



GEM userfriendly software tool for aquatic exposure assessments for PPP used in greenhouses

T. van der Linden (EFSA Working group member)

GENERAL INFO GEM

Final version will include:

- **Soil bound**
 - WATERSTREAMS
 - PEARL
 - TOXSWA
- **Soilless**
 - WATERSTREAMS
 - SUBSTANCE FATE MODELS
 - TOXSWA

Scenarios for Dutch circumstances


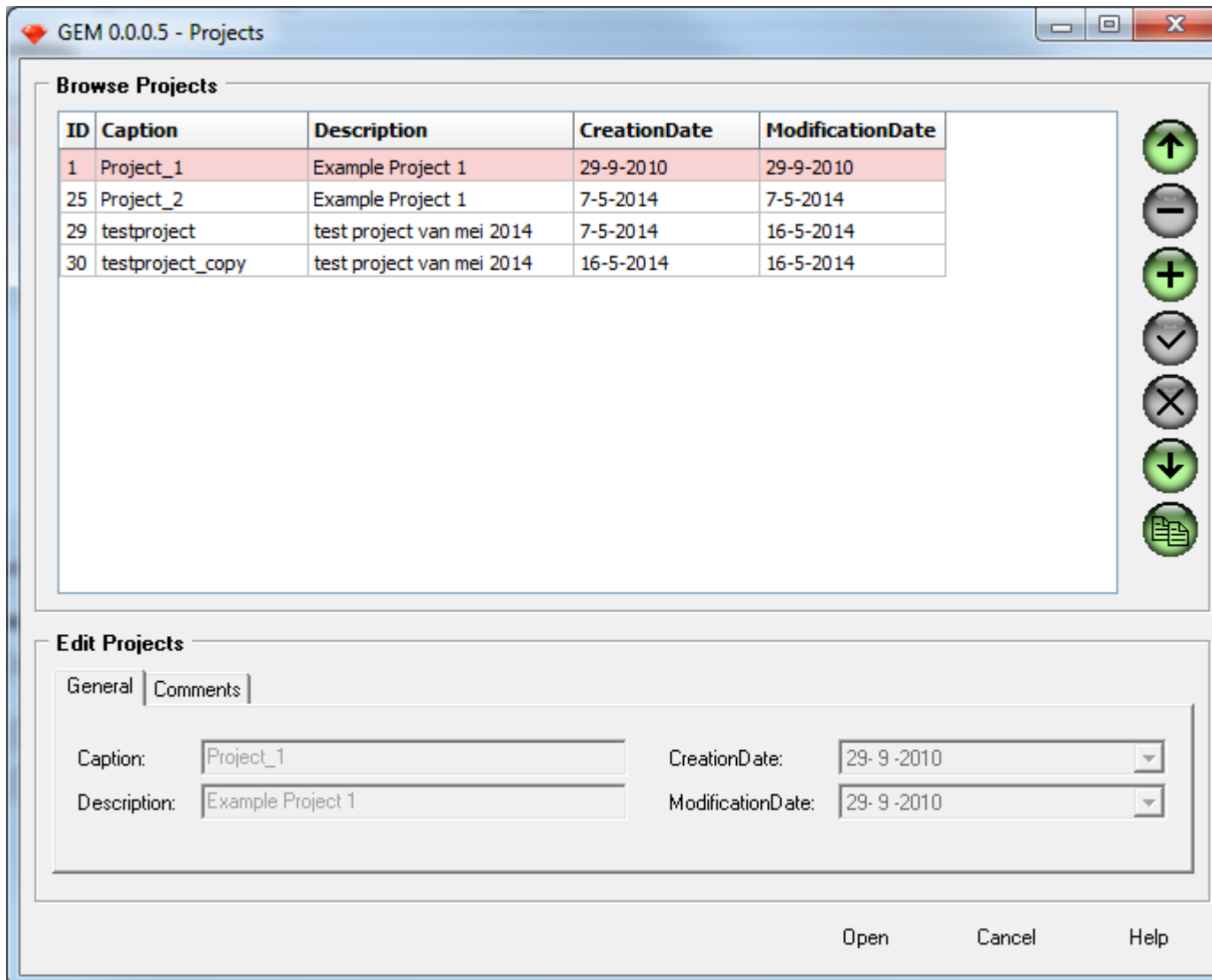


GEM DEVELOPERS



WATERSTREAMS	Wim Voogt and colleagues (WUR Horticulture)
PEARL	The PEARL team (Alterra, PBL, RIVM)
TOXSWA	Paulien Adriaanse and colleagues (Alterra)
GEM substance fate models	Ton van der Linden (RIVM) and Louise Wipfler (Alterra)
GUI	Johnny te Roller (Alterra) Arjan de Jong (Alterra)

MAIN SCREEN, PROJECTS

GEM 0.0.0.5 - Projects

Browse Projects

ID	Caption	Description	CreationDate	ModificationDate
1	Project_1	Example Project 1	29-9-2010	29-9-2010
25	Project_2	Example Project 1	7-5-2014	7-5-2014
29	testproject	test project van mei 2014	7-5-2014	16-5-2014
30	testproject_copy	test project van mei 2014	16-5-2014	16-5-2014

Edit Projects


General | Comments

Caption:
 CreationDate:

Description:
 ModificationDate:

Open Cancel Help

ASSESSMENTS WITHIN A PROJECT



GEM 0.0.0.5 - Assessments [project: 29 - testproject]

File Edit View Run Help

Projects Calculate Assessment Report Show Graphs Help Exit

Browse Assessments

Selected	ID	Caption	Description	Results	Substance	Crop	CreationDate	ModificationDate
	97	test1-run20_copy	roos-imidacloprid	False	Imid	Winter Bulb flower and Corn flower forced cultivation	7-5-2014	12-6-2014
	98	test2-run33_copy	sweet pepper-bifenazaat	False	bif	Sweet pepper	7-5-2014	7-5-2014
	99	test3-run44_copy	pot plants-flonicamid	False	Flon	Pot plants	7-5-2014	7-5-2014
	100	test1-run20_copy_copy	roos-imidacloprid	True	Imid	Cut flowers	7-5-2014	7-5-2014
	101	test2-run33_copy_copy	sweet pepper-bifenazaat	True	bif	Sweet pepper	7-5-2014	7-5-2014
	102	test3-run44_copy_copy	pot plants-flonicamid	True	Flon	Pot plants	7-5-2014	7-5-2014
	103	test2-run33_met	sweet pepper-bifenazaat with metabolite	False	bif2	Sweet pepper	16-5-2014	16-5-2014
	111	test2-run33_met_copy	sweet pepper-bifenazaat with metabolite	False	bif2	Sweet pepper	19-5-2014	19-5-2014

Select / Deselect All

Edit Assessments

Assessment | Output options | Status | Comments

Caption:

Description:

Crop:

Substance:

Applications... Mitigation...

FINETUNING OUTPUT



GEM 0.0.0.5 - Assessments [project: 29 - testproject]

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Projects
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	100	test1-run20_copy_coj	roos-imidacloprid	True	Imid	Cut flowers	7-5-2014	7-5-2014
	100	test2-run33_copy_coj	sweet pepper-bifenazaat	True	bif	Sweet pepper	7-5-2014	7-5-2014
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	110	test2-run33_met_cop	sweet pepper-bifenazaat with metabolite	False	bif2	Sweet pepper	19-5-2014	19-5-2014

Select / Deselect All

Edit Assessments

Assessment | Output options | Status | Comments

Output needed for report
 All needed for viewing graphical output with GUI

Time window for selecting the maximum concentration
 Jan / 1 to Dec / 31

Exposure

Default selected:

TWA7d, 1/jan - 31/dec
 TWA21d, 1/jan - 31/dec

TWA...

Available			Selected (max. 8 + 2 default)		
Name	TWA [d]	Relevant period	Name	TWA [d]	Relevant period
test	4	01-01 - 01-12			

>> include >> << remove <<

APPLICATION EDITOR

Browse Applications

Nr.	ApplicationType /	ApplicationDate	Dosage
1	With nutrient solution	08-Apr	0.84
2	With nutrient solution	15-Apr	0.84

Edit Applications

ApplicationType: With nutrient solution Dosage [kg.ha-1]: 0.84

ApplicationDate: Apr / 8

Close

MITIGATION



GEM 0.0.0.5 - Mitigation

Browse end-of-pipe reduction

Substance	Removal factor
Imid	0

Navigation buttons: ↑, ✓, ✕, ↓

Edit end-of-pipe reduction

Substance:

Removal factor (0 - 1):

Close Help

CROP SELECTION

ONLY RELEVANT CROPS CAN BE CHOSEN



Crops

- DTG
 - 1. Arable crops
 - 2. Cultivated grassland
 - 3. Fruit crops
 - 4. Vegetable crops
 - 4.1. Leafy vegetables
 - 4.2. Pulses
 - 4.3. Fruiting vegetables
 - 4.3.1. Fruiting vegetables of Cucurbitaceae with, edible
 - 4.3.2. Fruiting vegetables of Cucurbitaceae with, non-edible
 - 4.3.3. Fruiting vegetables of Solanaceae
 - 4.3.3.1. Aubergines
 - 4.3.3.2. Tomato
 - 4.3.3.3. Sweet pepper
 - 4.3.4. Fruiting vegetables of Malvaceae
 - 4.4. Cabbages
 - 4.5. Root vegetables and tubers
 - 4.6. Onion family
 - 4.7. Stalk vegetables
 - 4.8. Other vegetable crops
 - 5. Herb crops
 - 6. Mushroom crops
 - 7. Ornamental crops
 - 8. Public green spaces
 - 9. Forestry
 - 10. Uncultivated land
 - 11. Water courses
 - 12. Reed and osier crops
 - 14. In and around the house, private home environment
 - 15. Disinfectants







Selected Crop: 4.3.3. Sweet pepper

OK Cancel



GEM 0.0.0.5 - Assessments [project: 29 - testproject]

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Select / Deselect All

Edit Assessments

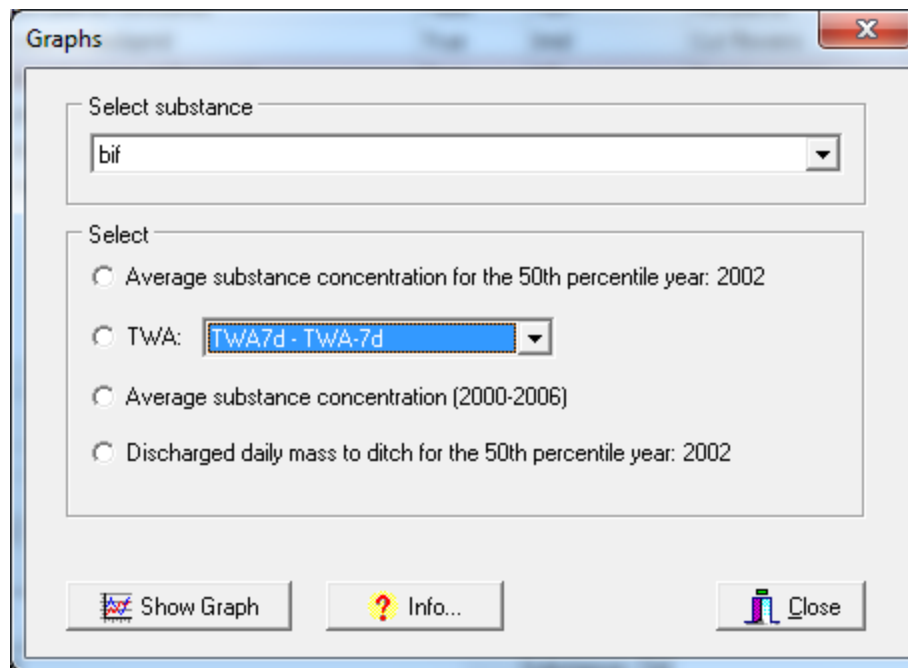
Assessment | Output options | Status | Comments

Caption:
 Crop:

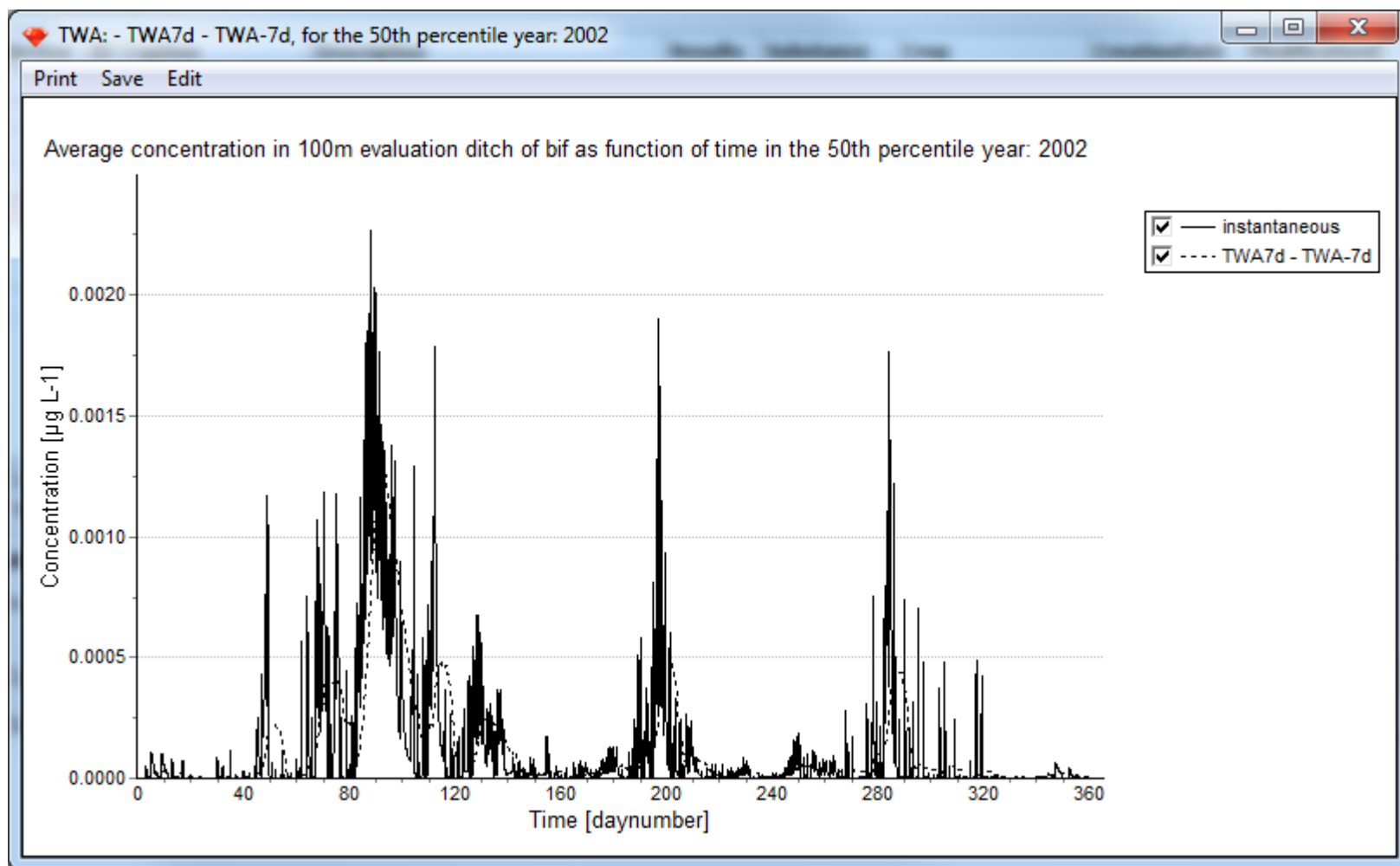
Description:
 Substance:

- EXSW3 (incomplete)
- EXSW4 (incomplete)
- Flon
- Imid**
- kres
- kresm
- met (incomplete)
- Sub1 (incomplete)

SELECTION OF GRAPHICAL OUTPUT



CONCENTRATIONS IN SURFACE WATER (DITCH) IN CHOSEN YEAR



CONCENTRATIONS IN SURFACE WATER (DITCH) IN CHOSEN YEAR

