

10. Vivipary induced by a fungus.

Several years ago while studying the comparative ear rotting effect of different isolate strains of Diplodia maydis, we noted that two isolates obtained from Dr. Arthur L. Hooker of the University of Illinois produced premature germination (vivipary) of kernels on the diseased ears. In 1967 a replicated experiment was conducted with five isolate strains including the original two isolate strains that induced vivipary. Inoculum laden toothpicks were inserted in the center of each ear of the single cross K4XB2, approximately 20 days after 50% of the plants had silked. At harvest it was found that ears inoculated with the two isolates exhibited 100% vivipary. The strains inducing vivipary also were milder in their attack on these ears. Kernels which germinated were located in the region of recent infection, but not where infection had already destroyed the kernels. We suspect that the two isolates may synthesize some hormone or enzyme which breaks the normal dormancy of the embryo.

M. S. Zuber
O. H. Calvert
M. G. Neuffer

NATIONAL COLONIAL FARM
Accokeek, Maryland

1. The National Colonial Farm.

The National Colonial Farm is destined to become a working colonial farm of about the period 1750, with crops and livestock of the period. Since maize was an important colonial crop it will be one of the main crops of the colonial farm. Items regarding maize grown at the Farm appear below.

2. Reconstitution of Dent corn.

Virginia Gourd seed and Northern Flint varieties are being grown in an attempt to reconstitute by crossing and selection the Dent types grown so widely. Fortunately we were able to obtain Virginia Gourd seed from Dr. William Brown at the Pioneer HiBred Seed Company, and the Northern Flints from the Cornstock-Ferre Seed Company in Wethersfield, Connecticut.

3. A reconstituted Golden Bantam Sweet Corn.

Crosses of Black Mexican sweet corn and Canada Flint are expected to produce a yellow sweet corn similar to the old 8 Row Golden Bantam.

4. Gaspé Flint--world's earliest corn?

In 1966 we obtained seed of Gaspé Flint from Dr. Robert I. Brawn, MacDonald College, Quebec. Plants from an August 2 sowing produced pollen on August 27, just 25 days after putting dry seed in the ground. The F_1 plants between this Flint and Virginia Gourdseed were much nearer the Gaspé than the Gourdseed in maturity. This study is being continued. Efforts will be made to obtain F_2 plants comparable in maturity to Gaspé Flint.