**AgContext Schema Categories**

Define useful terms for categorising/grouping/searching the database.

**Crop Growth Stage**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | Growth stage | | | | | | | | | |
| **BBCH Descriptive Text\*** |  | Germination, sprouting, bud development | Leaf development | Formation of side shoots, tillering | Stem elongation, rosette growth, shoot development | Development of harvestable vegetative parts, bolting | Inflorescence emergence, heading | Flowering | Development of fruit | Ripening or maturity of fruit and seed | Senescence, beginning of dormancy |
| BBCH\* |  | GS00 - 09 | GS10 - 19 | GS20 - 29 | GS30 - 39 | GS40 – 49 | GS50 - 59 | GS60 - 69 | GS70 - 79 | GS80 - 89 | GS90 - 99 |
| **Grains Descriptive Text\*** |  | Emergence | Seedling | Tillering | Stem elongation | Booting | Ear emergence | Flowering | Milky dough | Dough | Ripening |
|  | Variety |  |  |  |  |  |  |  |  |  |  |
| **Crop** | | | | | | | | | | | |
| *Cereals* | | | | | | | | | | | |
| Wheat |  |  |  |  |  |  |  |  |  |  |  |
| Barley |  |  |  |  |  |  |  |  |  |  |  |
| Oats |  |  |  |  |  |  |  |  |  |  |  |
| Triticale |  |  |  |  |  |  |  |  |  |  |  |
| Cereal rye |  |  |  |  |  |  |  |  |  |  |  |
| Sorghum |  |  |  |  |  |  |  |  |  |  |  |
| Rice |  |  |  |  |  |  |  |  |  |  |  |
| *Grain Legume* | | | | | | | | | | | |
| Lupins |  |  |  |  |  |  |  |  |  |  |  |
| Chickpeas |  |  |  |  |  |  |  |  |  |  |  |
| Lentils |  |  |  |  |  |  |  |  |  |  |  |
| Field peas |  |  |  |  |  |  |  |  |  |  |  |
| Faba beans |  |  |  |  |  |  |  |  |  |  |  |
| Mung beans |  |  |  |  |  |  |  |  |  |  |  |
| *Oil seeds* | | | | | | | | | | | |
| Canola |  |  |  |  |  |  |  |  |  |  |  |
| Mustard |  |  |  |  |  |  |  |  |  |  |  |
| Flax  Flax council of Canada  <https://flaxcouncil.ca/growing-flax/chapters/growth-and-development/> |  |  |  |  |  |  |  |  |  |  |  |
| Linseed |  |  |  |  |  |  |  |  |  |  |  |
| Safflower |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
| *Other crops* | | | | | | | | | | | |
| Cotton |  |  |  |  |  |  |  |  |  |  |  |
| Weed-only1 |  |  |  |  |  |  |  |  |  |  |  |
| *Horticulture2* | | | | | | | | | | | |
| Carrots |  |  |  |  |  |  |  |  |  |  |  |
| \* These three lines could all map to the same input – i.e. for this project have the cereals descriptive text, but behind it have the BBCH code and BBCH text as well.  1 Weed-only/non-crop situations like the Kaggle dataset, bccr-segset and DeepWeeds would be in this category, with the weeds labelled using growth stages above.  2Horticulture is probably out of scope for this project (though Carrots have been included because of the open source Dyrmann dataset) | | | | | | | | | | | |

**Background**

There are two aspects to the background:

1. Surface covering,
2. Soil

The surface covering includes previous crop, artificial coverings and woodchips. It requires a surface covering percentage. The soil defined by its colour using higher level terms from the Munsell colour charts, it is assumed that whatever isn’t covered by the surface covering is soil.

|  |  |  |
| --- | --- | --- |
| **Background** |  |  |
| Surface covering | This then has type/coverage as below |  |
| Soil | Colour/texture as below |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Soil** | *Texture* | | | |
| *Colour* | Smooth | Cultivated/uneven | Gravel/stone | Not visible |
| Not visible |  |  |  |  |
| Black |  |  |  |  |
| Dark-brown |  |  |  |  |
| Brown |  |  |  |  |
| Red-Brown |  |  |  |  |
| Dark-red |  |  |  |  |
| Yellow |  |  |  |  |
| Pale yellow |  |  |  |  |
| White |  |  |  |  |
| Grey |  |  |  |  |
| *Colour reference:* | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Surface Covering** | *Surface coverage (%)* | | | |
| *Type* | 0 – 25% | 25-50 | 50-75 | 75-100 |
| Cereal |  |  |  |  |
| Oilseed |  |  |  |  |
| Legume |  |  |  |  |
| Cotton |  |  |  |  |
| Black plastic |  |  |  |  |
| White plastic |  |  |  |  |
| Woodchips |  |  |  |  |
| Other |  |  |  |  |