HETEROSIS IN SWAZI-BRED MAIZE HYBRIDS: THE 1993 AND 1994 TEST HYBRIDS

R. C. Kuhn

ABSTRACT

Maize is the staple food crop of Swaziland and most farmers use hybrid cultivars, but there are no locally developed and controlled maize hybrid cultivars. A small scale maize breeding project was started in 1986 to develop local cultivars. Inbred lines have been developed, mostly from local and International Maize and Wheat Improvement Centre (CIMMYT) open pollinated cultivars. Single cross test hybrids made in 1993 among these inbred lines (mostly S3 and S4 lines) were yield tested in two replications with parental and commercial checks in the 1993/94 and 1994/95 growing seasons in 6 x 6 lattice designs at the University of Swaziland, Luyengo Campus. The 1994/95 trial also included single cross test hybrids made in 1994. Trial mean grain yield was 5.5 Mg/ha in 1993/94 and 4.8 Mg/ha in 1994/95. The top yielder was a test hybrid in both growing seasons, TH9308 was the second highest yielder in 1994; and one other test hybrid, TH9319, was among the top 10 yielders in both trials. TH9319 was among the top 10 yielders in both trials. TH9308 and TH9401 both resulted from CIMMYT X Local single crosses. Thus, this breeding project has identified high yielding locally developed hybrids that appear to be stable for Luyengo. However, if Swaziland wants sustained development of local cultivars it will need to start a full scale national maize breeding program.

---

1Faculty of Agriculture, University of Swaziland, Private Bag Luyengo, Luyengo M205, Swaziland.