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RACE T OF *HELMINTHOSPORIUM MAYDIS* IN LOCAL CORN SEEDS

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In 1976 a fungus isolated in Israel from seeds of a hybrid corn cultivated locally, cv. Newe Ya'ar 170, was identified as *Helminthosporium maydis* Nisik. and Mily. (*Cochliobolus heterostrophus* Drechs.). Inoculations of young seedlings of this cultivar with the isolate from the seeds caused blight in 70% of the plants. In a survey of local corn seed lots of different varieties, it was found that the fungus was carried only by seeds of the hybrid cultivated in Israel, viz. cv. Newe Ya'ar 170. One of the parental lines of this cultivar is an inbred line from abroad, having Texas-type cytoplasm for male sterility.

Experiments were conducted for race identification of *H. maydis* isolated from the local seed. (We thank Dr. Marina Charkovniku, of the Research Institute for Plant Protection, Bucharest, Rumania, for her participation in some of the experiments.) The differential reaction of isogenic corn inbred lines (differing in their cytoplasm - normal and T type) to the fungus isolated from the seeds, was tested. Differences in the reaction of these two types of cytoplasm found expression in the size and type of leaf lesions, the suppression of sporulation, and the inhibition of root elongation by the pathotoxin produced by the fungus. In some of the experiments the behavior of the local isolate was compared with that of Race 0 of *H. maydis* obtained from abroad. (The isolate was received through the courtesy of Prof. A.J. Ullstrup, Dept. of Botany and Plant Pathology, Purdue University, Lafayette, Indiana.) The isolate of the local seeds was found to belong to Race T of *H. maydis*. This was the first identification of *H. maydis* Race T in the country, and steps were taken to limit its spread.

The fungus mycelium was found to penetrate into all parts of the local hybrid seed. A high correlation was found between lack of germination of the seed and the presence of the fungus mycelium in the tissues of the seed embryo. The fungus was found to be transmitted from the seed to the young seedling.