

WEED CONTROL IN PASTURES AND GRAZING LAND IN SOUTH AUSTRALIA

Reviewed by

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In South Australia, there is only a small area of improved pastures (6.7m. acres, 2.7m. hectares, 1966-67). This is about one fifth of the land which has a rainfall of greater than ten inches (250 mm) per annum. Thus it is only in a very restricted area that 'weed control in pastures' has much meaning, as outside of it, almost any growth is accepted as feed, regardless of any disadvantages that the presence of weeds may confer.

In the pastoral and unimproved annual pasture regions, deliberate weed control is unusual. However, most of the problem weeds of these areas are proclaimed as noxious. This enables action to be taken to control intolerable infestations.

The management of improved annual pastures is generally better. Where there are no perennial components to the pasture, the use of herbicides is extremely unusual. Control is obtained by fertility increase, by suitable grazing practices e.g. *Cenchrus*, *Diploaxis*, *Echium*, *Reseda*, by cropping e.g. *Asphodelus*, *Oxalis* or by burning e.g. *Cenchrus*. Where sprays are used as a control measure they would almost invariably be hormone-type because of the cost. For eradication work, more potent herbicides are used.

As mentioned earlier, pastures have been the neglected part of cereal-annual pasture rotations. In the future with a swing from cereals this may well change.

As most of these weeds are proclaimed, legal action is again available if needed. Generally, control recommendations are formulated to blend with management practices of these areas. Exceptions have been the herbicidal control of *Echium lycopsis* (Phillips and Kloot 1969) and a recently developed herbicidal procedure for controlling *Oxalis pes-caprae* (Catt pers. comm.).

Spraying of weeds has been accepted fairly readily in perennial pastures. Nevertheless a very weedy paddock is still likely to be cultivated although pasture renovation with bipyridyls (Hagerstrom 1970) is becoming quite common. Also selective spraying of broadleaves with 2,4-D is increasing. The woodier weeds are treated with 2,4,5-T and its mixtures. Spot spraying of *Rumex* spp. with a dicamba/2,4-D mixture is widespread.

For the most part in South Australia, the severe climate limits production potential. Consequently financial returns are limited and weed control will continue to be obtained with

The following table relates the main pasture weed problems to rainfall and land use. Variations in soil type and topography will affect any local situation.

Annual Rainfall (in/mm)	More than 24/600	18-24/ 450-600	10-20/ 250-500	Less than 14/350
Predominant Land Use	Grazing	Grazing/ Cropping	Cereals/ Grazing	Grazing
Pasture Type	Perennial	Perennial/ Annual	Annual	Perennial/ Annual/ Ephemeral
Weed Problems	<i>Arctotheca calendula</i>	<i>Arctotheca calendula</i>	<i>Asphodelus fistulosus</i>	<i>Asphodelus fistulosus</i>
	<i>Erodium</i>	<i>Echium lycopsis</i>	<i>Carthamus lanatus</i>	<i>Carrichterra annua</i>
	<i>Holcus lanatus</i>	<i>Erodium</i> spp.	<i>Diploaxis tenuifolia</i>	<i>Marrubium vulgare</i>
	<i>Hordeum</i> spp.	<i>Hordeum</i> spp.	<i>Echium lycopsis</i>	<i>Xanthium spinosum</i>
	Other weedy grasses	Other weedy grasses	<i>Homeria</i> spp.	
	<i>Rumex</i> spp.	<i>Rumex acetosella</i>	<i>Oxalis pescaprae</i>	
	<i>Rumex acetosella</i>	Thistles esp.	<i>Reseda lutea</i>	
	Thistles esp.	<i>Carduus</i> spp.		
	<i>Cirsium</i> spp.	<i>Cirsium</i> spp.		
	<u>Restricted Areas</u>		<u>Lighter Soils</u>	<u>Flood plains</u>
	<i>Rubus</i> spp.		<i>Cenchrus</i> spp.	<i>Datura</i> spp.
	<i>Senecio pterophorus</i>		<i>Chondrilla juncea</i>	<i>Lycium ferocissimum</i>
				<i>Silybum marianum</i>
<i>Ulex europaeus</i>			<i>Nitraria schoberi</i> (where saline)	

management practices other than herbicides. The current economic climate accentuates this position.

REFERENCES

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PHILLIPS, C. and KLOOT, P.M. (1969). Salvation jane - weed or feed. *S.A. J. Agric.* 72: 311-312.