**Inputs**

Sheets read:

|  |  |
| --- | --- |
| Inputs1- Farm location |  |
| Inputs3b- Soils & Rotations | steady state management |
| Inputs3d- Changes in rotations | forward run management |
| N constants |  |
| Crop parameters |  |
| Org Waste parameters |  |
| Weather |  |

**Variable naming convention used in PyOrator**

Important suffixes and prefixes:

|  |  |
| --- | --- |
| **prefix** | **meaning** |
| atmos\_ | atmospheric |
| c\_ | carbon |
| cow\_ | input of carbon from organic waste |
| dpth\_ | depth |
| ex\_ | extra as in extra organic waste |
| \_fc | field capacity |
| fert\_ | inorganic fertiliser |
| fwd | forward |
| inrt | inert |
| n2o | nitrous oxide |
| \_nitrif | nitrification |
| \_no | nitric oxide |
| no3 | nitrogen trioxide or nitrate radical |
| nut\_ | nutriment |
| ow\_ | organic waste |
| org\_ inorg\_ | organic inorganic |
| pcnt\_ | percentage |
|  |  |
| pi\_ | plant input |
| prop\_ | proportion |
| rat\_ | ratio |
| \_ss | steady state |
| t\_ | top soil |
|  |  |
| wc\_ | water content |
|  |  |
|  |  |

Additional variable naming conventions

|  |  |
| --- | --- |
| \_fwd | Forward run |
| \_ss | Steady state |
| pettmp | precipitation, PET, temperature |
| precip | precipitation |
| tair | temperature |

**Soil nitrogen**

Inputs of nitrate

* Atmospheric deposition
* Fertiliser inputs
* Nitrification

Losses of nitrate

* Immobilisation
* Leaching
* Denitrification
* Crop uptake

Inputs of ammonium

* Atmospheric deposition
* Fertiliser inputs
* Mineralisation

Losses of ammonium

* Immobilisation
* Nitrification
* Volatilisation

**Variable names used in PyOrator**

|  |  |  |
| --- | --- | --- |
| **variable** | **manual** | **description** |
| cow | 𝐶OW | Input of C from organic waste |
| rat\_dpm\_hum\_ow | 𝑝D:H,OW | Ratio of DPM:HUM in the active organic waste added |
| rat\_dpm\_rpm | 𝑝D:R,PI | Ratio of DPM:RPM in the plant inputs |