

A new pest threatens Florida's #2 Industry



12.8x

sugarcane delphacid found in south florida

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Since sugarcane is one of Florida's most important agricultural products — second only to citrus — the Division of Plant Industry (DPI) was very concerned when a sugarcane delphacid (*Perkinsiella saccharicida*) was discovered August 4, 1982 at Canal Point in Palm Beach County.

The sugarcane delphacid is an Australian planthopper that nearly wiped out Hawaii's sugarcane crop in the early 1900s. The planthopper is a double-threat to Florida's sugar industry because it is a carrier of Fiji disease, a devastating virus of sugar-

cane that has not yet been found in the United States. Now that the vector is here, the disease is not such a remote threat.

Ralph Brown, chief of the DPI's Methods Development Bureau, said the DPI is monitoring the delphacid populations. No quarantines or regulations have been imposed on sugarcane growers, he explained, since distribution in Florida is general, and few, if any, sugarcane plants are moved from Florida.

"If the Fiji disease were to be introduced now that we do have the vector, it could be a serious situation,"

Brown said.

The sugarcane delphacid at both the adult and nymph stages damages sugarcane by sucking sap from the plant. Under heavy feeding, leaves turn yellow and dry out. Over prolonged feeding, the cane's growth is stunted. With severe infestations,

average of half a delphacid per 10 canes in June, to five delphacids per 10 canes in July, to 31 delphacids per 10 canes in August.

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plants can die. Young cane are sometimes killed before producing any considerable length.

When the delphacid was first found at Canal Point, DPI and U.S. Department of Agriculture (USDA) teams began to survey the sugarcane growing areas to see how widespread the pest had become. The planthopper was already distributed throughout sugarcane-growing areas around Lake Okeechobee. In fact, the delphacid was found throughout South Florida, except Monroe County, leading DPI officials to conclude that the pest has been here several years.

"There has been no detectable economic damage, even though the entire area is infested," Brown noted. "This may be due to the lack of a heavy population in the fall through June (1982-83) when a great deal of the sugarcane growth occurs."

In October 1982, surveys suggested an average population in the fields of four delphacids per plant. After one year's observation, preliminary information shows that populations begin to grow in July. Results of June, July and August 1983 surveys showed an increase from an

sugar industry of burning cane fields prior to harvesting to rid the fields of trash and leaves. Wintertime burning destroys the pest's eggs, which the female injects under the surface of sugarcane leaves and covers with a wax mass.

Other factors contributing to keeping the delphacid population in check are natural enemies in Florida, including a parasite, *Anagras* sp., and a predator, *Tytthus parviceps*. *T. parviceps* was observed at Canal Point preying on both eggs and nymphs of the planthopper. Experience in Australia has shown *T. parviceps* to be effective in the cooler climates of that continent.

Entomologists do not yet know how a typical winter in Florida will affect the delphacid, since the planthopper has been studied over only one winter, which was milder than most.

Another predator in the same family, *Tytthus mundulus*, is credited with bringing the delphacid under control and saving the sugar industry in Hawaii after it was introduced from Australia in 1920. The DPI imported

See Delphacid page 15

Delphacid, from page 12

T. mundulus from Hawaii in November 1982, and Dr. Ru Nguyen raised a small colony in the maximum security quarantine laboratory at Gainesville. Dr. Nguyen and Dr. Omeleo Sosa of the USDA released 40 individuals from the next generation of these laboratory-reared *T. mundulus* in December 1982 at Canal Point. Other releases followed at scattered locations. Another shipment from Hawaii was received at DPI in August and is being held in the biological control chamber for one generation.

“With two predators, one for cool weather and one more effective in warm climates, and other natural enemies,” Brown added, “maybe we will be able to control the delphacid populations.”

