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Effect of florpyrauxifen-benzyl concentration–exposure time on hygrophila and rotala

LYN A. GETTYS, KYLE L. THAYER, MARK A. HEILMAN, AND ERIKA M. VAN GOETHEM*

ABSTRACT

Submersed vegetation in flood-control canals must be managed to facilitate the rapid movement of water during periods of heavy rainfall. Two of the most problematic and difficult-to-control macrophytes in south Florida's canals are hygrophila [*Hygrophila polysperma* (Roxb.) T. Anderson] and rotala [*Rotala rotundifolia* (Buch.-Ham. ex Roxb.) Koehne]. The submersed forms of these amphibious species quickly fill the water column and restrict water flow; thus the management of hygrophila and rotala is a major concern for resource managers. There are limited chemical control options for managing these species; therefore, the goal of these experiments was to evaluate florpyrauxifen-benzyl at varying concentration–exposure times for control of hygrophila and rotala. Submersed hygrophila and rotala plants were exposed to concentrations of florpyrauxifen-benzyl at 0, 2.5, 5, 10, or 20 µg L^{-1} at 6-, 24-, or 48-h exposure times. Hygrophila dry weights decreased as florpyrauxifen-benzyl concentration and exposure time increased. Rotala was extremely sensitive to florpyrauxifen-benzyl; virtually all rotala biomass was eliminated by even the shortest exposure (6 h) to the lowest concentration (2.5 µg L^{-1}) of florpyrauxifen-benzyl. This research reveals the utility of florpyrauxifen-benzyl as a potential management option and provides guidance to resource managers charged with controlling hygrophila and rotala, especially in systems where flow can reduce exposure times.

Key words: arylpicolinate, canal weeds, CET, herbicide, *Hygrophila polysperma*, ProcellaCOR, *Rotala rotundifolia*

*First and second authors: Associate Professor and Agricultural Assistant, Fort Lauderdale Research and Education Center, Department of Agronomy, University of Florida IFAS, Davie, FL 33314. Third author: Director of Aquatic Research, SePRO Corporation, Carmel, IN 46032. Fourth author: Aquatic Technology Development Scientist, SePRO Corporation, Whitakers, NC 27891. Corresponding author's E-mail: lgettys@ufl.edu. Received for publication February 24, 2020 and in revised form September 1, 2021.