

## WISP Landrace Pillar 2015 Toolkit

### **JIC WISP NILs Cohort 1 (BC3 equivalent)**

The main prebreeding output of the WISP landrace pillar is Near Isogenic Lines in the genetic background of Paragon. They were developed through two marker assisted backcrosses which started off with a RIL from the respective Paragon x Watkins landrace population. So the NILs carrying Watkins alleles will carry ~ 87% Paragon background. This is the first cohort of landrace derived NILs from WISP. This is why the emphasis is on height and heading as the QTL analysis to inform the choices were based on data from the first season of WISP at JIC. However, the first year of assessment of the NILs (14-15) gave us some encouragement that landrace alleles might carry agronomic benefit and we encourage you to assess these materials.

Contained in the package are 109 lines material comprising of 9 parental donors, 44 Watkins allele carrying lines and 55 Paragon counterparts. Data from the lines carrying the Paragon allele is useful as it provides the best estimate of the Watkins allele effect. In addition all of these lines carry random Watkins background. If you identify interesting traits that might be interesting for breeding purposes, the genotyping group (Bristol) would be happy to genotype these lines to specifically show what background is present.

Loci covered are on chromosomes 1B, 2D, 3A, 5A (x2) and 6A for ear emergence, 5A, 6A (x2) and 7B for height and 2D for Grain Yield.

Attached is a spreadsheet showing the material and also data showing performance in field trials for ear emergence, height and yield. The trial was a one rep 1x1m trial with each plot derived from a single genotyped precisely bulked glasshouse plant.

The seed packages in the box are split for two carrying Watkins allele material and 2 carrying Paragon allele material.