Calibration activity Phase 4

Protocol Description File for French Dataset

**Table 1. Default variety characteristics**

Description of cultivar that measurements refer to, and explanation of choice of default parameter values.

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| Cultivar | Characteristics |
| Cultivar of measurements: Apache | A soft winter wheat. Stem elongation – semi-early. Heading – early. Vernalization requires 40 days where full vernalization occurs if daily average temperature is between 3°C and 10°C. There is no vernalization below -4°C or above 17°C. Otherwise there is a proportional reduction |
| Cultivar used to provide default parameter values: | Soissons (variety already calibrated in Stics which seems to be close to Apache in terms of vernalization requirements and earliness).  Changes w.r.t. values defined for Soissons variety in the wheat parameter file distributed with the STICS version used:   * The stressdev parameter (maximum phasic delay allowed due to stresses) is set to 0 by default since water and nitrogen stresses are not supposed to impact the stages simulated in this exercise. * The option code to compute the harvest index has been moved to “2 = proportional to thermal time” instead of “1 = proportional to days“ by default for the Soissons cultivar. * stlevdrp (cumulative thermal time between the stages LEV (emergence) and DRP (starting date of filling of harvested organs) ) was dynamically computed and set equal to 120+stlevamf+stamflax, i.e. supposed to be 120 °-d later than stage "maximum leaf area index", as computed in average on an internal dataset of phenological stages for a large set of Wheat cultivars, as the DRP stage is not observed. * efcroijuv, the maximum radiation use efficiency during the juvenile phase was dynamically computed and set equal to 0.5\*efcroiveg, where efcroiveg is the maximum radiation use efficiency during the vegetative stage, following Brisson et al. 2009.   All the other parameters have been kept to their values as defined for this cultivar in the standard plant file for wheat delivered with the STICS model v8.5. |