

THE JOHN INNES HORTICULTURAL INSTITUTION
Hertford, England

The races of maize found in the West Indies have been described and discussed by W. L. Brown (Trop. Agric. 1953). It has been known since the pioneer work of Alfred Russell Wallace that island life presents special evolutionary features. Hence the maize races of the West Indian islands afford the geneticist interested in the scientific basis of the evolution and selection in cultivated plants, an opportunity of testing a number of hypotheses.

For instance, in the West Indies it is possible that gradual inbreeding has been accompanied by selection for general plant vigour; although the races are comparatively more inbred than usual for open-pollinated maize varieties found elsewhere, their vitality complex, so named by Harland, is undiminished. If the foundation of a race has depended on a limited number of parents then the amount of variation later released will be limited.

A preliminary examination of the genetics of these populations indicates that they may have been derived by methods involving closer inbreeding than is normally the case in open pollinated species.

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I. A population study in the northwestern corner of Minnesota.

Four recommended hybrids with relative maturities of 80 days or less were tested in the A. E. S. 100 area of Minnesota at population rates ranging from fourteen thousand to twenty-four thousand plant per acre.

	I	II	III	IV	V	VI
Approximate Population	14,000	16,000	18,000	20,000	22,000	24,000
Rate in 36" Rows	2/25"	2/21½"	3/29"	2/17½"	3/24"	2/14½"
Avg. yield Bu./Acre	82	88	87	95	94	102
Moisture % at Harvest	17.7	17.9	18.6	17.6	18.4	18.0