Calibration activity Phase 2 CSIRO (data from Australia)

Additional information about the experiments that might be helpful to some groups:

This variety is a spring wheat, but it does have some degree of vernalisation requirement.

The data are results of 2 or 3 replicates. The coefficient of variation (sd/mean\*100) averaged over all measurements was about 2%. This does not include uncertainty due to interpolation.

Initial soil water and nitrate values are for the day before the earliest sowing date. Initial soil water was measured in some environments, estimated in others. The estimated values are cells highlighted yellow and values in red. For soil layers that have no initial water or nitrate values, please just copy the value from the last soil layer that has a value.

WheatLL is the lower limit of water extraction of wheat on the particular soil (field measured).  WheatLL, is the soil moisture measured at harvest under a rainfall exclusion tent that was erected at anthesis.

LL15 is the water content at 15 bars for each soil layer and was estimated from the measured wheat lower limit (WheatLL) in the top 60 cm for all the soils.

DUL=drained upper limit; SAT=saturated water content; OC=organic carbon % weight

Note that wheatLL= DUL for Turretfield layer5. This is not an error.  It means that wheat cannot extract any soil water at this depth; maximum potential rooting depth was 90cm.

pan=daily Class A pan evaporation for the 24 hours from 9am on the date listed; vp=vapour pressure at 9am on date listed.

Information about stone content was not regularly collected, and so estimates would not be reliable. Stones and Mallee roots were occasionally reported at various depths in Walpeup. Other than Corrigin, the other sites were relatively free of stones. For Corrigin, the soil description says “Gradational duplex soil: Sand to 30-50 cm, clay, or sandy clay loam between 40-70 cm, gravel clay or gravel sandy clay loam below 60cm.”

Lake Bolac flooded in 2010 and there was considerable sprouting damage reported at harvest. Also in 2011, there was water in excess of DUL at depths of 60cm and below so it could be that we had some waterlogging in 2011 as well. The major problem with that site is that it had a lot of herbicide resistant ryegrass which could not be controlled and was probably responsible for 0.5 t/ha or more yield penalty.