

June 4-5th 2019

PERSAM Worked-examples: Application by soil incorporation

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EFSA Trainees

Trusted science for safe food

Example 4 (annual crops, soil incorporation)

- 1) Evenly distributed incorporation of granules over a certain soil depth
- 2) Placing of granules at a certain soil depth

EFSA (European Food Safety Authority), 2017. EFSA Guidance Document for predicting environmental concentrations of active substances of plant protection products and transformation products of these active substances in soil. EFSA Journal 2017;15(10):4982, 115 pp. <https://doi.org/10.2903/j.efsa.2017.4982>

Evenly distributed incorporation of granules over a certain soil depth

Crop:
Maize

Number of applications:
1 application (1 kg/ha)

Type of application:
Granules evenly incorporated (mixed) over a soil depth (z_{inc}) of 10 cm

Time of application:
2 weeks before planting of maize (30 days before emergence)

Substance properties:
DegT50 (*geomean*): 250 days
 K_{om} (*geomean*): 1000 (L/kg)
Molar mass: 300 g/mol
Water solubility: 0.1 mg/L

Substance property	Unit	A
Molar mass	(g/mol)	300
Water solubility (20°C)	(mg/L)	0.1
Vapour pressure (20°C)	(Pa)	10^{-8}
DegT50 ^(a) (<i>geomean</i>)	(days)	250
Molar activation energy	(kJ/mol ⁻¹)	65.4
Exponent for the effect of liquid	(-)	0.7
K_{om} (<i>geomean</i>)	(L/kg)	1,000
K_{om} in dry soil ^(e)	(L/kg)	10^5
1/n	(-)	0.9
DegT50 on crop surface	^(d)	10
Wash-off factor ^(g)	(mm ⁻¹)	0.1
Plant uptake factor	(-)	0
Molar formation fraction (arithmetic mean)	(-)	-

Evenly distributed incorporation of granules over a certain soil depth

PERSAM 3.0.0-SNAPSHOT

PERSAM Graphical shell

Create a new project



PERSAM
v 3.0.0-SNAPSHOT

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at the request of EFSA <http://www.efsa.eu>

[Refresh project tree](#)

New group...	New project...
Rename group...	Import project(s)...
Delete group...	Help

Batch queue status -- Queued: 0 Running: 0

[Cancel all calculations](#)

Evenly distributed incorporation of granules over a certain soil depth

Create new project

Create new project

Help

Cancel new project

Project name:

Output folder: (required)

Select output folder...

Select tier & substance type

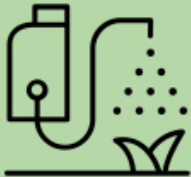
Tier-1
Predefined scenarios
for analytical model

Tier-2
Crop-specific and
substance-specific assessment
based on a spatially distributed
analytical model

Tier-3A
Crop-specific and
substance-specific scenarios
for numerical models



Microbial active substances



Other substances

- 1 -
Tier & substance type

- 2 -
Region

- 3 -
Endpoints

- 4 -
Crop

Previous

Next

Evenly distributed incorporation of granules over a certain soil depth

Create new project

Create new project

HelpCancel new project

Project name:Soil-inc-case1-tier1

Output folder:C:\Users\Michele\Desktop\Presentation 4-5 June 2019\examplesSelect output folder...

Select tier & substance type

Tier-1
Predefined scenarios
for analytical model

Tier-2
Crop-specific and
substance-specific assessment
based on a spatially distributed
analytical model

Tier-3A
Crop-specific and
substance-specific scenarios
for numerical models

Microbial active substances

Other substances

- 1 -
Tier & substance type

- 2 -
Region

- 3 -
Endpoints

- 4 -
Crop

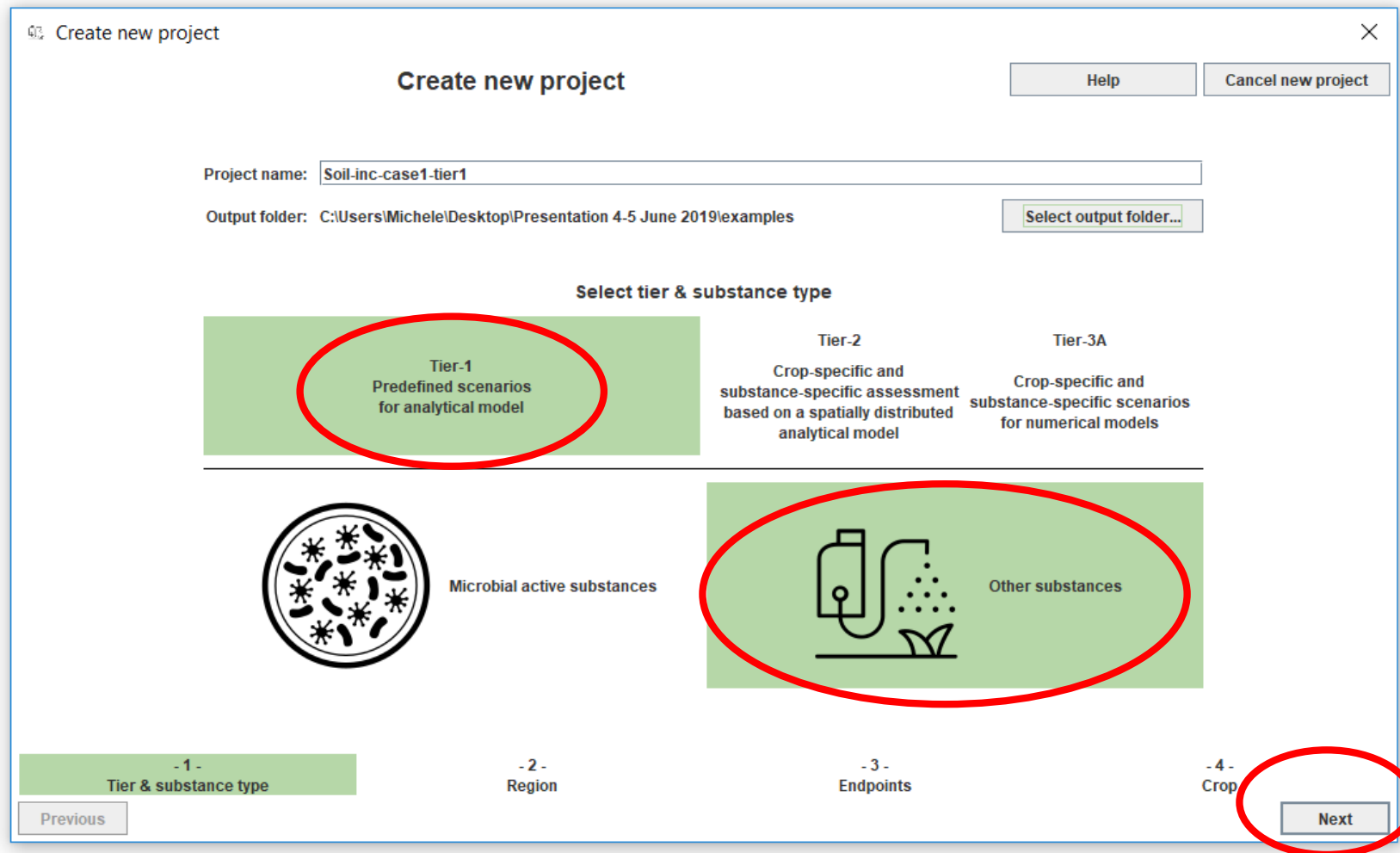
Previous

Next

6

Tier 1. Evenly distributed incorporation of granules over a certain soil depth

At **Tier 1** soil incorporation is not taken into account
Same assumptions for Example 1 and 2



Create new project

Project name:

Output folder:

Select tier & substance type

Tier-1	Tier-2	Tier-3A
Predefined scenarios for analytical model	Crop-specific and substance-specific assessment based on a spatially distributed analytical model	Crop-specific and substance-specific scenarios for numerical models

 Microbial active substances	 Other substances
---	---

- 1 - Tier & substance type

- 2 - Region

- 3 - Endpoints

- 4 - Crop

Tier 1. Evenly distributed incorporation of granules over a certain soil depth

Regulatory zones

Create new project

Create new project

Help Cancel new project

Select zone(s) (multiple possible)



North
Central
South

- 1 -
Tier & substance type

- 2 -
Region

- 3 -
Endpoints

- 4 -
Crop

Previous Next

Tier 1. Evenly distributed incorporation of granules over a certain soil depth

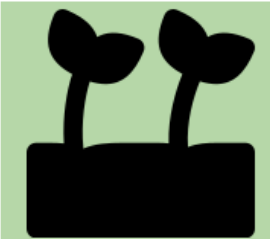
PECs selection

Create new project

Create new project

Help Cancel new project

Select endpoint(s) (multiple possible)


Concentration in total soil C_T


Concentration in pore water C_L

- 1 -
Tier & substance type

- 2 -
Region

- 3 -
Endpoints

- 4 -
Crop

Previous Next

Tier 1. Evenly distributed incorporation of granules over a certain soil depth

Crop type selection: at **Tier 1** only 2 options available



Create new project

Help Cancel new project

Select crop type

Annual crop Permanent crop

- 1 - Tier & substance type - 2 - Region - 3 - Endpoints - 4 - Crop

Previous Create ...

Tier 1. Evenly distributed incorporation of granules over a certain soil depth

Scenario parameterisation

Ecotoxicological averaging depth in soil and pore water (**z_{eco}**)
Time weighted average (**t_{avg}**)

PERSAM 3.0.0-SNAPSHOT

Soil-inc-case1-tier1 (595)

- Settings
- Substances
- Application scheme
- Fixed data

Project properties

Tier: Tier-1

Substance type: Other substances

Region: North, Central, South

Crop: Annual crop

Endpoint: Concentration in total soil C_T , Concentration in pore water C_L

Application type: Application to the soil surface

Project settings

t_{avg} : 21 days

$t_{PostApp}$: days

z_{inc} : cm

$f_{treated}$: 1.0

z_{eco} (total soil): 5.0 cm

z_{eco} (pore water): 1.0 cm

RAC (total soil): mg/kg

RAC (pore water): mg/L

☐ Export generated maps (ESRI grid format)

Undo Reset to defaults Save

Tier 1. Evenly distributed incorporation of granules over a certain soil depth

Pesticide input parameters

 PERSAM 3.0.0-SNAPSHOT

 Soil-inc-case1-tier1 (595)

- Settings
- **Substances**
- Application scheme
- Fixed data

Click to add substance

Click to add substance

Click to add substance

Click to add substance

Click to add substance

Click to add substance

Click to add substance

Click to add substance

Click to add substance

Undo

Reset to defaults

Save

Key

Predefined

Custom

PERSAM 3.0.0-SNAPSHOT

- Settings
- Substances
- Application scheme
- Fixed data

13

Tier 1. Evenly distributed incorporation of granules over a certain soil depth

Pesticide input parameters

Degradation pathway (no metabolites considered)

PERSAM 3.0.0-SNAPSHOT

Soil-inc-case1-tier1 (595)

- Settings
- **Substances**
- Application scheme
- Fixed data

Pesticide A

Click to add substance

Click to add substance

Click to add substance

Click to add substance

Click to add substance

Click to add substance

Click to add substance

Click to add substance

Undo

Reset to defaults

Save

Key

Predefined

Custom

Tier 1. Evenly distributed incorporation of granules over a certain soil depth

Application scheme

Single application

At **Tier 1** crop interception is not taken into account

PERSAM 3.0.0-SNAPSHOT

Soil-inc-case1-tier1 (595)

- Settings
- Substances
- Application scheme
- Fixed data

rate (kg/ha)	dt (days)	Actions
1.0	0	

Add application

application rate: kg/ha

Time since first application (dt): - 365 days

Add to table

Period of crop rotation

t_{cycle}: years

Tier 1. Evenly distributed incorporation of granules over a certain soil depth

Fixed parameters

1 value (average) for each regulatory zone is considered at **Tier 1**

PERSAM 3.0.0-SNAPSHOT

Soil-inc-case1-tier1 (595)

- Settings
- Substances
- Application scheme
- Fixed data

Concentration in total soil

Zone	$T_{arit}(^{\circ}\text{C})$	$T_{arr}(^{\circ}\text{C})$	$\theta_{fc}(\text{m}^3/\text{m}^3)$	$\rho(\text{kg/L})$	$f_{om}(\text{kg/kg})$
North	5.7	7.6	0.244	0.707	0.22
Central	7.4	9.3	0.244	0.934	0.122
South	10.2	11.7	0.349	1.117	0.07

Concentration in pore water

Zone	$T_{arit}(^{\circ}\text{C})$	$T_{arr}(^{\circ}\text{C})$	$\theta_{fc}(\text{m}^3/\text{m}^3)$	$\rho(\text{kg/L})$	$f_{om}(\text{kg/kg})$
North	8.0	9.2	0.349	1.371	0.025
Central	9.3	11.3	0.349	1.432	0.018
South	15.4	16.7	0.349	1.521	0.01

Constants

Adjustment factor	Total soil	Pore water	$R(\text{kJ/mol/K})$	$T_{ref}(^{\circ}\text{C})$
scenario	1.4	1.6	0.008314	20.0
model	3.0	4.0		

Not all fixed values are relevant at all tiers and for microbial calculations.
More info see user manual.

Calculation



The calculation for this project has not started yet.
As soon as you start the calculation, all project settings will be locked.

Start calculation

Tier 1. Evenly distributed incorporation of granules over a certain soil depth

Calculation



The calculation for this project is in progress.
Canceling will abort the calculation, and all project settings will be unlocked.

Cancel calculation

Tier 1. Evenly distributed incorporation of granules over a certain soil depth

Model output Results of **Tier 1** Export results in pdf/word format

Select region

North
Central
South

Select endpoint

Concentration in total soil (mg/kg)
Concentration in pore water (mg/L)

Tier-1 results

Plateau and peak concentrations

		z_{eco}
$C_{plateau}$	4.05	default (5.0 cm)
C_{peak}	13.04	user

TWA concentrations

t_{avg}		z_{eco}
default (0 days)	13.04	default (5.0 cm)
user (21 days)	12.90	user

PEC to RAC ratios

t_{avg}		z_{eco}
default (0 days)		default (5.0 cm)
user (21 days)		user

Post-application concentrations

$t_{PostApp}$ (days)	
z_{eco} (cm)	
C_T (mg/kg)	

Open Tier-1 PDF report

[Open output folder](#)

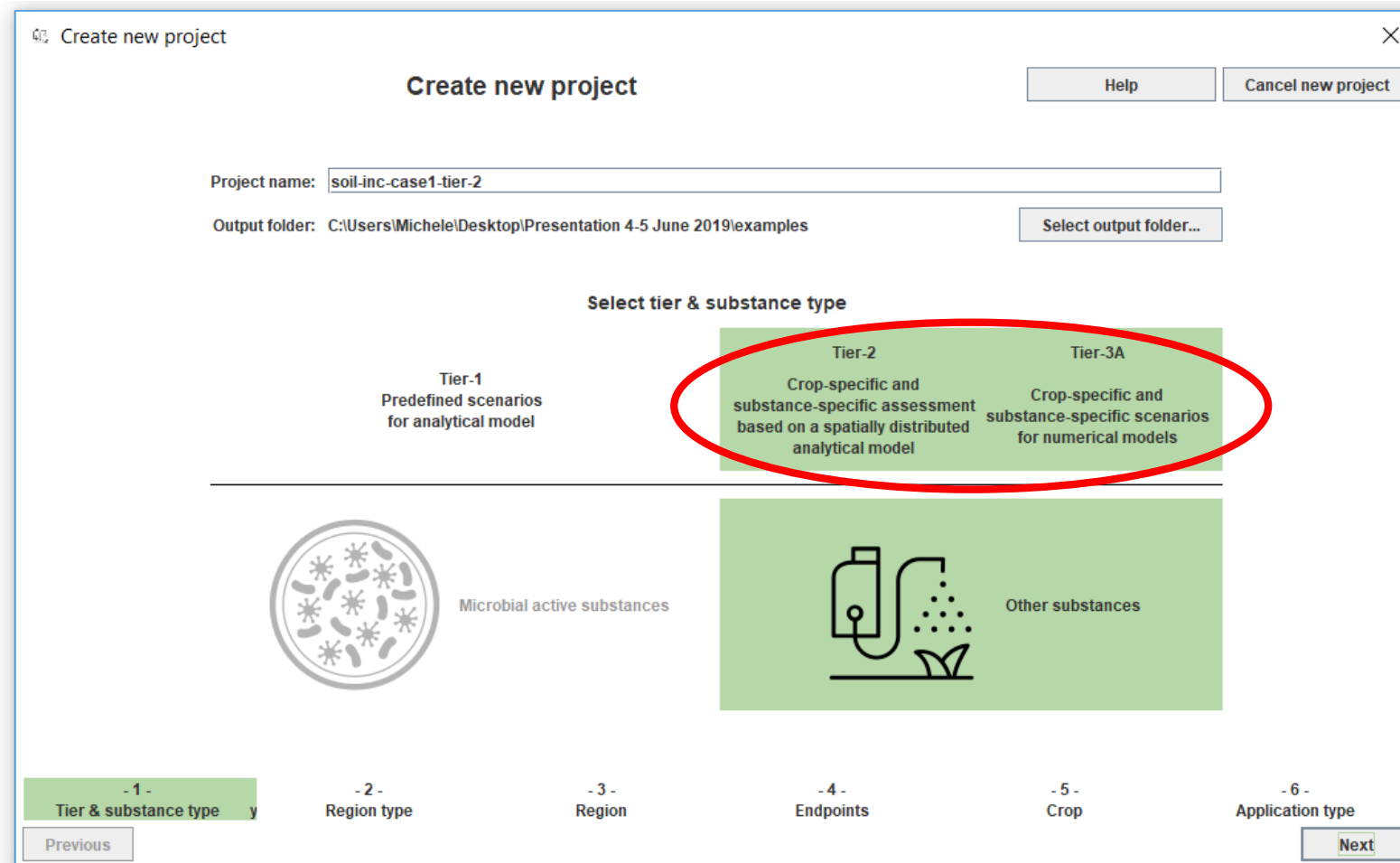
Duplicate project...

Export project...

Delete project...

Tier 2. Evenly distributed incorporation of granules over a certain soil depth

Scenario parameterisation at **Tier 2** and **Tier 3A** is unified whilst creating the PERSAM transfer file for higher tier assessment



Create new project

Project name:

Output folder:

Select tier & substance type

Tier-1	Tier-2	Tier-3A
Predefined scenarios for analytical model	Crop-specific and substance-specific assessment based on a spatially distributed analytical model	Crop-specific and substance-specific scenarios for numerical models

☐ Microbial active substances

☒ Other substances

- 1 - Tier & substance type | - 2 - Region type | - 3 - Region | - 4 - Endpoints | - 5 - Crop | - 6 - Application type

Tier 2. Evenly distributed incorporation of granules over a certain soil depth

Single EU Countries are available for modelling at **Tier 2**

Create new project

Help Cancel new project

Select region type

Zone(s)

EU country

- 1 - Tier & substance type

- 2 - Region type

- 3 - Region

- 4 - Endpoints

- 5 - Crop

- 6 - Application type

Previous Next

Tier 2. Evenly distributed incorporation of granules over a certain soil depth

Create new project

Create new project

Help Cancel new project

Select zone(s) (multiple possible)



North
Central
South

- 1 -
Tier & substance type

- 2 -
Region type

- 3 -
Region

- 4 -
Endpoints

- 5 -
Crop

- 6 -
Application type

Previous Next

Tier 2. Evenly distributed incorporation of granules over a certain soil depth

 Create new project ✕

Create new project

Help Cancel new project

Select endpoint(s) (multiple possible)


Concentration in total soil C_T


Concentration in pore water C_L

- 1 -
Tier & substance type

- 2 -
Region type

- 3 -
Region

- 4 -
Endpoints

- 5 -
Crop

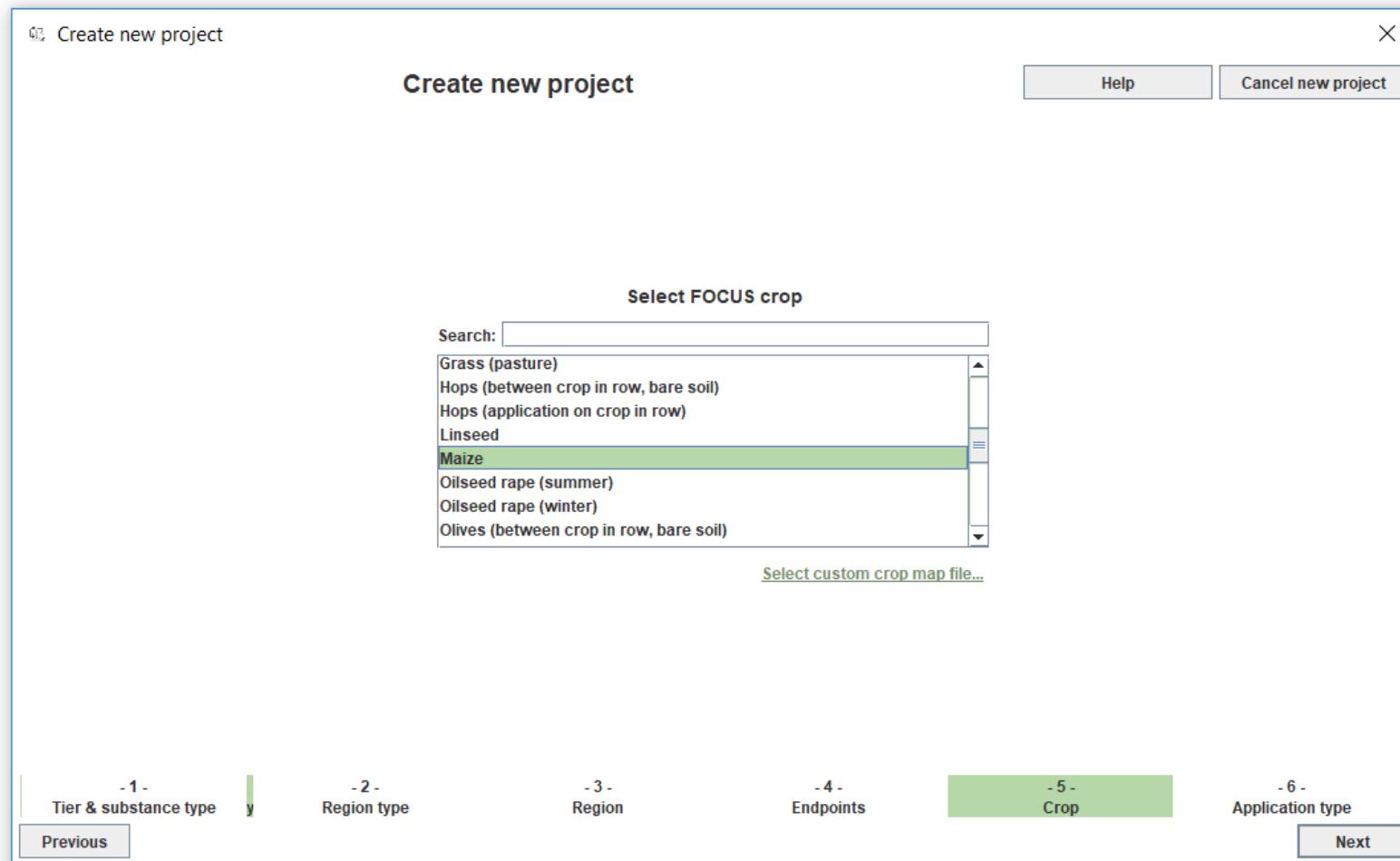
- 6 -
Application type

Previous

Next

Tier 2. Evenly distributed incorporation of granules over a certain soil depth

Crop selection at **Tier 2**: FOCUS crops (annual and permanent) are available



Create new project

Help Cancel new project

Select FOCUS crop

Search:

- Grass (pasture)
- Hops (between crop in row, bare soil)
- Hops (application on crop in row)
- Linseed
- Maize**
- Oilseed rape (summer)
- Oilseed rape (winter)
- Olives (between crop in row, bare soil)

[Select custom crop map file...](#)

- 1 - Tier & substance type

- 2 - Region type

- 3 - Region

- 4 - Endpoints

- 5 - Crop

- 6 - Application type

Previous Next

Tier 2. Evenly distributed incorporation of granules over a certain soil depth

At **Tier 2** different types of application can be selected

Create new project

Create new project

Help Cancel new project

Select application type

Application to the soil surface Application to the crop canopy Placing at a certain soil depth Soil incorporation

- 1 - Tier & substance type
Previous

- 2 - Region type

- 3 - Region

- 4 - Endpoints

- 5 - Crop

- 6 - Application type
Create ...

Tier 2. Evenly distributed incorporation of granules over a certain soil depth

Scenario parameterisation

Incorporation depth (**z_{inc}**) can be set at **Tier 2**

PERSAM 3.0.0-SNAPSHOT

soil-inc-case1-tier-2 (602)

- Settings
- Substances
- Application scheme
- Fixed data

Project properties

Tier: Tier-2

Substance type: Other substances

Region: North, Central, South

Crop: Maize

Endpoint: Concentration in total soil C_T , Concentration in pore water C_L

Application type: Soil incorporation

Project settings

t_{avg} : 21 days

$t_{PostApp}$: 0 days

z_{inc} : 10 cm

$f_{treated}$: 1.0

z_{eco} (total soil): 5.0 cm

z_{eco} (pore water): 1.0 cm

RAC (total soil): mg/kg

RAC (pore water): mg/L

☐ Export generated maps (ESRI grid format)

Undo Reset to defaults Save

Tier 2. Evenly distributed incorporation of granules over a certain soil depth

Pesticide input parameters

Degradation pathway (no metabolites considered)

PERSAM 3.0.0-SNAPSHOT

soil-inc-case1-tier-2 (602)

- Settings
- **Substances**
- Application scheme
- Fixed data

Pesticide A

Click to add substance

Click to add substance

Click to add substance

Click to add substance

Click to add substance

Click to add substance

Click to add substance

Click to add substance

Undo

Reset to defaults

Save

Key

Predefined

Custom

Tier 2. Evenly distributed incorporation of granules over a certain soil depth

Application scheme

At **Tier 2** crop interception is taken into account by setting the appropriate crop development stage (BBCH code) from *EFSA Guidance, 2014*.

PERSAM 3.0.0-APSHOT

soil-inc-case1-tier-2 (602)

- Settings
- Substances
- Application scheme
- Fixed data

rate (kg/ha)	dt (days)	growth stage / season	Actions
1.0	0	BBCH 0-9	

Add application

application rate: kg/ha

Time since first application (dt): 0 - 365 days

Crop development stage / season: ▼

Add to table

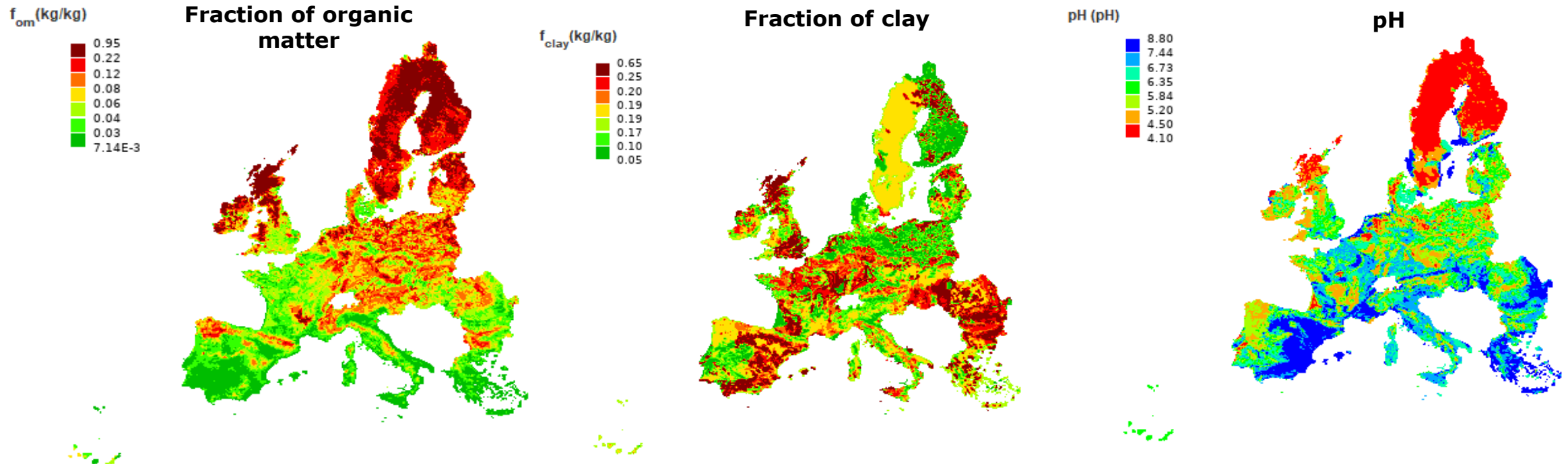
Period of crop rotation

t_{cycle} : ▼ years

Tier 2. Evenly distributed incorporation of granules over a certain soil depth

Fixed parameters

At **Tier 2** spatially distributed soil maps (1 km x 1 km pixel) are provided for soil properties



PERSAM 3.0.0-SNAPSHOT

soil-inc-case1-tier-2 (602)

- Settings
- Substances
- Application scheme
- Fixed data

Calculation



The calculation for this project has not started yet.
As soon as you start the calculation, all project settings will be locked.

Start calculation

Tier 2. Evenly distributed incorporation of granules over a certain soil depth

Calculation



The calculation for this project is in progress.
Canceling will abort the calculation, and all project settings will be unlocked.

Cancel calculation

Tier 2. Evenly distributed incorporation of granules over a certain soil depth

Model output Results of **Tier 2** Generation of transfer file for Tier 3A assessment

Select region

North
Central
South

Select endpoint

Concentration in total soil (mg/kg)
Concentration in pore water (mg/L)

Tier-2 results

Plateau and peak concentrations

		default (5.0 cm)	user
$C_{plateau}$		1.08	
C_{peak}		4.01	

TWA concentrations

		default (5.0 cm)	user
t_{avg}			
	default (0 days)	4.01	
	user (21 days)	3.96	

PEC to RAC ratios

		default (5.0 cm)	user
t_{avg}			
	default (0 days)		
	user (21 days)		

Post-application concentrations

$t_{PostApp}$ (days)	0
z_{eco} (cm)	20.00
C_T (mg/kg)	4.40

Tier-3A results

$z_{eco} = 5.0$ cm (default)

Open transfer file

Scenario locations

Tier-3A results

$z_{eco} = 5.0$ cm (default)

Open transfer file

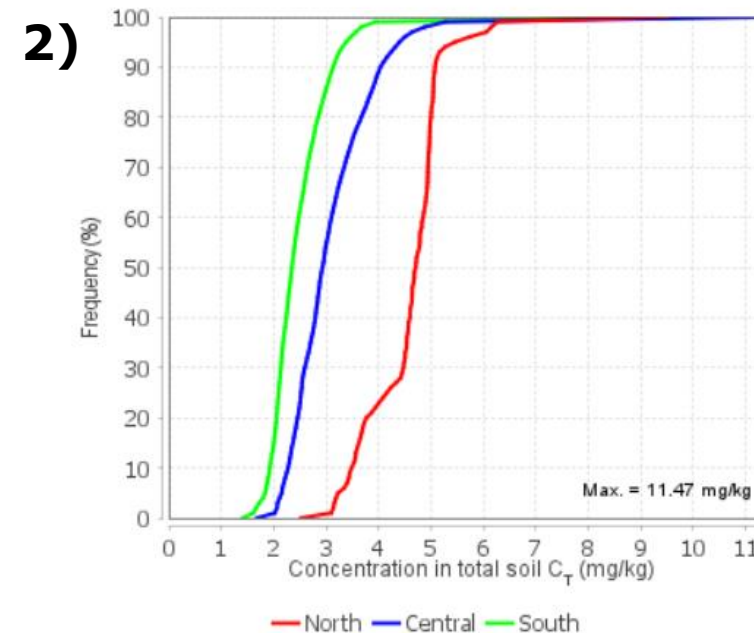
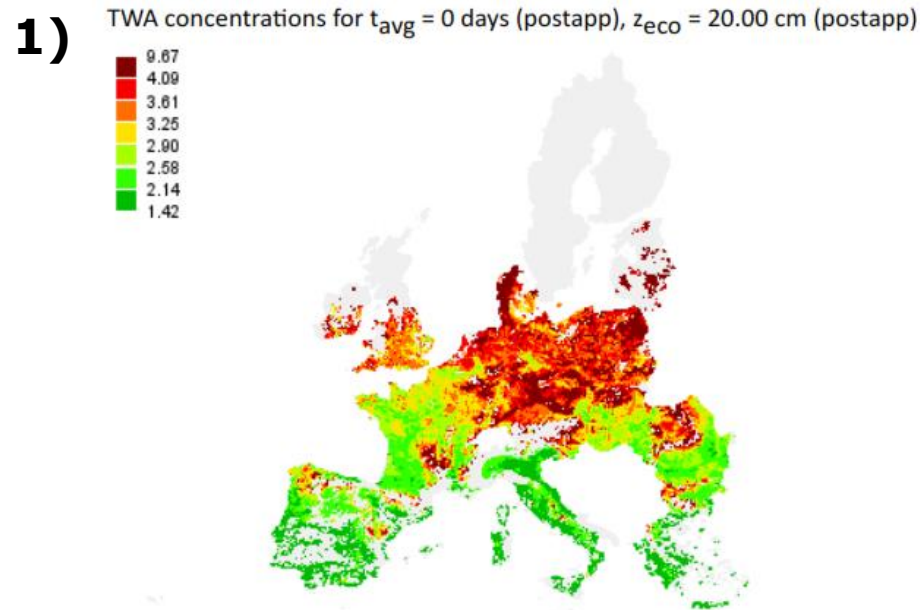
Scenario locations

[Open Tier-3A PDF report](#)[Open Tier-2 PDF report](#)[Open output folder](#)[Open Tier-3A PDF report](#)[Open Tier-2 PDF report](#)

Tier 2. Evenly distributed incorporation of granules over a certain soil depth

Model output: results of Tier 2

- 1) Spatially distributed PECs in soil for all regulatory zones
- 2) Frequency distributions of PECs in soil
- 3) Tables with TWA concentrations for single zones (Central)



3) TWA concentrations

Central Europe		z_{eco}	
		default (5.00 cm)	user
t_{avg}	default (0 days)	4.01 mg/kg	
	user (21 days)	3.96 mg/kg	

Tier 2. Placing of granules at a certain soil depth

Crop:

Maize

Number of applications:

1 application (1 kg/ha)

Type of application:

Granules are placed at a soil depth (z_{inc}) of 10 cm

Time of application:

2 weeks before planting of maize (30 days before emergence)

Substance properties:

DegT50 (*geomean*): 250 days

K_{om} (*geomean*): 1000 (L/kg)

Molar mass: 300 g/mol

Water solubility: 0.1 mg/L

Substance property	Unit	A
Molar mass	(g/mol)	300
Water solubility (20°C)	(mg/L)	0.1
Vapour pressure (20°C)	(Pa)	10^{-8}
DegT50 ^(a) (<i>geomean</i>)	(days)	250
Molar activation energy	(kJ/mol ⁻¹)	65.4
Exponent for the effect of liquid	(-)	0.7
K_{om} (<i>geomean</i>)	(L/kg)	1,000
K_{om} in dry soil ^(e)	(L/kg)	10^5
1/n	(-)	0.9
DegT50 on crop surface	^(d)	10
Wash-off factor ^(g)	(mm ⁻¹)	0.1
Plant uptake factor	(-)	0
Molar formation fraction (arithmetic mean)	(-)	-

Tier 2. Placing of granules at a certain soil depth

Scenario parameterisation

Create new project

Create new project

Help Cancel new project

Select application type

Application to the soil surface Application to the crop canopy **Placing at a certain soil depth** Soil incorporation

- 1 - Tier & substance type
- 2 - Region type
- 3 - Region
- 4 - Endpoints
- 5 - Crop
- 6 - Application type

Previous Create ...

Project properties

Tier: Tier-2

Substance type: Other substances

Region: North, Central, South

Crop: Maize

Endpoint: Concentration in total soil C_T , Concentration in pore water C_L

Application type: Placing at a certain soil depth

Project settings

t_{avg} : 21 days
 $t_{PostApp}$: 0 days
 z_{inc} : 10 cm
 $f_{treated}$: 1.0

z_{eco} (total soil): 5.0 cm
 z_{eco} (pore water): 1.0 cm
RAC (total soil): mg/kg
RAC (pore water): mg/L

☐ Export generated maps (ESRI grid format)

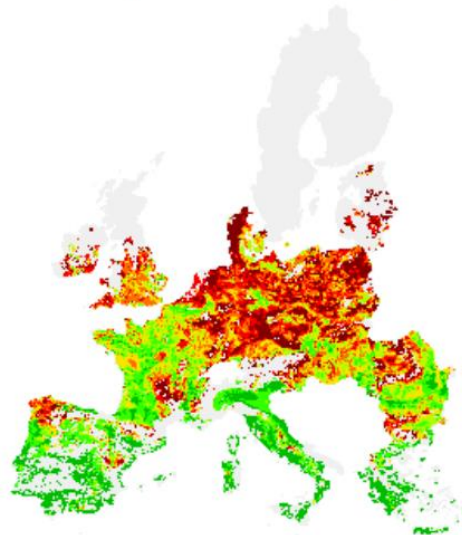
Undo Reset to defaults Save

Tier 2. Placing of granules at a certain soil depth

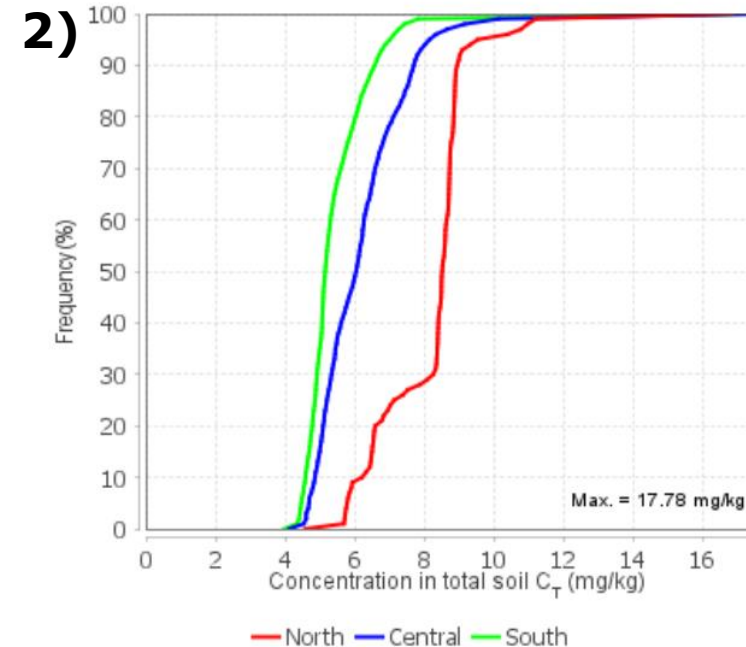
Model output: results of Tier 2

- 1) Spatially distributed PECs in soil for all regulatory zones
- 2) Frequency distributions of PECs in soil
- 3) Tables with TWA concentrations for single zones (Central)

1) TWA concentrations for $t_{avg} = 0$ days (default), $z_{eco} = 5.00$ cm (default)



TWA concentrations



3)

Central Europe		z_{eco}	
		default (5.00 cm)	user
t_{avg}	default (0 days)	8.16 mg/kg	
	user (21 days)	8.07 mg/kg	

TIER 3A modelling is performed with PEARL and PELMO

FOCUS PELMO (soil beta) will be used in the following worked-examples:

- 1) Evenly distributed incorporation of granules over a certain soil depth
- 2) Placing of granules at a certain soil depth

PERSAM generates a transfer file for Tier 3A assessment with PEARL and **PELMO**

PERSAM

Transfer file (.ptf)

- soil-inc-case1-tier-2
- Settings
- Substances
- Application scheme
- Fixed data
- Results**

Select region

North
Central
South

Select endpoint

Concentration in total soil (mg/kg)
Concentration in pore water (mg/L)

Tier-2 results

Plateau and peak concentrations

		default (5.0 cm)	user
$C_{plateau}$		1.08	
C_{peak}		4.01	

TWA concentrations

		default (5.0 cm)	user
t_{avg}	default (0 days)	4.01	
	user (21 days)	3.96	

PEC to RAC ratios

		default (5.0 cm)	user
t_{avg}	default (0 days)		
	user (21 days)		

Post-application concentrations

$t_{PostApp}$ (days)		0
z_{eco} (cm)		20.00
C_r (mg/kg)		4.40

Tier-3A results

z_{eco} = 5.0 cm (default)

Open transfer file

Scenario locations

Open Tier-3A PDF report

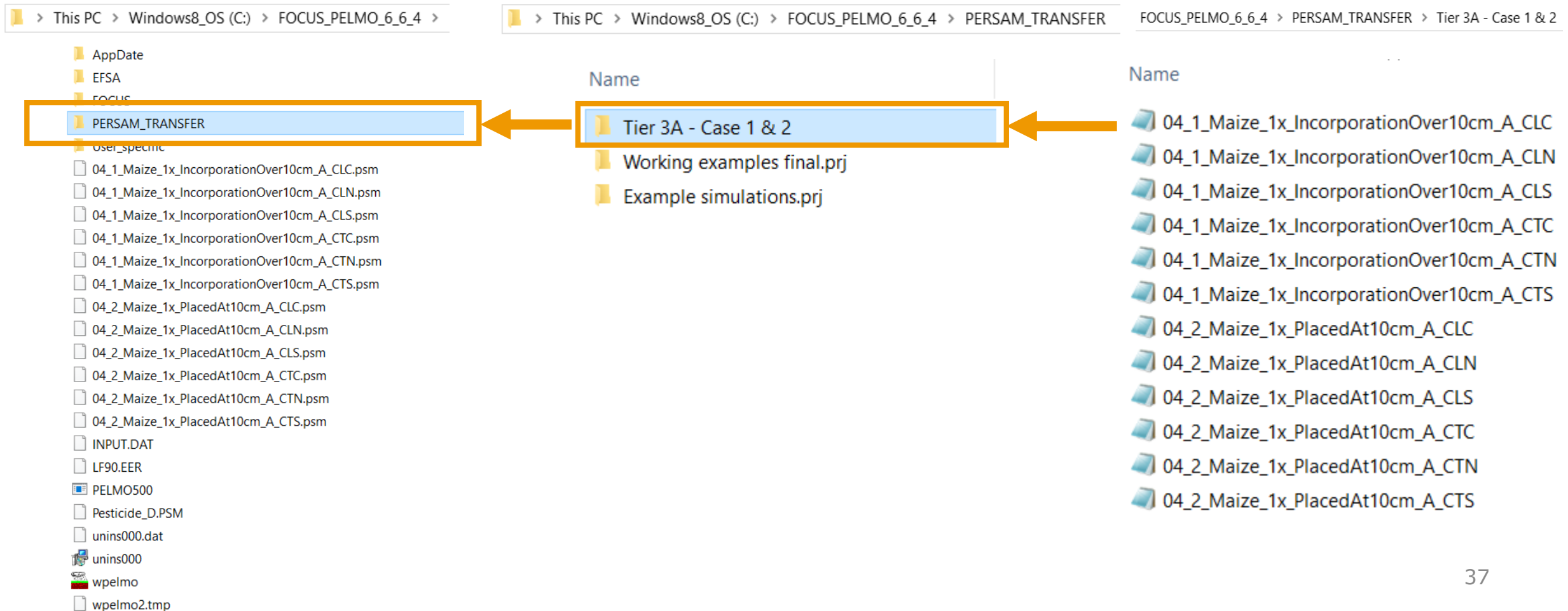
Open Tier-2 PDF report

```
* PERSAM Transfer file
* Generated on 27/05/2019, 16:10
*
North RegZone Regulatory zone (options: North, Centre, South)
TotSoil TypeOfREP Type of endpoint (options: TotSoil, PoreWat)
3844, 1745 Location X/Y coordinates
P Substance Substance assessed (options: P, M1A, M1B, M1C, M1D, M2A, M2B, M2C, M2D)
1.00 Ref (-) Refinement factor for final PEC
16 PERSAMCropNo PERSAM crop number
Coarse Soil TypeOfSoil Soil texture (options: Coarse, Medium, MediumFine, Fine, VeryFine, Organic)
0.12 CntOnSCa (kg.kg-1) Topsoil organic matter content
4.40 pHtop (-) Topsoil pH
647.00 Pro (mm) Mean annual precipitation
8.00 Temp (C) Mean annual temperature
Pesticide A Name, P Substance name
-99 Name, M1A -----II-----
-99 Name, M1B -----II-----
-99 Name, M1C -----II-----
-99 Name, M1D -----II-----
-99 Name, M2A -----II-----
-99 Name, M2B -----II-----
-99 Name, M2C -----II-----
-99 Name, M2D -----II-----
300.00 MolMas, P (g.mol-1) Molar mass
-99 MolMas, M1A (g.mol-1) -----II-----
-99 MolMas, M1B (g.mol-1) -----II-----
-99 MolMas, M1C (g.mol-1) -----II-----
-99 MolMas, M1D (g.mol-1) -----II-----
-99 MolMas, M2A (g.mol-1) -----II-----
-99 MolMas, M2B (g.mol-1) -----II-----
-99 MolMas, M2C (g.mol-1) -----II-----
-99 MolMas, M2D (g.mol-1) -----II-----
-99 P -> M1A (-) Molar formation fraction
-99 P -> M1B (-) -----II-----
-99 P -> M1C (-) -----II-----
-99 P -> M1D (-) -----II-----
-99 M1A -> M2A (-) -----II-----
-99 M1A -> M2B (-) -----II-----
-99 M1A -> M2C (-) -----II-----
-99 M1A -> M2D (-) -----II-----
-99 M1B -> M2A (-) -----II-----
-99 M1B -> M2B (-) -----II-----
-99 M1B -> M2C (-) -----II-----
-99 M1B -> M2D (-) -----II-----
-99 M1C -> M2A (-) -----II-----
-99 M1C -> M2B (-) -----II-----
-99 M1C -> M2C (-) -----II-----
-99 M1C -> M2D (-) -----II-----
-99 M1D -> M2A (-) -----II-----
-99 M1D -> M2B (-) -----II-----
-99 M1D -> M2C (-) -----II-----
-99 M1D -> M2D (-) -----II-----
250.00 DT50Ref, P (d) Half-life time
-99 DT50Ref, M1A (d) -----II-----
-99 DT50Ref, M1B (d) -----II-----
-99 DT50Ref, M1C (d) -----II-----
-99 DT50Ref, M1D (d) -----II-----
-99 DT50Ref, M2A (d) -----II-----
-99 DT50Ref, M2B (d) -----II-----
-99 DT50Ref, M2C (d) -----II-----
-99 DT50Ref, M2D (d) -----II-----
65.40 MolEntTra, P (kJ.mol-1) Molar activation energy
-99 MolEntTra, M1A (kJ.mol-1) -----II-----
-99 MolEntTra, M1B (kJ.mol-1) -----II-----
-99 MolEntTra, M1C (kJ.mol-1) -----II-----
-99 MolEntTra, M1D (kJ.mol-1) -----II-----
-99 MolEntTra, M2A (kJ.mol-1) -----II-----
-99 MolEntTra, M2B (kJ.mol-1) -----II-----
-99 MolEntTra, M2C (kJ.mol-1) -----II-----
-99 MolEntTra, M2D (kJ.mol-1) -----II-----
1000.00 KorEq, P (L.kg-1) Coef. eq. sorption on org. matter
-99 KorEq, M1A (L.kg-1) -----II-----
-99 KorEq, M1B (L.kg-1) -----II-----
-99 KorEq, M1C (L.kg-1) -----II-----
-99 KorEq, M1D (L.kg-1) -----II-----
-99 KorEq, M2A (L.kg-1) -----II-----
-99 KorEq, M2B (L.kg-1) -----II-----
-99 KorEq, M2C (L.kg-1) -----II-----
-99 KorEq, M2D (L.kg-1) -----II-----
0 ZEAOTop (m) Top of the evaluation depth
0.50 ZEAObot (m) Bottom of the evaluation depth
1 DelTmExt (d) Repeat interval of events (options: 1, 2, 3)
0 IntPostApp (d) Time interval for post-application PEC (days after last application)
AppSoftT OptApp Application (options: AppCpUser, AppSolnT, AppSolnI)
10.00 ZApp (mg) Application depth (incorporation or injection)
1 NrApp (-) Number of applications events
* Application table (day - rate (kg.ha-1) - crop interception (fraction of dosage, dimensionless))
table Applications
0
end_table
1.00
0
```

PELMO

PERSAM transfer files for selected scenarios have to be copied in **PELMO** folder

(Case 1 & 2, North, Centre, South, PEC_{soil}, PEC_{pore water})

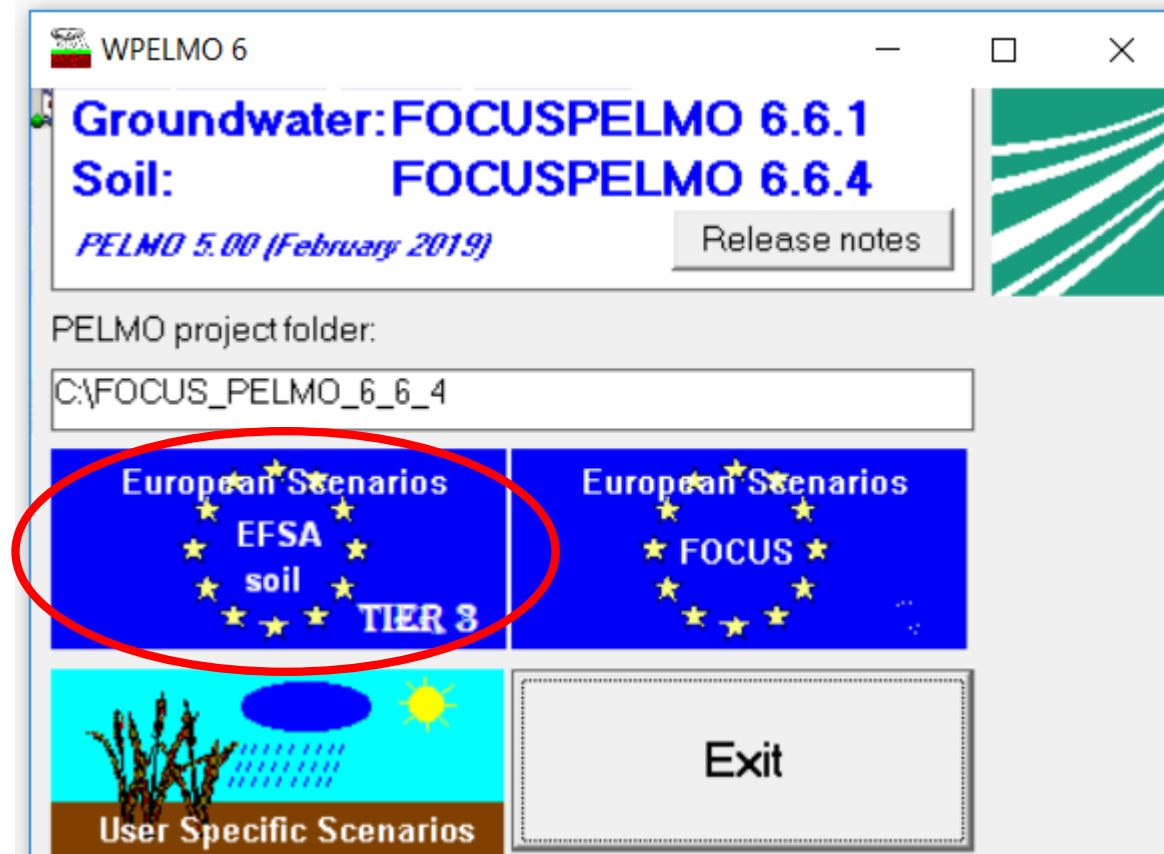


The diagram illustrates the file transfer process for Tier 3A scenarios. It shows three windows representing different file explorer views:

- Left Window (FOCUS_PELMO_6_6_4):** Shows the directory structure. The **PERSAM_TRANSFER** folder is highlighted with an orange box.
- Middle Window (PERSAM_TRANSFER):** Shows the contents of the PERSAM_TRANSFER folder. The **Tier 3A - Case 1 & 2** folder is highlighted with an orange box.
- Right Window (FOCUS_PELMO_6_6_4 > PERSAM_TRANSFER > Tier 3A - Case 1 & 2):** Shows the contents of the Tier 3A - Case 1 & 2 folder. It lists various simulation files, including 04_1_Maize_1x_IncorporationOver10cm_A_CLC.psm, 04_1_Maize_1x_IncorporationOver10cm_A_CLN.psm, 04_1_Maize_1x_IncorporationOver10cm_A_CLS.psm, 04_1_Maize_1x_IncorporationOver10cm_A_CTC.psm, 04_1_Maize_1x_IncorporationOver10cm_A_CTN.psm, 04_1_Maize_1x_IncorporationOver10cm_A_CTS.psm, 04_2_Maize_1x_PlacedAt10cm_A_CLC.psm, 04_2_Maize_1x_PlacedAt10cm_A_CLN.psm, 04_2_Maize_1x_PlacedAt10cm_A_CLS.psm, 04_2_Maize_1x_PlacedAt10cm_A_CTC.psm, 04_2_Maize_1x_PlacedAt10cm_A_CTN.psm, 04_2_Maize_1x_PlacedAt10cm_A_CTS.psm, INPUT.DAT, LF90.EER, PELMO500, Pesticide_D.PSM, unins000.dat, unins000, wpelmo, and wpelmo2.tmp.

Orange arrows indicate the transfer path: from the **Tier 3A - Case 1 & 2** folder in the middle window to the **PERSAM_TRANSFER** folder in the left window.

PELMO Graphical shell



Tier 3A with PELMO: Evenly distributed incorporation of granules over a certain soil depth

Scenario refinement with PELMO

Further substance properties are required at **Tier 3 A**
Time of application is needed at **Tier 3 A**

EFSA Tier 3A

Version
FOCUSPELMO 6.6.1
PELMO Version Number: 5.00

Graph. Output Control
☐ Minimum
☐ Recommended
☒ User Specific

European Scenarios
EFSA
soil
TIER 3

case1-tier-3A-soil incorporation

04_1_Maize_1x_IncorporationOver10cm_A_CLC.ptf
04_1_Maize_1x_IncorporationOver10cm_A_CLN.ptf
04_1_Maize_1x_IncorporationOver10cm_A_CLS.ptf
04_1_Maize_1x_IncorporationOver10cm_A_CTC.ptf
04_1_Maize_1x_IncorporationOver10cm_A_CTN.ptf
04_1_Maize_1x_IncorporationOver10cm_A_CTS.ptf
04_2_Maize_1x_PlacedAt10cm_A_CLC.ptf
04_2_Maize_1x_PlacedAt10cm_A_CLN.ptf
04_2_Maize_1x_PlacedAt10cm_A_CLS.ptf
04_2_Maize_1x_PlacedAt10cm_A_CTC.ptf
04_2_Maize_1x_PlacedAt10cm_A_CTN.ptf
04_2_Maize_1x_PlacedAt10cm_A_CTS.ptf

Information obtained from the selected transfer file

Comment: 04_1_Maize_1x_IncorporationOver10cm_A_CTC.ptf

Compound: P (PesticideA) Type of scenario: Total content

DegT50 (d): 250 Crop: Maize

KOC (L/kg): 1784 Plant uptake factor (-): **0.00**

Freundlich exp.: **0.9** Regularotry zone: Centre

Vapour pressure (Pa): **0.00000001** FOCUS Zone: Châteaudun

Water solubility (mg/L): **0.1** Temperature/Shift (°C): 10.8 -0.5

Application mode: annual Rainfall (mm) / factor: 648.0 1.000

Incorporation depth (cm): 10 Irrigation: Sprinkler

Appl. type: AppSolTil Texture class: Medium

Eval. depth (cm): 0 to 5 OC-Top (%): 8.005

Application mode: ☐ absolute ☒ relative 1st application date: -30 after 1st emergenc

Create PSM-file Edit PSM-file Mark for batch Mark all Run Tier 3A Evaluation Done

Tier 3A with PELMO: Evenly distributed incorporation of granules over a certain soil depth

EFSA Tier 3A



Version

FOCUSPELMO 6.6.1

PELMO Version Number: 5.00

Graph. Output Control

☐ Minimum

☐ Recommended

☒ User Specific

case1-tier-3A-soil incorporation

- 04_1_Maize_1x_IncorporationOver10cm_A_CLC.ptf
- 04_1_Maize_1x_IncorporationOver10cm_A_CLN.ptf
- 04_1_Maize_1x_IncorporationOver10cm_A_CLS.ptf
- 04_1_Maize_1x_IncorporationOver10cm_A_CTC.ptf**
- 04_1_Maize_1x_IncorporationOver10cm_A_CTN.ptf
- 04_1_Maize_1x_IncorporationOver10cm_A_CTS.ptf
- 04_2_Maize_1x_PlacedAt10cm_A_CLC.ptf
- 04_2_Maize_1x_PlacedAt10cm_A_CLN.ptf
- 04_2_Maize_1x_PlacedAt10cm_A_CLS.ptf
- 04_2_Maize_1x_PlacedAt10cm_A_CTC.ptf
- 04_2_Maize_1x_PlacedAt10cm_A_CTN.ptf
- 04_2_Maize_1x_PlacedAt10cm_A_CTS.ptf

Information obtained from the selected transfer file

Comment: 04_1_Maize_1x_IncorporationOver10cm_A_CTC.ptf

Compound:	P (PesticideA)	Type of scenario:	Total content
DegT50 (d):	250	Crop:	Maize
KOC (L/kg):	1724	Plant uptake factor (-):	0.00
Freundlich exp.:	0.9	Regularotry zone:	Centre
Vapour pressure (Pa):	0.00000001	FOCUS Zone	Châteaudun
Water solubility (mg/L)	0.1	Temperature/Shift (°C)	10.8 -0.5
Application mode:	annual	Rainfall (mm) / factor:	648.0 1.000
Incorporation depth (cm):	10	Irrigation:	Sprinkler
Appl. type:	AppSolTil	Texture class:	Medium
Eval. depth (cm):	0 to 5	OC-Top (%)	8.005

Application mode: ☐ absolute ☒ relative 1st application date -30 after 1st emergenc

Create PSM-file

Edit PSM-file

Mark for batch

Mark all

Run Tier 3A

Evaluation

Done

Tier 3A with PELMO: Evenly distributed incorporation of granules over a certain soil depth

EFSA Tier 3A



Version

FOCUSPELMO 6.6.1

PELMO Version Number: 5.00

Graph. Output Control

☐ Minimum

☐ Recommended

☒ User Specific

case1-tier-3A-soil incorporation

- 04_1_Maize_1x_IncorporationOver10cm_A_CLC.ptf
- 04_1_Maize_1x_IncorporationOver10cm_A_CLN.ptf
- 04_1_Maize_1x_IncorporationOver10cm_A_CLS.ptf
- 04_1_Maize_1x_IncorporationOver10cm_A_CTC.ptf**
- 04_1_Maize_1x_IncorporationOver10cm_A_CTN.ptf
- 04_1_Maize_1x_IncorporationOver10cm_A_CTS.ptf
- 04_2_Maize_1x_PlacedAt10cm_A_CLC.ptf
- 04_2_Maize_1x_PlacedAt10cm_A_CLN.ptf
- 04_2_Maize_1x_PlacedAt10cm_A_CLS.ptf
- 04_2_Maize_1x_PlacedAt10cm_A_CTC.ptf
- 04_2_Maize_1x_PlacedAt10cm_A_CTN.ptf
- 04_2_Maize_1x_PlacedAt10cm_A_CTS.ptf

Information obtained from the selected transfer file

Comment: 04_1_Maize_1x_IncorporationOver10cm_A_CTC.ptf

Compound:	P (PesticideA)	Type of scenario:	Total content
DegT50 (d):	250	Crop:	Maize
KOC (L/kg):	1724	Plant uptake factor (-):	0.00
Freundlich exp.:	0.9	Regularotry zone:	Centre
Vapour pressure (Pa):	0.00000001	FOCUS Zone	Châteaudun
Water solubility (mg/L)	0.1	Temperature/Shift (°C)	10.8 -0.5
Application mode:	annual	Rainfall (mm) / factor:	648.0 1.000
Incorporation depth (cm):	10	Irrigation:	Sprinkler
Appl. type:	AppSolTil	Texture class:	Medium
Eval. depth (cm):	0 to 5	OC-Top (%)	8.005

Application mode: ☐ absolute ☒ relative 1st application date -30 after 1st emergenc

Create PSM-file

Edit PSM-file

Mark for batch

Mark all

Run Tier 3A

Evaluation

Done

Tier 3A with PELMO: Evenly distributed incorporation of granules over a certain soil depth

EFSA Tier 3A



Version

FOCUSPELMO 6.6.1

PELMO Version Number: 5.00

Graph. Output Control

☐ Minimum

☐ Recommended

☒ User Specific

case1-tier-3A-soil incorporation

- 04_1_Maize_1x_IncorporationOver10cm_A_CLC.ptf
- 04_1_Maize_1x_IncorporationOver10cm_A_CLN.ptf
- 04_1_Maize_1x_IncorporationOver10cm_A_CLS.ptf
- 04_1_Maize_1x_IncorporationOver10cm_A_CTC.ptf**
- 04_1_Maize_1x_IncorporationOver10cm_A_CTN.ptf
- 04_1_Maize_1x_IncorporationOver10cm_A_CTS.ptf
- 04_2_Maize_1x_PlacedAt10cm_A_CLC.ptf
- 04_2_Maize_1x_PlacedAt10cm_A_CLN.ptf
- 04_2_Maize_1x_PlacedAt10cm_A_CLS.ptf
- 04_2_Maize_1x_PlacedAt10cm_A_CTC.ptf
- 04_2_Maize_1x_PlacedAt10cm_A_CTN.ptf
- 04_2_Maize_1x_PlacedAt10cm_A_CTS.ptf

Information obtained from the selected transfer file

Comment: 04_1_Maize_1x_IncorporationOver10cm_A_CTC.ptf

Compound:	P (PesticideA)	Type of scenario:	Total content
DegT50 (d):	250	Crop:	Maize
KOC (L/kg):	1724	Plant uptake factor (-):	0.00
Freundlich exp.:	0.9	Regularotry zone:	Centre
Vapour pressure (Pa):	0.00000001	FOCUS Zone	Châteaudun
Water solubility (mg/L)	0.1	Temperature/Shift (°C)	10.8 -0.5
Application mode:	annual	Rainfall (mm) / factor:	648.0 1.000
Incorporation depth (cm):	10	Irrigation:	Sprinkler
Appl. type:	AppSolTil	Texture class:	Medium
Eval. depth (cm):	0 to 5	OC-Top (%)	8.005

Application mode: ☐ absolute ☒ relative 1st application date -30 after 1st emergenc

Create PSM-file

Edit PSM-file

Mark for batch

Mark all

Run Tier 3A

Evaluation

Done

Tier 3A with PELMO: Evenly distributed incorporation of granules over a certain soil depth

EFSA Tier 3A



Version

FOCUSPELMO 6.6.1

PELMO Version Number: 5.00

Graph. Output Control

☐ Minimum

☐ Recommended

☒ User Specific

case1-tier-3A-soil incorporation

- 04_1_Maize_1x_IncorporationOver10cm_A_CLC.ptf
- 04_1_Maize_1x_IncorporationOver10cm_A_CLN.ptf
- 04_1_Maize_1x_IncorporationOver10cm_A_CLS.ptf
- 04_1_Maize_1x_IncorporationOver10cm_A_CTC.ptf**
- 04_1_Maize_1x_IncorporationOver10cm_A_CTN.ptf
- 04_1_Maize_1x_IncorporationOver10cm_A_CTS.ptf
- 04_2_Maize_1x_PlacedAt10cm_A_CLC.ptf
- 04_2_Maize_1x_PlacedAt10cm_A_CLN.ptf
- 04_2_Maize_1x_PlacedAt10cm_A_CLS.ptf
- 04_2_Maize_1x_PlacedAt10cm_A_CTC.ptf
- 04_2_Maize_1x_PlacedAt10cm_A_CTN.ptf
- 04_2_Maize_1x_PlacedAt10cm_A_CTS.ptf

Information obtained from the selected transfer file

Comment: 04_1_Maize_1x_IncorporationOver10cm_A_CTC.ptf

Compound:	P (PesticideA)	Type of scenario:	Total content
DegT50 (d):	250	Crop:	Maize
KOC (L/kg):	1724	Plant uptake factor (-):	0.00
Freundlich exp.:	0.9	Regularotry zone:	Centre
Vapour pressure (Pa):	0.00000001	FOCUS Zone	Châteaudun
Water solubility (mg/L)	0.1	Temperature/Shift (°C)	10.8 -0.5
Application mode:	annual	Rainfall (mm) / factor:	648.0 1.000
Incorporation depth (cm):	10	Irrigation:	Sprinkler
Appl. type:	AppSolTil	Texture class:	Medium
Eval. depth (cm):	0 to 5	OC-Top (%)	8.005

Application mode: ☐ absolute ☒ relative 1st application date -30 after 1st emergenc

Create PSM-file

Edit PSM-file

Mark for batch

Mark all

Run Tier 3A

Evaluation

Done

Tier 3A with PELMO: Evenly distributed incorporation of granules over a certain soil depth

PECs in soil for single scenarios

Central Europe, soil incorporation

Evaluation of Simulation (EFSA persistence in soil)

Results of PERSAM Tier 3

Project: Scenario Type:

Substance:

Crop: ERD (cm):

Regulatory zone: FOCUS-zone: beginning at:

Temp shift (°C): Rain factor: OC (%):

Show tabular output

Create Diagrams (Daily Time Step)

Total content in soil at 1 cm for Active Substance

☐ Cumulative from:

☒ Non-cumulative to:

Tier 3A with PELMO: Evenly distributed incorporation of granules over a certain soil depth

Time weighted average (**TWA**) concentrations (mg/kg) over 100 days
Plateau concentration
Concentrations post-application

Table of actual and time weighted average concentrations in soil

Tier 3A simulation:

*** FOCUS PELMO 6. 6. 1 *** (PELMO 5.0)
Compound: 04_1_Maize_lx_IncorporationOver10cm_A_CTC
Soil: Medium (8.00% OC)
Crop: Ver 1 Châteaudun, maize
Climate: Ver 1 Châteaudun scenario (48.05 N, 1.38 E)
Scenario type: Total content
Begin of the evaluation depth (cm): 0

Year:11

Substance: P (PesticideA)

TWA(d)	PEC(mg/kg)	Begin TWA(d)
0	2.0661000	1 April 36
1	2.0661000	1 April 36
2	2.0650300	1 April 36
4	2.0631450	1 April 36
7	2.0608657	1 April 36
14	2.0563400	1 April 36
21	2.0514733	1 April 36
28	2.0467857	1 April 36
42	2.0350310	1 April 36
56	2.0191021	1 April 36
100	1.9534908	1 April 36
Plateau (20 cm)	0.9660400	01 April 37
Conc. after 90 d	1.3103650	30 June 50
Conc. after 120 d	1.1932415	30 July 50
Conc. after 165 d	1.0588175	13 September 50
Conc. after 200 d	1.0052730	18 October 50
Conc. after 270 d	0.9315790	27 December 50
Conc. after 320 d	0.9045595	15 February 51
Conc. after 365 d	0.8764930	01 April 51

Copy Print Done

Tier 3A with PELMO: Evenly distributed incorporation of granules over a certain soil depth

Results of Tier 3 with PELMO

Summary of all the modelled scenarios

Evaluation of Simulation (EFSA persistence in soil)

Results of PERSAM Tier 3

Project: Scenario Type:

Substance:

Crop: ERD (cm):

Regulatory zone: FOCUS-zone: beginning at:

Temp shift (°C): Rain factor: OC (%):

Show tabular output

Create Diagrams (Daily Time Step)

☐ Cumulative from:

☒ Non-cumulative to:

Tier 3A with PELMO: Evenly distributed incorporation of granules over a certain soil depth

Summary of all the modelled scenarios

PECs in soil and pore water for North, Central and South Europe following soil incorporation and placing at certain soil depth

EFSA Summary Output File									
Model Version:		FOCUSPELMO 6.6.1							
Project:		Tier 3A - Case 1 & 2							
Crop	Type	Zone	Substance/Situation	ERD (cm)	Conc. TWA0		Conc. TWA21		
Maize	pore water	2 Centre	04_1_Maize_1x_IncorporationOver10cm_A_CLC	1	0.056264	mg/L	0.0561101	mg/L	
Maize	pore water	1 North	04_1_Maize_1x_IncorporationOver10cm_A_CLN	1	0.047692	mg/L	0.0464072	mg/L	
Maize	pore water	3 South	04_1_Maize_1x_IncorporationOver10cm_A_CLS	1	0.069915	mg/L	0.0668131	mg/L	
Maize	total content	2 Centre	04_1_Maize_1x_IncorporationOver10cm_A_CTC	5	2.0661	mg/kg	2.0514733	mg/kg	
Maize	total content	1 North	04_1_Maize_1x_IncorporationOver10cm_A_CTN	5	2.72812	mg/kg	2.7120971	mg/kg	
Maize	total content	3 South	04_1_Maize_1x_IncorporationOver10cm_A_CTS	5	1.74202	mg/kg	1.7270286	mg/kg	
Maize	pore water	2 Centre	04_2_Maize_1x_PlacedAt10cm_A_CLC	1	0.41712	mg/L	0.4131061	mg/L	
Maize	pore water	1 North	04_2_Maize_1x_PlacedAt10cm_A_CLN	1	0.380727	mg/L	0.3767733	mg/L	
Maize	pore water	3 South	04_2_Maize_1x_PlacedAt10cm_A_CLS	1	0.46655	mg/L	0.4591229	mg/L	
Maize	total content	2 Centre	04_2_Maize_1x_PlacedAt10cm_A_CTC	5	3.624282	mg/kg	3.6014895	mg/kg	
Maize	total content	1 North	04_2_Maize_1x_PlacedAt10cm_A_CTN	5	4.837312	mg/kg	4.803682	mg/kg	
Maize	total content	3 South	04_2_Maize_1x_PlacedAt10cm_A_CTS	5	2.856076	mg/kg	2.8259359	mg/kg	

Tier 3A with PELMO: Evenly distributed incorporation of granules over a certain soil depth

Graphical output

Evaluation of Simulation (EFSA persistence in soil)

Results of PERSAM Tier 3

Project: case1-tier-3A-soil incorporation Scenario Type: total content

Substance: 04_1_Maize_1x_IncorporationOver10cm_A_CTC

Crop: Maize ERD (cm): 5

Regulatory zone: Centre FOCUS-zone: Châteaudun beginning at: 0

Temp shift (°C): -0.500 Rain factor: 1.000 OC (%): 8.00

Show tabular output

Echo PEC soil Mass Balance Summary

Create Diagrams (Daily Time Step)

Total content in soil at 5 cm for Active Substance

Total content in soil at 2 cm for Active Substance

Total content in soil at 3 cm for Active Substance

Total content in soil at 4 cm for Active Substance

Total content in soil at 5 cm for Active Substance

Total content in soil at 6 cm for Active Substance

Total content in soil at 7 cm for Active Substance

Total content in soil at 8 cm for Active Substance

Total content in soil at 9 cm for Active Substance

Done

ve 1st application

Tier 3A with PELMO: Evenly distributed incorporation of granules over a certain soil depth

Graphical output

 Evaluation of Simulation (EFSA persistence in soil) — □ ×

Results of PERSAM Tier 3

Project: Scenario Type:

Substance:

Crop: ERD (cm):

Regulatory zone: FOCUS-zone: beginning at:

Temp shift (°C): Rain factor: OC (%):

Show tabular output

Create Diagrams (Daily Time Step)

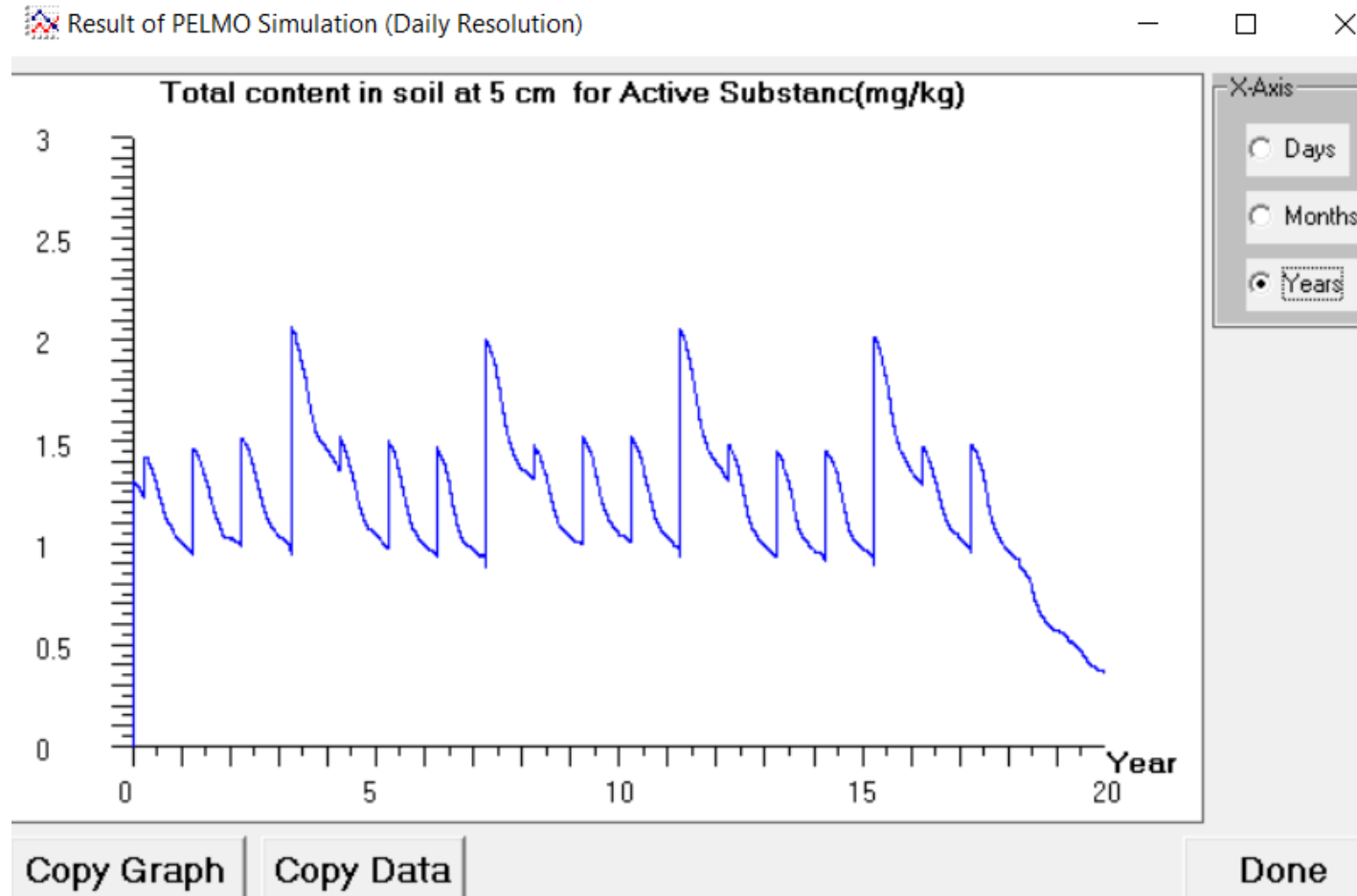
☐ Cumulative from:

☒ Non-cumulative to:

Done

Tier 3A with PELMO: Evenly distributed incorporation of granules over a certain soil depth

Graphical output



Tier 3A with PELMO: Evenly distributed incorporation of granules over a certain soil depth

Display model parameters

Evaluation of Simulation (EFSA persistence in soil)

Results of PERSAM Tier 3

Project: Scenario Type:

Substance:

Crop: ERD (cm):

Regulatory zone: FOCUS-zone: beginning at:

Temp shift (°C): Rain factor: OC (%):

Show tabular output

Create Diagrams (Daily Time Step)

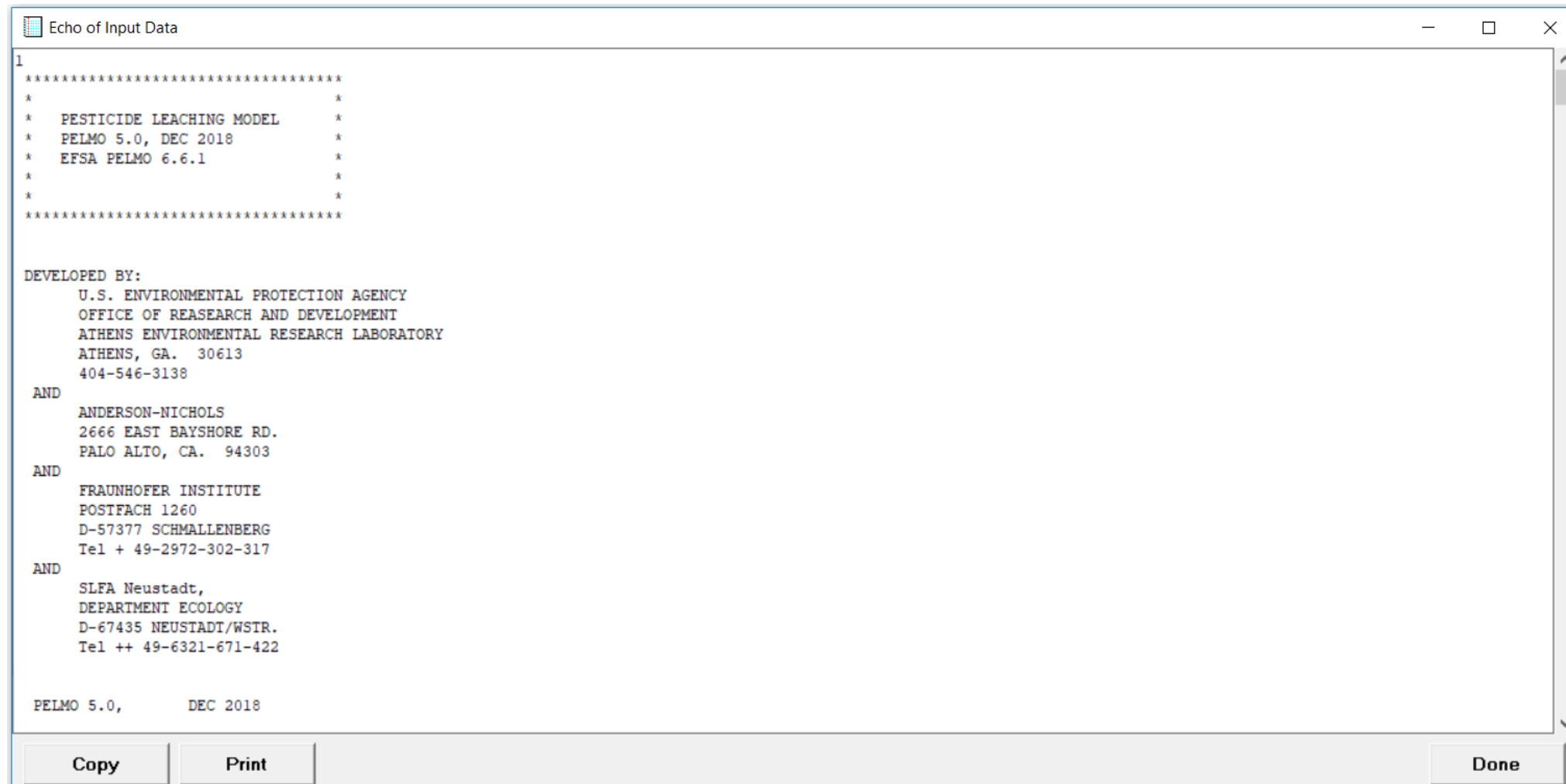
Total content in soil at 1 cm for Active Substance

☐ Cumulative from:

☒ Non-cumulative to:

Tier 3A with PELMO: Evenly distributed incorporation of granules over a certain soil depth

Display model parameters



```
1
*****
*                               *
*  PESTICIDE LEACHING MODEL      *
*  PELMO 5.0, DEC 2018          *
*  EFSA PELMO 6.6.1             *
*                               *
*****

DEVELOPED BY:
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PELMO 5.0,      DEC 2018
```

Copy Print Done

Case 2 : placing at certain soil depth

Input parameters

EFSA Tier 3A

Version: **FOCUSPELMO 6.6.1**
PELMO Version Number: 5.00

Graph. Output Control
☐ Minimum
☐ Recommended
☒ User Specific

case1-tier-3A-soil incorporation

04_1_Maize_1x_IncorporationOver10cm_A_CLC.ptf
04_1_Maize_1x_IncorporationOver10cm_A_CLN.ptf
04_1_Maize_1x_IncorporationOver10cm_A_CLS.ptf
04_1_Maize_1x_IncorporationOver10cm_A_CTC.ptf
04_1_Maize_1x_IncorporationOver10cm_A_CTN.ptf
04_1_Maize_1x_IncorporationOver10cm_A_CTS.ptf
04_2_Maize_1x_PlacedAt10cm_A_CLC.ptf
04_2_Maize_1x_PlacedAt10cm_A_CLN.ptf
04_2_Maize_1x_PlacedAt10cm_A_CLS.ptf
04_2_Maize_1x_PlacedAt10cm_A_CTC.ptf
04_2_Maize_1x_PlacedAt10cm_A_CTN.ptf
04_2_Maize_1x_PlacedAt10cm_A_CTS.ptf

Information obtained from the selected transfer file

Comment: 04_2_Maize_1x_PlacedAt10cm_A_CTC.ptf

Compound: P (PesticideA) Type of scenario: Total content

DegT50 (d): 250 Crop: Maize

KOC (L/kg): 1724 Plant uptake factor (-): 0.00

Freundlich exp.: 0.9 Regularity zone: Centre

Vapour pressure (Pa): 0.00000001 FOCUS Zone: Châteaudun

Water solubility (mg/L): 0.1 Temperature/Shift (°C): 8.2 -3.1

Application mode: manual Rainfall (mm) / factor: 648.0 1.000

Incorporation depth (cm): 10 Irrigation: Sprinkler

Appl. type: granular Texture class: Coarse

Eval. depth (cm): 10 to 15 OC-Top (%): 5.510

Application mode: ☐ absolute ☒ relative 1st application date: -30 after 1st emergenc

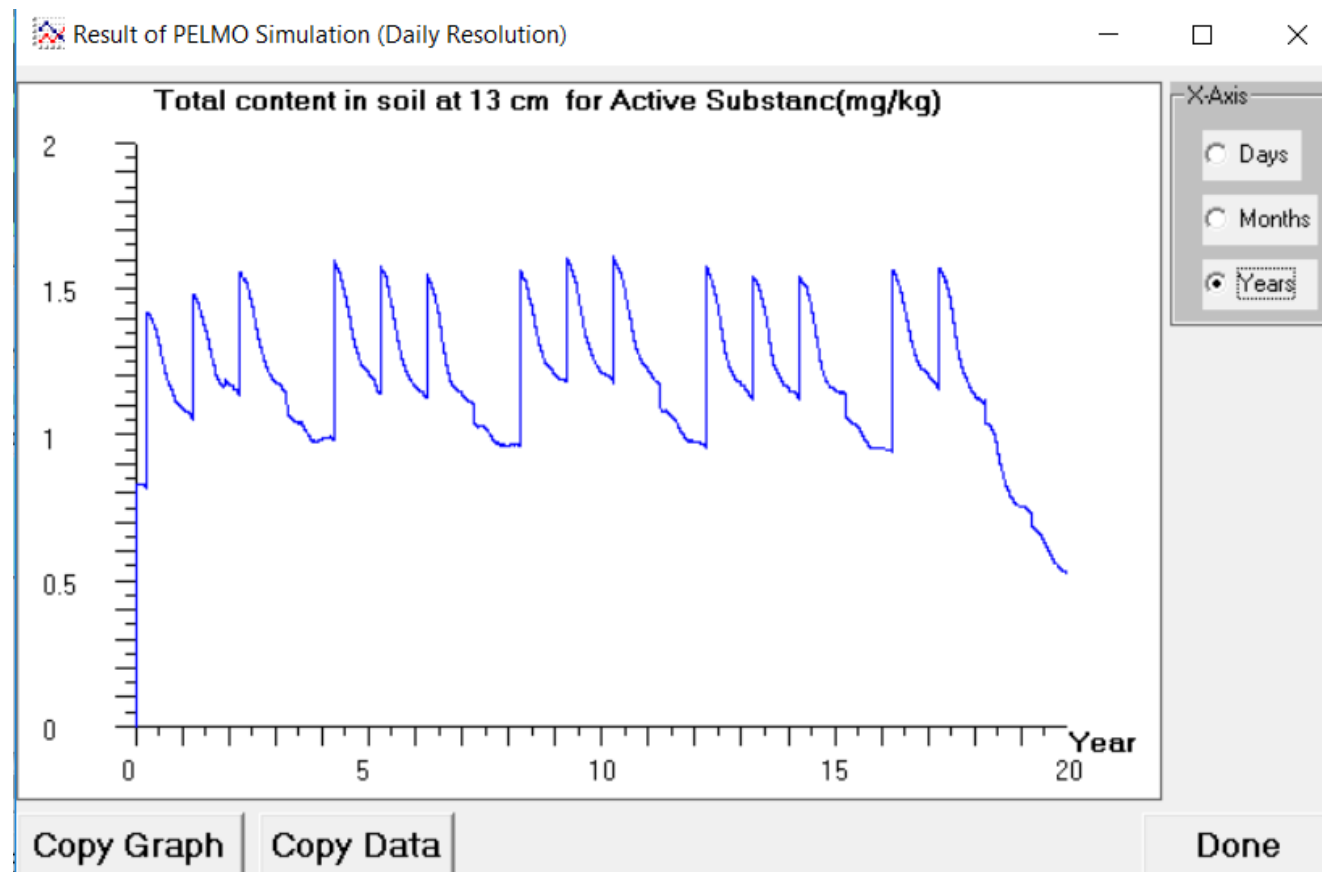
Create PSM-file Edit PSM-file Mark for batch Mark all Run Tier 3A Evaluation Done

Case 2 : placing at certain soil depth

Results

Table of actual and time weighted average concentrations in soil

Tier 3A simulation:		
*** FOCUS PELMO 6. 6. 1 *** (PELMO 5.0)		
Compound: 04_2_Maize_lx_PlacedAt10cm_A_CTC		
Soil: Medium (5.51% OC)		
Crop: Ver 1 Châteaudun, maize		
Climate: Ver 1 Châteaudun scenario (48.05 N, 1.38 E)		
Scenario type: Total content		Year:11
Begin of the evaluation depth (cm): 10		
Substance:	P (PesticideA)	
TWA(d)	PEC(mg/kg)	Begin TWA(d)
0	3.6242820	1 April 43
1	3.6236980	1 April 43
2	3.6227450	1 April 43
4	3.6223730	1 April 43
7	3.6195869	1 April 43
14	3.6107739	1 April 43
21	3.6014895	1 April 43
28	3.5917691	1 April 43
42	3.5720223	1 April 43
56	3.5550759	1 April 43
100	3.4921157	1 April 43
Plateau (20 cm)	1.1212250	01 April 43
Conc. after 90 d	1.4177850	30 June 50
Conc. after 120 d	1.3162600	30 July 50
Conc. after 165 d	1.1968910	13 September 50
Conc. after 200 d	1.1481525	18 October 50
Conc. after 270 d	1.0816290	27 December 50
Conc. after 320 d	1.0591495	15 February 51
Conc. after 365 d	1.0347100	01 April 51





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