

REGIONAL REVIEW OF WEEDS AND WEED CONTROL IN TASMANIA

Reviewed by
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Tasmania extends through only 4° of latitude and consequently there is little variation in the average annual temperature at sea level or the day length in different parts of the State. However, the range of average annual rainfall of from 18" (45 cm) to 65" (165 cm) over the cultivated area, the variety of soil types and the relatively long history of settlement have ensured a rich and varied flora of temperate region weeds.

These same factors coupled with the variety of crops grown, the absence of monoculture systems and the frequent practice of rotating cropping with pasture leys prevent domination of large areas by one weed or by several in distinct associations but provide a large number of minor weed problems.

AGRICULTURAL AND HORTICULTURAL CROPS

Except for some areas where autumn sown cereals commonly provide winter grazing and where, perhaps, the possibilities of chemical weed control are not fully understood and exploited, selective herbicides are widely used in cereals and pulses. This is especially so in areas where vegetable production is carried on in conjunction with other farming enterprises. Good crop yields and high weed densities provide economic justification for using the more costly herbicides, where applicable, in both agricultural and horticultural crops.

Mecoprop and bromoxynil are being increasingly used in cereals to control chickweed, fumitory and polygonum species which are largely replacing cruciferous weeds as a result of the cropping programme and the use of phenoxyacetics over the past years.

In vegetable crops the use of herbicides, particularly pre-emergent types, is making it possible to introduce improvements in cultural practices, crop spacing, and harvesting methods and to make substantial reductions in the cost of production.

A critical approach to a comparison of the cost of weed control with the economic return obtained is often lacking in both field and horticultural crops. No local trials have been conducted on the growth of weeds and their effect on crop production nor any investigation carried out into the long term effect of herbicide usage and crop rotation on the weed flora. Without such studies it is doubtful if the optimum use of herbicides and other weed control measures can be made.

CONTROL OF WEEDS IN PASTURE

Too great a dependence on herbicides alone for the control of weeds in pasture is a common fault and instances have occurred of severe clover damage and loss of pasture productivity caused by regular annual, broad-acre spraying with 2.4-D. The emphasis laid on the prevention of noxious weeds from seeding has probably contributed to the misuse of herbicides in this way. A more general approach to the whole problem is needed and greater reliance should be placed on indirect methods of weed control, e.g. by sowing pasture species which are more resistant to weed invasion or less susceptible to insect attack which leaves the pasture open, by improved nutrition and grazing management, or by the use, where possible, of a cropping phase when a pasture has to be resown. Concentrations of noxious weeds often persist in steep or stony areas of improved pastures and result in reinfestation problems. A more discriminating selection of land for pasture improvement would assist. A research programme designed to study some of these factors in relation to Slender Thistles is now underway in Tasmania.

Herbicides are of considerable value during the establishment phase of many pasture species, lucerne being an outstanding example. Subject to the abovementioned limitations, they also have special application in the maintenance of established pasture. For example, use is made of low doses of phenoxyacetics, MCPA in particular, to improve palatability and encourage the selective grazing of some weed species, e.g. erodium and cape weed. Occasional spraying at moderately heavy rates of these herbicides when preceded and followed by suitable grazing management may counter the dominance of a particular weed without causing serious clover damage. Dicamba although very severe on legumes and thus responsible for short term loss of pasture production is invaluable for the eradication of Cotton thistle and its use is therefore justifiable.

LEGISLATIVE ACTION

Although of doubtful value in some contexts noxious weed legislation has proved its worth in weed eradication campaigns while seeds legislation makes an important contribution to the prevention of weed infestation or re-infestation of clean areas.