

**Susceptibility towards selected herbicides  
of two insect biocontrol agents  
for water hyacinth**

by

**Claudia Ueckermann**

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Submitted in fulfillment of the requirements  
for the degree

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## ABSTRACT

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Integrated control of water hyacinth in South Africa is based on a combination of chemical and biological control. This study investigated the assumption that the two methods are compatible, by testing the direct toxicity as well as indirect effects of a range of herbicide formulations and surfactants, on two insect species, *Neochetina eichhorniae* and the more susceptible *Eccritotarsus catarinensis*. The highest mortality was caused by the diquat formulation and the least mortality resulted after treatment with glyphosate-based herbicides. Weevils preferred feeding on untreated plants and moved away from treated toward bordering untreated plants. Important considerations for integrated control of water hyacinth emphasized by this study are choice of herbicide formulation and surfactant, which will depend on insect species, and the size and distance of reserve mats which will shelter fleeing insects.

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