

Helminthosporium turcicum is probably the major leaf disease. However, with the rapid maturation of the seed the disease may even work to advantage in assisting the drying of the plant. In any case the seed germination has been good in all plants if the only disease was H. turcicum regardless of severity. The only times difficulties have been encountered in seed germination have been when maturity corresponds to the summer, high rainfall months and premature sprouting of kernels occurs. This difficulty is reduced by husking the ears on the plants before maturity to assist drying and eliminate the water holding of the husks.

Many of the more serious problems associated with corn culture occur in the summer months. In the fall and winter plantings good seed with over 90% germination is now fairly routine. Pigment development in the aleurone is excellent except in heavily diseased ears even in the ears that matured 79 days after planting. Puerto Rico should be considered as a possible location for winter nurseries of experimental breeding and genetic programs.

Duane B. Linden

PURDUE UNIVERSITY
Lafayette, Indiana
Department of Agronomy

1. New pale green and virescent genes on chromosome 3.

A pale green mutant and a virescent mutant were found segregating in progenies of intercrossed foreign introductions. The expressions are variable in both cases but classification is good. The pale green remains as such throughout its life cycle. A normal color is restored in the virescent in early seedling stage.

The mutants were crossed to a series of waxy-marked translocations involving all chromosomes and F₂ waxy and starchy seeds were examined separately. An association was indicated between each mutant gene and translocations involving chromosome 3. The data from the pale green are as follows: starchy seeds gave 268 normals: 74 pale greens; waxy seeds gave 81 normals: 14 pale greens. The data from the virescent are as follows: starchy seeds gave 125 normals: 71 virescents; waxy seeds gave 38 normals: 0 virescents.

These data indicate that both mutant genes are located on chromosome 3. Tentative designations of pale green-774 and virescent-686 were assigned. Further studies are foreseen in order to determine more precise locations.

Leo A. Duclos