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### The control of weeds in cereals

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# WEED CONTROL IN PASTURES – A PRACTICAL APPROACH FOR SHEEP AREAS

By G. A. PEARCE, M.Sc.(Agric.), Biological Services Division

IN the past, chemical treatments for the control of weeds in pastures have been costly and severe on pasture, and have had to be repeated over a number of years. The method outlined in this article overcomes nearly all these disadvantages.

The cost of the spray recommended is only 60 cents per acre, the pasture production will increase, the weeds will be killed and the treatment can be repeated each year for as long as necessary without detrimental effects on the pasture.

It is effective against most annual broadleaved weeds, and also some broad-leaved perennials. These are listed below.

## The method

1. Six weeks after the opening rains of the growing season, the infested area is sprayed with 1 pint per acre of 50 per cent. 2,4-D amine for the control of annual weeds, or 1½ pints per acre of 50 per cent. 2,4-D amine for the control of perennial weeds.

2. Seven days after spraying, the paddock is stocked with sheep at four to five times the normal set stocking rate for the district.

3. The sheep should be kept on the area at this high level of stocking for about six weeks, or until the pasture shows signs of overgrazing, when the stocking rate should be reduced.

4. The stocking rate should be increased again in the spring to prevent remaining weeds from flowering.

## Why it works

The pasture treated must be a reasonably good legume-based pasture, to compete with the weeds and to provide stock feed when the weeds are killed.



Spraying and grazing has eliminated the Patersons curse from the area on the right. The unsprayed Patersons curse on the left has not been controlled by normal grazing

At the recommended rates of application, 2,4-D will not affect the clover or other pasture species. Nor will it usually kill any of the weeds listed as controlled by this method. However, the 2,4-D is absorbed by the weeds, causing them to wilt and become more palatable to stock. Palatability rises because the sugar level in the plants rises for a short period following spraying.

If they are not heavily grazed at this time, most of the weeds recover in two to three weeks and make normal growth. In the wilted condition after spraying, the weeds are selectively grazed by sheep and quickly eaten out. Any regrowth which does occur on the normally unpalatable weeds after grazing, usually survives.

After treatment the pasture usually makes normal growth and competes strongly with the sprayed weeds. The weeds are killed out completely or become unimportant species within the pasture.

This spraying and grazing process can be repeated each year until the dormant weed seeds are exhausted. Usually, however, after the initial treatment a good balanced pasture can be maintained.

### Weeds controlled

There is little doubt that the programme would be effective against the majority of annual broadleaved weeds. Surprisingly, even perennials such as docks and spear thistle have been effectively handled.

**ANNUAL WEEDS** which have been controlled have included: amsinckia, annual thistles, capeweed, double-gee, mustard, Paterson's curse, saffron thistle, and turnip.

**PERENNIAL WEEDS** controlled have included: docks, spear thistle, and variegated thistle.

### Application of 2,4-D

In this spraying and grazing treatment the amount of herbicide applied is not as critical as when spraying alone is used. This means that, although boom sprays are highly effective, misters or triple nozzles are quite accurate enough to ensure success.

Care must be taken that too much herbicide is not applied, as this may result in permanent damage to the pasture.

### The problem

Very little general spraying is done for weed control in pastures because

- The spray is too costly
- The pasture species are damaged
- Less feed is available for stock
- The infestation is just as bad the following year

### ... And the answer

- The spray only costs 60 cents per acre
- The pasture species are unaffected
- More feed is produced without weeds
- The treatment can be repeated at little expense until the weeds are eradicated

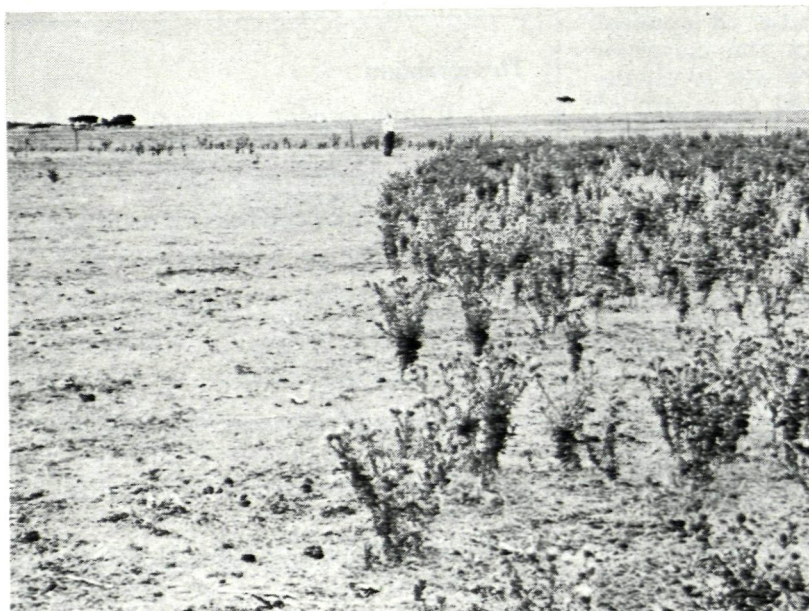
### Importance of weather

The weather can affect the results in several ways. If the spraying is done when the paddock is waterlogged and the weeds are not making active growth, the 2,4-D will not be absorbed and the stock will be less inclined to eat the weeds. This applies mainly to less palatable species, such as docks. On one demonstration site at Mount Barker this occurred and no control was obtained even with a second spraying. The same species of dock on a higher site nearby was easily killed out.

### Spring treatment

Some weed species germinate slowly over an extended period, so that seedlings appear after the spraying has been carried out. Saffron thistle is an example and for this reason better results are obtained if the treatment is started in early September, before any flowering stalks have been formed. During the winter the pasture should be kept grazed short and the stocking rate should be increased as described at the correct time.





Spear thistle—the whole area was slashed and the left half of the 10-acre site sprayed and grazed as described. The unsprayed regrowth on the right was not eaten by the sheep

### Annual grasses

Annual grasses such as Wimmera ryegrass, silver grass, and barley grass can often become dominant in clover pastures. These weeds can be selectively controlled by spraying with Gramoxone. The treatment should be carried out three to four weeks after the first germination and the rate of application required is  $\frac{3}{8}$  pint per acre. If the weeds are from

four to six weeks old, the rate should be increased to  $\frac{1}{2}$  pint per acre. Clover will tolerate this quantity of Gramoxone but if wetting agent is added some damage can be expected.

To avoid damage to clover it is important to use the correct rate of application and for this reason a boom spray is the best equipment to use. Heavy grazing three days after spraying will increase the effectiveness of the treatment.

### Recommendations for the control of broadleaved weeds and annual grasses in pastures

Weed	Time to spray	Rate per acre	Comments
Amsinckia .... annual thistles capeweed doublegee mustard patersons curse turnip	6 weeks after opening rains to growing season	1 pint 50% 2, 4-D amine	7 days after spraying graze with sheep 4-5 times normal set stocking rate for district—don't damage pasture
Saffron thistle ....	early September ....	1 pint 50% 2, 4-D amine	As above ; normal stocking in winter
Docks .... spear thistle variegated thistle	6 weeks after opening rains to growing season	1½ pints 50% 2, 4-D amine	With spear thistle slash tops—spray regrowth when 6-8 in. ; stock as above
Annual grasses .... Wimmera ryegrass, barley grass, silver grass, etc.	3-4 weeks after emergence	$\frac{3}{8}$ pint Gramoxone ....	Heavy stock area 3 days after spraying no wetting agent

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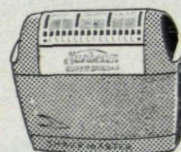
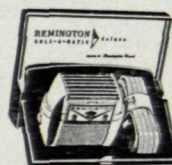
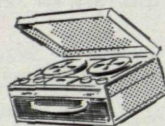
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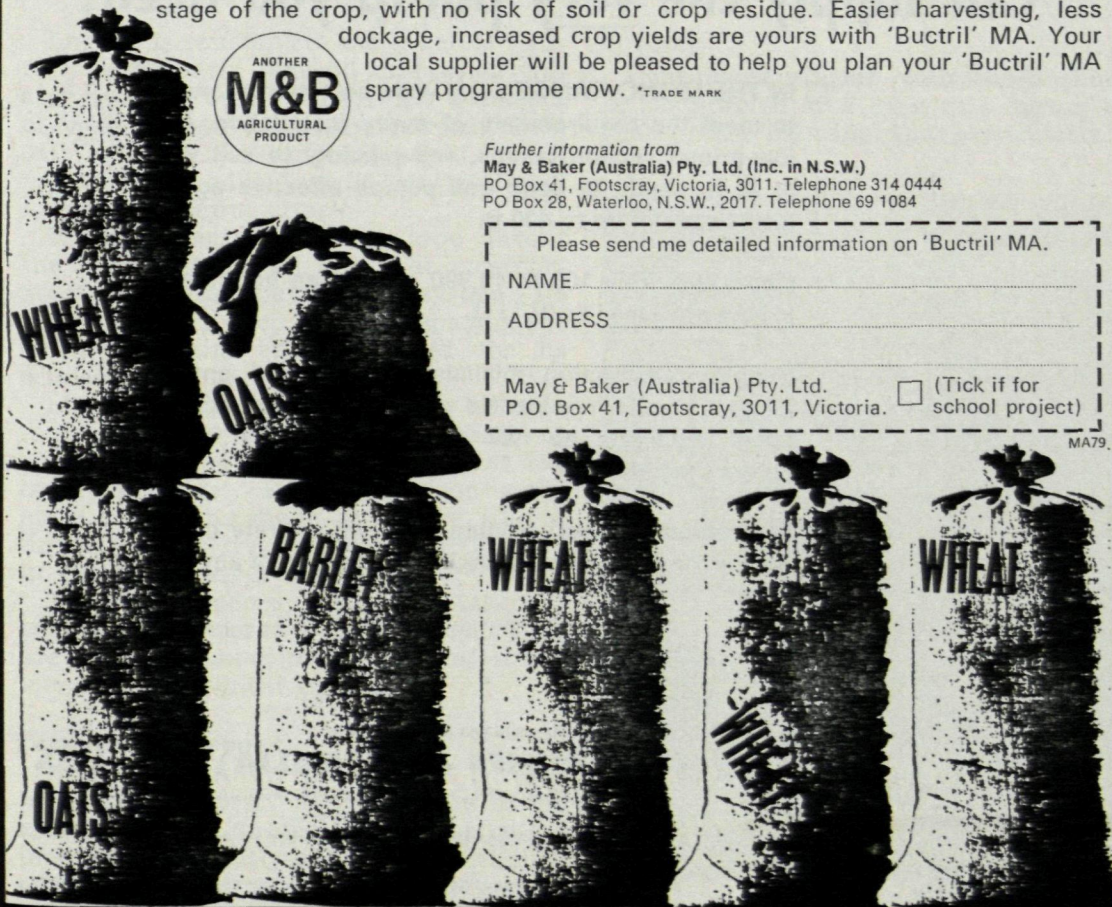
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