



2019-06-04

# **Presentation of PERSAM**

**EFSA info session 4/5 June 2019**

Michael Stemmer

Trusted science for safe food

- Start screen
- Features
- Settings
- Result options
- PERSAM transfer file (for Tier 3A)
- ESRI GIS data in external software

# Start screen

PERSAM 3.0.0-SNAPSHOT

- Maize\_16\_PlacingAtDepth (602)
- Potatoes\_N (635)
- Vines\_32\_PlacingAtDepth (613)
- Vines\_32\_SoilIncorporation (625)
- Vines\_32\_SoilSurface (595)

# PERSAM

v 3.0.0-SNAPSHOT

[Refresh project tree](#)

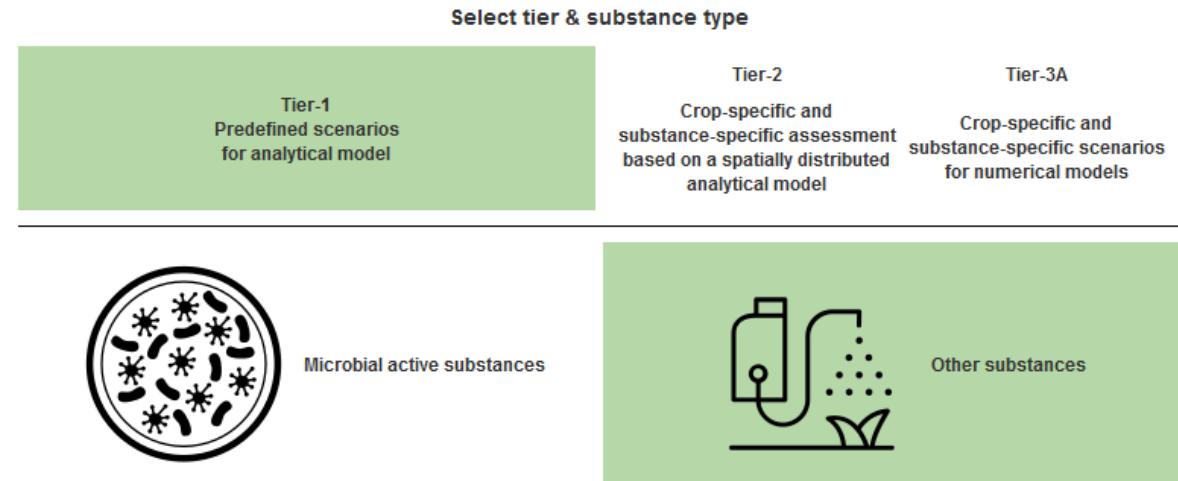
[New group...](#) [New project...](#)

[Rename group...](#) [Import project\(s\)...](#)

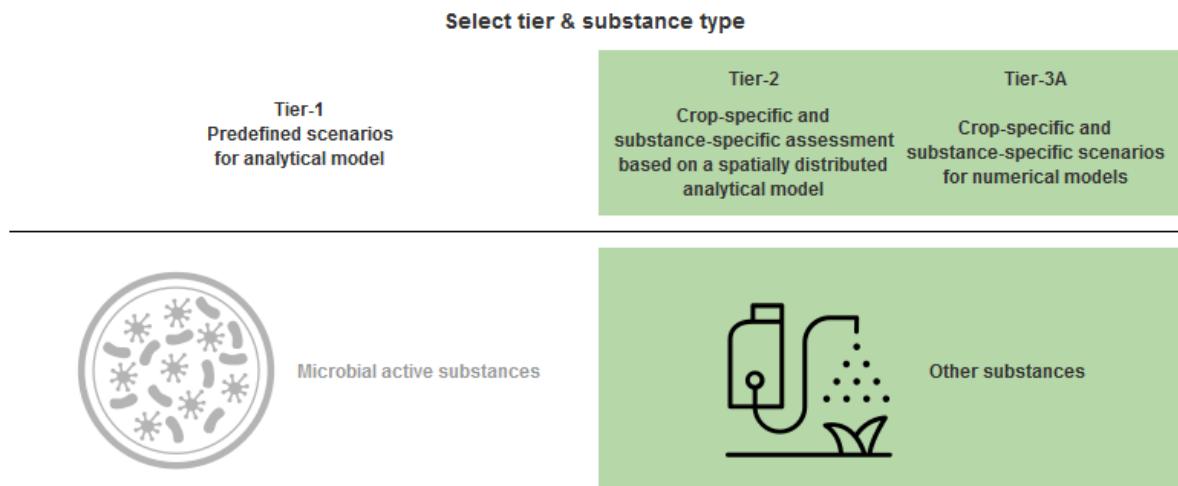
[Delete group...](#) [Help](#)

Batch queue status -- Queued: 0 Running: 0 [Cancel all calculations](#)

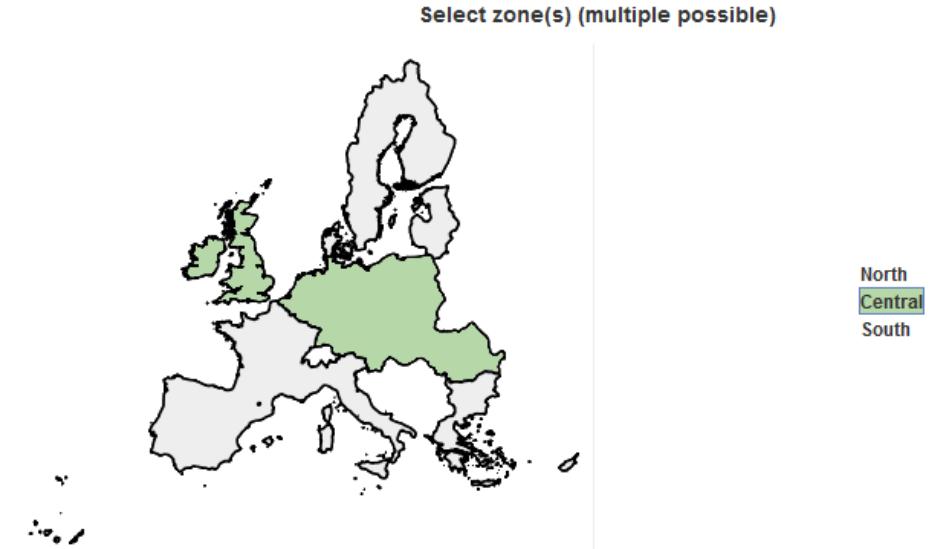
## Tier 1: Microbial actives substances or other substances



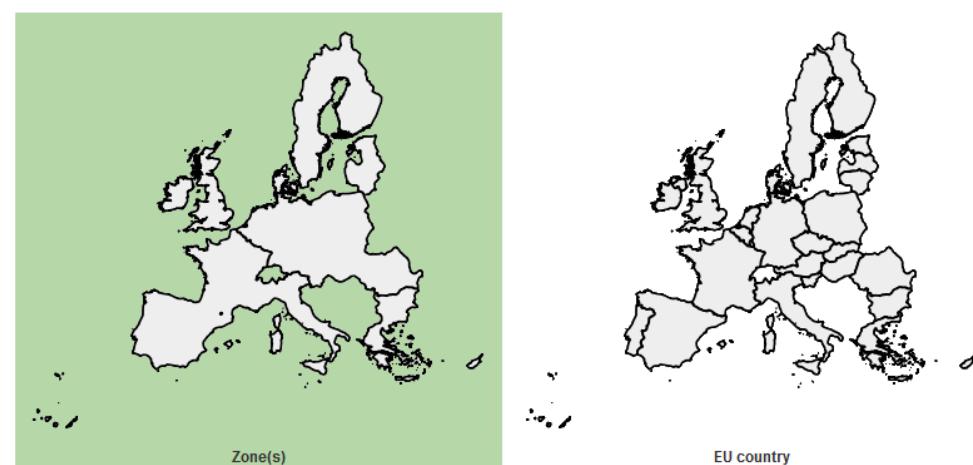
## Tier 2/3A: Other substances only



## Tier 1: Regulatory zone

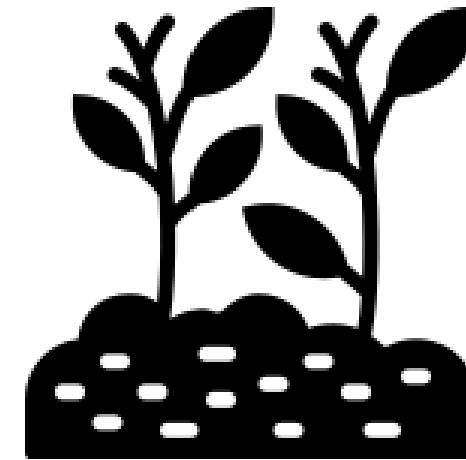
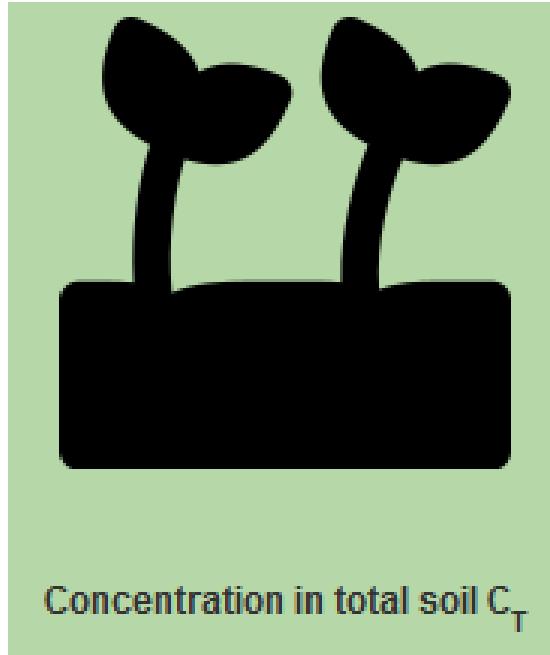


## Tier 2/3A: Regulatory zone or Member state

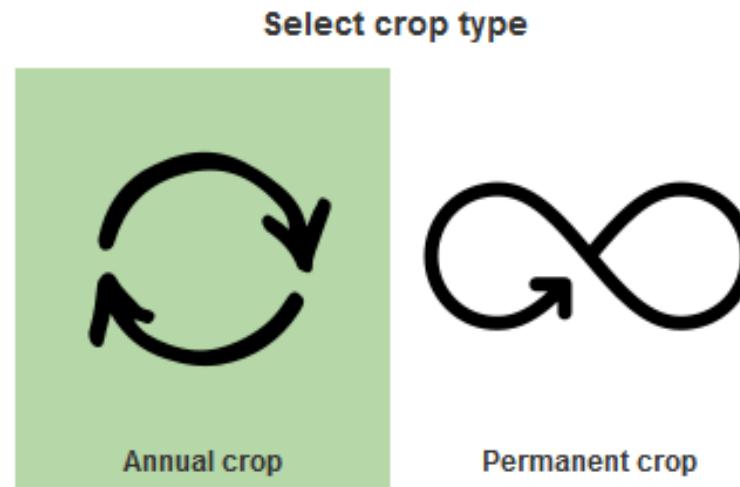


# Features - Type of endpoints

Select endpoint(s) (multiple possible)



## Tier 1: Crop type



## Tier 2/3A: Crop type & crop area

Select FOCUS crop

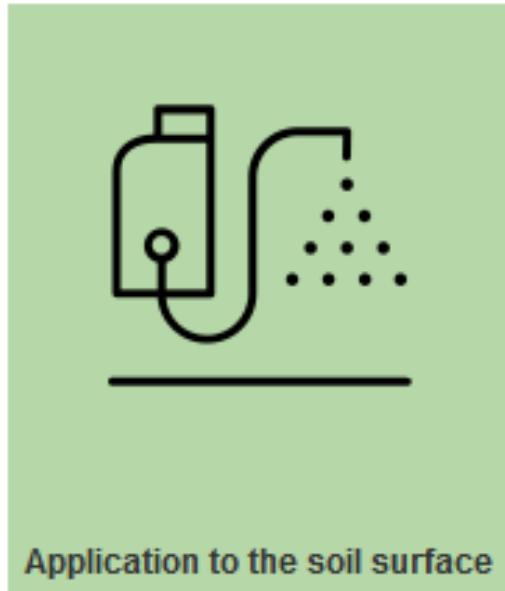
Search:

Oilseed rape (summer)
Oilseed rape (winter)
Olives (between crop in row, bare soil)
Olives (application on crop in row)
Onions
Peas
Potatoes
Soybean

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

# Features - Application type (Tier 2/3A)

## Select application type



## Project properties

Tier: Tier-2

Substance type: Other substances

Region: North

Crop: Oilseed rape (winter)

Endpoint: Concentration in total soil  $C_T$

Application type: Application to the soil surface

## Project settings

$t_{avg}$ :  days

$z_{eco}$  (total soil):  cm

$t_{PostApp}$ :  days

$z_{eco}$  (pore water):  cm

$z_{inc}$ :  cm

RAC (total soil):  mg/kg

$f_{treated}$ :

RAC (pore water):  mg/L

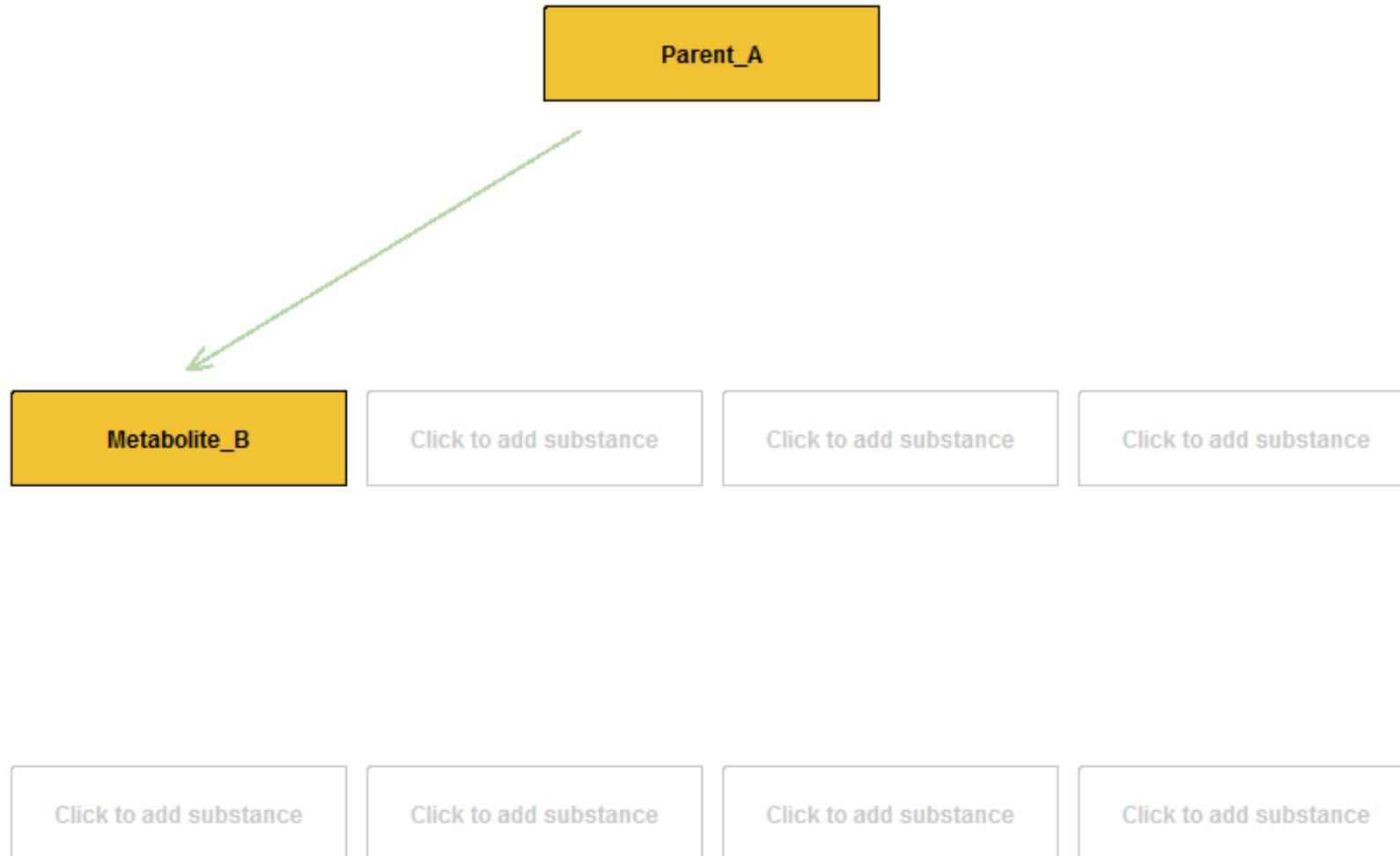
Export generated maps (ESRI grid format)

Undo

Reset to defaults

Save

# Settings - Substances



5 Substance configuration

Substance type

Predefined substance  Custom substance

substance 1

Substance properties

Code: Parent_A	K <sub>om</sub> (mL/g): 10.0	K <sub>oc</sub> (L/kg): 17.24	<a href="#">Set custom formula</a>	<a href="#">Remove custom formula</a>
DegT <sub>50</sub> (days): 10.0	<a href="#">Set custom formula</a>	<a href="#">Remove custom formula</a>		
M (g/mol): 300.0				
E (kJ/mol): 65.4				

[Help](#) [Cancel](#) [OK](#) [Remove substance](#)

# Settings - Application scheme

rate (kg/ha)	dt (days)	growth stage / season	Actions
1.0	0	BBCH 0-9	
1.5	14	BBCH 10-19	
2.0	28	BBCH 20-39	

## Add application

application rate:  >= 0 kg/ha

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

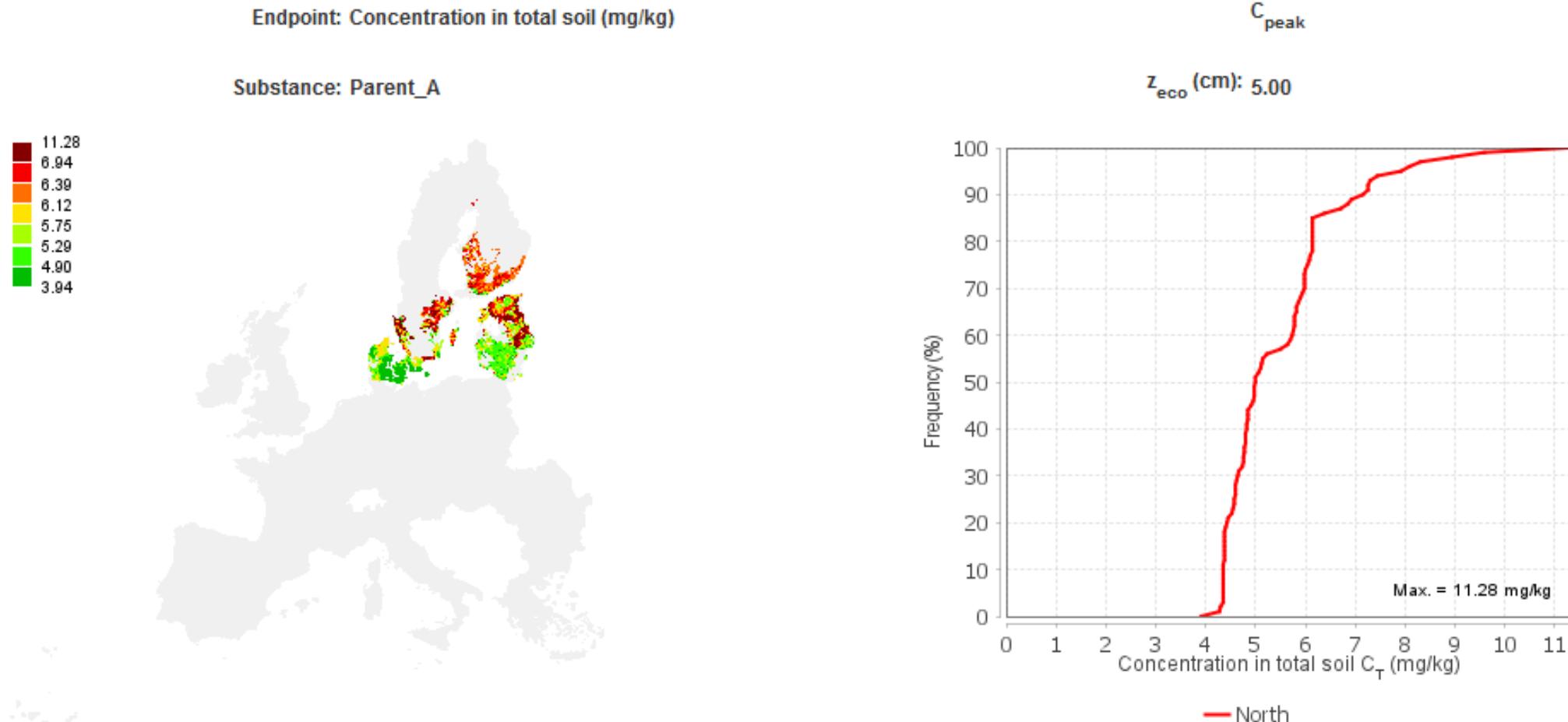
Crop development stage / season:  ▼

## Period of crop rotation

$t_{cycle}$ :  ▼ years

Tier-2 results		
Plateau and peak concentrations		
$C_{plateau}$	default (5.0 cm)	$z_{eco}$
1.00E-5		user
$C_{peak}$	7.92	
TWA concentrations		
$t_{avg}$	default (5.0 cm)	$z_{eco}$
default (0 days)	7.92	user
user (21 days)	6.42	
PEC to RAC ratios		
$t_{avg}$	default (5.0 cm)	$z_{eco}$
default (0 days)	0.93	user
user (21 days)	0.75	
Post-application concentrations		
$t_{PostApp}$ (days)	100	
$z_{eco}$ (cm)	20.00	
$C_T$ (mg/kg)	0.21	

# Results - Map & frequency distribution (Tier 2)



# Results - Scenario properties (Tier 2/3A)

Endpoint: Concentration in total soil (mg/kg)

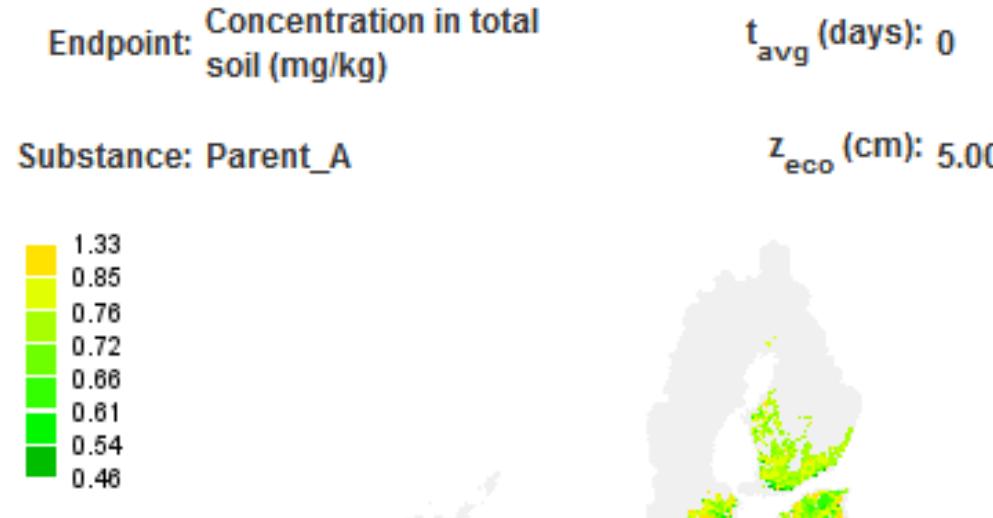
$z_{\text{eco}}$  (cm): 5.00



Substance: Parent\_A

	North
x (m)	5.34E6
y (m)	4.00E6
$T_{\text{Arr}}$ (°C)	7.47
$\rho$ (kg/L)	0.76
$\theta$ (m <sup>3</sup> /m <sup>3</sup> )	0.35
$f_{\text{om}}$ (kg/kg)	0.19
pH	6.30
crop cover (ha/km <sup>2</sup> )	5.50

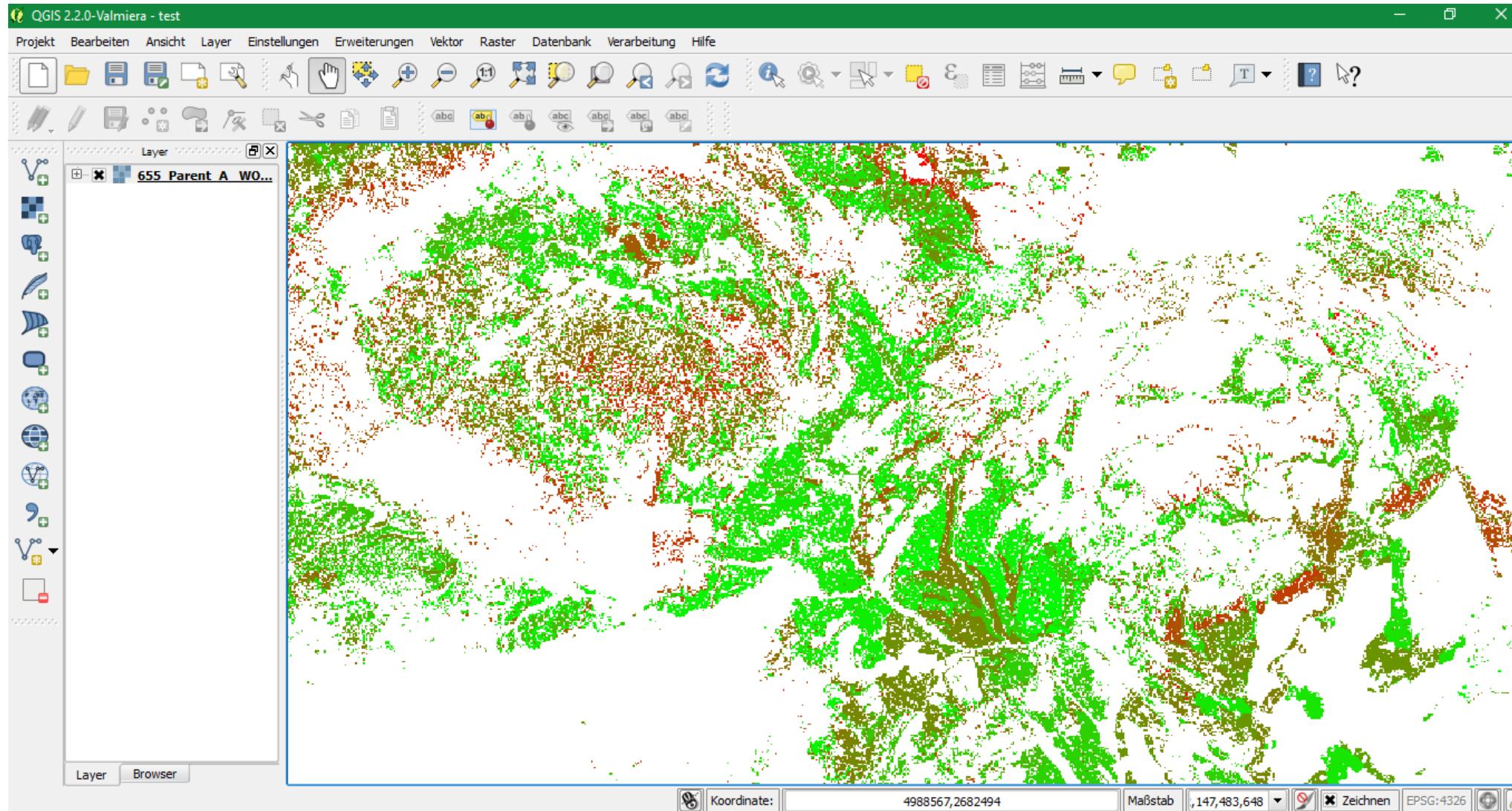
# Results - PEC-to-RAC ratio map (Tier 2)



# PERSAM transfer file (for Tier 3A)

```
667_Parent_A_WOSR_1_kg_ha_pre_emergence_0-Parent_A_total soil_zEco(default)_North - Editor
Datei  Bearbeiten  Format  Ansicht  ?
*-----
* PERSAM Transfer file
* Generated on 26/05/2019_12:17
*-----
North RegZone Regulatory zone (options: North, Centre, South)
TotSoil TypeOfEP Type of endpoint (options: TotSoil, PoreWat)
3836_1499 Location X/Y coordinates
P SubstanceAss Substance assessed (options: P, M1A, M1B, M1C, M1D, M2A, M2B, M2C, M2D)
1.00 fRef (-) Refinement factor for final PEC
18 PERSAMCropNr PERSAM crop number
Medium SoilTypeID Soil texture (options: Coarse, Medium, MediumFine, Fine, VeryFine, Organic)
0.19 CntOmSca (kg.kg-1) Topsoil organic matter content
6.30 pHInp (-) Topsoil pH
613.00 Prc (mm) Mean annual precipitation
7.47 Temp (C) Mean annual temperature
Parent_A Name_P Substance name
Metabolite_B 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
300.00 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-----
1.00 P -> M1A (-) Molar formation fraction
-99 P -> M1B (-) -----II-----
-99 P -> M1C (-) -----II-----
```

# ESRI GIS data in external software





## Subscribe to

[www.efsa.europa.eu/en/news/newsletters](http://www.efsa.europa.eu/en/news/newsletters)

[www.efsa.europa.eu/en/rss](http://www.efsa.europa.eu/en/rss)



## Engage with careers

[www.efsa.europa.eu/en/engage/careers](http://www.efsa.europa.eu/en/engage/careers)



## Follow us on Twitter

@efsa\_eu

@plants\_efsa

@methods\_efsa