

crossover probability were 0.09, 0.12 and 0.16. From the F<sub>3</sub> generation from selfing crosses of (Rpp<sub>1</sub> X Rpp<sub>2</sub>) X susceptibles, lines were selected that were pure for both genes together.

## 2. Field breeding for resistance to P. polysora.

Colleagues on field stations in East Africa, using our pure resistant lines crossed and back-crossed to adapted local maizes, have developed, and brought into production, lines homozygous for either Rpp<sub>1</sub> or Rpp<sub>2</sub>. In general these new lines are as productive as the old in the absence of P. polysora and greatly superior in its presence.

No evidence has as yet been obtained that any race of P. polysora other than EA.1 is prevalent in the field; consequently genes Rpp<sub>1</sub> and Rpp<sub>2</sub> are proving equally effective (although Rpp<sub>1</sub> would become ineffective if EA.2 appeared).

H. H. Storey

A. K. Howland

EASTERN STATES FARMERS' EXCHANGE  
West Springfield, Mass.

## 1. Preliminary observations of three types of leaf necrosis which appear to be simply inherited.

a. The field corn inbred line Q83 consistently exhibits a characteristic interveinal leaf necrosis. This condition has been observed on all plants of the line at many locations in the Northeast and in southern Florida for many years. F<sub>1</sub> progeny of Q83 x + do not show the condition.

b. The sweet corn inbred Iowa 5125B consistently exhibits a characteristic large circular necrotic area on the leaves, several times the size of typical H. turcicum lesions. All plants of the line are affected; the condition has been observed for a number of years in many locations across the northern United States.

During the course of routine selfing of Iowa 5125B two sister lines, differing by only two generations, were evolved. One of these, R43-9-1-2-1-2-1-1 has proved free of the leaf necrosis, while the other R43-9-1-2-1-2-2-2 remains typical of the original line. F<sub>1</sub> progeny of Iowa 5125B x + do not show the condition. The cross between the sister lines was made last year.