

HERBICIDAL CONTROL OF BRIDAL VEIL (*ASPARAGUS DECLINATUS* L.)

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Bridal veil has become invasive in native vegetation throughout southern regions of South Australia (SA). It is highly competitive, with thick, subsurface mats of large tubers connected by creeping rhizomes below ground, and dense, annual shoots emerging each autumn to smother groundcover plants. Berries produced in spring are consumed by birds and foxes, enabling seeds to be dispersed long distances. Bridal veil is a declared plant in SA.

Aim:

To determine the effectiveness of various herbicide and additive formulations on bridal veil infestations.

Methods:

A field trial began on 16 September 2004 at Victor Harbor, SA (70km south of Adelaide), with an electric knapsack sprayer used to compare herbicide treatments on 1x1 m plots replicated five times:

1	glyphosate 3.6g/L + Penatra ^a 2mL/L
2	glyphosate 3.6g/L + Penatra 2mL/L + Boost ^b 20mL/L
3	glyphosate 3.6g/L + Penatra 2mL/L + Synerrol ^c 2.5mL/L
4	glyphosate 3.6g/L + Synerrol 2.5mL/L
5	glyphosate 3.6g/L + Spraymate LI-700 ^d 5mL/L
6	glyphosate-trimesium 3.6g/L + Penatra 2mL/L
7	metsulfuron methyl 0.015g/L + BS1000 ^e 1ml/L
8	glyphosate 3.6g/L + metsulfuron methyl 0.015g/L + BS1000 1ml/L
9	grub tubers/rhizomes
10	no treatment (i.e. control)
11	repeat previous 2001 application: glyphosate 3.6g/L + Penatra 2mL/L
12	grub previous 2001 glyphosate application

^a Spray-Sure Penatra Organosilicone Penetrant, 1020g/L polyether modified polysiloxane

^b Liquid Boost Herbicide Adjuvant, 417g/L ammonium sulphate

^c Synerrol[®] Horti, 905g/L emulsifiable botanical oil

^d Spraymate[™] LI-700 Surfactant, 350g/L soyal phospholipids + 350g/L propionic acid

^e BS1000[®] Bio-Degradable Surfactant, 1000g/L alcohol alkoxyolate

Results & Discussion:

- Glyphosate treatments averaged 8% bridal veil shoot cover after 2 years, but there was insufficient replication to detect significant differences between different additives or formulations.
- A second glyphosate treatment three years after the first did not give a greater shoot cover reduction than a single application.
- Metsulfuron methyl was ineffective.
- Grubbing took 20-30 minutes per m² including bagging of tubers, which is too time consuming to be used on a large scale.

- Glyphosate reduced tuber biomass by ~50%, but a separate study on bridal creeper (*A. asparagoides*) has indicated that dead tuber mats still act as a barrier to native plant regeneration¹.
- Low levels of fruiting (1-30 fruits/m²) had commenced in spring 2006 (excluding treatments 5, 6, 8 and 11).
- Overall there was no treatment that gave complete control.

¹ Turner, P.J. and Virtue, J.G. (2006). An eight-year removal experiment measuring the impact of bridal creeper (*Asparagus asparagoides* (L.) Druce) and the potential benefit from its control. *Plant Protection Quarterly* 21, 78-84.

