

# Operational Collection And Release Of Waterhyacinth Weevils

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## INTRODUCTION

The waterhyacinth weevils, *Neochetina eichhorniae* Warner and *N. bruchi* Hustache, have been sufficiently studied to permit widespread dissemination in the State of Florida, and have exhibited the ability to reduce the total size and biomass of waterhyacinth (*Eichhornia crassipes* (Mart.) Solms in laboratory and field conditions.

## COLLECTION PROCEDURES

There are two general methods of collecting weevils on waterhyacinths. For insects being shipped or held several days before release, the crowns of several plants are broken out the day before actual collection. The open crowns cause the weevils to congregate in the damaged crown. The following morning the collector picks up the broken plants and weevils along the shore or walks over the mats of plants on water shoes, taking the plants to shore where the weevils are removed. The weevils are placed in half pint cold drink cups with hyacinth leaves for food and a very small amount of water in the bottom of the cup to prevent desiccation. Each cup will accommodate approximately 500 insects, enough for one release site. The cups are then stacked in styrofoam ice chests with a small amount of ice for storage. The cool temperature in the chests prevents the insects from overheating and reduces their activity. The ice chests are then shipped or taken to the release points. Stored in this fashion the weevils have shown satisfactory survival for over

a week. During longer storage periods and when possible, the plant material should be replaced every two to three days to keep it fresh.

For weevils being released the same day or the following day after collection, the whole plants can be collected and placed in large plastic bags for transportation to the release site. This method requires more space for storage and transportation; however, it has the advantage of collecting and releasing the entire life cycle of the weevils, i.e., eggs, larva, pupa and adult, which should result in a quicker establishment of a new colony. The plastic bags must be transported in a covered vehicle and kept as cool as possible. Direct sunlight will cause rapid heating in the bag and kill the weevils.

## RELEASE PROCEDURES

Selection of release sites should be made in remote areas where the plants will not be disturbed until the weevils can establish a colony and disperse into new areas. When releasing the weevils from the cups they should all be placed in one spot and not scattered over a large area. Whole plants should be carefully placed in the water in one bunch as close together as possible in a natural growing position. These collection and release methods were used in 1976 and 1977 by the Jacksonville District in cooperation with the Southwest Florida Water Management District. This program successfully released approximately 35,000 weevils at 104 sites in the St. Johns, Withlacoochee, Oklawaha and Santa Fe River watersheds.