

## QUANTITATIVE GENETICS

Purpose:

Demonstrate how to design crosses using North Carolina Design II.

Goal:

Develop skill in planning crosses to estimate General Combining Ability and Specific Combining Ability using North Carolina Design II.

ALA: Designing Crosses Using the North Carolina II Design

From a maize hybrid breeding programme targeting the Sahel of West Africa you have decided to use the North Carolina Design II with sets to obtain information on the general and specific combining ability among 24 inbred lines and their crosses.

1. Determine the number of crosses you would obtain if you were to use the North Carolina Design II with sets. How many sets would be needed?
2. What is the possible number of crosses generated for the design? Discuss different possible scenarios.