Evaluation of grain yield and yield components in maize using diallel crosses

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Introduction

The objective of this research is to evaluate the performance of grain yield and yield components in maize using diallel crosses, with the aim of identifying superior parental lines for future breeding programs.

Materials and Methods

The research was conducted at the experimental station of the National Maize Breeding Center, using a factorial diallel cross design. The parents consisted of 10 maize inbreds, selected for high grain yield and good earliness. The crosses were made in a complete diallel scheme, with each inbred crossed with every other inbred.

Results and Discussion

The results showed that the grain yield of the hybrids varied significantly depending on the parental combination. The highest grain yield was obtained from the cross of inbred A with inbred B, while the lowest yield was observed in the cross of inbred C with inbred D. Similar trends were observed for the other yield components, such as number of ears per plant, number of grains per ear, and 1000-grain weight.

Conclusion

The results of this study indicate the potential of using diallel crosses for identifying superior parental lines for maize breeding. Further research is needed to thoroughly evaluate the performance of the hybrids and to identify the genetic basis for the observed differences.

References

