

Smut of Sugarcane in Louisiana

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ABSTRACT

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Ustilago scitaminea was discovered infecting sugarcane (interspecific hybrids of *Saccharum*) on a farm in Loreauville, Iberia Parish, LA, on 27 May 1981. Field surveys indicated that sugarcane smut was present at low incidence in three commercial cultivars in eight of 17 sugarcane-growing parishes.

Smut, caused by *Ustilago scitaminea* Syd., is a major disease of sugarcane (interspecific hybrids of *Saccharum*). The disease, discovered in 1877 in Natal, South Africa, was one of the first sugarcane diseases to be recognized (1). Smut occurred only in the eastern hemisphere sugarcane-growing countries until 1940, when it was found in Argentina. Since then, the disease has spread northward from Argentina to many countries in South and Central America and in the Caribbean area. Although Hawaii was the first state in the United States to become infested with sugarcane smut (2), the first report of the disease in the continental United States was from Florida in 1978 (3).

Smut of sugarcane was observed for the first time in Louisiana on 27 May 1981 on a farm in Loreauville, Iberia Parish, in the south central part of the state. The disease was first identified on the cultivar CP 65-357, which occupies about 71% of the sugarcane acreage in the state. The affected shoots exhibited the

typical smut "whips" at the apex of thin and elongated shoots that stand taller than the healthy shoots (Fig. 1); excessive tillering was present, and teliospores were found in the whips.

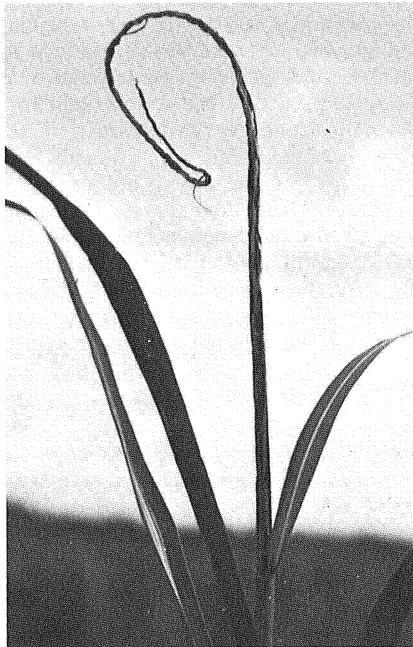


Fig. 1. A plant of sugarcane cultivar CP 65-357 infected with *Ustilago scitaminea*. Note the long, curved smut whip at the apex of the shoot.

Since this discovery, the sugarcane areas of the state have been extensively surveyed by personnel of the Louisiana State University Cooperative Extension Service and Agricultural Experiment Station, the Louisiana Department of Agriculture, the American Sugar Cane League, and the U.S. Department of Agriculture. The disease was observed in eight of 17 sugarcane-growing parishes, including St. Martin, Vermilion, Lafayette, Iberia, and St. Mary parishes in the south central part of the state and Lafourche, Assumption, and St. John parishes in the southeastern part.

The sugarcane cultivars found infected, besides CP 65-357, were NCo 310, which occupies about 7% of the sugarcane acreage, and CP 73-351, which has just been released for commercial planting.

The incidence of the disease in infested fields is relatively low (approximately 2.5% of infected stools of cane in the affected fields), and the disease is not expected to cause economic losses this year. Several cultivars in commercial production (eg, CP 70-321, CP 70-330, CP 72-356, and CP 72-370) appear to be highly resistant to *U. scitaminea*; these cultivars are expected to replace the cultivars susceptible to the pathogen.

Further spread of the pathogen this season within and from the eight affected parishes can be delayed by chemical roguing of diseased plants after removal and burning of smut whips.

LITERATURE CITED

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