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Efficacy of selected herbicides on Cuban bulrush [*Oxycaryum cubense* (Poepp. & Kunth) Lye]

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ABSTRACT

Cuban bulrush (*Oxycaryum cubense*) (Poepp. & Kunth) Lye is an epiphytic perennial sedge that invades aquatic habitats in the southeastern United States. Its emergent and floating growth habit allows it to form tussocks that restrict waterway access for navigation and outcompete native plant species. It is primarily managed using herbicides, and there is a need to evaluate more active ingredients for Cuban bulrush control. Three groups of single or tank mix herbicide applications were evaluated for control of Cuban bulrush in a greenhouse setting Florida. In trial 1, we evaluated operational treatments currently used by state agencies in Florida (diquat, glyphosate, 2,4-D, glyphosate + flumioxazin, 2,4-D + diquat, and 2,4-D + glyphosate). In trial 2, we evaluated a recently registered synthetic auxin herbicide (florpyrauxifen-benzyl) alone or in combination with 2,4-D, imazamox, or flumioxazin. In trial 3, we evaluated several acetolactate synthase (ALS)-inhibitor herbicides (halosulfuron, imazapic, imazethapyr, bispyribac-sodium, imazapyr, and imazamox). Operational treatments and florpyrauxifen-benzyl combinations resulted in $> 70\%$ visual control 30 days after treatment (DAT) and $> 90\%$ biomass reduction of aboveground tissue 60 DAT. ALS-inhibiting herbicides resulted in slower symptom development, although there was limited regrowth ($> 90\%$ biomass reduction) 60 DAT for plants treated with imazapic, imazethapyr, imazamox, and imazapyr. Halosulfuron and bispyribac-sodium resulted in inconsistent levels of control between experimental runs. These small-scale results suggest that the current operational treatments as well as florpyrauxifen-benzyl combinations provide both fast and effective control of Cuban bulrush. Future work will focus on verifying these findings under operational field conditions.

Key words: aquatic sedge, chemical control, *Cyperus blepharoleptos*, greenhouse, selectivity.

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