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Evaluation of 12 foliar-applied nonaquatic herbicides for efficacy against giant salvinia (*Salvinia molesta*)

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Registered aquatic herbicides are frequently used for managing the invasive aquatic fern giant salvinia (*Salvinia molesta* D.S. Mitchell). Unfortunately, there is a limited number of efficacious and economically feasible products available for large-scale management. Therefore, outdoor mesocosm trials were conducted to evaluate nonaquatic registered herbicides for efficacy against giant salvinia. In the first trial, metsulfuron and sulfometuron were the most effective. Both treatments caused plants to become necrotic, lose buoyancy, and desiccate as early as 2 wk after treatment (WAT) and 100% plant mortality was documented by 8 WAT. In addition, clomazone, halosulfuron, and bensulfuron provided 69, 76, and 77% control, respectively. Herbicide treatments that provided $\geq 30\%$ control in Trial 1 (with the exception of clomazone) were re-evaluated in Trial 2 at additional rates. All herbicide treatments in Trial 2 significantly reduced giant salvinia biomass compared with the nontreated reference. In addition, all three rates of metsulfuron and sulfometuron provided 98 to 99% control. Although sulfometuron and metsulfuron did not provide 100% giant salvinia control in Trial 2 at 12 WAT, no new frond growth was observed and harvested material consisted of small rhizome fragments that had little to no viability. The results of these studies conclude that giant salvinia is sensitive to low use rates of metsulfuron (21 g ai ha^{-1}) and sulfometuron (158 g ai ha^{-1}) and regrowth of treated plant material is minimal.