



Control options for Rubber Bush

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Early findings for chemical control trials on rubber bush in the Barkly Tablelands.

Summary

Meat and Livestock Australia funded rubber bush trials are being conducted in the Barkly to test the efficacy of different herbicides and to investigate rubber bush biology.

The results from the soil applied treatments will not be known until May 2016 after a second wet season on the treatment but positive results are anticipated

So far, the most consistently effective on-ground chemical control is from traditional and ThinLine™ basal bark applications using Access™ and diesel from which 100% success at the 12 month assessment was found.

The collaborative project has taught landholders and researchers alike that to do nothing is not an option.

Herbicide trials

Mixed herbicide trials were established in the Barkly Tablelands region.

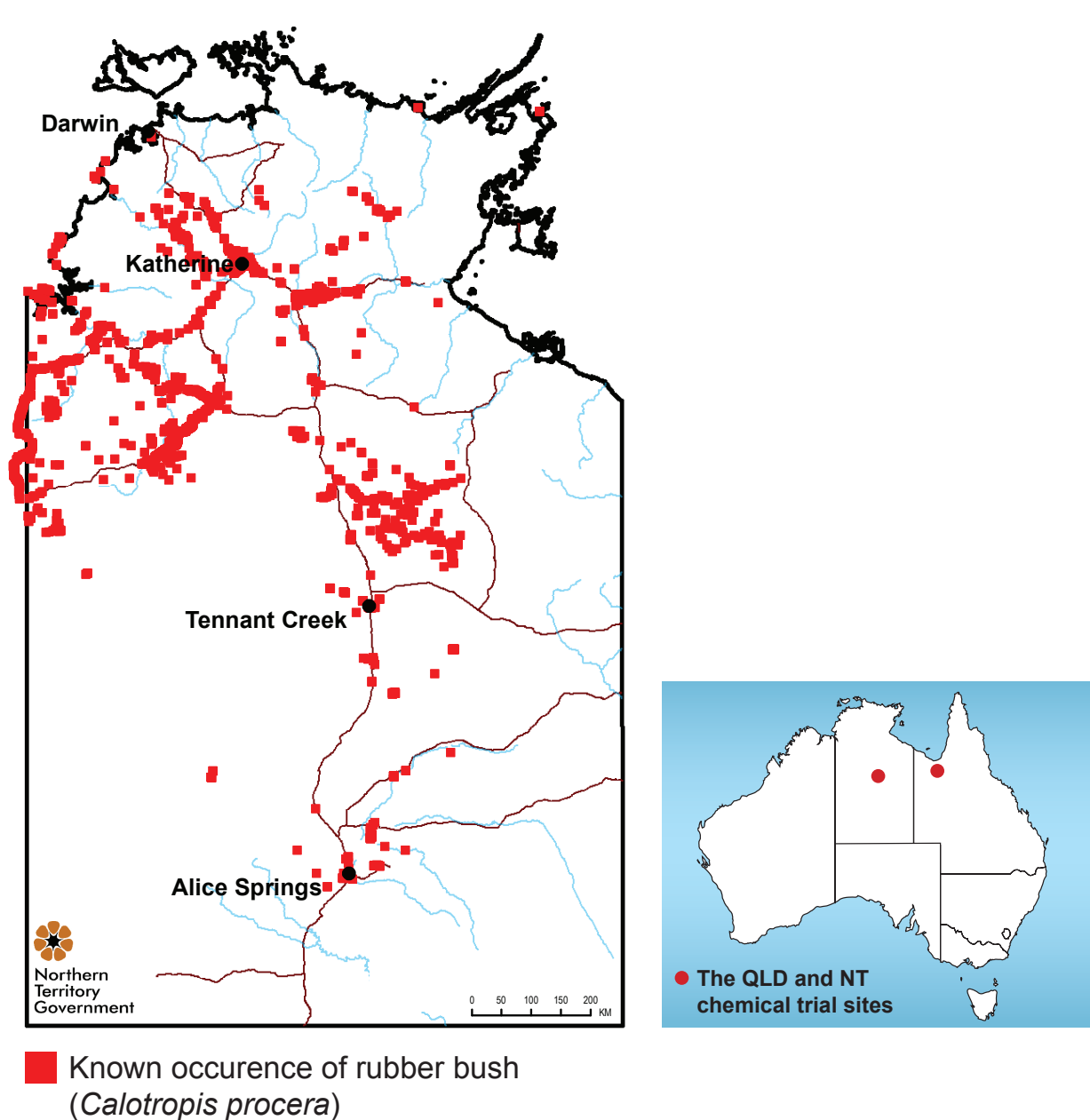
The trials evaluated the most promising foliar, basal bark, cut stump and ground application methods, identified from parallel trials undertaken in Queensland.

Results

- Twelve month results indicated that triclopyr/picloram mixed with diesel was highly effective for basal barking using both traditional and ThinLine™ techniques. Cut stump applications using the same chemical mix was also quite promising.
- The use of glyphosate and picloram gel for cut stump applications had reasonable success while the results did vary a little between sites.
- 2-4D amine when mixed in water showed promise as a foliar herbicide.
- Metsulfuron-methyl either alone or in a combination with another foliar herbicide (triclopyr/picloram) proved ineffective.
- Ground applications of two residual herbicides (tebuthiuron and hexazinone) were undertaken in November 2014 but at least two wet seasons will be required before their effectiveness can be evaluated.

Conclusion

Preliminary results suggest that triclopyr/picloram mixed with diesel using basal bark applications have the most consistently positive results. The cut stump methods and 2-4D amine using foliar application also show promise as effective control methods for rubber bush.



Background

Rubber bush is native to tropical Africa and Asia, and has large, thick opposite leaves covered with white hairs. The bark is corky and rough and seeds are wind-dispersed. It is a declared weed in Western Australia and in the Northern Territory south of 16°30'. There is a lack of understanding of regional differences in rubber bush biology and effective control methods.

Impacts

Rubber bush can reduce productivity of valuable grazing land of northern Australia.

Rubber bush can form dense thickets and inhibit access to watering points, bores and dams.

The plant contains several toxic compounds and may be poisonous to humans and stock if consumed in large amounts.

Collaborative Project

Meat and Livestock Australia (MLA) are funding a collaborative project involving:

- Charles Darwin University (CDU).
- NT Department of Land Resource Management (DLRM).
- Queensland Department of Agriculture and Fisheries (DAF).
- Pastoralists and other land managers.

The project aims to better understand the biology and control of rubber bush on the grazing lands of northern Australia.

Chemical application methods



Basal bark

Basal barking applies herbicide directly to the bark and is very effective because it is quick and easy, does not require specialist equipment and results in little off-target damage. Traditional basal bark techniques apply herbicide to a collar 30-40 cm from the base of the plant. ThinLine™ basal bark uses a 5 cm collar with higher concentration of herbicide.



Soil applied

Soil application involves spreading residual herbicide under the plant canopy which is then absorbed by the roots. Soil application can be done across large areas but kills all woody vegetation. Granular and liquid herbicides were used.



Foliar spraying

Foliar application involves spraying herbicide directly on the leaves. Foliar application can be labour intensive and results in some off-target damage. The foliar treatments were applied using a QuikSpray® unit.



Cut stump

The cut stump method involves cutting the plant as close to the ground as possible using a brush cutter or other implement, and immediately spray or paint the stump with herbicide. This method can be labour intensive and can involve risk to the operator.

Herbicide treatments

Table 1. Herbicide treatments and the percentage of plants exhibiting no live growth (aboveground) six months after application of treatments (mean across two replicates). Figures followed by the same letters are not significantly different from each other (P>0.05).

Control method	Herbicide (Active ingredient)	Trade name	Application rate (grams active ingredient)	Success
Basal bark (Traditional)	Triclopyr/picloram	Access™	40/20 g a.i./10 L mixture	Excellent
Basal bark (ThinLine™)	Triclopyr/picloram	Access™	240/120 g a.i./10 L mixture	Excellent
Cut stump	Triclopyr/picloram	Access™	40/20 g a.i./10 L mixture	Very good
Cut stump	Glyphosate	Squareup 360™	360 g a.i. (neat)	Good
Cut stump	Picloram	Vigilant™	43 g a.i./kg (neat)	Very good
Foliar*	2,4-D amine	Amine 625	625 g a.i./100 L mixture	Good
Foliar*	Metsulfuron-methyl	Brush-Off®	12 g a.i./100 L mixture	Very poor
Foliar*	Metsulfuron-methyl + Triclopyr/picloram	Brush-Off® + Titan™	12 g a.i./100 L mixture + 150/50 g a.i./100 L mixture	Poor
Soil applied	Tebuthiuron	Graslan™	0.3 g a.i./m ² of canopy cover	N/A**
Soil applied	Tebuthiuron	Graslan™	0.4 g a.i./m ² of canopy cover	N/A**
Soil applied	Hexazinone	Velpar® L	1 g a.i./m of height (neat)	N/A**
Control	Control	-	-	N/A

*All foliar herbicide mixtures contained 291 g a.i. of paraffinic oil (Uptake™)/100 L

**Yet to be evaluated



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