

USTN Analysis 2017

The following statistics were computed for the combined analysis (Conventional Tests):

Mean: Least squares mean for the test.

Lsd(.05): Least significant difference with alpha of 0.05 (probability of observing a larger difference between two hybrids with exactly the same mean is 0.05).

Lsd(.25): Least significant difference with alpha of 0.25 (probability of observing a larger difference between two hybrids with exactly the same mean is 0.25).

Df: error degrees of freedom used for computing LSD. Error degrees of freedom were computed using Satterthwaite approximation to account for unbalanced data (from discarded observations) and variation in environment-specific error variances.

Cv: Coefficient of variation on a mean basis. Computed as square root of residual variance divided by the mean. The standard deviation for the test was computed by averaging the error variances across locations and taking the square root of the average error variance (this average error variance is an approximate pooled error variance that ignores differences in degrees of freedom among locations).

R²-plot: Repeatability computed on a plot-basis. Repeatability is the proportion of variance due to treatment variation (hybrids). The plot-basis repeatability is equal to the variance of hybrid means (varline) divided by the total variance of plot-values (hybrid variance plus genotype by environment variance plus error variance, varline+vargxe+resid).

R²-blup: Repeatability of the blup estimate (mean-basis): The repeatability of the blup estimate is the proportion of variance in mean estimators that is due to treatment variation. The repeatability of the blup estimator is equal to the variance of hybrid means (varline) divided by the variance of hybrid means plus the variance of hybrid mean prediction errors (variance of the prediction error of the hybrid blup estimator).

Varline: variance of hybrid means

Vargxe: variance of hybrid by location interaction.

Residual: Error variance (in combined analysis, this is the average error variance across locations).

The following statistics were computed for the single location analysis (Organic Tests):

Mean: Least squares mean for the location.

Lsd(.05): Least significant difference with alpha of 0.05 (probability of observing a larger difference between two hybrids with exactly the same mean is 0.05).

Lsd(.25): Least significant difference with alpha of 0.25 (probability of observing a larger difference between two hybrids with exactly the same mean is 0.25).

Df: error degrees of freedom used for computing LSD. Error degrees of freedom were computed using Satterthwaite approximation to account for unbalanced data (from discarded observations) and variation in environment-specific error variances.

Cv: Coefficient of variation on a mean basis. Computed as square root of residual variance divided by the mean.

R²-plot: Repeatability computed on a plot-basis. Repeatability is the proportion of variance due to treatment variation (hybrids). The plot-basis repeatability is equal to the variance of hybrid means (varline) divided by the total variance of plot-values (hybrid variance plus error variance, varline+resid). plus the variance of hybrid mean prediction errors (variance of the prediction error of the hybrid blup estimator).

Varline: variance of hybrid means

Residual: Error variance