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1. Cytoplasmic susceptibility to Helminthosporium maydis in the U.S.

In 1970, southern corn blight caused by Helminthosporium maydis developed to a major disease of the U.S. corn crop. This was due to the appearance and widespread distribution of a new race of H. maydis which has been named race T.

Race T is unique in that it produces a pathotoxin that is highly specific for the T cms (Texas) cytoplasm widely used in seed production in the U.S. Race T reproduces rapidly and attacks the leaf, leaf sheath, husk, shank, ear, seedling, and sometimes stalk tissue of the plant. It spread from Florida west to Texas and north to Canada during the summer of 1970.

All "normal" cytoplasms (not male-sterile) are resistant to race T. The same is true for the S cms, C cms, and a number of other cytoplasms for male-sterility. The same nuclear genes for resistance to the old race O of H. maydis condition partial resistance to race T when interacting with T cms cytoplasm.

With the exception of symptom expression, the U.S. situation is similar to the experience in the Philippine Islands reported in 1961 and subsequent years.

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1. The use of monosomy to detect genes altering recombination in *Zea mays*.*

The r_{x-1} deficiency in maize induces an extremely high frequency of monosomes in *Zea mays* (Satyanarayana, unpublished). With this system, I have obtained at least three confirmed cases of monosomy for 8 of the

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