

## CHLORSULFURON\* FOR AQUATIC WEED CONTROL

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**Abstract.** The frequent proximity of aquatic weeds to urban and other restricted spraying areas often places limitations on the choice of herbicides for their control. Consideration of environmental and ecological aspects and water usage, be it for irrigation or recreation, is very important in these circumstances.

Such restrictions imposed constraints on the chemical control of an infestation, in a natural lake, of Parrot feather (*Myriophyllum aquaticum*), a declared aquatic weed in Western Australia. Control with Diquat and Glyphosate is effective but short-lived, with rapid regeneration from submerged stems and anchored roots. Other commonly used aquatic weed control herbicides were ruled out because of the location of the water body near to vineyards and the use of the water for irrigation of vines.

A simple in situ herbicide screening trial indicated Chlorsulfuron to be effective on Parrot feather. Dosage response trials in confined weed areas, established that rates of 18.75 to 37.5g ha<sup>-1</sup> of Chlorsulfuron, plus 0.5% by volume of a non-ionic surfactant, were effective in giving total control.

Spraying of the infestation in January 1983 with  $\approx$  40g ha<sup>-1</sup> of Chlorsulfuron in  $\approx$  500L ha<sup>-1</sup> of water plus surfactant through a fine jet, spray pistol, resulted in 100% control of the weed. No regeneration had occurred more than 12 months after spraying.

A number of properties make Chlorsulfuron suitable for aquatic weed control. It has low toxicity to humans, fish and bird life, is selective (*Typha domingensis*, unaffected) and is rapidly hydrolysed in water, necessitating only a short withholding period for irrigation purposes.

In addition to its activity on Parrot feather Chlorsulfuron is known to be extremely active on Arum Lily (*Zantedeschia aethiopica*), a semi-aquatic, and has shown in preliminary trials to have some activity on Salvinia (*Salvinia molesta* D.S. Mitchell), Water Hyacinth (*Eichhornia crassipes*) and Water Lettuce (*Pistia stratiotes*).

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