|  |  |  |
| --- | --- | --- |
| Column name  Where information is repeated for several layers or doses, just one is given here | translation | Units and explanation |
| n |  |  |
| Code\_postal | Postal code | Zip code of location |
| Libellé | Name | Location name |
| Longitude | Longitude |  |
| Latitude | latitude |  |
| Altitude | Altitude | m |
| Type\_de\_sol\_panoramix | Soil type: | Surface texture |
| Code\_sol\_de\_la\_base | Soil code |  |
| Nom\_Arvalis | Arvalis name for soil |  |
| Regime\_hydrique | Water regime;  1: rapid drainage: coarse structure or high porosity  2: favorable drainage: no risk of excess water below 90 cm | . |
| N\_Horizons | Number of soil layers |  |
| Epaisseur\_H1 | Thickness of layer 1 | cm |
| Hcc\_H1 | Gravimetric field capacity by layer in % | (g/100g) |
| HpFp\_H1 | Wilting point layer 1 | (g/100g) (pF 4.2) |
| Da\_terre\_fine\_H1 | Apparent density of soil layer 1 | kg/dm3 (=g/cm3) |
| RU\_par\_horizon\_H1 | Available water layer 1 | See formula below |
| Argile\_H1 | Clay layer 1 | % by weight (g/100g) |
| Limon\_fin\_H1 | Fine silt layer 1 | % by weight (g/100g) |
| Limon\_grossier\_H1 | Coarse silt layer 1 | % by weight (g/100g) |
| Sable\_fin\_H1 | Fine sand layer 1 | % by weight (g/100g) |
| Sable\_grossier\_H1 | Coarse sand layer 1 | % by weight (g/100g) |
| Argile\_Sans\_CaCO3\_H1 | Clay without CaCO3 layer 1 | % by weight (g/100g). 0 means missing data. |
| Limon\_fin\_Sans\_CaCO3\_H1 | Fine silt without CaCO3 layer 1 | % by weight (g/100g) 0 means missing data. |
| Limon\_grossier\_Sans\_CaCO3\_H1 | Coarse silt without CaCO3 layer 1 | % by weight (g/100g) 0 means missing data. |
| Sable\_fin\_Sans\_CaCO3\_H1 | Fine sand without CaCO3 layer 1 | % by weight (g/100g) 0 means missing data. |
| Sable\_grossier\_Sans\_CaCO3\_H1 | Coarse sand without CaCO3 layer 1 | % by weight (g/100g) 0 means missing data. |
| CaCO3\_\_total\_H1 | Total CaCO3 layer 1 | % by weight (g/100g) 0 means missing data. |
| Matiere\_Organique\_H1 | Organic matter layer 1 | % by weight (g/100g) |
| Cailloux\_H1 | Stones layer 1 | % vol |
| Cailloux\_Dimension\_H1 | Stone size layer 1 | cm |
| pH\_eau\_H1 | Water pH layer 1 |  |
| Etat\_initial\_réserve | Initial available soil water | Ignore this value! |
| Réserve\_utile par horizon H1 | Available soil water layer 1, volumetric | See formula below. mm |
| Station\_locale | Local station | code |
| Station\_historique | Historic station | code |
| Protocole | Protocol | code |
| Essai | Experiment code | code |
| Année\_Récolte | Harvest year | YYYY |
| Espèce | Species |  |
| Variété | Variety |  |
| Date\_Semis | Sowing date | DD/MM/YYYY |
| Densité\_Semis | Sowing density | Number of grains/m² |
| Date\_observée\_Epi\_1cm | Date observed stem 1 cm | This is stage BBCH30 (beginning of stem elongation) |
| Date\_observée\_Epiaison | Date observed heading | This is stage BBCH55 (50% heading) |
| Nombre\_Fertilisation\_azotée | Number of fertilizer doses | Number of fertilizer applications |
| Dose\_totale\_Fertilisation\_azotée | Total amount of fertilizer | kg N/ha |
| Date\_1\_Fertilisation\_azotée | Date of first dose | DD/MM/YYYY |
| Dose\_1\_Fertilisation\_azotée | Amount of first dose | kg N/ha |
| Produit\_1\_Fertilisation\_azotée | Product, first dose | See details below |
| Nombre\_Irrigation | Number of irrigations | Number of irrigations |
| Dose\_totale\_Irrigation | Total amount of water for irrigation | mm |
| Date\_1\_Irrigation | Date of first irrigation | DD/MM/YYYY |
| Dose\_1\_Irrigation | Amount of first irrigation | mm |

Sowing depth : About 3 cm

Fertilizer products :

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| product | Formula | %N | %P | %K | %S |  |
| Ammonitrate | NH4NO3 | 33.5 |  |  |  |  |
| Solution azotée (urea) | CO(NH2)2 | 46 |  |  |  |  |
| 18\_46 (Di-Ammonium Phosphate DAP) | (NH4)2HPO2 | 18 | 46 |  |  |  |

Irrigation method : sprinkler (in French, water canon).

Formula for available water (mm water in each soil layer)

**RU = (Hcc tf – HpFp tf) \* Da tf \* % Vol tf \* E)+ (Hcc cx – HpFp cx) \* Da cx \* % Vol**

**cx \* E)**

**RU** : Available water in cm3 water/cm3 soil \*100

**Hcc tf** : Field capacity of fine soil g/100g

**HpFp tf** : Wilting point of fine soil g/100g

**Hcc cx** : Field capacity of stones g/100g

**HpFp cx** : Wilting point of stones g/100g

**Da tf** : Apparent density of fine soil

**Da cx** : Apparent density of stones g/cm3

**% Vol tf** : Fraction of volume that is fine soil (value between 0 and 1)

**% Vol cx** : Fraction of volume that is stones (value between 0 and 1))

**E** : Depth of the layer in cm

**Initial values of soil water and Nitrogen**

No measurements are available. Please use following approximations:

Soil water: Start on August 1. At that date, soil layer 1 is dry (0 water) and all other layers are at permanent wilting point. That is about harvest time of previous wheat, in summer when soil is dry.

Soil Nitrogen : 35kg/ha at time of sowing

**To make the connection between site and weather file :**

Use latitude and longitude, which are given in both the site file and the weather file