

## Horehound Trial 1999

**Bob Thompson**, NSW DPI West Wyalong

**Site Location:** Weja Travelling Stock Route.  
**Field Work:** Bob Thompson, District Agronomist, West Wyalong.  
 Alan Umbers, Central West Farming Systems, Trundle.  
**Aim:** To demonstrate herbicide(s) and timing of application options for the control of horehound.  
**Spraying Date:** Autumn 9 July 1999  
 Spring 23 Sept 1999  
**Spraying Stage:** **Adult** plants.  
**Spraying Methods:** Herbicides applied with a hand held boom, 100 litres of water per hectare.  
**Plot Size:** **4m x 10m**  
**Soil Type:** Red clay soil  
**Assessment Date:** 8 November 1999

Ungarie Rainfall 1999 (mm)												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total (mm)
5	8	50	12	11	29	35	57	33	112	38	161	585

### Seasonal Conditions

January and March was wetter than normal, 20mm in April allowed some crops to be sown early. May and June had a few light showers but was considered to be fairly dry. The trial was finally

sprayed in early July after a fall of 37mm; the remainder of the winter had very good falls of rain. The second spraying had to be delayed until 5mm fell on the 17th September. October was exceptionally wet.

Treatment	Season	Plants per Plot	Plants Killed per Plot	% Kill
Control		76	0	0
3.0 L/ha MCPA amine 500®	Autumn	83	81	98
3.0 L/ha MCPA amine 500®	Spring	88	1	1%
2.0 L/ha Roundup CT® + 600 ml/ha Agral 600	Autumn	73	0	0
2.0 L/ha Roundup CT® + 600 ml/ha Agral 600	Spring	77	0.7	1
1.5 L/ha RoundupCT® + 7 g/ha Ally® + 600 ml/ha Agral 600	Autumn	79	0.3	0
1.5 L/ha Roundup CT® + 7 g/ha Ally® + 600 ml/ha Agral 600	Spring	74	0.3	0.5%
1.5 L/ha Roundup CT® + 700 ml/ha 2,4-D Ester® + 600 ml/ha Agral	Autumn	74	0	0
1.5 L/ha Roundup CT® + 700 ml/ha 2,4-D Ester® + 600 ml/ha Agral	Spring	78	1.3	1.5%

## Comments

- i) The trial was replicated and pegged out in such a way to ensure there were sufficient plots with an average of 2 horehound plants per square metre.
- ii) The most effective treatment was 3.0 litres/hectare of MCPA amine applied in the late autumn, which killed 98% of horehound population, which is consistent with current label registration. Timing the application to coincide with the plants' autumn carbohydrate accrument is fundamental for control. The spring application of MCPA amine in contrast was a complete failure; this was consistent with trial 8846 at Glen Innes in 1988. The spring application of MCPA amine caused severe foliar damage, but a month later and following 120mm of rain all plants produced new growth.
- iii) All treatments involving Roundup CT® (Glyphosate 450g/litre) were spectacular in their failure to control horehound. The addition of Ally® or 2, 4-D Ester 800© increased the severity of foliar injury but did not improve control.
- iv) While the Glyphosate did not kill any of the horehound plants, it successfully killed all the wild oats and annual ryegrass in the plots. The removal of the annual grasses resulted in extensive horehound seedling germination. According to John Weiss, Research Agronomist of the Keith Turnbull Institute, horehound is relatively "soft seeded" (80% soft) and most of the seed is close to the soil surface (top 5mm). While the germination of horehound was not even within the plot, areas of the plot contained 200 to 300 seedlings per square metre. There was no germination of horehound seedlings in the plots where MCPA amine was used, most likely due to

the competition from the high population of established grass weeds.

## Recommended Horehound Management

Treat infested pastoral areas with 3.0 litres MCPA amine per hectare in the autumn. Apply the MCPA with 100 litres of water per hectare. Horehound can be a difficult plant to wet. A wetting adjuvant may be of assistance.

Maintain grasses to prevent the establishment of seedlings. Burn the infested area the following year, in early autumn, to destroy as much of the seed bank as possible. Respray the area later in the autumn to control any subsequent horehound germinations with MCPA amine.

## Future Research

- i) There is merit in evaluating the uses of crop oils to improve the application of MCPA amine at the 3.0 litre/ha rate and at lower rates.
- ii) There is no label rate specifically for seedling plants. 3.0L MCPA/ha will obviously kill them, but is it worthwhile establishing an effective lower rate that can be incorporated into a management program.