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1. Reaction of monogenic resistance of Lady Finger popcorn to the natural infection of Helminthosporium turcicum observed in Kulu Valley, India.

Northern leaf blight disease of maize caused by Helminthosporium turcicum Pass. (Trichometasphaeria turcica Luttrel) is the most severe leaf disease in the hilly tracts of Punjab and Himachal Pradesh and according to Mitra it was first observed in India (Bihar) in 1907.

In a bid to control the damage caused by Helminthosporium turcicum to the maize crop in the Sub-Himalayan tracts of Punjab a backcross program to incorporate the high degree of resistance of Lady Finger popcorn in the adapted maize stocks was started in 1964. The seeds of Lady Finger popcorn were obtained from Dr. Hooker of University of Illinois. The material was for the first time planted in Kulu Valley, India in the monsoon season of 1965. The observations made indicated high susceptibility of Lady Finger popcorn to the natural infection of Helminthosporium turcicum in this tract. The lesions on the leaves were dark brown and quite large with an average size of 5" x ½". The lesion type is clearly distinct from the one described by Dr. Hooker for this genotype. The differential response of the variety in this region indicates the presence of a race complex of the pathogen which carries the necessary genetic complement for virulence on this particular stock. The differential reaction of Lady Finger popcorn to the Helminthosporium turcicum isolates used by Dr. Hooker and the natural infection at Kulu Valley, India could be important from the point of genetic and physiological studies and the variety may serve as a useful differential for classifying the virulence of the pathogen complexes found in different geographical regions.

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