



NSW DEPARTMENT OF
PRIMARY INDUSTRIES

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Summary of the Mimosa Bush Chemical control trial - Yetman 2006/7

Trial undertaken jointly by NSW Dept of Primary Industries, Gwydir Shire Council, Inverell Shire Council, Dow AgroSciences, Dupont and Yetman Common Trust

What are the goals for this trial?? This trial was split into 2 parts. The first section (treatments closest to the Yetman Rd) was treated in spring on 21/11/06 and the other section (away from Yetman Rd) was treated in autumn on 8/2/07. The reasoning behind splitting the trial in two parts was to determine if there were any seasonal effects that may lead to improved control. However, the main of this trial was to compare the level of control of various treatments (registered or un-registered) and to consider the advantages and disadvantages of each treatment.

Table of Results

Please note control scores 0 = nil, 1 = 20% kill, 2 = 50% kill, 3 = 80% kill, 4 = 95% kill and 5 = 100% kill

Treatment	Application type	Approx. Cost of treatment	Control score (0-5) 8/2/07	Control score (0-5) 8/2/07	Control score (0-5) 9/7/07	Control score (0-5) 9/7/07	Control score (0-5) 22/11/07	Control score (0-5) 22/11/07
		\$ per 50 treated bushes	Spring applied treatments	Spring applied treatments	Spring applied treatments	Autumn applied treatments	Spring applied treatments	Autumn applied treatments
1. Lontrel 500mL/100L + wetter	High Vol	\$28	4.94	5.00	4.74	4.80	4.96	4.98
2. Lontrel 500mL/100L + Pulse	High Vol	\$31	4.96	4.98	4.72	4.84	4.94	5.00
3. Lontrel 500mL + 10g metsulfuron/100L + Pulse	High Vol	\$33	4.98	5.00	4.84	4.78	4.96	4.98
4. Lontrel 300mL + 10g metsulfuron/100L + wetter	High Vol	\$19	4.96	5.00	4.82	4.82	4.92	4.96
5. Lontrel 300mL + 10g metsulfuron/100L + Pulse	High Vol	\$21	4.98	5.00	4.84	4.78	4.96	5.00
6. Starane 1 part to 33 parts diesel	Basal Bark	\$21	4.88	5.00	5.00	4.92	5.00	5.00
7. Lontrel 25mL + 1g metsulfuron/1L + Pulse	Low Vol	\$19	4.94	4.96	4.84	4.82	4.86	4.90
8. Access 1 part to 60 parts diesel	Basal Bark	\$16.50	4.84	4.84	5.00	5.00	4.90	5.00
9. Velpar L 4mL/spot (1 spot per metre height)	Spot Gun	\$10	1.94	2.20	4.22	2.20	3.64	3.10
10. Metsulfuron 30g/100L + Pulse	High Vol	\$7	4.98	5.00	4.88	4.62	4.32	2.68
11. Graslan pellets 2g/m ²	Pellets	\$12	1.38	2.06	4.20	3.40	4.06	3.58
12. Savannah (met at 20% active) 90g/100L + Inside	High Vol	\$12	4.98	5.00	4.52	4.76	4.12	3.20
13. Savannah (met at 20% active) 30g/100L + Inside	High Vol	\$4	4.84	4.76	4.68	4.66	4.10	2.80
14. Graslan pellets 1g/m ²	Pellets	\$6	0.80	1.20	3.64	2.30	2.06	2.74
15. Grazon DS 350mL + 10g metsulfuron/100L + wetter	High Vol	\$15	4.70	4.76	4.68	4.58	3.44	4.70
16. Grazon DS 500mL/100L + Pulse	High Vol	\$21	4.86	4.80	4.82	4.70	4.35	4.46
17. Grazon DS 500mL + 10g metsulfuron/100L + wetter	High Vol	\$19.50	4.80	4.68	4.56	4.78	4.06	4.84
18. untreated control	-----	Nil	0.30	0.00	0.40	0.80	0.10	0.40
Other treatments not in this trial area (autumn applied)								
19. Hotshot 700mL/100L + wetter	High Vol	\$15	N/A	N/A	N/A	4.80	N/A	4.50
20. Starane 750mL/100L + wetter	High Vol	\$17	N/A	N/A	N/A	4.66	N/A	4.50
21. Amicide 625 1L/100L + wetter	High Vol	\$8	N/A	N/A	N/A	4.66	N/A	2.50
22. Amicide 625 350mL/100L + wetter	High Vol	\$3.50	N/A	N/A	N/A	4.62	N/A	3.50

Cost assumptions: 100L of high volume mix, 10L of low volume mix, and 10L of diesel mix can treat 50 moderate sized bushes. Average area of drip zone of Mimosa bush is 4m² for graslan pellets.

Important comments from this trial:

- The most recent assessments (on 22.11.07) are most critical as they are more likely to indicate longer-term performance of herbicides.
- A control score of 3 or more is considered commercially acceptable. A greater proportion of treatments in this experiment had control scores of at least 4.5.
- Choosing a treatment should consider various factors such as; price of treatments, level of control, longevity of control, residual control of seedlings, application ease, suitability of technique for your infestation, time constraints and environmental effects.
- The use of Lontrel as a foliar spray gave the best control of Mimosa bush.
- Grazon DS and Starane were the next best foliar treatments. Both these products will now be respectively changed to Grazon Xtra and Starane Advance. The product Hotshot resulted in similar control.
- The use of metsulfuron based products (eg. Brush-off, Savannah etc) are very cheap alternatives as the price of metsulfuron has come down dramatically in the past 15 years. Applications made in spring resulted in better control than those in autumn.
- Apart from the seasonal effects of applying metsulfuron (better control in spring), other herbicide treatments did not have any evident seasonal responses.
- Addition of metsulfuron to Lontrel or Grazon DS did not significantly improve control.
- Both basal bark treatments resulted in near perfect control.
- Graslan pellets were effective but only at 2g/m² or 20kg/ha. The level of control was improving at the last assessment date and is expected to show best results approx 2 years after application.
- Velpar is showing reasonable levels of control; however at the next assessment a better judgement can be made to whether it is a viable option.
- Only the individual bushes were assessed in this experiment because larger clumps of bushes were generally not controlled as well as single bushes. This is because it is harder to spray into the middle of these large masses of weed compared to an individual that may only be 2-3m wide.

Advantages and disadvantages from application techniques:

Technique	Advantages	Disadvantages
Foliar (High Vol)	Fast brownout, suitable for all bush shapes, many treatments registered as high volume	Slow in thick infestation, not everybody has high volume sprayers, labour input high, drift concerns with neighbours, need to keep on moving ute/truck, long hoses and getting large quantities of water.
Foliar (Low Vol)	Fast brownout, affordable cost of equipment, not reliant on moving vehicle and getting large quantities of water	Slow in thick infestation, labour input high, drift concerns with neighbours, not suited to larger bushes or clumps
Spot treatment with Velpar or Graslan	Can be applied in dry weather, or when plant is dormant. Faster than foliar spraying and has residual control of seedlings	Have to wait for rain to activate chemical - may fail in droughts, can't use near many desirable species, waterways or sloping ground. Slow to work - up to 2 years.
Basal Barking	High levels of control, portable equipment used, diesel leaves mark on bark so difficult to double treat bushes	Can't be done on wet stems, not suited to many of the Mimosa bush growth habits due to low branches and multi-stem basal area
Goats	They do the work for you. Good after initial knockdown of larger bushes. Control seedlings. Cheap form of control.	Not many people like keeping them. Fencing, watering points to maintain. Can't control larger established bushes. Can't use goats on all parts of the affected farm at once - need good rotation in paddocks. May take several years to reduce the severity of weed.
Slashing, Mulching Dozing	Suitable for inaccessible thick infestations, cheap compared to alternative options. Can be done if plant is dormant or stressed.	Only as good as the follow-up treatment, so requires more chemical/grazing etc. Not many people have the equipment to do this but can be hired or sub-contracted. Good seed spreader!