

The prickly acacia control toolbox for western Queensland

The prickly acacia threat

Prickly acacia (*Vachellia nilotica*) is a significant weed threat to the sustainability of the Mitchell grasslands of western Queensland. While prevention is the utmost priority, a range of control tools are required to reduce, and where possible, remove existing infestations.

The control toolbox

Best-practice control options for the control of prickly acacia have been developed through decades of collaborative research and innovation by government, industry and community - resulting in a 'toolbox' of available options. This toolbox has been summarised (Table 1) as a ready-reckoner to assist land managers. The toolbox is primarily applicable to the control of prickly acacia in the Mitchell grasslands of western Queensland and its use should not preclude due diligence in properly researching each option and/or the correct selection and use of herbicides or machinery.

Determining best practice control

The prickly acacia control toolbox provides a starting point for evaluating best practice control options. The suitability ratings reflect which control methods are likely to be most effective, efficient and environmentally responsible in varying situations.

However, the final determination of control options should also consider:

- Infestation characteristics - area, density, growth stage, seed sources
- Environmental considerations - seasonal conditions, terrain and accessibility
- Cost and effectiveness comparisons between methods
- Property resources - finances, labour, equipment and machinery
- Property objectives as outlined through a weed management plan
- Legislative and ethical considerations

Integrated control

While the toolbox presents individual control methods, it is recognised that long term prickly acacia control success is maximised through integrated approaches. Integrated control entails the sequential use of complementary best-practice control methods for initial and follow-up actions, and includes broader property management actions such as weed seed spread prevention practices. Weed management specialists can assist in providing advice on both individual methods and integrated management.

Table 1. The prickly acacia control toolbox for western Queensland

Treatment & situation	Chemical treatments						Mechanical treatments*			
	Basal bark spraying	Soil application - hand applied	Cut stump application	Soil application - broad-acre	Overall (foliar spraying)	Bore drain application - diuron	Dozer pushing & grubbing*	Loader pushing*	Stick raking*	Double chain pulling*
Plains low density	✓✓	✓✓✓	✓				✓	✓✓		
Plains medium density	✓	✓✓✓	✓				✓✓	✓✓		
Plains high density	✓	✓✓	✓	✓✓✓			✓	✓		✓✓✓
Riparian	✓✓✓		✓				✓	✓✓		
Dams	✓✓✓	✓✓	✓				✓✓	✓✓✓	✓	
Bore drains	✓	✓	✓			✓✓✓	✓✓	✓✓	✓	
Immature plants	✓	✓✓✓	✓	✓✓	✓✓✓					

Note: Most suitable (✓✓✓) to least suitable (✓) for nominated situations. No rating means it is not recommended based on low effectiveness, efficiency, environmental reasons and/or other factors. Some specialist options (misting, UAV, skattergun, etc) are not currently represented on this factsheet but information on these may be sought from contractors and weed management professionals.

* Before using machinery in proximity to native vegetation and/or watercourses, advice and where necessary, approval, should be sought from the Department of Natural Resources and Mines to fulfil legislative obligations.

Further information

Further information is available from SG NRM (call 1800 676 242 or visit <http://www.southerngulf.com.au/resources/fact-sheets/>) or from Biosecurity Queensland (call 13 25 23 or visit <http://bit.ly/2tZlGT9>).