Diplodia macrospora of Corn in Nicaragua

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ABSTRACT

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Diplodia disease of corn has been identified for the first time in Nicaragua. The disease is potentially dangerous because the ear, leaf, and leaf sheath are all attacked under ecological conditions in Central America.

A new disease of corn (*Zea mays* L.) has been observed and identified in recent years in Nicaragua. It was found on genetic material growing at 200 m above sea level in Masatepe, Departamento of Masaya, and also on a local cultivar, Tusa Morada, in Jalapa, Departamento of Zelaya.

This leaf disease was also observed by the junior author in Alta Verapaz and the Atitlan region in Guatemala and in several Central American countries in addition to Nicaragua.

There have been two brief reports of this disease in the United States, the first by Eddins (1) in Florida in 1930 and the second on corn leaves in Tennessee (7). Latterell et al (4) noted in 1976 that Diplodia leaf disease of corn could be serious and was a threat to the extensive corn plantings in the United States.

The first symptoms are small yellowish spots, which later appear as isolated, water-soaked lesions. When these lesions later are reddish and surrounded by yellow chlorotic zones, the disease is characterized by long, narrow chlorotic lesions bearing scattered pycnidia of the causal organism. Frequently the fungus grows along the border of the leaf blades. The characteristic symptoms agree with the descriptions of Eddins (1), Dickson (2), and Ram et al (5). This disease is the most important one involving corn ears in Nicaragua and is most severe on leaves approaching maturity.

The causal organism, *Diplodia macrospora* Earle, was studied at the "La Calera" Agricultural Experiment Station in Nicaragua during 1976. One of the first signs is the presence of pycnidia that are immersed in the tissues and are spherical to subglobose. Pycnidiospores are released in threads. Conidia are straight or curved, ordinarily with one septum. The sizes of the pycnidia and conidia are as reported previously (1,2,5,8).

D. macrospora has been reported as a leaf pathogen by Eddins (1) and Ram et al (5), although Johann (3) reported it on rotting cobs in Brazil. This pathogen was reported on the ears but not on leaves of corn (6).

In Nicaragua, the importance of this disease is that *D. macrospora* is able to attack the corn ears, leaves, and sheaths, which was also observed in the Caribbean region. In Nicaragua the causal organism has been isolated during the rainy season from the most important corn-growing regions of the country. The pathogen probably persists from season to season in the leaf tissues, infected ears, and leaf sheaths and as dormant mycelium in the seed (1).

According to our observations on the germ plasm collections of maize growing in Nicaragua, susceptibility of certain collections apparently differs. This needs further study.

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