

SPRAY FORMULATION WITH SILWET®
ORGANOSILICONE SURFACTANTS

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Abstract. The potential of organosilicone surfactants as adjuvants for herbicides was reported as early as 1973. During the mid-1970s the advantages of incorporating Silwet L-77 into sprays to alleviate iron-chlorosis in citrus were reported from Israel. No further reports appeared until the mid-1980s since when more than 60 papers, mostly originating in New Zealand, have reported the properties of Silwet surfactants and their utility as spray adjuvants. Silwet L-77 is now widely used as a spray adjuvant in New Zealand and increasingly in Australia and SE Asia. The literature on organosilicone surfactants relates predominantly to herbicides, largely reflecting the commercial development of Silwet L-77 for scrubweed control in New Zealand forestry. However, this surfactant has also been used effectively with growth regulators, foliar nutrients and an insecticide.

This presentation demonstrates the unusual properties of organosilicone surfactants and illustrates the dynamic behaviour of solutions which enhance the performance of sprays formulated with Silwets:

- (a) The leaf wetting and spreading capabilities of Silwets far surpass those of "conventional" surfactants.
- (b) The exceptionally low aqueous surface tensions produced by Silwet L-77 enable spray liquids to infiltrate stomata, enhancing uptake of the a.i. and making the pesticide taken up in this manner immediately rainfast.
- (c) The Silwets have low phytotoxicity and are thus less deleterious to the translocation, and hence the systemic activity of pesticides than many other surfactants.

A bibliography of the literature reporting the properties and behaviour of Silwet organosilicone surfactants reported is available on request.

JATROPHA GOSSYPIFOLIA IN THE NORTHERN TERRITORY

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Abstract. Bellyache bush, *Jatropha gossypifolia*, is a woody perennial shrub, that is native to tropical America and a Class B noxious weed in the Northern Territory of Australia. Probably introduced for medicinal purposes and used as a garden ornamental, bellyache bush is now present at many locations in the northern region of the Northern Territory. One infestation at Willeroo Station, extends over approximately 340 ha., and is currently increasing at 145 percent per year. Growing to about 2.5m and forming dense thickets, bellyache bush is unpalatable to stock, competes with and displaces native vegetation, obscures fencelines, interferes with mustering activities, and the seeds are toxic to people.