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## **WEEVIL TO CONTROL WATER LETTUCE Will Be Released at Lake Okeechobee in April**

By Darcy Meeker

GAINESVILLE, Fla. — Troubled Lake Okeechobee will be the first place scientists will release a weevil to help control water lettuce.

Water lettuce (*Pistia stratiotes* L.) clogs some 7,300 acres of Florida waters, especially canals in south Florida, the Oklawaha River, the Rodman Reservoir, Lake Rousseau and Lake Okeechobee.

Australians already control water lettuce using the weevil (*Neohydronomus pulchellus*), which is native to Brazil, said researchers at the Institute of Food and Agricultural Sciences.

At IFAS on the University of Florida campus and in Ft. Lauderdale at the USDA Aquatic Plant Management Laboratory, scientists are rearing water lettuce weevils for release in late April.

"We ought to see a difference within a year," says research leader Dale Habeck, acting chairman of the IFAS entomology department. "It takes about a month for a weevil to go from an egg to an egg laying adult, so we'll have six to eight generations a year."

Young weevils tunnel through water lettuce leaves, turning them into lace, and adults also eat the weed.

"You wouldn't think such a tiny insect could make such a big difference," Habeck said, "but it does."

While water hyacinths and many other noxious water weeds had no natural enemies to keep them in balance when they came to Florida, water lettuce has been around at least since 1765 when biologist William Bartram noticed that they were common in the Florida waterscape.

Need to control water lettuce has come to a head recently because of Florida's increased population.

"In addition to increasing evaporation from waterways, and interfering with recreation, irrigation and water flow," Habeck said, "water lettuce hosts the larvae of a mosquito (*Mansonia titillans*) that is a particularly ferocious biter of man. These mosquitoes are potential transmitters of diseases."

The weed has been making headway wherever water hyacinths have been knocked back by chemicals and, recently, by biocontrols.

So water lettuce biocontrol research got funding from

the U.S. Army Corps of Engineers, both from the Jacksonville district office and from the Waterways Experiment Station in Vicksburg (Miss.).

By September 1985, the researchers had some of the weevils in their quarantined lab. In November 1986, permission came through for them to release the weevil in Florida.

"All we're waiting for now is to build up the population enough that we can release a significant number of them," said Habeck, collecting editor for the free IFAS publication "Biocontrol: Fighting Pests Nature's Way."

Weevil release will be coordinated by the Army Corps of Engineers.

Clearance to release water lettuce weevils came from a national review panel made up of representatives from USDA and other government agencies.

To get clearance, researchers had to demonstrate that the weevil would not turn its ravenous appetite on desirable plants in Florida's ecology.

"In view of the host-specificity exhibited in Argentina, Australia and in our labs, we feel that the weevil is safe to introduce into Florida," Habeck said. "When offered a choice, the weevils always fed on water lettuce. And eggs laid on other plants failed to hatch or the larvae died shortly after hatching."

Involved in the Army Corps of Engineers-sponsored project with Habeck are Catherine Thompson at IFAS in Gainesville, F. Allan Dray and Joe K. Balciunas at the IFAS Research and Education Center in Ft. Lauderdale, and Ted D. Center at the Agricultural Research Service USDA Aquatic Plant Management Laboratory, a Ft. Lauderdale branch of the Agricultural Research Service.

The next water lettuce enemy the researchers plan to investigate as a biocontrol is a moth whose caterpillar eats water lettuce. Host-specificity testing in quarantine has already begun. ■

Source: Dale Habeck, acting chairman, IFAS Entomology & Nematology Department, (904) 392-1901. Ft. Lauderdale contact; Ted Center, (305) 475-0541, USDA Aquatic Plant Management Laboratory. Army Corps of Engineers: Al Cofrancesco, (601) 634-3182, Waterways Experiment Station, Vicksburg, Miss. Juan Colon, (904) 791-2235, Jacksonville district P.A.O.