (soil) [d] at 20°C	43	250	28	58
DT_{50} water [d] at 20°C	26	6	24	33
DT_{50} sediment [d] at 20°C	26	118	24	33
DT_{50} crop [d]	10	10	10	10
Reference temperature [°C]	20	20	20	20
MACRO temp. exponent [1/K]	0.0948	0.0948	0.0948	0.0948
PRZM Q_{10} [-]	2.58	2.58	2.58	2.58
Reference moisture [-]	pF 2	pF 2	pF 2	pF 2
PRZM / MACRO moisture exponent [-]	0.7 / 0.49	0.7 / 0.49	0.7 / 0.49	0.7 / 0.49
TOXSWA: activation energy [J/mol]	65400	65400	65400	65400
Wash off coefficient MACRO: [1/mm]	0.05	0.05	0.05	0.05
Wash off coefficient PRZM: [1/cm]	0.5	0.5	0.5	0.5
Diffusion coefficient in water [m²/day]	4.30×10^{-5}	4.30×10^{-5}	4.30×10^{-5}	4.30×10^{-5}
Diffusion coefficient in air [m²/day]	0.43	0.43	0.43	0.43
Formation fraction in soil [-]	-	-	-	0.5
Formation fraction in water [-]	-	-	-	0.7

A2 Step 3 result tables

A2.1 Step 3: TS2, Winter cereals, 1×1000 g/ha

Table A2.1-1: Step 3: TS2, PEC_{SW}, Winter cereals, 1×1000 g/ha

Scenario	Appl. Date	Date of max.	PEC_{SW} [µg/L]											
			Max.	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D1 Ditch	11-09-1982	20-11-1982	68.700	67.310	60.270	59.300	51.070	40.640	30.690	25.270	20.450	15.440	14.480	9.152
D1 Stream	11-09-1982	19-11-1982	44.400	42.940	41.460	37.360	36.950	29.090	19.460	16.030	12.850	9.612	8.899	0.049
D2 Ditch	11-10-1986	21-10-1986	157.200	54.400	42.310	41.140	39.680	81.340	60.860	57.890	46.470	20.240	19.000	8.409
D2 Stream	11-10-1986	21-10-1986	99.160	16.510	9.055	37.480	18.270	56.180	32.740	33.430	29.250	11.820	12.170	4.731
D3 Ditch	06-11-1992	06-11-1992	6.423	2.113	0.228	0.116	0.107	0.103	0.102	0.101	0.101	0.101	0.101	0.102
D4 Pond	10-09-1985	27-12-1985	7.942	7.932	7.899	7.849	7.785	7.565	7.018	6.500	6.126	5.521	5.096	3.131
D4 Stream	10-09-1985	07-12-1985	9.142	6.864	8.908	7.521	6.824	5.364	3.827	2.725	1.385	0.898	1.868	0.515
D5 Pond	26-11-1978	14-02-1979	8.624	8.590	8.524	8.443	8.357	8.090	7.486	6.891	6.347	5.563	5.175	<0.001
D5 Stream	26-11-1978	30-12-1978	12.270	9.615	7.142	5.538	4.418	2.213	1.631	1.210	1.210	3.975	1.772	1.355
D6 Ditch	06-12-1986	18-12-1986	39.600	27.380	13.480	6.936	4.705	14.020	4.689	4.064	4.307	4.317	3.787	4.612
R1 Pond	14-11-1978	25-11-1978	0.619	0.606	0.596	0.586	0.577	0.550	0.493	0.442	0.396	0.316	0.285	0.143
R1 Stream	14-11-1978	25-11-1978	40.720	0.035	0.009	0.004	0.003	<0.001	1.213	0.015	<0.001	<0.001	<0.001	<0.001
R3 Stream	17-11-1980	26-11-1980	59.880	20.960	1.681	2.947	0.029	0.016	0.006	0.006	0.002	0.002	0.001	<0.001
R4 Stream	03-11-1979	21-12-1979	5.319	1.250	0.003	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Global maximum			**157.200**											

Table A2.1-2: Step 3: TS2, TWA PEC_{SW}, Winter cereals, 1×1000 g/ha

Scenario	TWA PEC_{SW} [µg/L]										
	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D1 Ditch	68.50	67.94	66.76	64.94	59.46	48.70	42.14	37.61	31.37	28.80	21.22
D1 Stream	43.98	43.67	43.14	42.38	39.58	33.54	28.73	25.63	21.41	19.57	13.90
D2 Ditch	94.32	85.78	80.37	78.05	76.13	68.38	63.46	59.97	50.46	45.55	30.36
D2 Stream	55.96	50.66	47.59	44.81	43.74	38.66	36.44	33.45	28.34	25.71	17.31
D3 Ditch	4.584	2.693	1.844	1.411	0.851	0.477	0.351	0.289	0.226	0.206	0.154
D4 Pond	7.941	7.939	7.938	7.938	7.926	7.827	7.697	7.550	7.210	7.028	5.908
D4 Stream	8.254	7.752	7.654	7.574	7.300	6.243	5.330	4.664	3.514	3.126	2.043
D5 Pond	8.620	8.609	8.593	8.575	8.497	8.261	8.005	7.746	7.259	7.015	5.629
D5 Stream	11.63	10.44	9.300	8.343	6.269	4.093	3.196	2.712	2.798	2.832	2.063
D6 Ditch	37.24	31.81	25.94	21.32	19.19	14.66	11.20	9.492	8.337	7.672	5.994
R1 Pond	0.612	0.607	0.601	0.597	0.583	0.552	0.524	0.498	0.450	0.426	0.321
R1 Stream	17.37	8.694	5.798	4.350	2.486	1.295	0.864	0.653	0.436	0.367	0.184
R3 Stream	31.37	25.45	18.08	14.19	8.119	4.136	2.762	2.072	1.407	1.182	0.591
R4 Stream	2.809	1.681	1.121	0.841	0.481	0.240	0.160	0.120	0.080	0.085	0.042

Table A2.1-3: Step 3: TS2, PEC_{SED}, Winter cereals, 1×1000 g/ha

Scenario	Date of Max.	PEC_{SED} [µg/kg]											
		Max.	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D1 Ditch	06-12-1982	48.60	48.45	48.38	48.33	48.26	48.23	46.95	45.80	44.26	42.68	42.59	40.95
D1 Stream	27-11-1982	32.72	32.45	32.36	32.38	32.37	32.22	31.74	30.80	30.11	28.01	27.45	21.47
D2 Ditch	14-11-1986	79.10	78.67	78.06	77.89	77.86	76.14	69.60	63.81	62.23	57.15	55.55	41.82
D2 Stream	14-11-1986	46.54	46.24	45.95	46.04	46.18	45.44	41.72	38.17	37.47	34.62	33.63	25.02
D3 Ditch	07-11-1992	1.532	1.130	0.893	0.784	0.720	0.619	0.525	0.481	0.460	0.440	0.433	0.415
D4 Pond	13-02-1986	14.10	14.10	14.10	14.09	14.09	14.06	13.94	13.77	13.55	13.02	12.65	<0.001
D4 Stream	14-12-1985	6.907	6.856	6.780	6.677	6.592	6.680	6.537	5.690	5.074	5.080	4.937	3.310
D5 Pond	23-03-1979	13.96	13.95	13.95	13.95	13.95	13.94	13.74	13.45	13.08	<0.001	<0.001	<0.001
D5 Stream	12-02-1979	6.156	6.085	5.975	5.838	5.710	5.392	4.877	4.463	4.076	4.311	4.322	<0.001
D6 Ditch	25-12-1986	16.82	16.26	15.70	15.24	14.60	13.00	11.37	10.87	13.07	11.15	10.23	11.14
R1 Pond	07-01-1979	0.904	0.904	0.903	0.903	0.903	0.900	0.891	0.877	0.858	0.810	0.781	0.547
R1 Stream	25-11-1978	6.362	2.582	1.916	1.599	1.404	1.084	0.819	0.625	0.521	0.403	0.356	0.194
R3 Stream	27-11-1980	15.72	11.92	10.73	9.521	8.741	7.245	5.444	4.559	3.868	3.017	2.675	1.411
R4 Stream	21-12-1979	1.069	0.678	0.434	0.355	0.309	0.237	0.168	0.134	0.113	0.086	0.074	0.034
Global maximum		**79.100**											

Table A2.1-4: Step 3: TS2, TWA PEC_{SED}, Winter cereals, 1×1000 g/ha

Scenario	TWA PEC_{SED} [µg/kg]										
	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D1 Ditch	48.58	48.55	48.53	48.50	48.44	48.33	48.11	47.84	46.98	46.42	44.05
D1 Stream	32.64	32.56	32.50	32.47	32.42	32.25	32.06	31.76	31.07	30.61	28.43
D2 Ditch	78.97	78.75	78.58	78.39	78.03	77.27	75.61	73.92	70.56	69.06	60.22
D2 Stream	46.44	46.30	46.15	46.10	45.98	45.48	44.55	43.37	41.52	40.77	35.82
D3 Ditch	1.448	1.295	1.168	1.076	0.910	0.742	0.663	0.615	0.560	0.540	0.480
D4 Pond	14.10	14.10	14.10	14.10	14.10	14.09	14.07	14.04	13.96	13.90	13.38
D4 Stream	6.902	6.891	6.871	6.851	6.787	6.708	6.644	6.457	6.005	5.819	5.057
D5 Pond	13.96	13.96	13.95	13.95	13.95	13.95	13.93	13.89	13.78	13.70	11.52
D5 Stream	6.140	6.120	6.100	6.065	5.961	5.742	5.545	5.341	4.961	4.847	4.377
D6 Ditch	16.71	16.54	16.48	16.33	15.76	14.38	13.62	12.99	12.73	12.53	11.81
R1 Pond	0.904	0.904	0.904	0.904	0.903	0.903	0.902	0.900	0.893	0.888	0.838
R1 Stream	4.493	3.469	2.933	2.591	2.023	1.471	1.217	1.056	0.858	0.782	0.523
R3 Stream	14.67	13.67	13.25	12.70	11.10	8.915	7.683	6.857	5.748	5.296	3.658
R4 Stream	0.807	0.703	0.611	0.546	0.432	0.317	0.262	0.227	0.185	0.168	0.110

A2.2 Step 3: TS5, Pome/stone fruit, early, 3×1000 g/ha

Table A2.2-1: Step 3: TS5, PEC_{SW}, Pome/stone fruit, early, 3×1000 g/ha

Scenario	Appl. Date	Date of max.	PECsw [µg/L]											
			Max.	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	04-04-1992 04-05-1992 25-05-1992	25-05-1992	62.680	39.440	12.220	2.822	0.791	0.144	0.048	0.030	0.022	0.015	0.013	0.007
D4 Pond	18-04-1985 24-05-1985 16-06-1985	23-12-1985	14.030	13.960	13.800	13.630	13.460	12.710	10.650	8.783	7.261	5.447	4.390	1.204
D4 Stream	18-04-1985 24-05-1985 16-06-1985	16-06-1985	64.980	0.068	0.042	0.034	0.031	0.023	0.013	0.001	<0.001	<0.001	<0.001	0.041
D5 Pond	08-04-1978 01-05-1978 27-05-1978	14-02-1979	9.897	9.798	9.586	9.329	9.055	8.240	6.561	5.088	3.950	3.090	2.719	<0.001
D5 Stream	08-04-1978 01-05-1978 27-05-1978	27-05-1978	71.320	0.521	0.073	0.034	0.021	0.010	0.005	0.003	0.002	0.002	0.001	0.001
R1 Pond	07-04-1984 28-04-1984 31-05-1984	28-04-1984	5.271	4.974	4.727	4.478	4.210	3.510	2.323	1.553	1.065	2.237	1.190	0.027
R1 Stream	07-04-1984 28-04-1984 31-05-1984	28-04-1984	50.200	0.018	0.005	0.002	0.001	0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001
R2 Stream	01-03-1977 22-03-1977 22-04-1977	22-04-1977	66.600	0.007	0.002	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.007	<0.001
R3 Stream	28-03-1980 22-04-1980 18-05-1980	22-04-1980	71.060	0.254	0.056	0.028	0.018	0.008	0.002	0.001	0.036	0.002	0.001	<0.001
R4 Stream	05-03-1984 15-04-1984 10-05-1984	15-04-1984	50.500	0.027	0.007	0.004	0.002	0.001	0.004	<0.001	0.002	0.001	0.001	<0.001
Global maximum			**71.320**											

Table A2.2-2: Step 3: TS5, TWA PEC_{SW}, Pome/stone fruit, early, 3×1000 g/ha

Scenario	TWA PECsw [µg/L]										
	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	51.45	37.96	27.43	20.96	12.11	6.095	4.076	5.714	3.829	3.220	2.281
D4 Pond	14.03	14.01	13.98	13.93	13.77	13.27	12.67	12.07	10.88	10.22	6.959
D4 Stream	16.30	14.99	14.31	14.25	13.41	13.14	12.11	10.47	7.830	6.898	3.877
D5 Pond	9.885	9.852	9.808	9.752	9.509	8.802	8.090	7.418	6.294	5.812	3.957
D5 Stream	26.23	13.20	8.818	7.828	7.299	5.667	4.664	4.073	3.427	3.196	2.535
R1 Pond	5.114	4.981	4.857	4.728	4.350	3.611	3.045	2.878	2.716	2.484	1.854
R1 Stream	8.832	4.806	3.210	2.409	1.378	0.882	0.588	0.663	0.507	0.426	0.382
R2 Stream	6.453	3.426	2.286	1.715	0.981	0.568	0.570	0.429	0.414	0.350	0.250
R3 Stream	22.50	12.13	11.57	8.759	5.019	2.513	1.676	1.939	1.318	1.107	0.746
R4 Stream	9.973	9.576	6.469	4.854	2.776	2.154	1.437	1.299	1.105	0.928	0.549

Table A2.2-3: Step 3: TS5, PEC_{SED}, Pome/stone fruit, early, 3×1000 g/ha

Scenario	Date of Max.	PEC_{SED} [µg/kg]											
		Max.	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	26-05-1992	29.97	25.60	20.77	17.84	16.00	12.98	9.914	8.334	7.268	5.806	5.190	2.992
D4 Pond	13-01-1986	34.76	34.75	34.72	34.68	34.63	34.41	33.98	33.25	32.15	29.58	28.10	20.42
D4 Stream	22-12-1985	26.93	26.80	26.49	26.05	25.76	24.69	21.60	19.09	17.38	16.53	14.84	9.633
D5 Pond	03-03-1979	22.35	22.34	22.31	22.27	22.21	21.98	21.19	20.63	20.22	18.96	17.93	<0.001
D5 Stream	27-05-1978	20.68	14.29	12.02	10.98	10.34	9.180	7.841	7.036	6.433	5.493	5.054	3.272
R1 Pond	06-06-1984	9.560	9.541	9.492	9.418	9.328	8.989	8.064	7.261	6.463	5.149	4.596	2.693
R1 Stream	31-05-1984	5.787	3.156	2.447	2.125	1.925	1.586	1.233	4.005	1.796	1.218	1.058	0.579
R2 Stream	22-04-1977	4.629	2.442	1.920	1.695	1.558	1.323	1.067	0.923	0.822	0.680	2.019	0.573
R3 Stream	22-04-1980	15.13	8.805	6.670	5.678	5.060	4.019	2.965	2.445	5.783	2.871	2.419	1.187
R4 Stream	20-05-1984	8.208	5.621	4.676	4.167	3.824	3.197	2.488	2.081	1.802	1.524	1.310	0.672
Global maximum		**34.760**											

Table A2.2-4: Step 3: TS5, TWA PEC_{SED}, Pome/stone fruit, early, 3×1000 g/ha

Scenario	TWA PEC_{SED} [µg/kg]										
	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	29.35	27.81	25.98	24.28	20.58	16.19	13.92	12.98	12.18	11.49	8.807
D4 Pond	34.75	34.75	34.75	34.74	34.72	34.61	34.47	34.31	33.84	33.47	30.37
D4 Stream	26.91	26.87	26.80	26.72	26.37	25.56	24.56	23.54	21.75	21.08	17.25
D5 Pond	22.35	22.35	22.34	22.34	22.31	22.19	22.00	21.78	21.34	21.10	17.12
D5 Stream	18.33	16.03	15.22	15.15	14.87	14.18	13.61	13.11	12.50	12.45	11.42
R1 Pond	9.558	9.553	9.545	9.533	9.478	9.251	8.930	8.579	8.320	8.308	7.082
R1 Stream	4.532	3.877	3.459	3.173	2.666	2.135	1.865	1.918	1.781	1.682	1.402
R2 Stream	3.412	2.815	2.513	2.305	1.933	1.546	1.587	1.524	1.348	1.299	1.154
R3 Stream	12.67	10.46	9.134	8.243	6.813	5.318	4.507	4.265	4.198	3.971	2.998
R4 Stream	7.585	6.925	6.513	6.081	5.160	4.084	3.605	3.343	2.894	2.710	2.108

A2.3 Step 3: TS6, leafy vegetables, 1×375+1×250 g/ha

Table A2.3-1: Step 3: TS6, PEC_{SW}, leafy vegetables, 1×375+1×250 g/ha

Scenario	Appl. Date	Date of max.	PECsw [µg/L]											
			Max.	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	10-04-1992 20-04-1992	10-04-1992	2.231	1.063	0.248	0.165	0.158	0.156	0.157	0.154	0.153	0.154	0.154	0.165
D3 Ditch 2nd	25-07-1992 18-08-1992	25-07-1992	2.388	1.618	0.625	0.359	0.318	0.311	0.309	0.310	0.343	0.418	0.476	0.573
D4 Pond	16-05-1985 29-05-1985	30-12-1985	1.397	1.396	1.392	1.388	1.382	1.358	1.291	1.234	1.324	1.257	1.184	0.772
D4 Stream	16-05-1985 29-05-1985	16-05-1985	1.986	0.369	0.363	0.359	0.354	0.340	0.340	0.382	0.415	0.398	0.406	0.645
D6 Ditch	04-08-1986 19-08-1986	17-08-1986	8.086	5.856	3.197	1.889	1.419	3.921	2.589	1.406	1.264	1.213	1.180	0.863
R1 Pond	26-04-1984 09-05-1984	20-05-1984	0.266	0.260	0.254	0.248	0.244	0.232	0.198	0.165	0.138	0.095	0.075	0.014
R1 Pond 2nd	28-07-1978 20-08-1978	17-09-1978	0.137	0.134	0.131	0.127	0.124	0.116	0.099	0.087	0.077	0.060	0.054	0.026
R1 Stream	26-04-1984 09-05-1984	20-05-1984	4.357	0.003	0.001	<0.001	0.020	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
R1 Stream 2nd	28-07-1978 20-08-1978	17-09-1978	1.557	0.021	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
R2 Stream	06-03-1978 25-03-1978	16-03-1978	6.951	0.002	0.001	<0.001	<0.001	<0.001	3.619	<0.001	<0.001	<0.001	<0.001	<0.001
R2 Stream 2nd	31-07-1989 10-08-1989	22-10-1989	2.127	0.997	0.478	0.001	<0.001	<0.001	<0.001	0.003	<0.001	<0.001	<0.001	<0.001
R3 Stream	19-02-1981 20-03-1981	03-03-1981	10.280	0.030	0.004	0.002	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
R3 Stream 2nd	02-06-1975 14-06-1975	09-06-1975	8.924	0.031	0.007	0.004	0.002	0.001	5.044	0.001	<0.001	<0.001	<0.001	<0.001
R4 Stream	01-03-1980 15-03-1980	12-03-1980	13.940	0.005	0.002	0.020	0.001	11.900	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
R4 Stream 2nd	01-06-1985 13-06-1985	07-06-1985	16.740	0.009	0.003	0.002	3.473	0.001	0.001	0.210	0.021	<0.001	<0.001	<0.001
Global maximum			**16.740**											

Table A2.3-2: Step 3: TS6, TWA PEC_{SW}, leafy vegetables, 1×375+1×250 g/ha

Scenario	TWA PECsw [µg/L]										
	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	1.747	1.139	0.823	0.657	0.443	0.402	0.320	0.279	0.247	0.246	0.245
D3 Ditch 2nd	2.049	1.551	1.185	0.972	0.689	0.635	0.635	0.635	0.634	0.634	0.633
D4 Pond	1.397	1.397	1.396	1.396	1.392	1.379	1.362	1.340	1.325	1.320	1.200
D4 Stream	0.933	0.916	0.902	0.900	0.878	0.852	0.830	0.788	0.684	0.657	0.551
D6 Ditch	7.459	6.355	5.336	4.473	3.179	2.728	2.333	2.082	1.803	1.709	1.484
R1 Pond	0.263	0.260	0.257	0.254	0.247	0.231	0.215	0.199	0.172	0.158	0.110
R1 Pond 2nd	0.136	0.134	0.132	0.131	0.126	0.117	0.109	0.102	0.091	0.086	0.069
R1 Stream	2.318	1.160	0.773	0.580	0.351	0.198	0.138	0.110	0.076	0.064	0.032
R1 Stream 2nd	1.227	0.617	0.411	0.308	0.176	0.091	0.061	0.046	0.035	0.029	0.017
R2 Stream	2.976	1.489	0.993	0.745	0.426	0.222	0.255	0.191	0.138	0.119	0.060
R2 Stream 2nd	1.239	1.068	0.799	0.599	0.343	0.172	0.115	0.086	0.057	0.048	0.027
R3 Stream	5.258	2.643	1.763	1.323	0.756	0.429	0.287	0.215	0.154	0.178	0.096
R3 Stream 2nd	8.094	4.456	2.974	2.231	1.336	0.713	0.762	0.609	0.423	0.356	0.178
R4 Stream	10.17	5.090	3.394	2.575	1.473	1.421	0.950	0.717	0.481	0.405	0.202
R4 Stream 2nd	12.25	6.135	4.091	3.069	2.138	1.527	1.029	0.777	0.519	0.436	0.218

Table A2.3-3: Step 3: TS6, PEC_{SED}, leafy vegetables, 1×375+1×250 g/ha

Scenario	Date of Max.	PEC_{SED} [µg/kg]											
		Max.	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	11-04-1992	0.514	0.427	0.367	0.341	0.325	0.300	0.346	0.301	0.270	0.237	0.225	0.186
D3 Ditch 2nd	01-04-1993	1.047	1.042	1.037	1.032	1.028	1.016	0.994	0.975	0.960	<0.001	<0.001	<0.001
D4 Pond	19-02-1986	1.952	1.952	1.951	1.951	1.950	1.944	1.923	1.892	1.853	1.755	1.689	<0.001
D4 Stream	27-12-1985	0.980	0.978	0.973	0.966	0.959	0.935	0.880	0.849	0.944	0.919	0.874	0.667
D6 Ditch	18-08-1986	1.877	1.710	1.541	1.380	1.279	1.684	1.526	1.317	1.231	1.161	1.192	1.344
R1 Pond	06-06-1984	0.182	0.182	0.182	0.181	0.181	0.178	0.169	0.156	0.140	0.106	0.089	0.026
R1 Pond 2nd	11-10-1978	0.105	0.105	0.105	0.105	0.105	0.104	0.101	0.097	0.095	0.089	0.085	0.055
R1 Stream	20-05-1984	0.580	0.228	0.167	0.138	0.132	0.100	0.064	0.045	0.034	0.021	0.015	0.003
R1 Stream 2nd	17-09-1978	0.249	0.115	0.083	0.068	0.059	0.043	0.030	0.022	0.018	0.012	0.010	0.004
R2 Stream	16-03-1978	0.842	0.287	0.206	0.169	0.146	0.107	0.455	0.162	0.099	0.074	0.056	0.011
R2 Stream 2nd	22-10-1989	0.299	0.260	0.229	0.148	0.120	0.081	0.049	0.036	0.027	0.017	0.014	<0.001
R3 Stream	03-03-1981	1.210	0.524	0.375	0.307	0.266	0.196	0.129	0.118	0.089	0.055	0.150	0.020
R3 Stream 2nd	09-06-1975	1.675	0.859	0.619	0.504	0.430	0.330	1.418	0.346	0.229	0.091	0.057	0.005
R4 Stream	19-03-1980	2.367	1.166	0.922	0.942	0.780	0.596	0.411	0.321	0.253	0.169	0.131	0.025
R4 Stream 2nd	07-06-1985	2.967	1.328	0.987	0.814	1.262	0.650	0.698	0.433	0.266	0.118	0.077	0.009
Global maximum		**2.967**											

Table A2.3-4: Step 3: TS6, TWA PEC_{SED}, leafy vegetables, 1×375+1×250 g/ha

Scenario	TWA PEC_{SED} [µg/kg]										
	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	0.497	0.464	0.435	0.414	0.412	0.412	0.411	0.411	0.410	0.410	0.400
D3 Ditch 2nd	1.047	1.047	1.047	1.047	1.047	1.046	1.046	1.045	1.044	1.041	1.014
D4 Pond	1.952	1.952	1.952	1.952	1.951	1.949	1.946	1.941	1.927	1.917	1.824
D4 Stream	0.980	0.979	0.978	0.978	0.978	0.969	0.952	0.934	0.926	0.928	0.876
D6 Ditch	1.856	1.809	1.751	1.680	1.535	1.523	1.485	1.478	1.468	1.461	1.432
R1 Pond	0.182	0.182	0.182	0.182	0.182	0.181	0.178	0.175	0.167	0.161	0.120
R1 Pond 2nd	0.105	0.105	0.105	0.105	0.105	0.105	0.104	0.103	0.101	0.100	0.091
R1 Stream	0.419	0.320	0.268	0.235	0.185	0.133	0.107	0.090	0.070	0.063	0.039
R1 Stream 2nd	0.203	0.160	0.135	0.118	0.090	0.064	0.051	0.044	0.034	0.030	0.019
R2 Stream	0.543	0.407	0.338	0.295	0.223	0.162	0.172	0.160	0.138	0.126	0.077
R2 Stream 2nd	0.256	0.241	0.228	0.207	0.163	0.113	0.090	0.075	0.057	0.051	0.029
R3 Stream	0.929	0.713	0.598	0.524	0.400	0.281	0.233	0.200	0.157	0.172	0.118
R3 Stream 2nd	1.411	1.156	0.988	0.872	0.682	0.500	0.534	0.486	0.376	0.328	0.177
R4 Stream	1.870	1.522	1.325	1.230	1.008	0.882	0.756	0.660	0.527	0.473	0.279
R4 Stream 2nd	2.274	1.807	1.539	1.363	1.171	0.986	0.839	0.717	0.540	0.469	0.251

A2.4 Step 3: Metabolite of TS6, leafy vegetables, 1×375+1×250 g a.s./ha

Table A2.4-1: Step 3: Metabolite of TS6, PEC_{SW}, leafy vegetables, 1×375+1×250 g a.s./ha

Scenario	Appl. Date	Date of max.	PECsw [µg/L]											
			Max.	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	10-04-1992 20-04-1992	11-04-1992	0.045	0.041	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
D3 Ditch 2nd	25-07-1992 18-08-1992	26-07-1992	0.087	0.077	0.070	0.069	0.069	0.068	0.068	0.068	0.070	0.072	0.075	0.080
D4 Pond	16-05-1985 29-05-1985	31-12-1985	0.635	0.635	0.634	0.633	0.631	0.626	0.612	0.601	0.601	0.578	0.563	0.470
D4 Stream	16-05-1985 29-05-1985	09-12-1985	0.474	0.380	0.337	0.307	0.289	0.329	0.314	0.215	0.139	0.151	0.154	0.044
D6 Ditch	04-08-1986 19-08-1986	29-10-1986	1.060	0.850	0.634	0.533	0.458	0.533	0.159	0.109	0.085	0.015	0.181	0.115
R1 Pond	26-04-1984 09-05-1984	21-06-1984	0.056	0.056	0.056	0.056	0.055	0.055	0.053	0.050	0.047	0.041	0.036	0.015
R1 Pond 2nd	28-07-1978 20-08-1978	29-09-1978	0.045	0.045	0.045	0.044	0.044	0.044	0.042	0.041	0.043	0.038	0.036	0.037
R1 Stream	26-04-1984 09-05-1984	20-05-1984	0.361	0.001	<0.001	<0.001	0.006	<0.001	0.004	<0.001	<0.001	<0.001	<0.001	<0.001
R1 Stream 2nd	28-07-1978 20-08-1978	17-09-1978	0.486	0.008	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
R2 Stream	06-03-1978 25-03-1978	16-03-1978	0.265	<0.001	<0.001	<0.001	<0.001	<0.001	0.155	<0.001	<0.001	<0.001	<0.001	<0.001
R2 Stream 2nd	31-07-1989 10-08-1989	22-10-1989	0.602	0.556	0.475	0.002	0.001	<0.001	<0.001	0.265	0.193	<0.001	<0.001	0.003
R3 Stream	19-02-1981 20-03-1981	03-03-1981	0.841	0.005	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.027
R3 Stream 2nd	02-06-1975 14-06-1975	23-06-1975	1.250	0.011	0.003	0.002	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
R4 Stream	01-03-1980 15-03-1980	12-03-1980	0.730	0.001	<0.001	<0.001	<0.001	0.604	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
R4 Stream 2nd	01-06-1985 13-06-1985	07-06-1985	1.268	0.002	0.001	0.001	0.581	<0.001	<0.001	0.190	0.092	<0.001	<0.001	<0.001
Global maximum			**1.268**											

Table A2.4-2: Step 3: Metabolite of TS6, TWA PEC_{SW}, leafy vegetables, 1×375+1×250 g a.s./ha

Scenario	TWA PECsw [µg/L]										
	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	0.044	0.043	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.042
D3 Ditch 2nd	0.085	0.084	0.084	0.084	0.084	0.083	0.083	0.083	0.083	0.082	0.082
D4 Pond	0.635	0.635	0.635	0.635	0.634	0.631	0.627	0.622	0.615	0.611	0.576
D4 Stream	0.425	0.398	0.384	0.384	0.368	0.352	0.342	0.314	0.254	0.234	0.162
D6 Ditch	0.973	0.870	0.782	0.716	0.598	0.446	0.345	0.301	0.239	0.219	0.183
R1 Pond	0.056	0.056	0.056	0.056	0.055	0.055	0.054	0.053	0.052	0.051	0.043
R1 Pond 2nd	0.045	0.045	0.045	0.045	0.045	0.044	0.044	0.044	0.043	0.043	0.041
R1 Stream	0.193	0.097	0.064	0.048	0.039	0.025	0.017	0.013	0.010	0.009	0.005
R1 Stream 2nd	0.383	0.193	0.129	0.097	0.055	0.031	0.023	0.017	0.014	0.012	0.007
R2 Stream	0.114	0.057	0.038	0.029	0.022	0.016	0.011	0.009	0.009	0.010	0.005
R2 Stream 2nd	0.505	0.429	0.371	0.279	0.159	0.081	0.057	0.055	0.050	0.042	0.024
R3 Stream	0.528	0.283	0.190	0.142	0.082	0.041	0.028	0.021	0.018	0.020	0.013
R3 Stream 2nd	1.044	0.549	0.367	0.276	0.158	0.117	0.105	0.098	0.074	0.064	0.033
R4 Stream	0.534	0.268	0.179	0.134	0.077	0.075	0.050	0.039	0.027	0.023	0.011
R4 Stream 2nd	0.932	0.468	0.312	0.234	0.195	0.140	0.093	0.075	0.053	0.045	0.022

Table A2.4-3: Step 3: Metabolite of TS6, PEC_{SED}, leafy vegetables, 1×375+1×250 g a.s./ha

Scenario	Date of Max.	PEC_{SED} [µg/kg]											
		Max.	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	01-04-1993	0.239	0.238	0.237	0.236	0.236	0.234	0.229	0.226	0.223	<0.001	<0.001	<0.001
D3 Ditch 2nd	18-03-1993	0.458	0.458	0.458	0.458	0.458	0.458	0.457	0.447	0.438	0.422	<0.001	<0.001
D4 Pond	01-04-1986	2.969	2.968	2.966	2.965	2.964	2.958	2.943	2.923	2.899	<0.001	<0.001	<0.001
D4 Stream	23-12-1985	0.972	0.970	0.964	0.964	0.965	0.947	0.867	0.795	0.773	0.798	0.740	0.510
D6 Ditch	06-11-1986	1.053	1.028	0.993	0.963	0.931	0.841	0.705	0.620	0.539	0.391	0.762	0.655
R1 Pond	16-07-1984	0.160	0.160	0.160	0.160	0.160	0.159	0.155	0.150	0.142	0.124	0.115	0.076
R1 Pond 2nd	11-01-1979	0.196	0.196	0.196	0.196	0.195	0.195	0.193	0.190	0.186	0.177	0.171	0.127
R1 Stream	20-05-1984	0.109	0.056	0.040	0.033	0.036	0.041	0.040	0.022	0.017	0.015	0.011	0.004
R1 Stream 2nd	17-09-1978	0.189	0.103	0.074	0.060	0.052	0.038	0.034	0.028	0.022	0.027	0.020	0.018
R2 Stream	16-03-1978	0.072	0.037	0.027	0.023	0.020	0.016	0.044	0.029	0.018	0.022	0.042	0.008
R2 Stream 2nd	24-10-1989	0.634	0.484	0.417	0.377	0.348	0.289	0.241	0.234	0.312	0.168	0.169	0.073
R3 Stream	15-04-1981	0.262	0.162	0.121	0.101	0.089	0.068	0.047	0.037	0.030	0.038	0.026	0.007
R3 Stream 2nd	23-06-1975	0.693	0.478	0.387	0.340	0.308	0.249	0.224	0.181	0.137	0.079	0.058	0.011
R4 Stream	19-03-1980	0.287	0.174	0.135	0.148	0.121	0.092	0.065	0.059	0.058	0.036	0.029	0.009
R4 Stream 2nd	07-06-1985	0.803	0.566	0.471	0.422	0.670	0.444	0.398	0.347	0.251	0.129	0.094	0.021
Global maximum		**2.969**											

Table A2.4-4: Step 3: Metabolite of TS6, TWA PEC_{SED}, leafy vegetables, 1×375+1×250 g a.s./ha

Scenario	TWA PEC_{SED} [µg/kg]										
	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	0.239	0.239	0.239	0.239	0.239	0.238	0.238	0.238	0.238	0.237	0.232
D3 Ditch 2nd	0.458	0.458	0.458	0.458	0.458	0.458	0.458	0.458	0.457	0.456	0.446
D4 Pond	2.969	2.969	2.969	2.969	2.968	2.967	2.965	2.962	2.955	2.951	2.872
D4 Stream	0.972	0.971	0.970	0.969	0.967	0.952	0.929	0.904	0.867	0.859	0.769
D6 Ditch	1.050	1.041	1.028	1.016	0.991	0.952	0.888	0.832	0.745	0.746	0.735
R1 Pond	0.160	0.160	0.160	0.160	0.160	0.159	0.159	0.158	0.156	0.154	0.137
R1 Pond 2nd	0.196	0.196	0.196	0.196	0.196	0.195	0.195	0.194	0.193	0.192	0.185
R1 Stream	0.087	0.070	0.060	0.053	0.047	0.044	0.039	0.034	0.029	0.027	0.017
R1 Stream 2nd	0.160	0.132	0.113	0.100	0.078	0.057	0.050	0.044	0.039	0.036	0.028
R2 Stream	0.056	0.049	0.046	0.045	0.043	0.036	0.034	0.032	0.029	0.028	0.021
R2 Stream 2nd	0.603	0.562	0.523	0.492	0.428	0.347	0.309	0.292	0.273	0.255	0.184
R3 Stream	0.238	0.203	0.177	0.159	0.126	0.092	0.076	0.066	0.059	0.055	0.044
R3 Stream 2nd	0.638	0.561	0.506	0.466	0.391	0.353	0.311	0.295	0.264	0.242	0.145
R4 Stream	0.244	0.208	0.184	0.175	0.147	0.129	0.112	0.100	0.084	0.077	0.049
R4 Stream 2nd	0.709	0.626	0.572	0.542	0.542	0.496	0.443	0.400	0.327	0.293	0.170

A3 Step 4 result tables

The following section contains the Step 4 results tables. As the results obtained by using the GUI and by manual adaption of the respective input files were identical, only one set of tables is shown, for both calculation methods.

A3.1 Step 4: TS2, Winter cereals, 1×1000 g/ha, 10 m db

Table A3.1-1: Step 4: TS2, PECsw, winter cereals, 1×1000 g/ha, 10 m db

Scenario	Appl. Date	Date of max.	PECsw [µg/L]											
			Max.	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D1 Ditch	11-09-1982	20-11-1982	68.690	67.300	60.270	59.300	51.070	40.640	30.690	25.270	20.450	15.430	14.480	9.148
D1 Stream	11-09-1982	19-11-1982	44.400	42.940	41.460	37.360	36.950	29.090	19.460	16.030	12.850	9.612	8.899	0.049
D2 Ditch	11-10-1986	21-10-1986	157.200	54.380	42.270	41.090	39.640	81.340	60.850	57.890	46.470	20.240	19.000	8.408
D2 Stream	11-10-1986	21-10-1986	99.160	16.510	9.051	37.480	18.270	56.180	32.730	33.430	29.250	11.820	12.170	4.731
D3 Ditch	06-11-1992	06-11-1992	1.010	0.415	0.123	0.104	0.102	0.101	0.101	0.101	0.101	0.101	0.101	0.102
D4 Pond	10-09-1985	27-12-1985	7.930	7.921	7.888	7.838	7.775	7.554	7.009	6.492	6.118	5.515	5.091	3.128
D4 Stream	10-09-1985	07-12-1985	9.142	6.864	8.908	7.521	6.824	5.364	3.827	2.725	1.385	0.898	1.868	0.515
D5 Pond	26-11-1978	14-02-1979	8.608	8.574	8.509	8.428	8.343	8.076	7.474	6.879	6.336	5.555	5.168	<0.001
D5 Stream	26-11-1978	30-12-1978	12.270	9.615	7.142	5.538	4.418	2.213	1.631	1.210	1.210	3.975	1.772	1.355
D6 Ditch	06-12-1986	18-12-1986	39.600	27.370	13.480	6.933	4.703	14.020	4.688	4.063	4.307	4.316	3.787	4.612
R1 Pond	14-11-1978	25-11-1978	0.555	0.544	0.534	0.526	0.517	0.493	0.442	0.396	0.355	0.283	0.255	0.128
R1 Stream	14-11-1978	25-11-1978	40.720	0.035	0.009	0.004	0.003	<0.001	1.213	0.015	<0.001	<0.001	<0.001	<0.001
R3 Stream	17-11-1980	26-11-1980	59.880	20.960	1.681	2.947	0.029	0.016	0.006	0.006	0.002	0.002	0.001	<0.001
R4 Stream	03-11-1979	21-12-1979	5.319	1.250	0.003	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Global maximum			**157.200**											

Table A3.1-2: Step 4: TS2, TWA PECsw, winter cereals, 1×1000 g/ha, 10 m db

Scenario	TWA PECsw [µg/L]										
	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D1 Ditch	68.49	67.93	66.74	64.93	59.45	48.69	42.13	37.60	31.35	28.79	21.21
D1 Stream	43.98	43.67	43.14	42.38	39.58	33.54	28.73	25.63	21.41	19.57	13.90
D2 Ditch	94.32	85.78	80.36	78.04	76.12	68.38	63.45	59.96	50.45	45.54	30.36
D2 Stream	55.96	50.66	47.59	44.81	43.74	38.66	36.44	33.45	28.34	25.71	17.31
D3 Ditch	0.766	0.490	0.363	0.298	0.214	0.157	0.139	0.129	0.120	0.117	0.109
D4 Pond	7.929	7.927	7.926	7.926	7.914	7.816	7.686	7.538	7.199	7.017	5.900
D4 Stream	8.254	7.752	7.654	7.574	7.300	6.243	5.330	4.664	3.514	3.126	2.043
D5 Pond	8.604	8.593	8.578	8.559	8.481	8.246	7.990	7.732	7.246	7.002	5.616
D5 Stream	11.63	10.44	9.300	8.343	6.269	4.093	3.196	2.712	2.798	2.832	2.063
D6 Ditch	37.23	31.80	25.93	21.31	19.19	14.65	11.20	9.419	8.336	7.663	5.993
R1 Pond	0.549	0.544	0.540	0.535	0.523	0.495	0.469	0.446	0.403	0.382	0.284
R1 Stream	17.37	8.694	5.798	4.350	2.486	1.253	0.836	0.632	0.422	0.355	0.178
R3 Stream	31.37	25.45	18.08	14.19	8.119	4.073	2.752	2.065	1.386	1.164	0.583
R4 Stream	2.809	1.681	1.121	0.841	0.481	0.240	0.160	0.120	0.080	0.071	0.035

Table A3.1-3: Step 4: TS2, PEC_{SED}, winter cereals, 1×1000 g/ha, 10 m db

Scenario	Date of Max.	PEC_{SED} [µg/kg]											
		Max.	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D1 Ditch	06-12-1982	46.66	46.54	46.51	46.49	46.46	46.50	45.41	44.38	42.97	41.60	41.61	40.39
D1 Stream	27-11-1982	32.68	32.41	32.32	32.34	32.33	32.18	31.71	30.77	30.08	27.98	27.43	21.46
D2 Ditch	14-11-1986	78.38	77.97	77.38	77.22	77.21	75.54	69.07	63.35	61.82	56.82	55.26	41.65
D2 Stream	14-11-1986	45.93	45.64	45.37	45.47	45.63	44.92	41.28	37.77	37.12	34.34	33.38	24.88
D3 Ditch	07-11-1992	0.491	0.428	0.390	0.373	0.364	0.350	0.340	0.338	0.341	0.350	0.355	0.376
D4 Pond	13-02-1986	14.06	14.06	14.06	14.05	14.05	14.02	13.90	13.73	13.51	12.98	12.61	<0.001
D4 Stream	14-12-1985	6.897	6.847	6.771	6.668	6.583	6.671	6.529	5.683	5.067	5.074	4.931	3.306
D5 Pond	23-03-1979	13.90	13.90	13.90	13.90	13.90	13.90	13.69	13.40	13.03	<0.001	<0.001	<0.001
D5 Stream	12-02-1979	6.135	6.065	5.955	5.819	5.691	5.373	4.860	4.447	4.062	4.299	4.311	<0.001
D6 Ditch	25-12-1986	15.57	15.04	14.54	14.12	13.51	12.03	10.60	10.23	12.52	10.75	9.885	10.99
R1 Pond	08-01-1979	0.805	0.805	0.805	0.804	0.804	0.802	0.794	0.781	0.763	0.721	0.694	0.485
R1 Stream	25-11-1978	6.329	2.551	1.887	1.571	1.378	1.062	0.801	0.609	0.508	0.392	0.346	0.189
R3 Stream	27-11-1980	15.67	11.87	10.70	9.485	8.706	7.215	5.420	4.539	3.850	3.004	2.663	1.404
R4 Stream	21-12-1979	1.055	0.664	0.421	0.342	0.296	0.225	0.157	0.125	0.104	0.079	0.068	0.031
Global maximum		**78.380**											

Table A3.1-4: Step 4: TS2, TWA PEC_{SED}, winter cereals, 1×1000 g/ha, 10 m db

Scenario	TWA PEC_{SED} [µg/kg]										
	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D1 Ditch	46.64	46.61	46.58	46.57	46.54	46.46	46.23	46.01	45.25	44.76	42.76
D1 Stream	32.60	32.52	32.46	32.43	32.38	32.21	32.02	31.73	31.04	30.58	28.41
D2 Ditch	78.26	78.04	77.87	77.68	77.33	76.57	74.93	73.22	69.90	68.44	59.75
D2 Stream	45.84	45.70	45.56	45.52	45.41	44.91	43.99	42.81	40.98	40.25	35.42
D3 Ditch	0.478	0.454	0.434	0.420	0.394	0.382	0.382	0.382	0.381	0.380	0.373
D4 Pond	14.06	14.06	14.06	14.06	14.06	14.05	14.03	14.00	13.92	13.86	13.34
D4 Stream	6.892	6.881	6.861	6.841	6.777	6.698	6.635	6.448	5.996	5.811	5.051
D5 Pond	13.90	13.90	13.90	13.90	13.90	13.89	13.87	13.84	13.73	13.65	11.46
D5 Stream	6.120	6.099	6.079	6.044	5.940	5.721	5.525	5.322	4.944	4.830	4.362
D6 Ditch	15.47	15.26	15.21	15.08	14.56	13.19	12.44	11.92	11.86	11.71	11.29
R1 Pond	0.805	0.805	0.805	0.805	0.805	0.804	0.803	0.801	0.796	0.791	0.746
R1 Stream	4.461	3.438	2.902	2.562	1.996	1.447	1.196	1.037	0.841	0.766	0.512
R3 Stream	14.62	13.62	13.21	12.66	11.05	8.880	7.652	6.829	5.725	5.274	3.643
R4 Stream	0.792	0.689	0.597	0.532	0.418	0.304	0.250	0.216	0.175	0.158	0.102

A3.2 Step 4: TS2, Winter cereals, 1×1000 g/ha, 10 m db+vfs

Table A3.2-1: Step 4: TS2, PEC_{SW}, winter cereals, 1×1000 g/ha, 10 m db+vfs

Scenario	Appl. Date	Date of max.	PECsw [µg/L]											
			Max.	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D1 Ditch	11-09-1982	20-11-1982	68.690	67.300	60.270	59.300	51.070	40.640	30.690	25.270	20.450	15.430	14.480	9.148
D1 Stream	11-09-1982	19-11-1982	44.400	42.940	41.460	37.360	36.950	29.090	19.460	16.030	12.850	9.612	8.899	0.049
D2 Ditch	11-10-1986	21-10-1986	157.200	54.380	42.270	41.090	39.640	81.340	60.850	57.890	46.470	20.240	19.000	8.408
D2 Stream	11-10-1986	21-10-1986	99.160	16.510	9.051	37.480	18.270	56.180	32.730	33.430	29.250	11.820	12.170	4.731
D3 Ditch	06-11-1992	06-11-1992	1.010	0.415	0.123	0.104	0.102	0.101	0.101	0.101	0.101	0.101	0.101	0.102
D4 Pond	10-09-1985	27-12-1985	7.930	7.921	7.888	7.838	7.775	7.554	7.009	6.492	6.118	5.515	5.091	3.128
D4 Stream	10-09-1985	07-12-1985	9.142	6.864	8.908	7.521	6.824	5.364	3.827	2.725	1.385	0.898	1.868	0.515
D5 Pond	26-11-1978	14-02-1979	8.608	8.574	8.509	8.428	8.343	8.076	7.474	6.879	6.336	5.555	5.168	<0.001
D5 Stream	26-11-1978	30-12-1978	12.270	9.615	7.142	5.538	4.418	2.213	1.631	1.210	1.210	3.975	1.772	1.355
D6 Ditch	06-12-1986	18-12-1986	39.600	27.370	13.480	6.933	4.703	14.020	4.688	4.063	4.307	4.316	3.787	4.612
R1 Pond	14-11-1978	25-11-1978	0.293	0.287	0.283	0.278	0.274	0.261	0.234	0.209	0.188	0.153	0.137	0.070
R1 Stream	14-11-1978	25-11-1978	18.260	0.010	0.003	0.002	0.001	<0.001	0.001	0.003	<0.001	<0.001	<0.001	<0.001
R3 Stream	17-11-1980	26-11-1980	27.330	9.574	0.758	1.417	0.011	0.005	0.002	0.002	0.001	<0.001	<0.001	<0.001
R4 Stream	03-11-1979	21-12-1979	2.402	0.561	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Global maximum			**157.200**											

Table A3.2-2: Step 4: TS2, TWA PEC_{SW}, winter cereals, 1×1000 g/ha, 10 m db+vfs

Scenario	TWA PECsw [µg/L]										
	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D1 Ditch	68.49	67.93	66.74	64.93	59.45	48.69	42.13	37.60	31.35	28.79	21.21
D1 Stream	43.98	43.67	43.14	42.38	39.58	33.54	28.73	25.63	21.41	19.57	13.90
D2 Ditch	94.32	85.78	80.36	78.04	76.12	68.38	63.45	59.96	50.45	45.54	30.36
D2 Stream	55.96	50.66	47.59	44.81	43.74	38.66	36.44	33.45	28.34	25.71	17.31
D3 Ditch	0.766	0.490	0.363	0.298	0.214	0.157	0.139	0.129	0.120	0.117	0.109
D4 Pond	7.929	7.927	7.926	7.926	7.914	7.816	7.686	7.538	7.199	7.017	5.900
D4 Stream	8.254	7.752	7.654	7.574	7.300	6.243	5.330	4.664	3.514	3.126	2.043
D5 Pond	8.604	8.593	8.578	8.559	8.481	8.246	7.990	7.732	7.246	7.002	5.616
D5 Stream	11.63	10.44	9.300	8.343	6.269	4.093	3.196	2.712	2.798	2.832	2.063
D6 Ditch	37.23	31.80	25.93	21.31	19.19	14.65	11.20	9.419	8.336	7.663	5.993
R1 Pond	0.290	0.288	0.285	0.283	0.277	0.262	0.249	0.236	0.214	0.203	0.158
R1 Stream	7.739	3.874	2.584	1.938	1.108	0.564	0.376	0.284	0.190	0.160	0.080
R3 Stream	14.44	11.69	8.291	6.509	3.723	1.877	1.261	0.946	0.638	0.536	0.268
R4 Stream	1.264	0.756	0.504	0.378	0.216	0.108	0.072	0.054	0.036	0.034	0.017

Table A3.2-3: Step 4: TS2, PEC_{SED}, winter cereals, 1×1000 g/ha, 10 m db+vfs

Scenario	Date of Max.	PECsed [µg/kg]											
		Max.	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D1 Ditch	06-12-1982	46.66	46.54	46.51	46.49	46.46	46.50	45.41	44.38	42.97	41.60	41.61	40.39
D1 Stream	27-11-1982	32.68	32.41	32.32	32.34	32.33	32.18	31.71	30.77	30.08	27.98	27.43	21.46
D2 Ditch	14-11-1986	78.38	77.97	77.38	77.22	77.21	75.54	69.07	63.35	61.82	56.82	55.26	41.65
D2 Stream	14-11-1986	45.93	45.64	45.37	45.47	45.63	44.92	41.28	37.77	37.12	34.34	33.38	24.88
D3 Ditch	07-11-1992	0.491	0.428	0.390	0.373	0.364	0.350	0.340	0.338	0.341	0.350	0.355	0.376
D4 Pond	13-02-1986	14.06	14.06	14.06	14.05	14.05	14.02	13.90	13.73	13.51	12.98	12.61	<0.001
D4 Stream	14-12-1985	6.897	6.847	6.771	6.668	6.583	6.671	6.529	5.683	5.067	5.074	4.931	3.306
D5 Pond	23-03-1979	13.90	13.90	13.90	13.90	13.90	13.90	13.69	13.40	13.03	<0.001	<0.001	<0.001
D5 Stream	12-02-1979	6.135	6.065	5.955	5.819	5.691	5.373	4.860	4.447	4.062	4.299	4.311	<0.001
D6 Ditch	25-12-1986	15.57	15.04	14.54	14.12	13.51	12.03	10.60	10.23	12.52	10.75	9.885	10.99
R1 Pond	08-01-1979	0.457	0.457	0.457	0.457	0.457	0.455	0.451	0.443	0.434	0.410	0.395	0.277
R1 Stream	25-11-1978	2.941	1.194	0.883	0.734	0.643	0.495	0.372	0.284	0.237	0.183	0.162	0.089
R3 Stream	26-11-1980	5.675	4.748	4.476	3.779	3.066	2.317	1.644	1.389	1.139	0.878	0.775	0.411
R4 Stream	21-12-1979	0.496	0.315	0.201	0.163	0.142	0.108	0.076	0.060	0.050	0.038	0.033	0.015
Global maximum		**78.380**											

Table A3.2-4: Step 4: TS2, TWA PEC_{SED}, winter cereals, 1×1000 g/ha, 10 m db+vfs

Scenario	TWA PEC_{SED} [µg/kg]										
	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D1 Ditch	46.64	46.61	46.58	46.57	46.54	46.46	46.23	46.01	45.25	44.76	42.76
D1 Stream	32.60	32.52	32.46	32.43	32.38	32.21	32.02	31.73	31.04	30.58	28.41
D2 Ditch	78.26	78.04	77.87	77.68	77.33	76.57	74.93	73.22	69.90	68.44	59.75
D2 Stream	45.84	45.70	45.56	45.52	45.41	44.91	43.99	42.81	40.98	40.25	35.42
D3 Ditch	0.478	0.454	0.434	0.420	0.394	0.382	0.382	0.382	0.381	0.380	0.373
D4 Pond	14.06	14.06	14.06	14.06	14.06	14.05	14.03	14.00	13.92	13.86	13.34
D4 Stream	6.892	6.881	6.861	6.841	6.777	6.698	6.635	6.448	5.996	5.811	5.051
D5 Pond	13.90	13.90	13.90	13.90	13.90	13.89	13.87	13.84	13.73	13.65	11.46
D5 Stream	6.120	6.099	6.079	6.044	5.940	5.721	5.525	5.322	4.944	4.830	4.362
D6 Ditch	15.47	15.26	15.21	15.08	14.56	13.19	12.44	11.92	11.86	11.71	11.29
R1 Pond	0.457	0.457	0.457	0.457	0.457	0.457	0.456	0.455	0.452	0.450	0.425
R1 Stream	2.076	1.602	1.353	1.194	0.931	0.675	0.558	0.484	0.392	0.357	0.239
R3 Stream	4.996	4.738	4.509	4.264	3.595	2.778	2.352	2.079	1.722	1.579	1.076
R4 Stream	0.374	0.326	0.283	0.252	0.199	0.145	0.119	0.103	0.084	0.076	0.049

A3.3 Step 4: TS2, Winter cereals, 1×1000 g/ha, 10 m db + 5 m VFSmod

Table A3.3-1: Step 4: TS2, PEC_{SW}, Winter cereals, 1×1000 g/ha, 10 m db + 5 m VFSmod

Scenario	Appl. Date	Date of max.	PECsw [µg/L]											
			Max.	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D1 Ditch	11-09-1982	20-11-1982	68.690	67.300	60.270	59.300	51.070	40.640	30.690	25.270	20.450	15.430	14.480	9.148
D1 Stream	11-09-1982	19-11-1982	44.400	42.940	41.460	37.360	36.950	29.090	19.460	16.030	12.850	9.612	8.899	0.049
D2 Ditch	11-10-1986	21-10-1986	157.200	54.380	42.270	41.090	39.640	81.340	60.850	57.890	46.470	20.240	19.000	8.408
D2 Stream	11-10-1986	21-10-1986	99.160	16.510	9.051	37.480	18.270	56.180	32.730	33.430	29.250	11.820	12.170	4.731
D3 Ditch	06-11-1992	06-11-1992	1.010	0.415	0.123	0.104	0.102	0.101	0.101	0.101	0.101	0.101	0.101	0.102
D4 Pond	10-09-1985	27-12-1985	7.930	7.921	7.888	7.838	7.775	7.554	7.009	6.492	6.118	5.515	5.091	3.128
D4 Stream	10-09-1985	07-12-1985	9.142	6.864	8.908	7.521	6.824	5.364	3.827	2.725	1.385	0.898	1.868	0.515
D5 Pond	26-11-1978	14-02-1979	8.608	8.574	8.509	8.428	8.343	8.076	7.474	6.879	6.336	5.555	5.168	<0.001
D5 Stream	26-11-1978	30-12-1978	12.270	9.615	7.142	5.538	4.418	2.213	1.631	1.210	1.210	3.975	1.772	1.355
D6 Ditch	06-12-1986	18-12-1986	39.600	27.370	13.480	6.933	4.703	14.020	4.688	4.063	4.307	4.316	3.787	4.612
R1 Pond	14-11-1978	25-11-1978	0.277	0.272	0.267	0.263	0.259	0.247	0.220	0.197	0.177	0.142	0.128	0.065
R1 Stream	14-11-1978	14-11-1978	0.814	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
R3 Stream	17-11-1980	26-11-1980	40.620	17.530	0.080	1.566	0.019	0.011	0.004	0.002	0.001	0.001	0.001	<0.001
R4 Stream	03-11-1979	03-11-1979	0.817	0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Global maximum			**157.200**											

Table A3.3-2: Step 4: TS2, TWA PEC_{SW}, Winter cereals, 1×1000 g/ha, 10 m db + 5 m VFSmod

Scenario	TWA PECsw [µg/L]										
	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D1 Ditch	68.49	67.93	66.74	64.93	59.45	48.69	42.13	37.60	31.35	28.79	21.21
D1 Stream	43.98	43.67	43.14	42.38	39.58	33.54	28.73	25.63	21.41	19.57	13.90
D2 Ditch	94.32	85.78	80.36	78.04	76.12	68.38	63.45	59.96	50.45	45.54	30.36
D2 Stream	55.96	50.66	47.59	44.81	43.74	38.66	36.44	33.45	28.34	25.71	17.31
D3 Ditch	0.766	0.490	0.363	0.298	0.214	0.157	0.139	0.129	0.120	0.117	0.109
D4 Pond	7.929	7.927	7.926	7.926	7.914	7.816	7.686	7.538	7.199	7.017	5.900
D4 Stream	8.254	7.752	7.654	7.574	7.300	6.243	5.330	4.664	3.514	3.126	2.043
D5 Pond	8.604	8.593	8.578	8.559	8.481	8.246	7.990	7.732	7.246	7.002	5.616
D5 Stream	11.63	10.44	9.300	8.343	6.269	4.093	3.196	2.712	2.798	2.832	2.063
D6 Ditch	37.23	31.80	25.93	21.31	19.19	14.65	11.20	9.419	8.336	7.663	5.993
R1 Pond	0.274	0.272	0.270	0.267	0.261	0.248	0.235	0.223	0.202	0.191	0.149
R1 Stream	0.228	0.114	0.076	0.057	0.033	0.027	0.018	0.013	0.009	0.008	0.004
R3 Stream	21.35	18.84	12.63	9.802	5.608	2.818	1.882	1.412	0.942	0.792	0.396
R4 Stream	0.178	0.089	0.059	0.045	0.025	0.013	0.008	0.006	0.004	0.004	0.002

Table A3.3-3: Step 4: TS2, PEC_{SED}, Winter cereals, 1×1000 g/ha, 10 m db + 5 m VFSmod

Scenario	Date of Max.	PECsed [µg/kg]											
		Max.	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D1 Ditch	06-12-1982	46.66	46.54	46.51	46.49	46.46	46.50	45.41	44.38	42.97	41.60	41.61	40.39
D1 Stream	27-11-1982	32.68	32.41	32.32	32.34	32.33	32.18	31.71	30.77	30.08	27.98	27.43	21.46
D2 Ditch	14-11-1986	78.38	77.97	77.38	77.22	77.21	75.54	69.07	63.35	61.82	56.82	55.26	41.65
D2 Stream	14-11-1986	45.93	45.64	45.37	45.47	45.63	44.92	41.28	37.77	37.12	34.34	33.38	24.88
D3 Ditch	07-11-1992	0.491	0.428	0.390	0.373	0.364	0.350	0.340	0.338	0.341	0.350	0.355	0.376
D4 Pond	13-02-1986	14.06	14.06	14.06	14.05	14.05	14.02	13.90	13.73	13.51	12.98	12.61	<0.001
D4 Stream	14-12-1985	6.897	6.847	6.771	6.668	6.583	6.671	6.529	5.683	5.067	5.074	4.931	3.306
D5 Pond	23-03-1979	13.90	13.90	13.90	13.90	13.90	13.90	13.69	13.40	13.03	<0.001	<0.001	<0.001
D5 Stream	12-02-1979	6.135	6.065	5.955	5.819	5.691	5.373	4.860	4.447	4.062	4.299	4.311	<0.001
D6 Ditch	25-12-1986	15.57	15.04	14.54	14.12	13.51	12.03	10.60	10.23	12.52	10.75	9.885	10.99
R1 Pond	06-01-1979	0.433	0.433	0.433	0.433	0.432	0.431	0.427	0.420	0.411	0.389	0.374	0.263
R1 Stream	25-11-1978	0.111	0.053	0.040	0.035	0.031	0.025	0.018	0.015	0.013	0.011	0.009	0.005
R3 Stream	27-11-1980	11.83	8.349	7.497	6.689	6.155	5.118	3.854	3.165	2.710	2.117	1.880	0.995
R4 Stream	03-11-1979	0.088	0.036	0.026	0.021	0.018	0.014	0.010	0.007	0.006	0.005	0.004	0.002
Global maximum		**78.380**											

Table A3.3-4: Step 4: TS2, TWA PEC_{SED}, Winter cereals, 1×1000 g/ha, 10 m db + 5 m VFSmod

Scenario	TWA PEC_{SED} [µg/kg]										
	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D1 Ditch	46.64	46.61	46.58	46.57	46.54	46.46	46.23	46.01	45.25	44.76	42.76
D1 Stream	32.60	32.52	32.46	32.43	32.38	32.21	32.02	31.73	31.04	30.58	28.41
D2 Ditch	78.26	78.04	77.87	77.68	77.33	76.57	74.93	73.22	69.90	68.44	59.75
D2 Stream	45.84	45.70	45.56	45.52	45.41	44.91	43.99	42.81	40.98	40.25	35.42
D3 Ditch	0.478	0.454	0.434	0.420	0.394	0.382	0.382	0.382	0.381	0.380	0.373
D4 Pond	14.06	14.06	14.06	14.06	14.06	14.05	14.03	14.00	13.92	13.86	13.34
D4 Stream	6.892	6.881	6.861	6.841	6.777	6.698	6.635	6.448	5.996	5.811	5.051
D5 Pond	13.90	13.90	13.90	13.90	13.90	13.89	13.87	13.84	13.73	13.65	11.46
D5 Stream	6.120	6.099	6.079	6.044	5.940	5.721	5.525	5.322	4.944	4.830	4.362
D6 Ditch	15.47	15.26	15.21	15.08	14.56	13.19	12.44	11.92	11.86	11.71	11.29
R1 Pond	0.433	0.433	0.433	0.433	0.433	0.433	0.432	0.431	0.428	0.426	0.402
R1 Stream	0.083	0.066	0.057	0.051	0.042	0.031	0.027	0.025	0.021	0.020	0.014
R3 Stream	10.68	9.718	9.332	8.918	7.793	6.275	5.407	4.817	4.034	3.717	2.570
R4 Stream	0.060	0.046	0.039	0.034	0.026	0.019	0.015	0.013	0.011	0.010	0.006

A3.4 Step 4: TS5, Pome/stone fruit, early, 3×1000 g/ha, 10 m db + 50 % drn

Table A3.4-1: Step 4: TS5, PEC_{SW}, Pome/stone fruit, early, 3×1000 g/ha, 10 m db, 50 % drn

Scenario	Appl. Date	Date of max.	PECsw [µg/L]											
			Max.	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	04-04-1992 04-05-1992 25-05-1992	25-05-1992	14.210	8.941	2.774	0.646	0.186	0.039	0.017	0.012	0.010	0.008	0.007	0.002
D4 Pond	18-04-1985 24-05-1985 16-06-1985	23-12-1985	14.030	13.960	13.800	13.620	13.450	12.710	10.650	8.779	7.257	5.443	4.387	1.201
D4 Stream	18-04-1985 24-05-1985 16-06-1985	09-12-1985	18.380	14.460	12.670	11.350	10.570	12.610	9.817	5.164	2.882	2.102	2.205	0.186
D5 Pond	08-04-1978 01-05-1978 27-05-1978	14-02-1979	9.896	9.797	9.584	9.327	9.053	8.238	6.559	5.087	3.949	3.089	2.718	<0.001
D5 Stream	08-04-1978 01-05-1978 27-05-1978	01-05-1978	17.830	0.907	0.868	0.833	0.714	0.563	1.001	0.357	0.022	0.003	0.002	0.001
R1 Pond	07-04-1984 28-04-1984 31-05-1984	28-04-1984	1.679	1.584	1.506	1.426	1.341	1.118	0.740	0.495	0.351	0.733	0.390	0.010
R1 Stream	07-04-1984 28-04-1984 31-05-1984	28-04-1984	12.530	0.005	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
R2 Stream	01-03-1977 22-03-1977 22-04-1977	22-04-1977	16.620	0.002	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.007	<0.001
R3 Stream	28-03-1980 22-04-1980 18-05-1980	22-04-1980	17.760	0.076	0.022	0.012	0.008	0.004	0.001	0.001	0.009	0.001	<0.001	<0.001
R4 Stream	05-03-1984 15-04-1984 10-05-1984	18-05-1984	15.400	9.776	0.027	0.009	0.005	0.002	0.001	0.001	<0.001	0.341	<0.001	<0.001
Global maximum			**18.380**											

Table A3.4-2: Step 4: TS5, TWA PEC_{SW}, Pome/stone fruit, early, 3×1000 g/ha, 10 m db, 50 % drn

Scenario	TWA PECsw [µg/L]										
	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	11.66	8.607	6.222	4.755	2.750	1.387	0.929	1.302	0.874	0.736	0.524
D4 Pond	14.02	14.00	13.97	13.93	13.77	13.26	12.67	12.06	10.87	10.22	6.955
D4 Stream	16.30	14.99	14.31	14.25	13.41	13.14	12.11	10.47	7.830	6.898	3.877
D5 Pond	9.884	9.851	9.807	9.751	9.508	8.801	8.089	7.416	6.293	5.810	3.884
D5 Stream	9.307	8.921	8.497	7.828	7.299	5.667	4.664	4.073	3.427	3.196	2.535
R1 Pond	1.629	1.586	1.547	1.506	1.386	1.150	0.970	0.917	0.865	0.793	0.604
R1 Stream	8.832	4.445	2.967	2.226	1.273	0.637	0.425	0.490	0.391	0.329	0.207
R2 Stream	6.453	3.426	2.286	1.715	0.981	0.491	0.374	0.285	0.222	0.187	0.162
R3 Stream	11.47	6.217	6.004	4.528	2.593	1.298	0.866	0.819	0.553	0.465	0.280
R4 Stream	9.694	9.576	6.469	4.854	2.776	1.838	1.226	1.141	0.821	0.689	0.366

Table A3.4-3: Step 4: TS5, PEC_{SED}, Pome/stone fruit, early, 3×1000 g/ha, 10 m db, 50 % drn

Scenario	Date of Max.	PEC_{SED} [µg/kg]											
		Max.	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	26-05-1992	6.837	5.847	4.752	4.088	3.672	2.987	2.291	1.931	1.689	1.355	1.213	0.702
D4 Pond	13-01-1986	33.56	33.55	33.53	33.49	33.44	33.22	32.82	32.10	31.02	28.50	27.05	19.54
D4 Stream	22-12-1985	26.78	26.66	26.35	25.91	25.62	24.56	21.46	18.96	17.25	16.41	14.72	9.534
D5 Pond	03-03-1979	21.61	21.60	21.57	21.53	21.47	21.24	20.48	19.94	19.55	18.32	17.30	<0.001
D5 Stream	14-02-1979	15.15	14.98	14.68	14.35	14.05	13.35	12.18	11.27	10.59	12.16	12.36	<0.001
R1 Pond	06-06-1984	3.097	3.091	3.075	3.051	3.021	2.911	2.611	2.405	2.146	1.705	1.518	0.893
R1 Stream	21-06-1984	4.698	2.642	2.022	1.733	1.553	1.252	0.945	0.788	0.683	0.543	0.485	0.343
R2 Stream	05-04-1977	3.452	1.926	1.482	1.271	1.139	0.914	0.686	0.740	0.595	0.459	0.410	0.506
R3 Stream	22-04-1980	5.534	3.615	2.885	2.504	2.251	1.801	1.326	1.087	1.850	1.033	0.882	0.443
R4 Stream	20-05-1984	7.403	4.842	3.919	3.431	3.107	2.529	1.905	1.565	1.339	1.141	0.969	0.484
Global maximum		**33.560**											

Table A3.4-4: Step 4: TS5, TWA PEC_{SED}, Pome/stone fruit, early, 3×1000 g/ha, 10 m db, 50 % drn

Scenario	TWA PEC_{SED} [µg/kg]										
	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	6.696	6.348	5.934	5.548	4.708	3.715	3.199	2.990	2.805	2.650	2.041
D4 Pond	33.56	33.56	33.55	33.55	33.52	33.42	33.29	33.13	32.67	32.32	29.28
D4 Stream	26.77	26.73	26.66	26.58	26.23	25.42	24.42	23.40	21.61	20.94	17.13
D5 Pond	21.61	21.60	21.60	21.59	21.57	21.45	21.26	21.05	20.62	20.39	16.39
D5 Stream	15.13	15.09	15.05	14.98	14.70	14.01	13.44	12.94	12.34	12.29	11.27
R1 Pond	3.097	3.095	3.092	3.088	3.070	2.997	2.893	2.790	2.675	2.670	2.296
R1 Stream	3.951	3.300	2.886	2.605	2.112	1.610	1.365	1.210	1.073	1.021	0.777
R2 Stream	2.894	2.475	2.187	1.985	1.624	1.252	1.072	0.963	0.818	0.757	0.741
R3 Stream	4.830	4.286	4.360	4.120	3.433	2.584	2.154	1.882	1.765	1.643	1.146
R4 Stream	6.777	6.107	5.704	5.282	4.392	3.375	2.856	2.519	2.168	2.020	1.479

A3.5 Step 4: TS5, Pome/stone fruit, early, 3×1000 g/ha, 10 m db+vfs, 50 % drn

Table A3.5-1: Step 4: TS5, PEC_{SW}, Pome/stone fruit, early, 3×1000 g/ha, 10 m db+vfs, 50 % drn

Scenario	Appl. Date	Date of max.	PECsw [µg/L]											
			Max.	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	04-04-1992 04-05-1992 25-05-1992	25-05-1992	14.210	8.941	2.774	0.646	0.186	0.039	0.017	0.012	0.010	0.008	0.007	0.002
D4 Pond	18-04-1985 24-05-1985 16-06-1985	23-12-1985	14.030	13.960	13.800	13.620	13.450	12.710	10.650	8.779	7.257	5.443	4.387	1.201
D4 Stream	18-04-1985 24-05-1985 16-06-1985	09-12-1985	18.380	14.460	12.670	11.350	10.570	12.610	9.817	5.164	2.882	2.102	2.205	0.186
D5 Pond	08-04-1978 01-05-1978 27-05-1978	14-02-1979	9.896	9.797	9.584	9.327	9.053	8.238	6.559	5.087	3.949	3.089	2.718	<0.001
D5 Stream	08-04-1978 01-05-1978 27-05-1978	01-05-1978	17.830	0.907	0.868	0.833	0.714	0.563	1.001	0.357	0.022	0.003	0.002	0.001
R1 Pond	07-04-1984 28-04-1984 31-05-1984	28-04-1984	1.679	1.584	1.506	1.426	1.341	1.118	0.740	0.495	0.341	0.715	0.380	0.009
R1 Stream	07-04-1984 28-04-1984 31-05-1984	28-04-1984	12.530	0.005	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
R2 Stream	01-03-1977 22-03-1977 22-04-1977	22-04-1977	16.620	0.002	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.003	<0.001
R3 Stream	28-03-1980 22-04-1980 18-05-1980	22-04-1980	17.740	0.067	0.016	0.008	0.005	0.002	0.001	<0.001	0.009	0.001	<0.001	<0.001
R4 Stream	05-03-1984 15-04-1984 10-05-1984	15-04-1984	12.600	0.007	0.002	0.001	0.001	<0.001	0.002	<0.001	0.001	0.001	<0.001	<0.001
Global maximum			**18.380**											

Table A3.5-2: Step 4: TS5, TWA PEC_{SW}, Pome/stone fruit, early, 3×1000 g/ha, 10 m db+vfs, 50 % drn

Scenario	TWA PECsw [µg/L]										
	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	11.66	8.607	6.222	4.755	2.750	1.387	0.929	1.302	0.874	0.736	0.524
D4 Pond	14.02	14.00	13.97	13.93	13.77	13.26	12.67	12.06	10.87	10.22	6.955
D4 Stream	16.30	14.99	14.31	14.25	13.41	13.14	12.11	10.47	7.830	6.898	3.877
D5 Pond	9.884	9.851	9.807	9.751	9.508	8.801	8.089	7.416	6.293	5.810	3.884
D5 Stream	9.307	8.921	8.497	7.828	7.299	5.667	4.664	4.073	3.427	3.196	2.535
R1 Pond	1.629	1.586	1.547	1.506	1.386	1.150	0.970	0.917	0.865	0.792	0.592
R1 Stream	3.784	1.904	1.271	0.954	0.546	0.293	0.195	0.243	0.189	0.159	0.121
R2 Stream	2.876	1.533	1.023	0.767	0.439	0.220	0.203	0.153	0.134	0.113	0.087
R3 Stream	5.619	3.410	3.721	2.812	1.611	0.806	0.538	0.574	0.389	0.327	0.211
R4 Stream	4.324	4.255	2.876	2.158	1.234	0.867	0.578	0.525	0.410	0.344	0.193

Table A3.5-3: Step 4: TS5, PEC_{SED}, Pome/stone fruit, early, 3×1000 g/ha, 10 m db+vfs, 50 % drn

Scenario	Date of Max.	PEC_{SED} [µg/kg]											
		Max.	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	26-05-1992	6.837	5.847	4.752	4.088	3.672	2.987	2.291	1.931	1.689	1.355	1.213	0.702
D4 Pond	13-01-1986	33.56	33.55	33.53	33.49	33.44	33.22	32.82	32.10	31.02	28.50	27.05	19.54
D4 Stream	22-12-1985	26.78	26.66	26.35	25.91	25.62	24.56	21.46	18.96	17.25	16.41	14.72	9.534
D5 Pond	03-03-1979	21.61	21.60	21.57	21.53	21.47	21.24	20.48	19.94	19.55	18.32	17.30	<0.001
D5 Stream	14-02-1979	15.15	14.98	14.68	14.35	14.05	13.35	12.18	11.27	10.59	12.16	12.36	<0.001
R1 Pond	06-06-1984	3.051	3.045	3.029	3.006	2.977	2.869	2.574	2.324	2.069	1.648	1.471	0.862
R1 Stream	21-06-1984	2.115	1.230	0.962	0.836	0.758	0.625	0.485	0.410	0.359	0.290	0.260	0.182
R2 Stream	05-04-1977	1.541	0.863	0.665	0.572	0.513	0.414	0.313	0.430	0.328	0.247	0.219	0.239
R3 Stream	22-04-1980	4.237	2.567	1.982	1.699	1.518	1.208	0.890	0.732	1.546	0.797	0.674	0.333
R4 Stream	20-05-1984	3.418	2.264	1.848	1.627	1.480	1.215	0.927	0.767	0.659	0.559	0.478	0.242
Global maximum		**33.560**											

Table A3.5-4: Step 4: TS5, TWA PEC_{SED}, Pome/stone fruit, early, 3×1000 g/ha, 10 m db+vfs, 50 % drn

Scenario	TWA PEC_{SED} [µg/kg]										
	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	6.696	6.348	5.934	5.548	4.708	3.715	3.199	2.990	2.805	2.650	2.041
D4 Pond	33.56	33.56	33.55	33.55	33.52	33.42	33.29	33.13	32.67	32.32	29.28
D4 Stream	26.77	26.73	26.66	26.58	26.23	25.42	24.42	23.40	21.61	20.94	17.13
D5 Pond	21.61	21.60	21.60	21.59	21.57	21.45	21.26	21.05	20.62	20.39	16.39
D5 Stream	15.13	15.09	15.05	14.98	14.70	14.01	13.44	12.94	12.34	12.29	11.27
R1 Pond	3.051	3.049	3.046	3.043	3.025	2.953	2.850	2.739	2.653	2.649	2.260
R1 Stream	1.793	1.512	1.334	1.213	0.999	0.779	0.670	0.621	0.588	0.557	0.440
R2 Stream	1.310	1.123	0.994	0.904	0.742	0.576	0.515	0.481	0.416	0.388	0.366
R3 Stream	3.598	3.011	2.651	2.507	2.150	1.654	1.392	1.245	1.233	1.159	0.849
R4 Stream	3.135	2.825	2.645	2.457	2.057	1.597	1.360	1.235	1.068	0.995	0.745

A3.6 Step 4: TS5, Pome/stone fruit, early, 3×1000 g/ha, 10 m db + 5 m VFSmod, 50 % drn

Table A3.6-1: Step 4: TS5, PEC_{SW}, Pome/stone fruit, early, 3×1000 g/ha, 10 m db + 5 m VFSmod, 50 % drn

Scenario	Appl. Date	Date of max.	PECsw [µg/L]											
			Max.	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	04-04-1992 04-05-1992 25-05-1992	25-05-1992	14.210	8.941	2.774	0.646	0.186	0.039	0.017	0.012	0.010	0.008	0.007	0.002
D4 Pond	18-04-1985 24-05-1985 16-06-1985	23-12-1985	14.030	13.960	13.800	13.620	13.450	12.710	10.650	8.779	7.257	5.443	4.387	1.201
D4 Stream	18-04-1985 24-05-1985 16-06-1985	09-12-1985	18.380	14.460	12.670	11.350	10.570	12.610	9.817	5.164	2.882	2.102	2.205	0.186
D5 Pond	08-04-1978 01-05-1978 27-05-1978	14-02-1979	9.896	9.797	9.584	9.327	9.053	8.238	6.559	5.087	3.949	3.089	2.718	<0.001
D5 Stream	08-04-1978 01-05-1978 27-05-1978	01-05-1978	17.830	0.907	0.868	0.833	0.714	0.563	1.001	0.357	0.022	0.003	0.002	0.001
R1 Pond	07-04-1984 28-04-1984 31-05-1984	28-04-1984	1.679	1.584	1.506	1.426	1.341	1.118	0.740	0.495	0.334	0.706	0.376	0.008
R1 Stream	07-04-1984 28-04-1984 31-05-1984	28-04-1984	12.530	0.005	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
R2 Stream	01-03-1977 22-03-1977 22-04-1977	22-04-1977	16.620	0.002	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
R3 Stream	28-03-1980 22-04-1980 18-05-1980	22-04-1980	17.720	0.059	0.011	0.005	0.003	0.001	<0.001	<0.001	0.009	<0.001	<0.001	<0.001
R4 Stream	05-03-1984 15-04-1984 10-05-1984	15-04-1984	12.600	0.007	0.002	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Global maximum			**18.380**											

Table A3.6-2: Step 4: TS5, TWA PEC_{SW}, Pome/stone fruit, early, 3×1000 g/ha, 10 m db + 5 m VFSmod, 50 % drn

Scenario	TWA PECsw [µg/L]										
	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	11.66	8.607	6.222	4.755	2.750	1.387	0.929	1.302	0.874	0.736	0.524
D4 Pond	14.02	14.00	13.97	13.93	13.77	13.26	12.67	12.06	10.87	10.22	6.955
D4 Stream	16.30	14.99	14.31	14.25	13.41	13.14	12.11	10.47	7.830	6.898	3.877
D5 Pond	9.884	9.851	9.807	9.751	9.508	8.801	8.089	7.416	6.293	5.810	3.884
D5 Stream	9.307	8.921	8.497	7.828	7.299	5.667	4.664	4.073	3.427	3.196	2.535
R1 Pond	1.629	1.586	1.547	1.506	1.386	1.150	0.970	0.917	0.865	0.790	0.585
R1 Stream	2.105	1.054	0.703	0.527	0.301	0.151	0.101	0.151	0.101	0.084	0.058
R2 Stream	1.369	0.685	0.457	0.343	0.196	0.098	0.065	0.096	0.065	0.054	0.041
R3 Stream	5.607	2.816	1.880	1.411	0.807	0.404	0.269	0.381	0.254	0.214	0.155
R4 Stream	2.489	1.246	0.831	0.624	0.356	0.207	0.138	0.142	0.129	0.108	0.075

Table A3.6-3: Step 4: TS5, PEC_{SED}, Pome/stone fruit, early, 3×1000 g/ha, 10 m db + 5 m VFSmod, 50 % drn

Scenario	Date of Max.	PEC_{SED} [µg/kg]											
		Max.	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	26-05-1992	6.837	5.847	4.752	4.088	3.672	2.987	2.291	1.931	1.689	1.355	1.213	0.702
D4 Pond	13-01-1986	33.56	33.55	33.53	33.49	33.44	33.22	32.82	32.10	31.02	28.50	27.05	19.54
D4 Stream	22-12-1985	26.78	26.66	26.35	25.91	25.62	24.56	21.46	18.96	17.25	16.41	14.72	9.534
D5 Pond	03-03-1979	21.61	21.60	21.57	21.53	21.47	21.24	20.48	19.94	19.55	18.32	17.30	<0.001
D5 Stream	14-02-1979	15.15	14.98	14.68	14.35	14.05	13.35	12.18	11.27	10.59	12.16	12.36	<0.001
R1 Pond	06-06-1984	3.027	3.021	3.005	2.982	2.953	2.846	2.553	2.274	2.021	1.612	1.441	0.845
R1 Stream	28-04-1984	1.417	0.692	0.504	0.424	0.376	0.299	0.224	0.187	0.163	0.264	0.211	0.105
R2 Stream	22-04-1977	1.021	0.479	0.352	0.299	0.268	0.217	0.168	0.143	0.127	0.104	0.094	0.056
R3 Stream	22-04-1980	3.191	1.726	1.258	1.055	0.934	0.737	0.545	0.451	1.308	0.611	0.511	0.247
R4 Stream	15-04-1984	1.574	0.753	0.538	0.447	0.393	0.308	0.228	0.190	0.384	0.350	0.277	0.124
Global maximum		**33.560**											

Table A3.6-4: Step 4: TS5, TWA PEC_{SED}, Pome/stone fruit, early, 3×1000 g/ha, 10 m db + 5 m VFSmod, 50 % drn

Scenario	TWA PEC_{SED} [µg/kg]										
	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	6.696	6.348	5.934	5.548	4.708	3.715	3.199	2.990	2.805	2.650	2.041
D4 Pond	33.56	33.56	33.55	33.55	33.52	33.42	33.29	33.13	32.67	32.32	29.28
D4 Stream	26.77	26.73	26.66	26.58	26.23	25.42	24.42	23.40	21.61	20.94	17.13
D5 Pond	21.61	21.60	21.60	21.59	21.57	21.45	21.26	21.05	20.62	20.39	16.39
D5 Stream	15.13	15.09	15.05	14.98	14.70	14.01	13.44	12.94	12.34	12.29	11.27
R1 Pond	3.026	3.024	3.022	3.018	3.000	2.929	2.827	2.711	2.641	2.637	2.240
R1 Stream	1.052	0.833	0.713	0.636	0.508	0.383	0.324	0.302	0.298	0.288	0.241
R2 Stream	0.718	0.567	0.487	0.437	0.353	0.271	0.233	0.208	0.205	0.199	0.165
R3 Stream	2.610	2.103	1.809	1.633	1.333	1.034	0.888	0.831	0.830	0.787	0.618
R4 Stream	1.177	0.924	0.785	0.696	0.548	0.468	0.429	0.393	0.371	0.361	0.273

A3.7 Step 4: TS6, leafy vegetables, 1×375+1×250 g/ha, 10 m db

Table A3.7-1: Step 4: TS6, PEC_{SW}, leafy vegetables, 1×375+1×250 g/ha, 10 m db

Scenario	Appl. Date	Date of max.	PECsw [µg/L]											
			Max.	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	10-04-1992 20-04-1992	10-04-1992	0.435	0.278	0.168	0.157	0.156	0.156	0.155	0.154	0.153	0.154	0.154	0.165
D3 Ditch 2nd	25-07-1992 18-08-1992	31-03-1993	0.636	0.634	0.633	0.633	0.633	0.633	0.633	0.633	0.632	<0.001	<0.001	<0.001
D4 Pond	16-05-1985 29-05-1985	30-12-1985	1.397	1.395	1.392	1.387	1.381	1.358	1.291	1.234	1.324	1.257	1.184	0.772
D4 Stream	16-05-1985 29-05-1985	20-12-1985	0.950	0.912	0.864	0.812	0.760	0.729	0.531	0.439	0.433	0.582	0.449	0.258
D6 Ditch	04-08-1986 19-08-1986	17-08-1986	8.085	5.855	3.197	1.869	1.419	3.921	2.589	1.406	1.264	1.213	1.180	0.863
R1 Pond	26-04-1984 09-05-1984	20-05-1984	0.236	0.231	0.226	0.221	0.216	0.206	0.176	0.147	0.123	0.085	0.067	0.012
R1 Pond 2nd	28-07-1978 20-08-1978	17-09-1978	0.123	0.119	0.116	0.114	0.111	0.103	0.088	0.078	0.069	0.054	0.048	0.023
R1 Stream	26-04-1984 09-05-1984	20-05-1984	4.357	0.003	0.001	<0.001	0.020	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
R1 Stream 2nd	28-07-1978 20-08-1978	17-09-1978	1.557	0.021	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
R2 Stream	06-03-1978 25-03-1978	16-03-1978	6.951	0.002	0.001	<0.001	<0.001	<0.001	3.619	<0.001	<0.001	<0.001	<0.001	<0.001
R2 Stream 2nd	31-07-1989 10-08-1989	22-10-1989	2.127	0.997	0.478	0.001	<0.001	<0.001	<0.001	0.003	<0.001	<0.001	<0.001	<0.001
R3 Stream	19-02-1981 20-03-1981	03-03-1981	10.280	0.030	0.004	0.002	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
R3 Stream 2nd	02-06-1975 14-06-1975	09-06-1975	8.924	0.031	0.007	0.004	0.002	0.001	5.044	0.001	<0.001	<0.001	<0.001	<0.001
R4 Stream	01-03-1980 15-03-1980	12-03-1980	13.940	0.005	0.002	0.005	0.001	11.900	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
R4 Stream 2nd	01-06-1985 13-06-1985	07-06-1985	16.740	0.009	0.003	0.002	3.473	0.001	0.001	0.210	0.021	<0.001	<0.001	<0.001
Global maximum			**16.740**											

Table A3.7-2: Step 4: TS6, TWA PEC_{SW}, leafy vegetables, 1×375+1×250 g/ha, 10 m db

Scenario	TWA PECsw [µg/L]										
	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	0.370	0.288	0.247	0.247	0.247	0.247	0.247	0.247	0.247	0.246	0.245
D3 Ditch 2nd	0.636	0.636	0.636	0.635	0.635	0.635	0.635	0.635	0.634	0.634	0.633
D4 Pond	1.397	1.397	1.396	1.395	1.392	1.379	1.362	1.340	1.324	1.319	1.200
D4 Stream	0.933	0.916	0.902	0.900	0.878	0.852	0.830	0.788	0.684	0.657	0.551
D6 Ditch	7.459	6.354	5.243	4.391	3.133	2.705	2.317	2.070	1.795	1.702	1.481
R1 Pond	0.234	0.231	0.229	0.226	0.220	0.206	0.191	0.177	0.153	0.140	0.093
R1 Pond 2nd	0.121	0.120	0.118	0.117	0.113	0.104	0.097	0.091	0.081	0.076	0.057
R1 Stream	2.318	1.160	0.773	0.580	0.351	0.190	0.133	0.101	0.068	0.058	0.029
R1 Stream 2nd	1.227	0.617	0.411	0.308	0.176	0.091	0.061	0.046	0.031	0.026	0.014
R2 Stream	2.976	1.489	0.993	0.745	0.426	0.215	0.251	0.188	0.136	0.115	0.058
R2 Stream 2nd	1.239	1.068	0.799	0.599	0.343	0.172	0.115	0.086	0.057	0.048	0.025
R3 Stream	5.258	2.643	1.763	1.323	0.756	0.387	0.259	0.194	0.131	0.171	0.087
R3 Stream 2nd	8.094	4.456	2.974	2.231	1.287	0.652	0.746	0.597	0.403	0.338	0.169
R4 Stream	10.17	5.090	3.394	2.551	1.460	1.414	0.943	0.712	0.476	0.400	0.200
R4 Stream 2nd	12.25	6.135	4.091	3.069	2.121	1.519	1.015	0.767	0.512	0.430	0.215

Table A3.7-3: Step 4: TS6, PEC_{SED}, leafy vegetables, 1×375+1×250 g/ha, 10 m db

Scenario	Date of Max.	PEC_{SED} [µg/kg]											
		Max.	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	01-03-1993	0.413	0.413	0.412	0.412	0.412	0.411	0.411	0.410	0.409	0.389	0.379	<0.001
D3 Ditch 2nd	01-04-1993	1.046	1.041	1.036	1.032	1.027	1.016	0.993	0.975	0.960	<0.001	<0.001	<0.001
D4 Pond	19-02-1986	1.951	1.951	1.951	1.950	1.949	1.944	1.923	1.891	1.852	1.755	1.688	<0.001
D4 Stream	27-12-1985	0.980	0.978	0.973	0.966	0.959	0.935	0.880	0.849	0.944	0.919	0.874	0.667
D6 Ditch	18-08-1986	1.632	1.487	1.299	1.173	1.094	1.539	1.440	1.262	1.193	1.142	1.178	1.340
R1 Pond	07-06-1984	0.156	0.156	0.156	0.156	0.155	0.153	0.145	0.134	0.119	0.090	0.076	0.023
R1 Pond 2nd	14-10-1978	0.089	0.089	0.089	0.089	0.088	0.088	0.085	0.083	0.081	0.076	0.073	0.047
R1 Stream	20-05-1984	0.574	0.222	0.161	0.133	0.127	0.095	0.060	0.043	0.032	0.019	0.014	0.002
R1 Stream 2nd	17-09-1978	0.247	0.113	0.081	0.066	0.057	0.041	0.028	0.021	0.017	0.011	0.009	0.004
R2 Stream	16-03-1978	0.839	0.284	0.204	0.167	0.143	0.105	0.451	0.159	0.096	0.073	0.055	0.011
R2 Stream 2nd	22-10-1989	0.299	0.260	0.229	0.148	0.120	0.080	0.049	0.036	0.027	0.017	0.014	<0.001
R3 Stream	03-03-1981	1.194	0.510	0.361	0.294	0.253	0.185	0.120	0.094	0.074	0.047	0.144	0.019
R3 Stream 2nd	09-06-1975	1.659	0.845	0.606	0.492	0.419	0.299	1.404	0.337	0.223	0.089	0.055	0.005
R4 Stream	19-03-1980	2.360	1.160	0.915	0.936	0.775	0.591	0.408	0.318	0.251	0.167	0.130	0.025
R4 Stream 2nd	07-06-1985	2.961	1.322	0.982	0.809	1.258	0.636	0.693	0.429	0.264	0.116	0.076	0.009
Global maximum		**2.961**											

Table A3.7-4: Step 4: TS6, TWA PEC_{SED}, leafy vegetables, 1×375+1×250 g/ha, 10 m db

Scenario	TWA PEC_{SED} [µg/kg]										
	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	0.413	0.413	0.413	0.413	0.412	0.412	0.411	0.411	0.410	0.409	0.400
D3 Ditch 2nd	1.046	1.046	1.046	1.046	1.046	1.045	1.045	1.045	1.043	1.040	1.013
D4 Pond	1.951	1.951	1.951	1.951	1.951	1.948	1.945	1.940	1.926	1.916	1.823
D4 Stream	0.980	0.979	0.978	0.977	0.978	0.969	0.952	0.934	0.926	0.928	0.876
D6 Ditch	1.612	1.562	1.514	1.512	1.505	1.489	1.480	1.478	1.468	1.460	1.432
R1 Pond	0.156	0.156	0.156	0.156	0.156	0.155	0.153	0.151	0.144	0.139	0.103
R1 Pond 2nd	0.089	0.089	0.089	0.089	0.089	0.088	0.088	0.087	0.086	0.085	0.078
R1 Stream	0.413	0.314	0.263	0.230	0.180	0.129	0.103	0.087	0.066	0.058	0.035
R1 Stream 2nd	0.200	0.157	0.132	0.116	0.088	0.062	0.049	0.042	0.033	0.029	0.018
R2 Stream	0.540	0.404	0.335	0.292	0.221	0.159	0.167	0.156	0.135	0.123	0.075
R2 Stream 2nd	0.255	0.240	0.227	0.207	0.163	0.113	0.090	0.075	0.057	0.051	0.029
R3 Stream	0.914	0.698	0.583	0.509	0.387	0.269	0.216	0.183	0.142	0.157	0.108
R3 Stream 2nd	1.395	1.141	0.973	0.858	0.657	0.490	0.514	0.469	0.364	0.317	0.169
R4 Stream	1.863	1.515	1.318	1.224	1.002	0.875	0.750	0.655	0.523	0.469	0.276
R4 Stream 2nd	2.268	1.801	1.534	1.357	1.164	0.978	0.832	0.711	0.535	0.465	0.248

A3.8 Step 4: TS6, leafy vegetables, 1×375+1×250 g/ha, 10 m db+vfs

Table A3.8-1: Step 4: TS6, PEC_{SW}, leafy vegetables, 1×375+1×250 g/ha, 10 m db+vfs

Scenario	Appl. Date	Date of max.	PECsw [µg/L]											
			Max.	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	10-04-1992 20-04-1992	10-04-1992	0.435	0.278	0.168	0.157	0.156	0.156	0.155	0.154	0.153	0.154	0.154	0.165
D3 Ditch 2nd	25-07-1992 18-08-1992	31-03-1993	0.636	0.634	0.633	0.633	0.633	0.633	0.633	0.633	0.632	<0.001	<0.001	<0.001
D4 Pond	16-05-1985 29-05-1985	30-12-1985	1.397	1.395	1.392	1.387	1.381	1.358	1.291	1.234	1.324	1.257	1.184	0.772
D4 Stream	16-05-1985 29-05-1985	20-12-1985	0.950	0.912	0.864	0.812	0.760	0.729	0.531	0.439	0.433	0.582	0.449	0.258
D6 Ditch	04-08-1986 19-08-1986	17-08-1986	8.085	5.855	3.197	1.869	1.419	3.921	2.589	1.406	1.264	1.213	1.180	0.863
R1 Pond	26-04-1984 09-05-1984	20-05-1984	0.123	0.120	0.117	0.115	0.112	0.107	0.092	0.077	0.064	0.045	0.035	0.007
R1 Pond 2nd	28-07-1978 20-08-1978	17-09-1978	0.063	0.062	0.060	0.059	0.057	0.053	0.045	0.040	0.036	0.028	0.025	0.012
R1 Stream	26-04-1984 09-05-1984	20-05-1984	1.976	0.001	<0.001	<0.001	0.007	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
R1 Stream 2nd	28-07-1978 20-08-1978	17-09-1978	0.708	0.010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
R2 Stream	06-03-1978 25-03-1978	16-03-1978	3.090	0.001	<0.001	<0.001	<0.001	<0.001	1.492	<0.001	<0.001	<0.001	<0.001	<0.001
R2 Stream 2nd	31-07-1989 10-08-1989	22-10-1989	0.955	0.454	0.217	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001
R3 Stream	19-02-1981 20-03-1981	03-03-1981	4.595	0.013	0.002	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
R3 Stream 2nd	02-06-1975 14-06-1975	09-06-1975	4.072	0.014	0.003	0.002	0.001	<0.001	2.377	<0.001	<0.001	<0.001	<0.001	<0.001
R4 Stream	01-03-1980 15-03-1980	12-03-1980	6.319	0.009	0.001	0.001	<0.001	5.791	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
R4 Stream 2nd	01-06-1985 13-06-1985	07-06-1985	7.633	0.004	0.001	0.001	1.583	<0.001	<0.001	0.095	0.009	<0.001	<0.001	<0.001
Global maximum			**8.085**											

Table A3.8-2: Step 4: TS6, TWA PEC_{SW}, leafy vegetables, 1×375+1×250 g/ha, 10 m db+vfs

Scenario	TWA PECsw [µg/L]										
	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	0.370	0.288	0.247	0.247	0.247	0.247	0.247	0.247	0.247	0.246	0.245
D3 Ditch 2nd	0.636	0.636	0.636	0.635	0.635	0.635	0.635	0.635	0.634	0.634	0.633
D4 Pond	1.397	1.397	1.396	1.395	1.392	1.379	1.362	1.340	1.324	1.319	1.200
D4 Stream	0.933	0.916	0.902	0.900	0.878	0.852	0.830	0.788	0.684	0.657	0.551
D6 Ditch	7.459	6.354	5.243	4.391	3.133	2.705	2.317	2.070	1.795	1.702	1.481
R1 Pond	0.121	0.120	0.119	0.117	0.114	0.107	0.100	0.092	0.080	0.076	0.053
R1 Pond 2nd	0.063	0.062	0.061	0.060	0.058	0.054	0.050	0.047	0.042	0.041	0.036
R1 Stream	1.051	0.526	0.351	0.263	0.159	0.086	0.060	0.046	0.032	0.026	0.013
R1 Stream 2nd	0.558	0.280	0.187	0.140	0.080	0.041	0.028	0.021	0.015	0.012	0.007
R2 Stream	1.317	0.659	0.439	0.329	0.188	0.096	0.110	0.083	0.060	0.051	0.026
R2 Stream 2nd	0.555	0.482	0.361	0.271	0.155	0.077	0.052	0.039	0.026	0.022	0.011
R3 Stream	2.332	1.172	0.782	0.587	0.336	0.177	0.118	0.089	0.061	0.078	0.040
R3 Stream 2nd	3.711	2.050	1.368	1.026	0.598	0.307	0.345	0.276	0.187	0.158	0.079
R4 Stream	4.607	2.305	1.537	1.158	0.663	0.641	0.428	0.323	0.216	0.182	0.091
R4 Stream 2nd	5.613	2.810	1.874	1.406	0.974	0.695	0.465	0.352	0.235	0.197	0.099

Table A3.8-3: Step 4: TS6, PEC_{SED}, leafy vegetables, 1×375+1×250 g/ha, 10 m db+vfs

Scenario	Date of Max.	PEC_{SED} [µg/kg]											
		Max.	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	01-03-1993	0.413	0.413	0.412	0.412	0.412	0.411	0.411	0.410	0.409	0.389	0.379	<0.001
D3 Ditch 2nd	01-04-1993	1.046	1.041	1.036	1.032	1.027	1.016	0.993	0.975	0.960	<0.001	<0.001	<0.001
D4 Pond	19-02-1986	1.951	1.951	1.951	1.950	1.949	1.944	1.923	1.891	1.852	1.755	1.688	<0.001
D4 Stream	27-12-1985	0.980	0.978	0.973	0.966	0.959	0.935	0.880	0.849	0.944	0.919	0.874	0.667
D6 Ditch	18-08-1986	1.632	1.487	1.299	1.173	1.094	1.539	1.440	1.262	1.193	1.142	1.178	1.340
R1 Pond	05-06-1984	0.088	0.088	0.088	0.087	0.087	0.086	0.081	0.075	0.068	0.051	0.043	0.013
R1 Pond 2nd	09-10-1978	0.051	0.051	0.051	0.051	0.051	0.051	0.049	0.047	0.046	0.043	0.041	0.027
R1 Stream	20-05-1984	0.261	0.101	0.073	0.060	0.057	0.043	0.027	0.019	0.015	0.009	0.007	0.001
R1 Stream 2nd	17-09-1978	0.113	0.051	0.037	0.030	0.026	0.019	0.013	0.010	0.008	0.005	0.004	0.002
R2 Stream	16-03-1978	0.370	0.122	0.088	0.072	0.062	0.046	0.171	0.069	0.042	0.032	0.024	0.005
R2 Stream 2nd	22-10-1989	0.134	0.117	0.103	0.066	0.054	0.036	0.022	0.016	<0.001	0.008	0.006	0.002
R3 Stream	03-03-1981	0.534	0.228	0.162	0.132	0.114	0.083	0.054	0.045	0.035	0.022	0.066	0.009
R3 Stream 2nd	09-06-1975	0.740	0.376	0.267	0.216	0.184	0.133	0.625	0.145	0.097	0.038	0.024	0.002
R4 Stream	19-03-1980	1.055	0.515	0.405	0.414	0.342	0.261	0.180	0.140	0.111	0.074	0.057	0.011
R4 Stream 2nd	07-06-1985	1.259	0.532	0.387	0.315	0.522	0.253	0.291	0.179	0.109	0.048	0.031	0.004
Global maximum		**1.951**											

Table A3.8-4: Step 4: TS6, TWA PEC_{SED}, leafy vegetables, 1×375+1×250 g/ha, 10 m db+vfs

Scenario	TWA PEC_{SED} [µg/kg]										
	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	0.413	0.413	0.413	0.413	0.412	0.412	0.411	0.411	0.410	0.409	0.400
D3 Ditch 2nd	1.046	1.046	1.046	1.046	1.046	1.045	1.045	1.045	1.043	1.040	1.013
D4 Pond	1.951	1.951	1.951	1.951	1.951	1.948	1.945	1.940	1.926	1.916	1.823
D4 Stream	0.980	0.979	0.978	0.977	0.978	0.969	0.952	0.934	0.926	0.928	0.876
D6 Ditch	1.612	1.562	1.514	1.512	1.505	1.489	1.480	1.478	1.468	1.460	1.432
R1 Pond	0.088	0.088	0.088	0.088	0.088	0.087	0.086	0.084	0.080	0.078	0.059
R1 Pond 2nd	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.050	0.049	0.049	0.044
R1 Stream	0.187	0.143	0.119	0.104	0.082	0.058	0.047	0.039	0.030	0.027	0.016
R1 Stream 2nd	0.091	0.072	0.060	0.053	0.040	0.028	0.023	0.019	0.015	0.013	0.008
R2 Stream	0.238	0.177	0.147	0.128	0.097	0.069	0.073	0.068	0.059	0.054	0.033
R2 Stream 2nd	0.115	0.108	0.102	0.093	0.073	0.051	0.040	0.034	0.026	0.023	0.013
R3 Stream	0.408	0.312	0.260	0.228	0.173	0.121	0.098	0.083	0.065	0.072	0.049
R3 Stream 2nd	0.626	0.511	0.434	0.382	0.293	0.214	0.227	0.207	0.160	0.140	0.075
R4 Stream	0.833	0.676	0.587	0.544	0.445	0.391	0.334	0.291	0.232	0.208	0.123
R4 Stream 2nd	0.961	0.752	0.633	0.556	0.475	0.402	0.344	0.294	0.221	0.192	0.102

A3.9 Step 4: TS6, leafy vegetables, 1×375+1×250 g/ha, 10 m db + 5 m VFSmod

Table A3.9-1: Step 4: TS6, PEC_{SW}, leafy vegetables, 1×375+1×250 g/ha, 10 m db + 5 m VFSmod

Scenario	Appl. Date	Date of max.	PECsw [µg/L]											
			Max.	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	10-04-1992 20-04-1992	10-04-1992	0.435	0.278	0.168	0.157	0.156	0.156	0.155	0.154	0.153	0.154	0.154	0.165
D3 Ditch 2nd	25-07-1992 18-08-1992	31-03-1993	0.636	0.634	0.633	0.633	0.633	0.633	0.633	0.633	0.632	<0.001	<0.001	<0.001
D4 Pond	16-05-1985 29-05-1985	30-12-1985	1.397	1.395	1.392	1.387	1.381	1.358	1.291	1.234	1.324	1.257	1.184	0.772
D4 Stream	16-05-1985 29-05-1985	20-12-1985	0.950	0.912	0.864	0.812	0.760	0.729	0.531	0.439	0.433	0.582	0.449	0.258
D6 Ditch	04-08-1986 19-08-1986	17-08-1986	8.085	5.855	3.197	1.869	1.419	3.921	2.589	1.406	1.264	1.213	1.180	0.863
R1 Pond	26-04-1984 09-05-1984	20-05-1984	0.182	0.178	0.174	0.170	0.167	0.158	0.135	0.113	0.094	0.065	0.051	0.010
R1 Pond 2nd	28-07-1978 20-08-1978	17-09-1978	0.095	0.093	0.091	0.088	0.086	0.080	0.068	0.060	0.053	0.042	0.037	0.018
R1 Stream	26-04-1984 09-05-1984	20-05-1984	1.684	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
R1 Stream 2nd	28-07-1978 20-08-1978	17-09-1978	0.617	0.009	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
R2 Stream	06-03-1978 25-03-1978	06-03-1978	0.326	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
R2 Stream 2nd	31-07-1989 10-08-1989	23-10-1989	0.434	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
R3 Stream	19-02-1981 20-03-1981	15-04-1981	0.932	0.006	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
R3 Stream 2nd	02-06-1975 14-06-1975	09-06-1975	4.562	0.016	0.003	0.002	0.001	0.001	1.117	<0.001	<0.001	<0.001	<0.001	<0.001
R4 Stream	01-03-1980 15-03-1980	19-03-1980	1.676	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
R4 Stream 2nd	01-06-1985 13-06-1985	07-06-1985	9.494	0.005	0.002	0.001	1.966	<0.001	<0.001	0.010	0.001	<0.001	<0.001	<0.001
Global maximum			**9.494**											

Table A3.9-2: Step 4: TS6, TWA PEC_{SW}, leafy vegetables, 1×375+1×250 g/ha, 10 m db + 5 m VFSmod

Scenario	TWA PECsw [µg/L]										
	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	0.370	0.288	0.247	0.247	0.247	0.247	0.247	0.247	0.247	0.246	0.245
D3 Ditch 2nd	0.636	0.636	0.636	0.635	0.635	0.635	0.635	0.635	0.634	0.634	0.633
D4 Pond	1.397	1.397	1.396	1.395	1.392	1.379	1.362	1.340	1.324	1.319	1.200
D4 Stream	0.933	0.916	0.902	0.900	0.878	0.852	0.830	0.788	0.684	0.657	0.551
D6 Ditch	7.459	6.354	5.243	4.391	3.133	2.705	2.317	2.070	1.795	1.702	1.481
R1 Pond	0.180	0.178	0.176	0.174	0.169	0.158	0.147	0.136	0.117	0.108	0.074
R1 Pond 2nd	0.094	0.093	0.092	0.091	0.088	0.081	0.076	0.071	0.063	0.059	0.046
R1 Stream	0.896	0.448	0.299	0.224	0.131	0.067	0.045	0.035	0.024	0.020	0.010
R1 Stream 2nd	0.486	0.244	0.163	0.122	0.070	0.035	0.023	0.017	0.012	0.010	0.006
R2 Stream	0.046	0.023	0.015	0.011	0.007	0.004	0.003	0.002	0.002	0.002	0.001
R2 Stream 2nd	0.392	0.197	0.131	0.098	0.056	0.028	0.019	0.014	0.009	0.008	0.005
R3 Stream	0.791	0.422	0.282	0.212	0.121	0.060	0.040	0.033	0.022	0.019	0.011
R3 Stream 2nd	4.149	2.290	1.528	1.147	0.667	0.342	0.290	0.228	0.155	0.131	0.065
R4 Stream	1.153	0.577	0.385	0.289	0.168	0.124	0.084	0.063	0.042	0.036	0.018
R4 Stream 2nd	6.970	3.490	2.328	1.746	1.208	0.625	0.419	0.314	0.210	0.176	0.088

Table A3.9-3: Step 4: TS6, PEC_{SED}, leafy vegetables, 1×375+1×250 g/ha, 10 m db + 5 m VFSmod

Scenario	Date of Max.	PEC_{SED} [µg/kg]											
		Max.	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	01-03-1993	0.413	0.413	0.412	0.412	0.412	0.411	0.411	0.410	0.409	0.389	0.379	<0.001
D3 Ditch 2nd	01-04-1993	1.046	1.041	1.036	1.032	1.027	1.016	0.993	0.975	0.960	<0.001	<0.001	<0.001
D4 Pond	19-02-1986	1.951	1.951	1.951	1.950	1.949	1.944	1.923	1.891	1.852	1.755	1.688	<0.001
D4 Stream	27-12-1985	0.980	0.978	0.973	0.966	0.959	0.935	0.880	0.849	0.944	0.919	0.874	0.667
D6 Ditch	18-08-1986	1.632	1.487	1.299	1.173	1.094	1.539	1.440	1.262	1.193	1.142	1.178	1.340
R1 Pond	07-06-1984	0.123	0.123	0.123	0.122	0.122	0.120	0.114	0.105	0.094	0.071	0.060	0.018
R1 Pond 2nd	12-10-1978	0.071	0.071	0.071	0.071	0.071	0.071	0.069	0.066	0.065	0.061	0.058	0.038
R1 Stream	20-05-1984	0.220	0.084	0.061	0.050	0.043	0.033	0.021	0.015	0.011	0.007	0.005	0.001
R1 Stream 2nd	17-09-1978	0.098	0.044	0.032	0.026	0.023	0.016	0.010	0.008	0.006	0.004	0.004	0.001
R2 Stream	06-03-1978	0.012	0.002	0.002	0.001	0.001	0.001	0.001	0.002	0.001	<0.001	0.002	<0.001
R2 Stream 2nd	23-10-1989	0.080	0.034	0.025	0.020	0.017	0.012	0.008	0.006	0.004	0.003	0.002	0.001
R3 Stream	15-04-1981	0.150	0.083	0.058	0.048	0.041	0.030	0.019	0.014	0.010	0.006	0.005	0.001
R3 Stream 2nd	09-06-1975	0.847	0.434	0.311	0.253	0.215	0.156	0.353	0.106	0.072	0.029	0.018	0.002
R4 Stream	19-03-1980	0.283	0.128	0.097	0.082	0.072	0.055	0.038	0.029	0.023	0.015	0.012	0.002
R4 Stream 2nd	07-06-1985	1.666	0.742	0.550	0.452	0.707	0.357	0.217	0.145	0.096	0.044	0.029	0.003
Global maximum		**1.951**											

Table A3.9-4: Step 4: TS6, TWA PEC_{SED}, leafy vegetables, 1×375+1×250 g/ha, 10 m db + 5 m VFSmod

Scenario	TWA PEC_{SED} [µg/kg]										
	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	0.413	0.413	0.413	0.413	0.412	0.412	0.411	0.411	0.410	0.409	0.400
D3 Ditch 2nd	1.046	1.046	1.046	1.046	1.046	1.045	1.045	1.045	1.043	1.040	1.013
D4 Pond	1.951	1.951	1.951	1.951	1.951	1.948	1.945	1.940	1.926	1.916	1.823
D4 Stream	0.980	0.979	0.978	0.977	0.978	0.969	0.952	0.934	0.926	0.928	0.876
D6 Ditch	1.612	1.562	1.514	1.512	1.505	1.489	1.480	1.478	1.468	1.460	1.432
R1 Pond	0.123	0.123	0.123	0.123	0.123	0.122	0.120	0.118	0.113	0.109	0.081
R1 Pond 2nd	0.071	0.071	0.071	0.071	0.071	0.071	0.071	0.070	0.069	0.068	0.062
R1 Stream	0.158	0.120	0.100	0.087	0.067	0.047	0.037	0.031	0.024	0.021	0.012
R1 Stream 2nd	0.080	0.063	0.053	0.046	0.035	0.024	0.019	0.016	0.013	0.011	0.007
R2 Stream	0.008	0.006	0.005	0.005	0.004	0.003	0.002	0.002	0.002	0.002	0.001
R2 Stream 2nd	0.063	0.050	0.042	0.037	0.028	0.019	0.015	0.012	0.010	0.008	0.005
R3 Stream	0.132	0.107	0.091	0.080	0.062	0.043	0.034	0.029	0.022	0.019	0.012
R3 Stream 2nd	0.716	0.586	0.499	0.440	0.339	0.232	0.215	0.188	0.142	0.123	0.065
R4 Stream	0.218	0.173	0.148	0.132	0.104	0.075	0.065	0.057	0.046	0.041	0.024
R4 Stream 2nd	1.279	1.014	0.862	0.762	0.654	0.473	0.376	0.313	0.232	0.200	0.106

A3.10 Step 4: Metabolite of TS6, leafy vegetables, 1×375+1×250 g/ha, 10 m db

Table A3.10-1: Step 4: Metabolite of TS6, PEC_{SW}, leafy vegetables, 1×375+1×250 g/ha, 10 m db

Scenario	Appl. Date	Date of max.	PECsw [µg/L]											
			Max.	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	10-04-1992 20-04-1992	31-01-1993	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.041	<0.001
D3 Ditch 2nd	25-07-1992 18-08-1992	31-01-1993	0.084	0.083	0.083	0.083	0.083	0.083	0.082	0.081	0.081	0.080	0.079	<0.001
D4 Pond	16-05-1985 29-05-1985	31-12-1985	0.635	0.634	0.633	0.632	0.631	0.626	0.611	0.600	0.600	0.577	0.563	0.470
D4 Stream	16-05-1985 29-05-1985	09-12-1985	0.474	0.380	0.337	0.307	0.289	0.329	0.314	0.215	0.139	0.151	0.154	0.044
D6 Ditch	04-08-1986 19-08-1986	29-10-1986	1.060	0.850	0.634	0.533	0.458	0.533	0.159	0.109	0.085	0.015	0.181	0.115
R1 Pond	26-04-1984 09-05-1984	21-06-1984	0.050	0.050	0.050	0.050	0.050	0.049	0.048	0.045	0.042	0.037	0.033	0.013
R1 Pond 2nd	28-07-1978 20-08-1978	25-11-1978	0.040	0.040	0.039	0.039	0.038	0.037	0.038	0.038	0.035	0.035	0.033	0.019
R1 Stream	26-04-1984 09-05-1984	20-05-1984	0.361	0.001	<0.001	<0.001	0.006	<0.001	0.004	<0.001	<0.001	<0.001	<0.001	<0.001
R1 Stream 2nd	28-07-1978 20-08-1978	17-09-1978	0.486	0.008	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
R2 Stream	06-03-1978 25-03-1978	16-03-1978	0.265	<0.001	<0.001	<0.001	<0.001	<0.001	0.155	<0.001	<0.001	<0.001	<0.001	<0.001
R2 Stream 2nd	31-07-1989 10-08-1989	22-10-1989	0.602	0.556	0.475	0.002	0.001	<0.001	<0.001	0.265	0.193	<0.001	<0.001	0.003
R3 Stream	19-02-1981 20-03-1981	03-03-1981	0.841	0.005	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.027
R3 Stream 2nd	02-06-1975 14-06-1975	23-06-1975	1.250	0.011	0.003	0.002	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
R4 Stream	01-03-1980 15-03-1980	12-03-1980	0.730	0.001	<0.001	<0.001	<0.001	0.604	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
R4 Stream 2nd	01-06-1985 13-06-1985	07-06-1985	1.268	0.002	0.001	0.001	0.581	<0.001	<0.001	0.190	0.092	<0.001	<0.001	<0.001
Global maximum			**1.268**											

Table A3.10-2: Step 4: Metabolite of TS6, TWA PEC_{SW}, leafy vegetables, 1×375+1×250 g/ha, 10 m db

Scenario	TWA PECsw [µg/L]										
	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.042
D3 Ditch 2nd	0.084	0.084	0.084	0.084	0.084	0.083	0.083	0.083	0.083	0.082	0.082
D4 Pond	0.635	0.635	0.635	0.634	0.634	0.630	0.626	0.621	0.614	0.610	0.575
D4 Stream	0.425	0.398	0.384	0.384	0.368	0.352	0.342	0.314	0.254	0.234	0.162
D6 Ditch	0.973	0.870	0.782	0.716	0.598	0.446	0.345	0.301	0.239	0.219	0.183
R1 Pond	0.050	0.050	0.050	0.050	0.050	0.049	0.048	0.048	0.047	0.046	0.039
R1 Pond 2nd	0.040	0.040	0.039	0.039	0.039	0.038	0.038	0.038	0.037	0.037	0.036
R1 Stream	0.193	0.097	0.064	0.048	0.039	0.025	0.017	0.013	0.010	0.009	0.005
R1 Stream 2nd	0.383	0.193	0.129	0.097	0.055	0.031	0.023	0.017	0.014	0.012	0.007
R2 Stream	0.114	0.057	0.038	0.029	0.022	0.016	0.011	0.009	0.009	0.010	0.005
R2 Stream 2nd	0.505	0.429	0.371	0.279	0.159	0.081	0.057	0.055	0.050	0.042	0.024
R3 Stream	0.528	0.283	0.190	0.142	0.082	0.041	0.028	0.021	0.018	0.020	0.013
R3 Stream 2nd	1.044	0.549	0.367	0.276	0.158	0.117	0.105	0.098	0.074	0.064	0.033
R4 Stream	0.534	0.268	0.179	0.134	0.077	0.075	0.050	0.039	0.027	0.023	0.011
R4 Stream 2nd	0.932	0.468	0.312	0.234	0.195	0.140	0.093	0.075	0.053	0.045	0.022

Table A3.10-3: Step 4: Metabolite of TS6, PEC_{SED}, leafy vegetables, 1×375+1×250 g/ha, 10 m db

Scenario	Date of Max.	PEC_{SED} [µg/kg]											
		Max.	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	01-04-1993	0.239	0.238	0.237	0.236	0.236	0.234	0.229	0.226	0.223	<0.001	<0.001	<0.001
D3 Ditch 2nd	18-03-1993	0.458	0.458	0.458	0.458	0.458	0.458	0.457	0.447	0.438	0.422	<0.001	<0.001
D4 Pond	01-04-1986	2.964	2.963	2.962	2.960	2.959	2.954	2.938	2.918	2.895	<0.001	<0.001	<0.001
D4 Stream	23-12-1985	0.972	0.970	0.964	0.964	0.965	0.947	0.867	0.795	0.773	0.798	0.740	0.510
D6 Ditch	06-11-1986	1.049	1.024	0.989	0.959	0.927	0.838	0.701	0.617	0.537	0.388	0.760	0.654
R1 Pond	16-07-1984	0.143	0.143	0.143	0.142	0.142	0.141	0.138	0.135	0.128	0.111	0.103	0.069
R1 Pond 2nd	13-01-1979	0.177	0.177	0.177	0.177	0.177	0.177	0.175	0.172	0.169	0.160	0.155	0.115
R1 Stream	20-05-1984	0.109	0.056	0.040	0.033	0.036	0.041	0.040	0.022	0.017	0.015	0.011	0.004
R1 Stream 2nd	17-09-1978	0.189	0.103	0.074	0.060	0.052	0.038	0.034	0.028	0.022	0.027	0.020	0.018
R2 Stream	16-03-1978	0.072	0.037	0.027	0.023	0.020	0.016	0.044	0.029	0.018	0.022	0.042	0.008
R2 Stream 2nd	24-10-1989	0.634	0.484	0.417	0.377	0.348	0.289	0.241	0.234	0.312	0.168	0.169	0.073
R3 Stream	15-04-1981	0.262	0.162	0.120	0.101	0.088	0.068	0.047	0.037	0.030	0.037	0.026	0.007
R3 Stream 2nd	23-06-1975	0.693	0.478	0.386	0.339	0.307	0.248	0.224	0.180	0.136	0.079	0.058	0.011
R4 Stream	19-03-1980	0.287	0.173	0.135	0.148	0.121	0.092	0.065	0.059	0.058	0.036	0.029	0.009
R4 Stream 2nd	07-06-1985	0.803	0.565	0.471	0.422	0.670	0.444	0.397	0.347	0.251	0.129	0.094	0.021
Global maximum		**2.964**											

Table A3.10-4: Step 4: Metabolite of TS6, TWA PEC_{SED}, leafy vegetables, 1×375+1×250 g/ha, 10 m db

Scenario	TWA PEC_{SED} [µg/kg]										
	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	0.239	0.239	0.239	0.239	0.239	0.238	0.238	0.238	0.238	0.237	0.232
D3 Ditch 2nd	0.458	0.458	0.458	0.458	0.458	0.458	0.458	0.458	0.457	0.456	0.446
D4 Pond	2.964	2.964	2.964	2.964	2.963	2.962	2.960	2.957	2.950	2.945	2.867
D4 Stream	0.972	0.971	0.970	0.969	0.967	0.952	0.929	0.904	0.867	0.859	0.769
D6 Ditch	1.046	1.037	1.024	1.012	0.987	0.948	0.884	0.828	0.744	0.745	0.733
R1 Pond	0.143	0.143	0.143	0.143	0.143	0.142	0.142	0.141	0.139	0.138	0.123
R1 Pond 2nd	0.177	0.177	0.177	0.177	0.177	0.177	0.177	0.176	0.175	0.174	0.167
R1 Stream	0.087	0.070	0.060	0.053	0.047	0.044	0.039	0.034	0.029	0.027	0.017
R1 Stream 2nd	0.160	0.132	0.113	0.100	0.078	0.057	0.050	0.044	0.039	0.036	0.028
R2 Stream	0.056	0.049	0.046	0.045	0.043	0.036	0.034	0.032	0.029	0.028	0.021
R2 Stream 2nd	0.603	0.562	0.523	0.492	0.428	0.347	0.309	0.292	0.273	0.255	0.184
R3 Stream	0.238	0.202	0.177	0.159	0.126	0.092	0.076	0.066	0.059	0.055	0.044
R3 Stream 2nd	0.637	0.560	0.505	0.465	0.390	0.352	0.311	0.295	0.263	0.242	0.144
R4 Stream	0.244	0.207	0.184	0.175	0.147	0.129	0.112	0.100	0.084	0.077	0.049
R4 Stream 2nd	0.709	0.625	0.571	0.542	0.542	0.496	0.443	0.400	0.327	0.293	0.170

A3.11 Step 4: Metabolite of TS6, leafy vegetables, 1×375+1×250 g/ha, 10 m db+vfs

Table A3.11-1: Step 4: Metabolite of TS6, PECSW, leafy vegetables, 1×375+1×250 g/ha, 10 m db+vfs

Scenario	Appl. Date	Date of max.	PECsw [µg/L]											
			Max.	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	10-04-1992 20-04-1992	31-01-1993	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.041	<0.001
D3 Ditch 2nd	25-07-1992 18-08-1992	31-01-1993	0.084	0.083	0.083	0.083	0.083	0.083	0.082	0.081	0.081	0.080	0.079	<0.001
D4 Pond	16-05-1985 29-05-1985	31-12-1985	0.635	0.634	0.633	0.632	0.631	0.626	0.611	0.600	0.600	0.577	0.563	0.470
D4 Stream	16-05-1985 29-05-1985	09-12-1985	0.474	0.380	0.337	0.307	0.289	0.329	0.314	0.215	0.139	0.151	0.154	0.044
D6 Ditch	04-08-1986 19-08-1986	29-10-1986	1.060	0.850	0.634	0.533	0.458	0.533	0.159	0.109	0.085	0.015	0.181	0.115
R1 Pond	26-04-1984 09-05-1984	21-06-1984	0.026	0.026	0.026	0.026	0.026	0.025	0.025	0.023	0.022	0.020	0.017	0.008
R1 Pond 2nd	28-07-1978 20-08-1978	29-09-1978	0.021	0.021	0.021	0.021	0.021	0.021	0.020	0.019	0.020	0.018	0.017	0.017
R1 Stream	26-04-1984 09-05-1984	20-05-1984	0.164	<0.001	<0.001	<0.001	0.002	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
R1 Stream 2nd	28-07-1978 20-08-1978	17-09-1978	0.221	0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
R2 Stream	06-03-1978 25-03-1978	16-03-1978	0.118	<0.001	<0.001	<0.001	<0.001	<0.001	0.064	<0.001	<0.001	<0.001	<0.001	<0.001
R2 Stream 2nd	31-07-1989 10-08-1989	22-10-1989	0.270	0.253	0.215	0.001	<0.001	<0.001	<0.001	0.120	0.088	<0.001	<0.001	<0.001
R3 Stream	19-02-1981 20-03-1981	03-03-1981	0.376	0.002	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.013
R3 Stream 2nd	02-06-1975 14-06-1975	23-06-1975	0.570	0.005	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
R4 Stream	01-03-1980 15-03-1980	12-03-1980	0.331	0.001	<0.001	<0.001	<0.001	0.291	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
R4 Stream 2nd	01-06-1985 13-06-1985	07-06-1985	0.578	0.001	<0.001	<0.001	0.265	<0.001	<0.001	0.086	0.042	<0.001	<0.001	<0.001
Global maximum			**1.060**											

Table A3.11-2: Step 4: Metabolite of TS6, TWA PECSW, leafy vegetables, 1×375+1×250 g/ha, 10 m db+vfs

Scenario	TWA PECsw [µg/L]										
	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.042
D3 Ditch 2nd	0.084	0.084	0.084	0.084	0.084	0.083	0.083	0.083	0.083	0.082	0.082
D4 Pond	0.635	0.635	0.635	0.634	0.634	0.630	0.626	0.621	0.614	0.610	0.575
D4 Stream	0.425	0.398	0.384	0.384	0.368	0.352	0.342	0.314	0.254	0.234	0.162
D6 Ditch	0.973	0.870	0.782	0.716	0.598	0.446	0.345	0.301	0.239	0.219	0.183
R1 Pond	0.026	0.026	0.026	0.026	0.026	0.025	0.025	0.025	0.024	0.024	0.020
R1 Pond 2nd	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.020	0.020	0.019
R1 Stream	0.087	0.044	0.029	0.022	0.018	0.011	0.008	0.006	0.004	0.004	0.002
R1 Stream 2nd	0.174	0.088	0.059	0.044	0.025	0.014	0.010	0.008	0.006	0.005	0.003
R2 Stream	0.050	0.025	0.017	0.013	0.010	0.007	0.005	0.004	0.004	0.004	0.002
R2 Stream 2nd	0.230	0.194	0.168	0.126	0.072	0.037	0.026	0.025	0.022	0.019	0.011
R3 Stream	0.243	0.130	0.087	0.065	0.037	0.019	0.013	0.010	0.008	0.009	0.006
R3 Stream 2nd	0.479	0.252	0.169	0.127	0.072	0.054	0.048	0.045	0.034	0.029	0.015
R4 Stream	0.242	0.121	0.081	0.061	0.035	0.034	0.023	0.018	0.012	0.010	0.005
R4 Stream 2nd	0.427	0.214	0.143	0.107	0.089	0.064	0.043	0.034	0.024	0.020	0.010

Table A3.11-3: Step 4: Metabolite of TS6, PEC$_{SED}$, leafy vegetables, 1×375+1×250 g/ha, 10 m db+vfs

Scenario	Date of Max.	PEC$_{SED}$ [µg/kg]											
		Max.	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	01-04-1993	0.239	0.238	0.237	0.236	0.236	0.234	0.229	0.226	0.223	<0.001	<0.001	<0.001
D3 Ditch 2nd	18-03-1993	0.458	0.458	0.458	0.458	0.458	0.458	0.457	0.447	0.438	0.422	<0.001	<0.001
D4 Pond	01-04-1986	2.964	2.963	2.962	2.960	2.959	2.954	2.938	2.918	2.895	<0.001	<0.001	<0.001
D4 Stream	23-12-1985	0.972	0.970	0.964	0.964	0.965	0.947	0.867	0.795	0.773	0.798	0.740	0.510
D6 Ditch	06-11-1986	1.049	1.024	0.989	0.959	0.927	0.838	0.701	0.617	0.537	0.388	0.760	0.654
R1 Pond	16-07-1984	0.075	0.075	0.075	0.075	0.074	0.074	0.072	0.071	0.068	0.059	0.055	0.038
R1 Pond 2nd	12-01-1979	0.091	0.091	0.091	0.091	0.091	0.091	0.090	0.089	0.087	0.083	0.081	0.060
R1 Stream	20-05-1984	0.048	0.025	0.017	0.014	0.015	0.018	0.017	0.010	0.007	0.006	0.005	0.002
R1 Stream 2nd	17-09-1978	0.085	0.046	0.033	0.027	0.023	0.017	0.015	0.012	0.009	0.012	0.009	0.008
R2 Stream	16-03-1978	0.030	0.015	0.011	0.009	0.007	0.006	0.018	0.011	0.007	0.008	0.017	0.003
R2 Stream 2nd	24-10-1989	0.204	0.140	0.114	0.100	0.090	0.071	0.060	0.064	0.105	0.049	0.054	0.022
R3 Stream	15-04-1981	0.119	0.073	0.054	0.045	0.039	0.030	0.021	0.016	0.013	0.017	0.012	0.003
R3 Stream 2nd	23-06-1975	0.272	0.176	0.136	0.116	0.103	0.080	0.074	0.062	0.047	0.027	0.020	0.004
R4 Stream	19-03-1980	0.128	0.077	0.060	0.065	0.053	0.040	0.028	0.026	0.025	0.016	0.013	0.004
R4 Stream 2nd	07-06-1985	0.262	0.159	0.123	0.105	0.201	0.112	0.111	0.104	0.073	0.034	0.025	0.005
Global maximum		**2.964**											

Table A3.11-4: Step 4: Metabolite of TS6, TWA PEC$_{SED}$, leafy vegetables, 1×375+1×250 g/ha, 10 m db+vfs

Scenario	TWA PEC$_{SED}$ [µg/kg]										
	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	0.239	0.239	0.239	0.239	0.239	0.238	0.238	0.238	0.238	0.237	0.232
D3 Ditch 2nd	0.458	0.458	0.458	0.458	0.458	0.458	0.458	0.458	0.457	0.456	0.446
D4 Pond	2.964	2.964	2.964	2.964	2.963	2.962	2.960	2.957	2.950	2.945	2.867
D4 Stream	0.972	0.971	0.970	0.969	0.967	0.952	0.929	0.904	0.867	0.859	0.769
D6 Ditch	1.046	1.037	1.024	1.012	0.987	0.948	0.884	0.828	0.744	0.745	0.733
R1 Pond	0.075	0.075	0.075	0.075	0.075	0.074	0.074	0.074	0.073	0.072	0.065
R1 Pond 2nd	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.090	0.089	0.087
R1 Stream	0.039	0.031	0.026	0.023	0.021	0.019	0.017	0.015	0.013	0.012	0.007
R1 Stream 2nd	0.072	0.059	0.051	0.045	0.035	0.025	0.022	0.019	0.017	0.016	0.012
R2 Stream	0.023	0.021	0.019	0.019	0.018	0.015	0.014	0.013	0.011	0.011	0.008
R2 Stream 2nd	0.192	0.176	0.160	0.148	0.123	0.095	0.083	0.079	0.078	0.073	0.054
R3 Stream	0.108	0.091	0.080	0.071	0.056	0.041	0.034	0.029	0.026	0.024	0.019
R3 Stream 2nd	0.247	0.213	0.189	0.171	0.139	0.125	0.110	0.103	0.092	0.084	0.050
R4 Stream	0.109	0.092	0.082	0.077	0.065	0.057	0.049	0.044	0.037	0.034	0.021
R4 Stream 2nd	0.225	0.190	0.168	0.154	0.153	0.139	0.123	0.111	0.090	0.081	0.047

A3.12 Step 4: Metabolite of TS6, leafy vegetables, 1×375+1×250 g/ha, 10 m db+5 m VFSmod

Table A3.12-1: Step 4: Metabolite of TS6, PECSW, leafy vegetables, 1×375+1×250 g/ha, 10 m db+5 m VFSmod

Scenario	Appl. Date	Date of max.	PECSW [µg/L]											
			Max.	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	10-04-1992 20-04-1992	31-01-1993	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.041	<0.001
D3 Ditch 2nd	25-07-1992 18-08-1992	31-01-1993	0.084	0.083	0.083	0.083	0.083	0.083	0.082	0.081	0.081	0.080	0.079	<0.001
D4 Pond	16-05-1985 29-05-1985	31-12-1985	0.635	0.634	0.633	0.632	0.631	0.626	0.611	0.600	0.600	0.577	0.563	0.470
D4 Stream	16-05-1985 29-05-1985	09-12-1985	0.474	0.380	0.337	0.307	0.289	0.329	0.314	0.215	0.139	0.151	0.154	0.044
D6 Ditch	04-08-1986 19-08-1986	29-10-1986	1.060	0.850	0.634	0.533	0.458	0.533	0.159	0.109	0.085	0.015	0.181	0.115
R1 Pond	26-04-1984 09-05-1984	21-06-1984	0.039	0.039	0.039	0.038	0.038	0.038	0.037	0.035	0.032	0.029	0.026	0.010
R1 Pond 2nd	28-07-1978 20-08-1978	25-11-1978	0.032	0.031	0.031	0.031	0.030	0.029	0.030	0.030	0.028	0.029	0.027	0.015
R1 Stream	26-04-1984 09-05-1984	20-05-1984	0.139	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
R1 Stream 2nd	28-07-1978 20-08-1978	17-09-1978	0.192	0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
R2 Stream	06-03-1978 25-03-1978	29-04-1978	0.029	<0.001	<0.001	<0.001	0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
R2 Stream 2nd	31-07-1989 10-08-1989	23-10-1989	0.240	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
R3 Stream	19-02-1981 20-03-1981	15-04-1981	0.166	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
R3 Stream 2nd	02-06-1975 14-06-1975	09-06-1975	0.549	0.005	0.001	0.001	<0.001	<0.001	0.186	<0.001	<0.001	<0.001	<0.001	<0.001
R4 Stream	01-03-1980 15-03-1980	19-03-1980	0.084	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
R4 Stream 2nd	01-06-1985 13-06-1985	07-06-1985	0.715	0.001	0.001	<0.001	0.326	<0.001	<0.001	0.009	0.004	<0.001	<0.001	<0.001
Global maximum			**1.060**											

Table A3.12-2: Step 4: Met. of TS6, TWA PECSW, leafy vegetables, 1×375+1×250 g/ha, 10 m db+5 m VFSmod

Scenario	TWA PECSW [µg/L]										
	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.042
D3 Ditch 2nd	0.084	0.084	0.084	0.084	0.084	0.083	0.083	0.083	0.083	0.082	0.082
D4 Pond	0.635	0.635	0.635	0.634	0.634	0.630	0.626	0.621	0.614	0.610	0.575
D4 Stream	0.425	0.398	0.384	0.384	0.368	0.352	0.342	0.314	0.254	0.234	0.162
D6 Ditch	0.973	0.870	0.782	0.716	0.598	0.446	0.345	0.301	0.239	0.219	0.183
R1 Pond	0.039	0.039	0.039	0.039	0.038	0.038	0.037	0.037	0.036	0.035	0.030
R1 Pond 2nd	0.032	0.031	0.031	0.031	0.031	0.030	0.030	0.030	0.029	0.029	0.028
R1 Stream	0.074	0.037	0.025	0.019	0.013	0.009	0.006	0.005	0.004	0.003	0.002
R1 Stream 2nd	0.152	0.076	0.051	0.038	0.022	0.011	0.007	0.005	0.004	0.004	0.002
R2 Stream	0.023	0.012	0.008	0.006	0.005	0.003	0.002	0.002	0.001	0.001	<0.001
R2 Stream 2nd	0.217	0.109	0.076	0.057	0.038	0.026	0.017	0.015	0.014	0.012	0.007
R3 Stream	0.141	0.076	0.051	0.038	0.022	0.011	0.007	0.005	0.005	0.004	0.002
R3 Stream 2nd	0.501	0.279	0.187	0.140	0.080	0.040	0.038	0.034	0.025	0.021	0.011
R4 Stream	0.058	0.029	0.019	0.015	0.008	0.006	0.004	0.003	0.003	0.002	0.001
R4 Stream 2nd	0.527	0.265	0.177	0.133	0.110	0.057	0.038	0.029	0.019	0.016	0.008

Table A3.12-3: Step 4: Met. of TS6, PEC_{SED}, leafy vegetables, 1×375+1×250 g/ha, 10 m db+5 m VFSmod

Scenario	Date of Max.	PEC_{SED} [µg/kg]											
		Max.	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	01-04-1993	0.239	0.238	0.237	0.236	0.236	0.234	0.229	0.226	0.223	<0.001	<0.001	<0.001
D3 Ditch 2nd	18-03-1993	0.458	0.458	0.458	0.458	0.458	0.458	0.457	0.447	0.438	0.422	<0.001	<0.001
D4 Pond	01-04-1986	2.964	2.963	2.962	2.960	2.959	2.954	2.938	2.918	2.895	<0.001	<0.001	<0.001
D4 Stream	23-12-1985	0.972	0.970	0.964	0.964	0.965	0.947	0.867	0.795	0.773	0.798	0.740	0.510
D6 Ditch	06-11-1986	1.049	1.024	0.989	0.959	0.927	0.838	0.701	0.617	0.537	0.388	0.760	0.654
R1 Pond	16-07-1984	0.110	0.110	0.110	0.110	0.110	0.109	0.107	0.105	0.100	0.087	0.081	0.054
R1 Pond 2nd	15-01-1979	0.142	0.142	0.142	0.142	0.142	0.142	0.140	0.138	0.135	0.129	0.124	0.092
R1 Stream	20-05-1984	0.041	0.021	0.015	0.012	0.011	0.012	0.012	0.008	0.006	0.006	0.004	0.002
R1 Stream 2nd	17-09-1978	0.075	0.041	0.029	0.024	0.020	0.015	0.010	0.008	0.006	0.008	0.006	0.007
R2 Stream	29-04-1978	0.013	0.007	0.005	0.005	0.009	0.005	0.003	0.002	0.002	0.001	0.001	<0.001
R2 Stream 2nd	23-10-1989	0.195	0.140	0.119	0.107	0.099	0.083	0.063	0.069	0.111	0.056	0.049	0.024
R3 Stream	15-04-1981	0.067	0.040	0.029	0.024	0.021	0.015	0.010	0.008	0.006	0.008	0.005	0.002
R3 Stream 2nd	10-06-1975	0.294	0.197	0.152	0.130	0.116	0.090	0.178	0.076	0.068	0.040	0.028	0.005
R4 Stream	19-03-1980	0.033	0.019	0.014	0.012	0.010	0.008	0.006	0.005	0.008	0.004	0.003	0.001
R4 Stream 2nd	07-06-1985	0.436	0.301	0.250	0.223	0.360	0.235	0.167	0.129	0.096	0.055	0.040	0.009
Global maximum		**2.964**											

Table A3.12-4: Step 4: Met. of TS6, TWA PEC_{SED}, leafy vegetables, 1×375+1×250 g/ha, 10 m db+5 m VFSmod

Scenario	TWA PEC_{SED} [µg/kg]										
	1 d	2 d	3 d	4 d	7 d	14 d	21 d	28 d	42 d	50 d	100 d
D3 Ditch	0.239	0.239	0.239	0.239	0.239	0.238	0.238	0.238	0.238	0.237	0.232
D3 Ditch 2nd	0.458	0.458	0.458	0.458	0.458	0.458	0.458	0.458	0.457	0.456	0.446
D4 Pond	2.964	2.964	2.964	2.964	2.963	2.962	2.960	2.957	2.950	2.945	2.867
D4 Stream	0.972	0.971	0.970	0.969	0.967	0.952	0.929	0.904	0.867	0.859	0.769
D6 Ditch	1.046	1.037	1.024	1.012	0.987	0.948	0.884	0.828	0.744	0.745	0.733
R1 Pond	0.110	0.110	0.110	0.110	0.110	0.110	0.109	0.109	0.108	0.106	0.095
R1 Pond 2nd	0.142	0.142	0.142	0.142	0.142	0.142	0.142	0.141	0.140	0.139	0.134
R1 Stream	0.033	0.027	0.023	0.020	0.017	0.016	0.014	0.012	0.011	0.010	0.006
R1 Stream 2nd	0.063	0.052	0.045	0.040	0.031	0.022	0.017	0.015	0.012	0.011	0.009
R2 Stream	0.011	0.009	0.008	0.007	0.007	0.005	0.004	0.004	0.003	0.003	0.002
R2 Stream 2nd	0.172	0.154	0.142	0.133	0.116	0.095	0.084	0.081	0.080	0.076	0.057
R3 Stream	0.060	0.051	0.044	0.039	0.031	0.022	0.018	0.015	0.013	0.012	0.008
R3 Stream 2nd	0.270	0.234	0.208	0.189	0.155	0.116	0.115	0.110	0.093	0.084	0.049
R4 Stream	0.028	0.023	0.020	0.018	0.014	0.011	0.009	0.008	0.007	0.007	0.004
R4 Stream 2nd	0.385	0.338	0.308	0.291	0.291	0.246	0.213	0.188	0.151	0.134	0.078

A4 Drift loading equations

A4.1 Spray drift loadings

Spray drift loadings are calculated as summarised below:

$$\overline{\%_{spraydrift}} = \begin{cases} \frac{A}{(z2-z1)\cdot(B+1)}\cdot\left(z2^{B+1}-z1^{B+1}\right) & for\ z2 < H \\ \frac{C}{(z2-z1)\cdot(D+1)}\cdot\left(z2^{D+1}-z1^{D+1}\right) & for\ z1 > H \\ \frac{\frac{A}{(B+1)}\cdot\left(H^{B+1}-z1^{B+1}\right)+\frac{C}{\cdot(D+1)}\cdot\left(z2^{D+1}-H^{D+1}\right)}{z2-z1} & else \end{cases}$$

with A, B, C, D: coefficients of spray drift function, from lookup tables 1-4
H: hinge point of spray drift function, from lookup table 5
z1: spray drift buffer width
z2: spray drift buffer width + water body width (from table 5a)

The appropriate lookup data for the above is determined by the following method:

1. look up application type from .txw
2. if aerial application, use "aerial application" rows in lookup data tables 1-5
3. if groundspray or air blast application, get crop type from .txw
    a. look up crop type against groupings in lookup data table 6
    b. if crop type is not available from lookup list, assume "arable"
    c. use crop type row in lookup data tables 1-5
4. if other application type, no modifications are made
5. use the total number of applications in picking lookup column; one value for all applications