

Purposes:

1. Provide students with an example of how to estimate general and specific combining ability for North Carolina Design II.
2. Provide students with an example of how to estimate variance component for North Carolina Design II.

Goals:

1. Estimate General Combining Ability and Specific Combining Ability using North Carolina Design II.
2. Demonstrate ability to calculate variance components.

Reference:

<https://rdr.io/rforge/plantbreeding>

ALA: General and Specific Combining Ability - North Carolina Design II

1. Given the data set "QG\_Mod8\_ALA8.3\_ds1.csv", estimate the General Combining Ability, Specific Combining Ability, and variance components for yield using the R script provided.
2. Simulate data for yield (or any trait measured) assuming the crosses generated for any one scenario in ALA 8.2 were replicated two times and evaluated under drought conditions in two locations. Name the new dataset QG\_Mod8\_ALA8.3\_ds2.csv.
3. With the new data set, perform the analysis of variance (ANOVA) for the North Carolina Design II and compute estimates of the variance components.