

WESTERN REGION DEPARTMENT OF AGRICULTURE
AND NATURAL RESOURCES
Ibadan, Nigeria

1. Maize breeding program.

The present program of maize breeding in the Western Region of Nigeria began in March, 1958, as a result of a cooperative scheme between the Western Region and ICA.

Observation and limited trials of local maize types grown by farmers of the Region indicate that these types are low in productivity, yielding up to 1 ton of dry grain per acre. Among the factors which appear to be responsible for low yields are (1) low soil fertility, (2) losses due to disease or insect damage, and (3) inherent inability to produce high yields even when grown under favorable conditions. The principal diseases of maize in this area are rust caused by Puccinia polyscra, and various leaf blights caused by Helminthosporium turcicum, H. carbonum and Cochliobolus heterostrophus. Insect damage to the growing crop is due chiefly to stalk borers, Agrotidae, whose life cycle is similar to that of the European corn borer, Pyrausta nubilalis.

Trials of more than 600 West African maize collections are being grown at Ibadan. In addition, 78 seed introductions have been received through the kindness of the Rockefeller Foundation centers in Mexico and Colombia, the University of the Philippines, and the United States Department of Agriculture. The 43 South American acquisitions were requested on the basis of their respective origins from latitudes and altitudes similar to those of the maize growing areas of Western Nigeria. Some of these acquisitions originated in areas of high rainfall; these are being put in trials in Delta Province near the mouth of the Niger River, where the rainfall is high during the growing seasons. Small seed samples from most introductions are being grown during the dry season (Dec. - Mar.) under irrigation for seed increase to permit the growing of replicated trials in the First Season (Mar. - July). Two of the Mexican introductions have shown promise as open-pollinated varieties in both the First and Second Seasons, 1958. It is questionable whether the development of hybrid maize adapted to this area is feasible at present. There is no agency for regulating the production of crop seeds, and there is a shortage of native personnel who are qualified to undertake the necessary rigid inspection and control of hybrid maize seed production. However, some Philippine hybrids are being assessed for this area. Also, a considerable program of inbreeding is now in progress, which may be useful first for varietal improvement and for synthetics, but some of the inbreds may be useful for the development of adapted hybrids when the need arises.

Arnold A. Wellwood