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# Study Report

## Predicted Environmental Concentrations in Surface Water of Ammonium ($NH_4$) and Nitrate ($NO_3$) based on FOCUS STEP3

*Simulations potatoes, oil seed rape, and vegetables*

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**Statement of compliance**

This study "*Predicted Environmental Concentrations in Surface Water of Ammonium ($NH_4$) and Nitrate ($NO_3$) based on FOCUS STEP3; Simulations potatoes, oil seed rape, and vegetables*" was conducted according to the procedures described herein. This report is a true and accurate record of the results obtained. There were no circumstances that may have adversely impacted the quality or integrity of the study.
The GLP-regulation is not applicable. However, the study was performed in accordance to the "Codex of Good Modelling Practices" (Görlitz 1993 und Travis 1995).

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28 October 2019

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Date

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## 1. Simulation models

For the STEP3 calculations the computer tool SWASH was used which mainly creates the necessary input data for MACRO 5.5.4, PRZM 4.3.1 and TOXSWA 4.4 which were used for the simulations. All models are described in FOCUS (2001). The standard buffer zone was 1 m.

They represent start-of-the-art PEC-calculations for all type active compounds (pesticides, biocides and veterinary compounds). They are also the most recent versions. The history of versions is summarised at the FOCUS homepage (https://esdac.jrc.ec.europa.eu/projects/focus-dg-sante).

## 2. Input parameters

### 2.1 Agricultural use pattern

Ammonium ($NH_4$) and Nitrate ($NH_3$) is applied in various crops with different application patterns as summarised in the following table.
The term "**Granular linear incoperated at 4 cm**" means a linear incorporation into the upper 4 cm of the soil.

**Table 1: Application pattern of ammonium and nitrate in various crops considered for the simulations**

| Substance | Scen. id | Crop | Nr. of app. | App. method | Incorp. Depth (cm) | App. Rate Ammonium / Nitrate (kg/ha) | Start of the application window |
|---|---|---|---|---|---|---|---|
| Ammonium ($NH_4$) | 1a | Oil seed rape | 1st | Granular, linear | 4 (default) | 15.7 | august/september |
| | 1b | Oil seed rape | 1st | Granular, linear | 4 (default) | 62.4 | february/march |
| | | | 2nd | Granular, linear | 4 (default) | 75.1 | april |
| | 2 | Potatoes | 1st | Granular, linear | 4 (default) | 49.2 | begin of april |
| | | | 2nd | Granular, linear | 4 (default) | 81.2 | end of june/begin of july |
| | 3 | Vegetables (leafy) | 1st | Granular, linear | 4 (default) | 47.3 | may |
| | | | 2nd | Granular, linear | 4 (default) | 97.5 | may/june |
| | | | 3rd | Granular, linear | 4 (default) | 97.5 | july |
| | | | 4th | Granular, linear | 4 (default) | 97.5 | august |
| Nitrate ($NO_3$) | 1a | Oil seed rape | 1st | Granular, linear | 4 (default) | 45 | august/september |
| | 1b | Oil seed rape | 1st | Granular, linear | 4 (default) | 215.1 | february/march |
| | | | 2nd | Granular, linear | 4 (default) | 258.7 | april |
| | 2 | Potatoes | 1st | Granular, linear | 4 (default) | 273.1 | begin of april |
| | | | 2nd | Granular, linear | 4 (default) | 279.8 | end of june/begin of july |
| | 3 | Vegetables (leafy) | 1st | Granular, linear | 4 (default) | 262.2 | may |
| | | | 2nd | Granular, linear | 4 (default) | 335.7 | may/june |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | 3rd | Granular, linear | 4 (default) | 335.7 | july |
| | | | 4th | Granular, linear | 4 (default) | 335.7 | august |

Based on the information given in Table 1 the following application dates were automatically calculated for the different crops at the different scenarios.

**Table 2: Application date calculated by FOCUS PAT considered for the simulations for ammonium and nitrate**

| Scen. ID | Crop | Scenario | application date calculated by FOCUS PAT (1st) | application date calculated by FOCUS PAT (2nd) | application date calculated by FOCUS PAT (3rdt) | application date calculated by FOCUS PAT (4th) |
|---|---|---|---|---|---|---|
| 1a | Oil seed rape | D2_Ditch | 06. Aug 86 | | | |
| | | D2_Stream | 06. Aug 86 | | | |
| | | D3_Ditch | 31. Jul 92 | | | |
| | | D4_Pond | 27. Aug 85 | | | |
| | | D4_Stream | 27. Aug 85 | | | |
| | | D5_Pond | 04. Aug 78 | | | |
| | | D5_Stream | 04. Aug 78 | | | |
| | | R1_Pond | 20. Aug 78 | | | |
| | | R1_Stream | 20. Aug 78 | | | |
| | | R3_Stream | 01. Aug 75 | | | |
| 1b | Oil seed rape | D2_Ditch | 22. Feb 86 | 09. Apr 86 | | |
| | | D2_Stream | 22. Feb 86 | 09. Apr 86 | | |
| | | D3_Ditch | 29. Feb 92 | 20. Apr 92 | | |
| | | D4_Pond | 24. Feb 85 | 18. Apr 85 | | |
| | | D4_Stream | 24. Feb 85 | 18. Apr 85 | | |
| | | D5_Pond | 21. Feb 78 | 08. Apr 78 | | |
| | | D5_Stream | 21. Feb 78 | 08. Apr 78 | | |
| | | R1_Pond | 24. Feb 79 | 12. Apr 79 | | |
| | | R1_Stream | 24. Feb 79 | 12. Apr 79 | | |
| | | R3_Stream | 19. Feb 81 | 13. Apr 81 | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 2 | Potatoes | D3_Ditch | 04. Apr 92 | 08. Jul 92 | | |
| | | D4_Pond | 18. Apr 85 | 18. Jul 85 | | |
| | | D4_Stream | 18. Apr 85 | 18. Jul 85 | | |
| | | D6_Ditch | 02. Apr 86 | 05. Jul 86 | | |
| | | D6_Ditch2 | 02. Apr 86 | 05. Jul 86 | | |
| | | R1_Pond | 26. Apr 84 | 27. Jul 84 | | |
| | | R1_Stream | 26. Apr 84 | 27. Jul 84 | | |
| | | R2_Stream | 03. Apr 77 | 02. Jul 77 | | |
| | | R3_Stream | 04. Apr 80 | 13. Jul 80 | | |
| 3 | Vegetables (leafy) | D3_Ditch | 04. May 92 | 14. Jun 92 | 25. Jul 92 | 26. Aug 92 |
| | | D3_Ditch2 | 04. May 92 | 14. Jun 92 | 25. Jul 92 | 26. Aug 92 |
| | | D4_Pond | 16. May 85 | 19. Jun 85 | 19. Jul 85 | 27. Aug 85 |
| | | D4_Stream | 16. May 85 | 19. Jun 85 | 19. Jul 85 | 27. Aug 85 |
| | | D6_Ditch | 03. May 86 | 30. Jun 86 | 30. Jul 86 | 31. Aug 86 |
| | | R1_Pond | 02. May 84 | 13. Jun 84 | 19. Jul 84 | 18. Aug 84 |
| | | R1_Pond2 | 02. May 84 | 13. Jun 84 | 19. Jul 84 | 18. Aug 84 |
| | | R1_Stream | 02. May 84 | 13. Jun 84 | 19. Jul 84 | 18. Aug 84 |
| | | R1_Stream2 | 02. May 84 | 13. Jun 84 | 19. Jul 84 | 18. Aug 84 |
| | | R2_Stream | 01. May 77 | 01. Jun 77 | 01. Jul 77 | 09. Aug 77 |
| | | R2_Stream2 | 01. May 77 | 01. Jun 77 | 01. Jul 77 | 09. Aug 77 |
| | | R3_Stream | 18. May 80 | 19. Jun 80 | 19. Jul 80 | 21. Aug 80 |
| | | R3_Stream2 | 18. May 80 | 19. Jun 80 | 19. Jul 80 | 21. Aug 80 |
| | | R4_Stream | 03. May 84 | 05. Jun 84 | 08. Jul 84 | 12. Aug 84 |
| | | R4_Stream2 | 03. May 84 | 05. Jun 84 | 08. Jul 84 | 12. Aug 84 |

### 2.2 Substance properties of ammonium and nitrate

Ammonium nitrate degrades to ammonium and nitrate in soil. A default value of 1000 days was considered for the half-life of ammonium and nitrate in water and sediment phase. For soil, for ammonium a half-life of 16 days at 22°C was used whereas for nitrate the default value of 1000 days was considered. The software automatically transfers the half-lifes at standard temperatures into the actual conditions of the scenarios.

All $DegT_{50}$ values in water, sediment-system and in soil considered in the simulations are presented in Table 3.

**Table 3: $DegT_{50}$-values (d) of ammonium ($NH_4$) and nitrate ($NO_3$)**

| Parameter | Ammonium | Nitrate |
|---|---|---|
| Water | 1000 (at 20 °C) | 1000 (at 20 °C) |
| Sediment | 1000 (at 20 °C) | 1000 (at 20 °C) |
| Soil | 16 (at 22 °C) | 1000 (at 20 °C) |

The sorption constant in soil $K_{OC}$ of ammonium was set to 172400 L/kg whereas no sorption in soil was assumed for nitrate ($K_{OC}$ equal to zero).

Plant uptake via roots was not considered since Ammonium nitrate is usually applied before emergence of the crop.

All other input parameters used for the simulations are summarised in Table 4.

**Table 4: Other input parameters used for the simulations of ammonium and nitrate**

| Parameter | Ammonium | Nitrate | Remark |
|---|---|---|---|
| Sorption constant KOC in soil (L/kg) | 172400 | 0 | |
| Sorption constant KOC in water body (L/kg) | 172400 | 0 | |
| Freundlich exponent (-) | 0.9 | 0.9 | default |
| Vapour pressure (20°C, Pa) | 0 | 0 | |
| Molar mass (g/mol) | 18 | 62 | |
| Water solubility (20°C, mg/L) | 100 | 10000 | |
| Molar enthalpy of vaporisation | 95000 | 95000 | default |
| Molar enthalpy of dissolution | 27000 | 27000 | default |
| Diffusion coefficient in water | $4.3\ 10^{-5}$ | $4.3\ 10^{-5}$ | default |
| Diffusion coefficient in air | 0.43 | 0.43 | default |
| Plant uptake factor | 0 | 0 | default |

## 3. Results

The maximum concentrations for all scenarios and crops are summarised in the following Table 6.

**Table 5: Maximum concentrations in water (PECmax) of ammonium and nitrate at FOCUS Step 3**

| Scen. id | Crop | PECmax (µg/L) | |
|---|---|---|---|
| | | Ammonium | Nitrate |
| 1a | Oil seed rape | 0.124 | 10216.4 |
| 1b | Oil seed rape | 4.911 | 99864.9 |
| 2 | Potatoes | 24159.2 | 82209.4 |
| 3 | Vegetables (leafy) | 9.646 | 199812.9 |

**Table 6: Global maximum concentrations of ammonium and nitrate at FOCUS Step 3**

| Scen. ID | Crop | Scenario | PECsw (µg/L) | | PECsed (µg/kg) | |
|---|---|---|---|---|---|---|
| | | | Ammonium | Nitrate | Ammonium | Nitrate |
| 1a | Oil seed rape | D2_Ditch | 0 | 6792.9 | 0 | 2258.6 |
| | | D2_Stream | 0 | 5280.8 | 0 | 1330.6 |
| | | D3_Ditch | 0 | 5610.7 | 0 | 3447.3 |
| | | D4_Pond | 0 | 10216.4 | 0.000025 | 6197.2 |
| | | D4_Stream | 0.000014 | 4975.6 | 0.000084 | 2498.1 |
| | | D5_Pond | 0 | 10036.5 | 0.000006 | 6353.5 |
| | | D5_Stream | 0.000004 | 4445.6 | 0.00001 | 1928.8 |
| | | R1_Pond | 0.0161 | 0 | 5.27 | 0 |
| | | R1_Stream | 0.124 | 0.000006 | 124.2 | 0 |
| | | R3_Stream | 0.03711 | 295.6 | 319.8 | 20.73 |
| 1b | Oil seed rape | D2_Ditch | 0 | 65527.4 | 0 | 21805.4 |
| | | D2_Stream | 0 | 41165.4 | 0 | 13528.7 |
| | | D3_Ditch | 0 | 57031.3 | 0 | 35434.3 |
| | | D4_Pond | 0.000001 | 99864.9 | 0.000057 | 60941.9 |
| | | D4_Stream | 0.000033 | 52358.7 | 0.0002 | 25546 |
| | | D5_Pond | 0 | 96922.5 | 0.000004 | 61329.8 |
| | | D5_Stream | 0.000002 | 47089.9 | 0.000006 | 18718.3 |
| | | R1_Pond | 0.3056 | 109.5 | 35.5 | 40.65 |
| | | R1_Stream | 4.911 | 1422.2 | 820.1 | 84.57 |
| | | R3_Stream | 2.555 | 3487.9 | 1380.9 | 167.1 |
| 2 | Potatoes | D3_Ditch | 0 | 378.2 | 0 | 138.1 |
| | | D4_Pond | 0.000005 | 17942 | 0.000197 | 1096.7 |
| | | D4_Stream | 0.000101 | 16344.5 | 0.00066 | 993.2 |
| | | D6_Ditch | 24159.2 | 21908.3 | 80186.3 | 1303.3 |
| | | D6_Ditch2 | 0 | 50945.4 | 0 | 32020.1 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | R1_Pond | 0.2093 | 82209.4 | 271.3 | 51962.1 |
| | | R1_Stream | 3.309 | 32838.5 | 7017.5 | 18258.1 |
| | | R2_Stream | 1.035 | 26253.5 | 4122 | 12939.9 |
| | | R3_Stream | 3.421 | 26253.5 | 2815.1 | 12939.9 |
| 3 | Vegetables (leafy) | D3_Ditch | 0 | 81175.1 | 0 | 54151.8 |
| | | D3_Ditch2 | 0 | 81175.1 | 0 | 54151.8 |
| | | D4_Pond | 0.000022 | 199812.9 | 0.000815 | 125088 |
| | | D4_Stream | 0.000446 | 82440.8 | 0.002804 | 44663.3 |
| | | D6_Ditch | 0 | 103917.9 | 0 | 52917.4 |
| | | R1_Pond | 2.335 | 5934.5 | 4003.2 | 2245.9 |
| | | R1_Pond2 | 1.929 | 4813.8 | 3049.6 | 2264.3 |
| | | R1_Stream | 6.483 | 22339.7 | 106935.9 | 1572.2 |
| | | R1_Stream2 | 6.299 | 20869.7 | 80985.8 | 1472.3 |
| | | R2_Stream | 1.784 | 15605.1 | 19161.1 | 1188.2 |
| | | R2_Stream2 | 1.758 | 18037.6 | 41543.6 | 1362.2 |
| | | R3_Stream | 4.592 | 26880.2 | 86690.2 | 1692.3 |
| | | R3_Stream2 | 4.743 | 18635.4 | 14097.5 | 1292.3 |
| | | R4_Stream | 9.646 | 23419.6 | 112240.1 | 1668.6 |
| | | R4_Stream2 | 9.553 | 32829.8 | 53659.2 | 1337.7 |

## 4. Conclusions

The following maximum concentrations were calculated for ammonium nitrate at step 3 simulations (no additional buffer strip to the surface water body):

**Table 7: Maximum concentrations in water (PECmax) of ammonium and nitrate at FOCUS Step 3**

| Scen. id | Crop | PECmax (µg/L) | |
|---|---|---|---|
| | | Ammonium | Nitrate |
| 1a | Oil seed rape | 0.124 | 10216.4 |
| 1b | Oil seed rape | 4.911 | 99864.9 |
| 2 | Potatoes | 24159.2 | 82209.4 |
| 3 | Vegetables (leafy) | 9.646 | 199812.9 |

## 5. References

EFSA (2010): “Conclusion on the peer review of the pesticide risk assessment of the active substance cyanamide”. EFSA Journal 2010;8(11):1873.

FOCUS (2001). “FOCUS Surface Water Scenarios in the EU Evaluation Process under 91/414/EEC”. Report of the FOCUS Working Group on Surface Water Scenarios, EC

Görlitz. G. (1993): „Verfahrensregeln zur korrekten Durchführung und Auswertung von Modellrechnungen zur Simulation des Umweltverhaltens von Pflanzenschutzmitteln.“

Travis. K.Z. (1995): “Recommendations for the correct use of models and reporting of modelling results.”: ‘Leaching Models and EU registration’. Final report of the FOCUS Group. Doc. 4952/VI/95.

# 6. Appendix: SWASH Report Files

## 6.1 Ammonium, Oil seed rape, 15.7 kg/ha in august/september

```
* SWASH report file
* made by FOCUS-SWASH UI v. 5 (internal version 5.1.0, 02 April 2015)
*
* File Name   : E:\SwashProjects\NH4\NH4_OSR1\NH4_OSR1_report.txt
* Description : Ammonium, Oil seed rape, 15.7 kg/ha in august/september
* Substance   : NH4
*
* Creation    : 09-Oct-2019, 16:55
*
* Remarks : SWASH report helps you to set up the needed runs to calculate the PECsw and PECsed, occuring in the EU
*           for the selected substance, used on the selected crop. The scenario code informs you which models you need to
*           run for this scenario.
*           D1-D6: drainage entries calculated by the MACRO model, fate in surface water calculated by the TOXSWA model
*
*           R1-R4: runoff and erosion entries calculated by the PRZM model, fate in surface water calculated by the TOXSWA model
*
*
*           For STREAMS the Mean Deposition and Mass Loading, as calculated by the FOCUS Drift Calculator, have been multiplied by a
*           factor 1.2 to account for pesticide mass incoming from the upstream catchment as decided by the FOCUS Surface Water
*           Scenarios Working Group.
*
*
```

```
*****************************************************************************************************************************************
*  CREATED RUNS
*****************************************************************************************************************************************
*
*                                                                |--------------- APPLICATION -----------------|----- on Water Surface -----|
* -ID------Crop(1st/2nd)-------Scenario-WaterbodyType-|-Method--------First/Last/Interval--#---Rate-|-Mean Deposition-Mass Loading
                                                                                          (d)          (kg/ha) (% of Appl. Rate)    (mg/m2)
*
* 119   Oil seed rape, winte(1st) D2_Ditch              granular appl. 1-Aug /30-Sep/1      1  15.7000      0.000           0.000
*
* 120   Oil seed rape, winte(1st) D2_Stream             granular appl. 1-Aug /30-Sep/1      1  15.7000      0.000           0.000
*
* 121   Oil seed rape, winte(1st) D3_Ditch              granular appl. 1-Aug /30-Sep/1      1  15.7000      0.000           0.000
*
* 122   Oil seed rape, winte(1st) D4_Pond               granular appl. 1-Aug /30-Sep/1      1  15.7000      0.000           0.000
*
* 123   Oil seed rape, winte(1st) D4_Stream             granular appl. 1-Aug /30-Sep/1      1  15.7000      0.000           0.000
*
* 124   Oil seed rape, winte(1st) D5_Pond               granular appl. 1-Aug /30-Sep/1      1  15.7000      0.000           0.000
*
* 125   Oil seed rape, winte(1st) D5_Stream             granular appl. 1-Aug /30-Sep/1      1  15.7000      0.000           0.000
*
* 126   Oil seed rape, winte(1st) R1_Pond               granular appl. 1-Aug /30-Sep/1      1  15.7000      0.000           0.000
*
* 127   Oil seed rape, winte(1st) R1_Stream             granular appl. 1-Aug /30-Sep/1      1  15.7000      0.000           0.000
*
* 128   Oil seed rape, winte(1st) R3_Stream             granular appl. 1-Aug /30-Sep/1      1  15.7000      0.000           0.000
*
********************************************** Surface WAter Scenarios Help **********************************************
```

### 6.2 Ammonium, Oil seed rape, 62.4 kg/ha in february/march, 75.1 kg/ha in april

```
* SWASH report file
* made by FOCUS-SWASH UI v. 5 (internal version 5.1.0, 02 April 2015)
*
* File Name   : E:\SwashProjects\NH4\NH4_OSR2\NH4_OSR2_report.txt
* Description : Ammonium, Oil seed rape, 62.4 kg/ha  in february/march, 75.1 kg/ha in april
* Substance   : NH4
*
* Creation    : 10-Oct-2019, 08:44
*
* Remarks : SWASH report helps you to set up the needed runs to calculate the PECsw and PECsed, occuring in the EU
*           for the selected substance, used on the selected crop. The scenario code informs you which models you need to
*           run for this scenario.
*           D1-D6: drainage entries calculated by the MACRO model, fate in surface water calculated by the TOXSWA model
*
*           R1-R4: runoff and erosion entries calculated by the PRZM model, fate in surface water calculated by the TOXSWA model
*
*
*           For STREAMS the Mean Deposition and Mass Loading, as calculated by the FOCUS Drift Calculator, have been multiplied by a
*           factor 1.2 to account for pesticide mass incoming from the upstream catchment as decided by the FOCUS Surface Water
*           Scenarios Working Group.
*
*
```

```
*****************************************************************************************************************************************
*  CREATED RUNS
*****************************************************************************************************************************************
*
*                                                          |--------------- APPLICATION -----------------|----- on Water Surface -----|
* -ID------Crop(1st/2nd)-------Scenario-WaterbodyType-|-Method--------First/Last/Interval--#---Rate-|-Mean Deposition-Mass Loading
                                                                        (d)          (kg/ha) (% of Appl. Rate)    (mg/m2)
*
* 129   Oil seed rape, winte(1st) D2_Ditch              granular appl. 15-Feb/30-Apr/44     1  62.4000      0.000           0.000
*                                                                                         2  75.1000      0.000           0.000
*
* 130   Oil seed rape, winte(1st) D2_Stream             granular appl. 15-Feb/30-Apr/44     1  62.4000      0.000           0.000
*                                                                                         2  75.1000      0.000           0.000
*
* 131   Oil seed rape, winte(1st) D3_Ditch              granular appl. 15-Feb/30-Apr/44     1  62.4000      0.000           0.000
*                                                                                         2  75.1000      0.000           0.000
*
* 132   Oil seed rape, winte(1st) D4_Pond               granular appl. 15-Feb/30-Apr/44     1  62.4000      0.000           0.000
*                                                                                         2  75.1000      0.000           0.000
*
* 133   Oil seed rape, winte(1st) D4_Stream             granular appl. 15-Feb/30-Apr/44     1  62.4000      0.000           0.000
*                                                                                         2  75.1000      0.000           0.000
*
* 134   Oil seed rape, winte(1st) D5_Pond               granular appl. 15-Feb/30-Apr/44     1  62.4000      0.000           0.000
*                                                                                         2  75.1000      0.000           0.000
*
* 135   Oil seed rape, winte(1st) D5_Stream             granular appl. 15-Feb/30-Apr/44     1  62.4000      0.000           0.000
*                                                                                         2  75.1000      0.000           0.000
*
* 136   Oil seed rape, winte(1st) R1_Pond               granular appl. 15-Feb/30-Apr/44     1  62.4000      0.000           0.000
*                                                                                         2  75.1000      0.000           0.000
*
* 137   Oil seed rape, winte(1st) R1_Stream             granular appl. 15-Feb/30-Apr/44     1  62.4000      0.000           0.000
*                                                                                         2  75.1000      0.000           0.000
*
* 138   Oil seed rape, winte(1st) R3_Stream             granular appl. 15-Feb/30-Apr/44     1  62.4000      0.000           0.000
*                                                                                         2  75.1000      0.000           0.000
*
********************************************** Surface WAter Scenarios Help ************************************************
```

### 6.3 Ammonium, Potatoes, 49.2 kg/ha in begin of april, 81.2 kg/ha in end of june/begin of july

```
* SWASH report file
* made by FOCUS-SWASH UI v. 5 (internal version 5.1.0, 02 April 2015)
*
* File Name   : E:\SwashProjects\NH4\NH4_PO\NH4_PO_report.txt
* Description : Ammonium, Potatoes, 49.2 kg/ha in begin of april, 81.2 kg/ha  in end of june/begin of july
* Substance   : NH4
*
* Creation    : 09-Oct-2019, 16:54
*
* Remarks : SWASH report helps you to set up the needed runs to calculate the PECsw and PECsed, occuring in the EU
*           for the selected substance, used on the selected crop. The scenario code informs you which models you need to
*           run for this scenario.
*           D1-D6: drainage entries calculated by the MACRO model, fate in surface water calculated by the TOXSWA model
*
*           R1-R4: runoff and erosion entries calculated by the PRZM model, fate in surface water calculated by the TOXSWA model
*
*
*           For STREAMS the Mean Deposition and Mass Loading, as calculated by the FOCUS Drift Calculator, have been multiplied by a
*           factor 1.2 to account for pesticide mass incoming from the upstream catchment as decided by the FOCUS Surface Water
*           Scenarios Working Group.
*
*
```

```
*************************************************************************************************************************************
*  CREATED RUNS
*************************************************************************************************************************************
*
*                                                          |--------------- APPLICATION -----------------|----- on Water Surface -----|
* -ID------Crop(1st/2nd)-------Scenario-WaterbodyType-|-Method--------First/Last/Interval--#---Rate-|-Mean Deposition-Mass Loading
                                                                                (d)          (kg/ha) (% of Appl. Rate)    (mg/m2)
*
* 61    Potatoes(1st)            D3_Ditch              granular appl. 1-Apr /30-Jul/90     1  49.2000      0.000           0.000
*                                                                                        2  81.2000      0.000           0.000
*
* 62    Potatoes(1st)            D4_Pond               granular appl. 1-Apr /30-Jul/90     1  49.2000      0.000           0.000
*                                                                                        2  81.2000      0.000           0.000
*
* 63    Potatoes(1st)            D4_Stream             granular appl. 1-Apr /30-Jul/90     1  49.2000      0.000           0.000
*                                                                                        2  81.2000      0.000           0.000
*
* 64    Potatoes(1st)            D6_Ditch              granular appl. 1-Apr /30-Jul/90     1  49.2000      0.000           0.000
*                                                                                        2  81.2000      0.000           0.000
*
* 65    Potatoes(2nd)            D6_Ditch              granular appl. 1-Apr /30-Jul/90     1  49.2000      0.000           0.000
*                                                                                        2  81.2000      0.000           0.000
*
* 66    Potatoes(1st)            R1_Pond               granular appl. 1-Apr /30-Jul/90     1  49.2000      0.000           0.000
*                                                                                        2  81.2000      0.000           0.000
*
* 67    Potatoes(1st)            R1_Stream             granular appl. 1-Apr /30-Jul/90     1  49.2000      0.000           0.000
*                                                                                        2  81.2000      0.000           0.000
*
* 68    Potatoes(1st)            R2_Stream             granular appl. 1-Apr /30-Jul/90     1  49.2000      0.000           0.000
*                                                                                        2  81.2000      0.000           0.000
*
* 69    Potatoes(1st)            R3_Stream             granular appl. 1-Apr /30-Jul/90     1  49.2000      0.000           0.000
*                                                                                        2  81.2000      0.000           0.000
*
********************************************** Surface WAter Scenarios Help ********************************************
```

### 6.4 Ammonium, Vegetables (leafy), 47.3 kg/ha in may, 97.5 kg/ha in may/june, 97.5 kg/ha in august, 97.5 kg/ha in july

```
* SWASH report file
* made by FOCUS-SWASH UI v. 5 (internal version 5.1.0, 02 April 2015)
*
* File Name   : E:\SwashProjects\NH4\NH4_VEG\NH4_VEG_report.txt
* Description : Ammonium, Vegetables (leafy), 47.3 kg/ha in may, 97.5 kg/ha  in may/june, 97.5 kg/ha in august, 97.5 kg/ha in july
* Substance   : NH4
*
* Creation    : 09-Oct-2019, 16:54
*
* Remarks : SWASH report helps you to set up the needed runs to calculate the PECsw and PECsed, occuring in the EU
*           for the selected substance, used on the selected crop. The scenario code informs you which models you need to
*           run for this scenario.
*           D1-D6: drainage entries calculated by the MACRO model, fate in surface water calculated by the TOXSWA model
*
*           R1-R4: runoff and erosion entries calculated by the PRZM model, fate in surface water calculated by the TOXSWA model
*
*
*           For STREAMS the Mean Deposition and Mass Loading, as calculated by the FOCUS Drift Calculator, have been multiplied by a
*           factor 1.2 to account for pesticide mass incoming from the upstream catchment as decided by the FOCUS Surface Water
*           Scenarios Working Group.
*
*
```

```
*****************************************************************************************************************************************
*  CREATED RUNS
*****************************************************************************************************************************************
*
*                                                  |--------------- APPLICATION -----------------|----- on Water Surface -----|
* -ID------Crop(1st/2nd)-------Scenario-WaterbodyType-|-Method--------First/Last/Interval--#---Rate-|-Mean Deposition-Mass Loading
                                                                          (d)          (kg/ha) (% of Appl. Rate)    (mg/m2)
*
* 70    Vegetables, leafy(1st)   D3_Ditch              granular appl. 1-May /31-Aug/30     1  47.3000      0.000           0.000
*                                                                                          2  97.5000      0.000           0.000
*                                                                                          3  97.5000      0.000           0.000
*                                                                                          4  97.5000      0.000           0.000
*
* 71    Vegetables, leafy(2nd)   D3_Ditch              granular appl. 1-May /31-Aug/30     1  47.3000      0.000           0.000
*                                                                                          2  97.5000      0.000           0.000
*                                                                                          3  97.5000      0.000           0.000
*                                                                                          4  97.5000      0.000           0.000
*
* 72    Vegetables, leafy(1st)   D4_Pond               granular appl. 1-May /31-Aug/30     1  47.3000      0.000           0.000
*                                                                                          2  97.5000      0.000           0.000
*                                                                                          3  97.5000      0.000           0.000
*                                                                                          4  97.5000      0.000           0.000
*
* 73    Vegetables, leafy(1st)   D4_Stream             granular appl. 1-May /31-Aug/30     1  47.3000      0.000           0.000
*                                                                                          2  97.5000      0.000           0.000
*                                                                                          3  97.5000      0.000           0.000
*                                                                                          4  97.5000      0.000           0.000
*
* 74    Vegetables, leafy(1st)   D6_Ditch              granular appl. 1-May /31-Aug/30     1  47.3000      0.000           0.000
*                                                                                          2  97.5000      0.000           0.000
*                                                                                          3  97.5000      0.000           0.000
*                                                                                          4  97.5000      0.000           0.000
*
* 75    Vegetables, leafy(1st)   R1_Pond               granular appl. 1-May /31-Aug/30     1  47.3000      0.000           0.000
*                                                                                          2  97.5000      0.000           0.000
*                                                                                          3  97.5000      0.000           0.000
*                                                                                          4  97.5000      0.000           0.000
*
* 76    Vegetables, leafy(2nd)   R1_Pond               granular appl. 1-May /31-Aug/30     1  47.3000      0.000           0.000
*                                                                                          2  97.5000      0.000           0.000
*                                                                                          3  97.5000      0.000           0.000
*                                                                                          4  97.5000      0.000           0.000
```

```
*
* 77    Vegetables, leafy(1st)   R1_Stream            granular appl. 1-May /31-Aug/30     1  47.3000      0.000          0.000
*                                                                                        2  97.5000      0.000          0.000
*                                                                                        3  97.5000      0.000          0.000
*                                                                                        4  97.5000      0.000          0.000
*
* 78    Vegetables, leafy(2nd)   R1_Stream            granular appl. 1-May /31-Aug/30     1  47.3000      0.000          0.000
*                                                                                        2  97.5000      0.000          0.000
*                                                                                        3  97.5000      0.000          0.000
*                                                                                        4  97.5000      0.000          0.000
*
* 79    Vegetables, leafy(1st)   R2_Stream            granular appl. 1-May /31-Aug/30     1  47.3000      0.000          0.000
*                                                                                        2  97.5000      0.000          0.000
*                                                                                        3  97.5000      0.000          0.000
*                                                                                        4  97.5000      0.000          0.000
*
* 80    Vegetables, leafy(2nd)   R2_Stream            granular appl. 1-May /31-Aug/30     1  47.3000      0.000          0.000
*                                                                                        2  97.5000      0.000          0.000
*                                                                                        3  97.5000      0.000          0.000
*                                                                                        4  97.5000      0.000          0.000
*
* 81    Vegetables, leafy(1st)   R3_Stream            granular appl. 1-May /31-Aug/30     1  47.3000      0.000          0.000
*                                                                                        2  97.5000      0.000          0.000
*                                                                                        3  97.5000      0.000          0.000
*                                                                                        4  97.5000      0.000          0.000
*
* 82    Vegetables, leafy(2nd)   R3_Stream            granular appl. 1-May /31-Aug/30     1  47.3000      0.000          0.000
*                                                                                        2  97.5000      0.000          0.000
*                                                                                        3  97.5000      0.000          0.000
*                                                                                        4  97.5000      0.000          0.000
*
* 83    Vegetables, leafy(1st)   R4_Stream            granular appl. 1-May /31-Aug/30     1  47.3000      0.000          0.000
*                                                                                        2  97.5000      0.000          0.000
*                                                                                        3  97.5000      0.000          0.000
*                                                                                        4  97.5000      0.000          0.000
*
* 84    Vegetables, leafy(2nd)   R4_Stream            granular appl. 1-May /31-Aug/30     1  47.3000      0.000          0.000
*                                                                                        2  97.5000      0.000          0.000
*                                                                                        3  97.5000      0.000          0.000
*                                                                                        4  97.5000      0.000          0.000
*
********************************************** Surface WAter Scenarios Help **********************************************
```

### 6.5 Nitrate, Oil seed rape, 45 kg/ha in august/september

```
* SWASH report file
* made by FOCUS-SWASH UI v. 5 (internal version 5.1.0, 02 April 2015)
*
* File Name   : E:\SwashProjects\NO3\NO3_OSR1\NO3_OSR1_report.txt
* Description : Nitrat, Oil seed rape, 45 kg/ha in august/september
* Substance   : NO3
*
* Creation    : 09-Oct-2019, 16:55
*
* Remarks : SWASH report helps you to set up the needed runs to calculate the PECsw and PECsed, occuring in the EU
*           for the selected substance, used on the selected crop. The scenario code informs you which models you need to
*           run for this scenario.
*           D1-D6: drainage entries calculated by the MACRO model, fate in surface water calculated by the TOXSWA model
*
*           R1-R4: runoff and erosion entries calculated by the PRZM model, fate in surface water calculated by the TOXSWA model
*
*
*           For STREAMS the Mean Deposition and Mass Loading, as calculated by the FOCUS Drift Calculator, have been multiplied by a
*           factor 1.2 to account for pesticide mass incoming from the upstream catchment as decided by the FOCUS Surface Water
*           Scenarios Working Group.
*
*
```

```
*****************************************************************************************************************************************
*  CREATED RUNS
*****************************************************************************************************************************************
*
*                                                                |--------------- APPLICATION -----------------|----- on Water Surface -----|
* -ID------Crop(1st/2nd)-------Scenario-WaterbodyType-|-Method--------First/Last/Interval--#---Rate-|-Mean Deposition-Mass Loading
                                                                                          (d)          (kg/ha) (% of Appl. Rate)    (mg/m2)
*
* 139   Oil seed rape, winte(1st) D2_Ditch              granular appl. 1-Aug /30-Sep/1      1  45.0000      0.000           0.000
*
* 140   Oil seed rape, winte(1st) D2_Stream             granular appl. 1-Aug /30-Sep/1      1  45.0000      0.000           0.000
*
* 141   Oil seed rape, winte(1st) D3_Ditch              granular appl. 1-Aug /30-Sep/1      1  45.0000      0.000           0.000
*
* 142   Oil seed rape, winte(1st) D4_Pond               granular appl. 1-Aug /30-Sep/1      1  45.0000      0.000           0.000
*
* 143   Oil seed rape, winte(1st) D4_Stream             granular appl. 1-Aug /30-Sep/1      1  45.0000      0.000           0.000
*
* 144   Oil seed rape, winte(1st) D5_Pond               granular appl. 1-Aug /30-Sep/1      1  45.0000      0.000           0.000
*
* 145   Oil seed rape, winte(1st) D5_Stream             granular appl. 1-Aug /30-Sep/1      1  45.0000      0.000           0.000
*
* 146   Oil seed rape, winte(1st) R1_Pond               granular appl. 1-Aug /30-Sep/1      1  45.0000      0.000           0.000
*
* 147   Oil seed rape, winte(1st) R1_Stream             granular appl. 1-Aug /30-Sep/1      1  45.0000      0.000           0.000
*
* 148   Oil seed rape, winte(1st) R3_Stream             granular appl. 1-Aug /21-Oct/1      1  45.0000      0.000           0.000
*
********************************************** Surface WAter Scenarios Help **********************************************
```

### 6.6 Nitrate, Oil seed rape, 215.1 kg/ha in february/march, 258.7 kg/ha in april

```
* SWASH report file
* made by FOCUS-SWASH UI v. 5 (internal version 5.1.0, 02 April 2015)
*
* File Name   : E:\SwashProjects\NO3\NO3_OSR2\NO3_OSR2_report.txt
* Description : Nitrat, Oil seed rape, 215.1 kg/ha  in february/march, 258.7 kg/ha in april
* Substance   : NO3
*
* Creation    : 10-Oct-2019, 08:47
*
* Remarks : SWASH report helps you to set up the needed runs to calculate the PECsw and PECsed, occuring in the EU
*           for the selected substance, used on the selected crop. The scenario code informs you which models you need to
*           run for this scenario.
*           D1-D6: drainage entries calculated by the MACRO model, fate in surface water calculated by the TOXSWA model
*
*           R1-R4: runoff and erosion entries calculated by the PRZM model, fate in surface water calculated by the TOXSWA model
*
*
*           For STREAMS the Mean Deposition and Mass Loading, as calculated by the FOCUS Drift Calculator, have been multiplied by a
*           factor 1.2 to account for pesticide mass incoming from the upstream catchment as decided by the FOCUS Surface Water
*           Scenarios Working Group.
*
*
```

```
*****************************************************************************************************************************************
*  CREATED RUNS
*****************************************************************************************************************************************
*
*                                                                |--------------- APPLICATION -----------------|----- on Water Surface -----|
* -ID------Crop(1st/2nd)-------Scenario-WaterbodyType-|-Method--------First/Last/Interval--#---Rate-|-Mean Deposition-Mass Loading
                                                                                    (d)          (kg/ha) (% of Appl. Rate)    (mg/m2)
*
* 149   Oil seed rape, winte(1st) D2_Ditch              granular appl. 15-Feb/30-Apr/44     1  215.1000     0.000           0.000
*                                                                                        2  258.7000     0.000           0.000
*
* 150   Oil seed rape, winte(1st) D2_Stream             granular appl. 15-Feb/30-Apr/44     1  215.1000     0.000           0.000
*                                                                                        2  258.7000     0.000           0.000
*
* 151   Oil seed rape, winte(1st) D3_Ditch              granular appl. 15-Feb/30-Apr/44     1  215.1000     0.000           0.000
*                                                                                        2  258.7000     0.000           0.000
*
* 152   Oil seed rape, winte(1st) D4_Pond               granular appl. 15-Feb/30-Apr/44     1  215.1000     0.000           0.000
*                                                                                        2  258.7000     0.000           0.000
*
* 153   Oil seed rape, winte(1st) D4_Stream             granular appl. 15-Feb/30-Apr/44     1  215.1000     0.000           0.000
*                                                                                        2  258.7000     0.000           0.000
*
* 154   Oil seed rape, winte(1st) D5_Pond               granular appl. 15-Feb/30-Apr/44     1  215.1000     0.000           0.000
*                                                                                        2  258.7000     0.000           0.000
*
* 155   Oil seed rape, winte(1st) D5_Stream             granular appl. 15-Feb/30-Apr/44     1  215.1000     0.000           0.000
*                                                                                        2  258.7000     0.000           0.000
*
* 156   Oil seed rape, winte(1st) R1_Pond               granular appl. 15-Feb/30-Apr/44     1  215.1000     0.000           0.000
*                                                                                        2  258.7000     0.000           0.000
*
* 157   Oil seed rape, winte(1st) R1_Stream             granular appl. 15-Feb/30-Apr/44     1  215.1000     0.000           0.000
*                                                                                        2  258.7000     0.000           0.000
*
* 158   Oil seed rape, winte(1st) R3_Stream             granular appl. 15-Feb/30-Apr/44     1  215.1000     0.000           0.000
*                                                                                        2  258.7000     0.000           0.000
*
********************************************** Surface WAter Scenarios Help **********************************************
```

### 6.7 Nitrate, Potatoes, 273.1 kg/ha in begin of april, 279.8 kg/ha in end of june/begin of july

```
* SWASH report file
* made by FOCUS-SWASH UI v. 5 (internal version 5.1.0, 02 April 2015)
*
* File Name   : E:\SwashProjects\NO3\NO3_PO\NO3_PO_report.txt
* Description : Nitrat, Potatoes, 273.1 kg/ha in begin of april, 279.8 kg/ha  in end of june/begin of july
* Substance   : NO3
*
* Creation    : 09-Oct-2019, 16:55
*
* Remarks : SWASH report helps you to set up the needed runs to calculate the PECsw and PECsed, occuring in the EU
*           for the selected substance, used on the selected crop. The scenario code informs you which models you need to
*           run for this scenario.
*           D1-D6: drainage entries calculated by the MACRO model, fate in surface water calculated by the TOXSWA model
*
*           R1-R4: runoff and erosion entries calculated by the PRZM model, fate in surface water calculated by the TOXSWA model
*
*
*           For STREAMS the Mean Deposition and Mass Loading, as calculated by the FOCUS Drift Calculator, have been multiplied by a
*           factor 1.2 to account for pesticide mass incoming from the upstream catchment as decided by the FOCUS Surface Water
*           Scenarios Working Group.
*
*
```

```
*************************************************************************************************************************************
*  CREATED RUNS
*************************************************************************************************************************************
*
*                                                          |--------------- APPLICATION -----------------|----- on Water Surface -----|
* -ID------Crop(1st/2nd)-------Scenario-WaterbodyType-|-Method--------First/Last/Interval--#---Rate-|-Mean Deposition-Mass Loading
                                                                                  (d)          (kg/ha) (% of Appl. Rate)    (mg/m2)
*
* 95    Potatoes(1st)            D3_Ditch              granular appl. 1-Apr /30-Jul/90     1  273.1000     0.000           0.000
*                                                                                        2  279.8000     0.000           0.000
*
* 96    Potatoes(1st)            D4_Pond               granular appl. 1-Apr /30-Jul/90     1  273.1000     0.000           0.000
*                                                                                        2  279.8000     0.000           0.000
*
* 97    Potatoes(1st)            D4_Stream             granular appl. 1-Apr /30-Jul/90     1  273.1000     0.000           0.000
*                                                                                        2  279.8000     0.000           0.000
*
* 98    Potatoes(1st)            D6_Ditch              granular appl. 1-Apr /30-Jul/90     1  273.1000     0.000           0.000
*                                                                                        2  279.8000     0.000           0.000
*
* 99    Potatoes(2nd)            D6_Ditch              granular appl. 1-Apr /30-Jul/90     1  273.1000     0.000           0.000
*                                                                                        2  279.8000     0.000           0.000
*
* 100   Potatoes(1st)            R1_Pond               granular appl. 1-Apr /30-Jul/90     1  273.1000     0.000           0.000
*                                                                                        2  279.8000     0.000           0.000
*
* 101   Potatoes(1st)            R1_Stream             granular appl. 1-Apr /30-Jul/90     1  273.1000     0.000           0.000
*                                                                                        2  279.8000     0.000           0.000
*
* 102   Potatoes(1st)            R2_Stream             granular appl. 1-Apr /30-Jul/90     1  273.1000     0.000           0.000
*                                                                                        2  279.8000     0.000           0.000
*
* 103   Potatoes(1st)            R3_Stream             granular appl. 1-Apr /30-Jul/90     1  273.1000     0.000           0.000
*                                                                                        2  279.8000     0.000           0.000
*
********************************************** Surface WAter Scenarios Help ********************************************
```

### 6.8 Nitrate, Vegetables (leafy), 262.2 kg/ha in may, 335.7 kg/ha in may/june, 335.7 kg/ha in august, 335.7 kg/ha in july

```
* SWASH report file
* made by FOCUS-SWASH UI v. 5 (internal version 5.1.0, 02 April 2015)
*
* File Name   : E:\SwashProjects\NO3\NO3_VEG\NO3_VEG_report.txt
* Description : Nitrat, Vegetables (leafy), 262.2 kg/ha in may, 335.7 kg/ha  in may/june, 335.7 kg/ha in august, 335.7 kg/ha in july
* Substance   : NO3
*
* Creation    : 09-Oct-2019, 16:55
*
* Remarks : SWASH report helps you to set up the needed runs to calculate the PECsw and PECsed, occuring in the EU
*           for the selected substance, used on the selected crop. The scenario code informs you which models you need to
*           run for this scenario.
*           D1-D6: drainage entries calculated by the MACRO model, fate in surface water calculated by the TOXSWA model
*
*           R1-R4: runoff and erosion entries calculated by the PRZM model, fate in surface water calculated by the TOXSWA model
*
*
*           For STREAMS the Mean Deposition and Mass Loading, as calculated by the FOCUS Drift Calculator, have been multiplied by a
*           factor 1.2 to account for pesticide mass incoming from the upstream catchment as decided by the FOCUS Surface Water
*           Scenarios Working Group.
*
*
```

```
*****************************************************************************************************************************************
*  CREATED RUNS
*****************************************************************************************************************************************
*
*                                                                |--------------- APPLICATION -----------------|----- on Water Surface -----|
* -ID------Crop(1st/2nd)-------Scenario-WaterbodyType-|-Method--------First/Last/Interval--#---Rate-|-Mean Deposition-Mass Loading
                                                                                    (d)          (kg/ha) (% of Appl. Rate)    (mg/m2)
*
* 104   Vegetables, leafy(1st)   D3_Ditch              granular appl. 1-May /31-Aug/30     1  262.2000     0.000           0.000
*                                                                                          2  335.7000     0.000           0.000
*                                                                                          3  335.7000     0.000           0.000
*                                                                                          4  335.7000     0.000           0.000
*
* 105   Vegetables, leafy(2nd)   D3_Ditch              granular appl. 1-May /31-Aug/30     1  262.2000     0.000           0.000
*                                                                                          2  335.7000     0.000           0.000
*                                                                                          3  335.7000     0.000           0.000
*                                                                                          4  335.7000     0.000           0.000
*
* 106   Vegetables, leafy(1st)   D4_Pond               granular appl. 1-May /31-Aug/30     1  262.2000     0.000           0.000
*                                                                                          2  335.7000     0.000           0.000
*                                                                                          3  335.7000     0.000           0.000
*                                                                                          4  335.7000     0.000           0.000
*
* 107   Vegetables, leafy(1st)   D4_Stream             granular appl. 1-May /31-Aug/30     1  262.2000     0.000           0.000
*                                                                                          2  335.7000     0.000           0.000
*                                                                                          3  335.7000     0.000           0.000
*                                                                                          4  335.7000     0.000           0.000
*
* 108   Vegetables, leafy(1st)   D6_Ditch              granular appl. 1-May /31-Aug/30     1  262.2000     0.000           0.000
*                                                                                          2  335.7000     0.000           0.000
*                                                                                          3  335.7000     0.000           0.000
*                                                                                          4  335.7000     0.000           0.000
*
* 109   Vegetables, leafy(1st)   R1_Pond               granular appl. 1-May /31-Aug/30     1  262.2000     0.000           0.000
*                                                                                          2  335.7000     0.000           0.000
*                                                                                          3  335.7000     0.000           0.000
*                                                                                          4  335.7000     0.000           0.000
*
* 110   Vegetables, leafy(2nd)   R1_Pond               granular appl. 1-May /31-Aug/30     1  262.2000     0.000           0.000
*                                                                                          2  335.7000     0.000           0.000
*                                                                                          3  335.7000     0.000           0.000
*                                                                                          4  335.7000     0.000           0.000
```

```
*
* 111   Vegetables, leafy(1st)   R1_Stream            granular appl. 1-May /31-Aug/30     1  262.2000     0.000          0.000
*                                                                                        2  335.7000     0.000          0.000
*                                                                                        3  335.7000     0.000          0.000
*                                                                                        4  335.7000     0.000          0.000
*
* 112   Vegetables, leafy(2nd)   R1_Stream            granular appl. 1-May /31-Aug/30     1  262.2000     0.000          0.000
*                                                                                        2  335.7000     0.000          0.000
*                                                                                        3  335.7000     0.000          0.000
*                                                                                        4  335.7000     0.000          0.000
*
* 113   Vegetables, leafy(1st)   R2_Stream            granular appl. 1-May /31-Aug/30     1  262.2000     0.000          0.000
*                                                                                        2  335.7000     0.000          0.000
*                                                                                        3  335.7000     0.000          0.000
*                                                                                        4  335.7000     0.000          0.000
*
* 114   Vegetables, leafy(2nd)   R2_Stream            granular appl. 1-May /31-Aug/30     1  262.2000     0.000          0.000
*                                                                                        2  335.7000     0.000          0.000
*                                                                                        3  335.7000     0.000          0.000
*                                                                                        4  335.7000     0.000          0.000
*
* 115   Vegetables, leafy(1st)   R3_Stream            granular appl. 1-May /31-Aug/30     1  262.2000     0.000          0.000
*                                                                                        2  335.7000     0.000          0.000
*                                                                                        3  335.7000     0.000          0.000
*                                                                                        4  335.7000     0.000          0.000
*
* 116   Vegetables, leafy(2nd)   R3_Stream            granular appl. 1-May /31-Aug/30     1  262.2000     0.000          0.000
*                                                                                        2  335.7000     0.000          0.000
*                                                                                        3  335.7000     0.000          0.000
*                                                                                        4  335.7000     0.000          0.000
*
* 117   Vegetables, leafy(1st)   R4_Stream            granular appl. 1-May /31-Aug/30     1  262.2000     0.000          0.000
*                                                                                        2  335.7000     0.000          0.000
*                                                                                        3  335.7000     0.000          0.000
*                                                                                        4  335.7000     0.000          0.000
*
* 118   Vegetables, leafy(2nd)   R4_Stream            granular appl. 1-May /31-Aug/30     1  262.2000     0.000          0.000
*                                                                                        2  335.7000     0.000          0.000
*                                                                                        3  335.7000     0.000          0.000
*                                                                                        4  335.7000     0.000          0.000
*
********************************************** Surface WAter Scenarios Help **********************************************
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