CONCLUSION

An initial application of 10 lb a.i./ac (10 kg/ha) of amitrole in early summer with a second treatment at the same rate 6-9 weeks later will give effective control of water couch. The time interval between sprayings is critical and if the water couch is growing vigorously recovery will occur if the second spraying is applied after a shorter period. If the water couch is reduced in vigour the second spraying can be applied 4-9 weeks after the initial application. A single application of 20 lb a.i./ac (20 kg/ha) in early summer will not give effective control over the growing season.

If spraying is carried out in late summer a single application of 20 lb a.i./ac (20 kg/ha) is as effective as the split application of 10 + 10 lb a.i./ac (10 + 10 kg/ha). With split applications at this period the time interval between spraying does not become as critical particularly if the water couch is reduced in vigour when spraying is commenced.

Commencement of split treatments in early summer will result in maximum freedom from blockage of channels over the main growing period. Although a single application in late summer will also give effective control the split application approach commenced in early summer is the most practical.

NON SELECTIVE CONTROL OF WHITEHORSE NETTLE

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Occasionally a plant species may have a limited distribution and grow mainly on non-productive land such as channel banks, railway reserves, and roadsides. The occurrence on agricultural land may be confined to a few properties and/or the acreage may not be very great. When this plant is known to be a weed of importance in other States or countries it may be desirable to eliminate it even if the cost is high. The cost of eradication may be far less than the future losses in production if extensive infestations develop.

In Victoria whitehorse nettle (*Solanum elaeagnifolium* Cav.) is a weed fitting these conditions. The area of infestation is estimated at 2,400 acres of which about 90% occurs on six farms.

Trial work to find an effective herbicide for whitehorse nettle control commenced in 1963 and many compounds have been screened since that time.

In May 1969 a further trial was carried out using only the most promising chemicals at a single rate of application. The rate chosen was the one currently recommended in Victoria for control of whitehorse nettle. The treatments were as follows:

(a) Boom spraying at 40 g.p.a. (450 l/ha)

(i) Picloram 16 oz a.i./acre (1.12 kg/ha)
(ii) 2,3,6-TBA 20 lb/acre (22.4 kg/ha)

(b) Spot spraying at 242 g.p.a. (2718 l/ha)

(i) Picloram 1:100
(ii) 2,3,6-TBA 1:20
(iii) Bromacil 1 lb in 10 gallons (0.45 kg in 45.4 litres).

Plant density counts were made in February 1970 in five random 3 sq ft quadrats on each plot. Results of these counts are as follows:

Treatment	Mean Plant Density/sq ft	% Reduction over Untreated
Untreated	4.43	-
Boom spray		
Picloram	0.10	97.7
2,3,6-TBA	0.20	95.5
Spot Spray		
Picloram	0.03	99.2
2,3,6-TBA	-	100
Bromacil	0.73	83.5

Whilst these herbicides at the rates used will control a wide range of plant species, recolonization by grasses is fairly rapid on picloram and 2,3,6-TBA treated areas. However in many cases where infestations are small the effect on other species can be tolerated.

On the basis of current prices picloram treatments are the most economical and give satisfactory results. As an effective

method of treatment is available it is well worthwhile carrying out a campaign to eradicate small areas of whitehorse nettle.

Although the cost of picloram treatment is approximately $36 per acre this may not be as great as future income losses if whitehorse nettle infestations are left untreated.