



For More Information

Please visit our project website for additional information:

<http://entomology.ifas.ufl.edu/hydrilla/>

Scan the QR code to link automatically to our website.



Educational Methods

We are developing educational materials that will help resource managers understand how new strategies can fit into a hydrilla IPM plan.

This aspect will be performed by county and state faculty. With input from an advisory committee and a stakeholder needs assessment, outreach strategies will be implemented.

The program will include field tours, educational publications and exhibits, promotional items, the project website, and presentations at stakeholder and professional meetings.

Impact

This research and demonstration project is expected to show that these different low-risk control tactics are compatible with each other. By integrating them, safe and cost-effective control of both susceptible and resistant hydrilla can be achieved.

By 2014 a finalized package will be available for delivery by county faculty in Florida and other states with hydrilla problems.

Mission

This IPM program should reduce aquatic weed management costs and ultimately create more favorable recreational areas on lakes that have become almost unusable because of dense hydrilla infestations.



Funding for this project provided by: United States Department of Agriculture. 2010. Sustainable Approach for Integrated Management of Herbicide Resistant Hydrilla in the U.S. For USDA NIFA RAMP Grant 2010-02825.

Managing Hydrilla with IPM



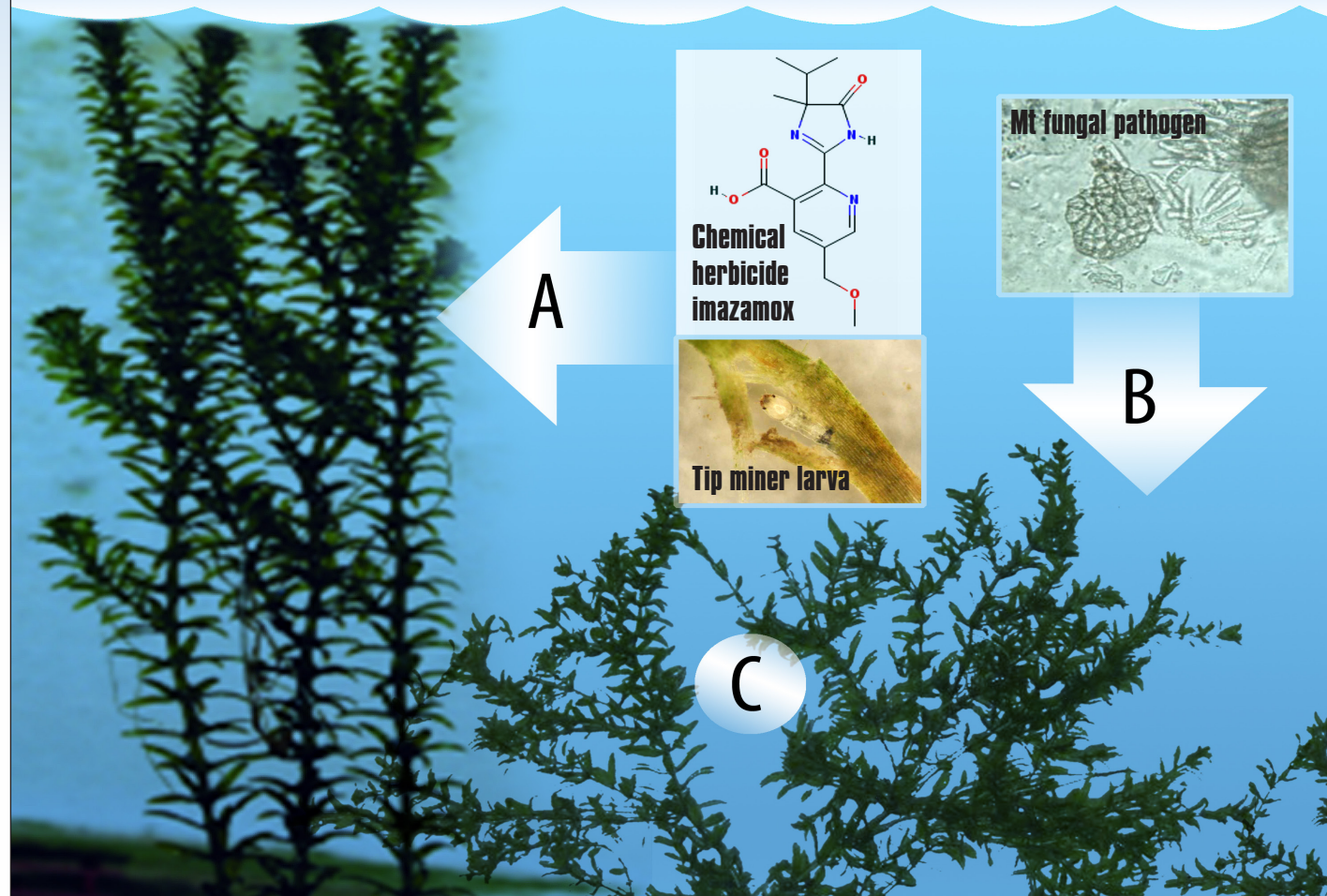
The Project

The invasive weed hydrilla (*Hydrilla verticillata*) causes serious environmental and economic impacts in Florida. The state spends over \$10 million a year managing this weed!

The UF/IFAS Entomology and Nematology Department is spearheading the Hydrilla Integrated Pest Management Risk Avoidance and Mitigation Project (Hydrilla IPM RAMP). This USDA grant funded project is designed to tackle hydrilla using multiple management practices.

IFAS research and extension faculty, FAMU faculty and an ARMY COE plant pathologist are tackling the hydrilla problem head-on. This team is studying new chemical and biological control methods as part of an overall hydrilla integrated pest management (IPM) plan.

The objective of this IPM program is to develop and demonstrate an integrated reduced risk solution for hydrilla control and to influence resource managers to adopt new IPM strategies for managing hydrilla. The central elements of this project involve integrating herbivory by a naturalized meristem mining midge, *Cricotopus lebetis* Sublette (Diptera: Chironomidae), with the native fungal pathogen *Mycocleptodiscus terrestris* and low doses of a new acetolactate synthase (ALS) inhibiting herbicide (imazamox) as a viable strategy for long-term sustainable management of hydrilla. Researchers expect this IPM strategy will safely control susceptible and fluridone-resistant hydrilla biotypes in Florida watersheds.



A) Treating hydrilla with low concentrations of imazamox induces branching, which increases the number of breeding sites for the developing larvae of *C. lebetis* that mine hydrilla's shoot tips.

B) The mining damage changes the plant's architecture by severely injuring or killing the plant's growing tips, and increases the susceptibility of hydrilla to infection by the Mt fungus.

C) Combining these three tactics — an herbicide, insect, and pathogen — should prevent new hydrilla stems from reaching the surface of the water column, or topping out. Preventing hydrilla from topping out is important so plants are not chopped up by boat propellers and spread to other areas.

