

WEEDS IN AGRICULTURAL CROPS IN TASMANIA

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Principal agricultural crops and average acreages sown in Tasmania in the last five years are as follows:

Oats (for grain) 32,000 (12,800 ha) (for grazing or hay) 70,000 (28,000);

Barley 22,000 (8,800); Wheat 15,000 (6,000);

Cruciferous fodder crops: Chou moellier, rape, turnips 50,000 (20,000);

Peas (Field peas) 4,500 (1,800) (Maple peas) 2,000 (800)

Significant grazing is carried out on a considerable acreage of the cereal crops which are harvested for grain.

A small acreage of other agricultural crops - Oil poppies, 500 (200), Horse beans, 400 (160), is also grown.

The important weeds of arable land are predominantly annual dicotyledons of European origin: e.g. wild radish, *Raphanus raphanistrum* and other cruciferous weeds, fat hen, *Chenopodium album*, *Polygonum* spp., *Fumaria* spp., chickweed, *Stellaria media*, spurry, *Spergula arvensis*.

Weeds common to both pasture and crop, e.g. variegated thistle *Silybum marianum* and slender thistles, *Carduus* spp., *Erodium* spp., cape weed *Cryptostemma calendula*. Some perennials, *Rumex* spp., Hoary cress, *Cardaria draba* sometimes give trouble. Monocotyledons are of lesser importance but *Poa annua*, *Agropyron repens*, *Avena fatua*, and *Bromus* spp. may affect yield or seed quality.

SIGNIFICANCE OF WEEDS

Weeds are of significance in cereals and pulses and, if suitable herbicides were not available, the yield of these crops in the State would be considerably reduced. Local experimental results directly measuring the effect of weeds on crop yield are limited but available evidence suggests that yield reductions of the order of 20% may be common with medium weed infestations. The alternation of cropping with grass leys and the absence of monoculture tends to prevent any build up of any particular crop-weed association.

PRESENT PRACTICE OF WEED CONTROL

More reliance is placed on chemical methods than on extra cultivation and fallowing for weed control in cereals and peas. In some areas very full use is made of herbicides but in others they are under employed and crop losses are incurred.

Phenoxyacetics are the commonest herbicides used in cereals followed by mecoprop, bromoxynil and occasionally dicamba. Mixtures of MCPA and bromoxynil are occasionally employed. Dinoseb, propazine and MCPA or MCPB are used in field and maple peas. In cruciferous fodder crops, a very small use is made of desmetryne and nitrofen and contact herbicides are being employed for weed control in poppies.

EFFECTIVENESS OF RESEARCH, EXTENSION AND LEGISLATION

Research and extension work have proved useful in establishing and demonstrating the value of suitable replacement herbicides in situations where weeds resistant to the phenoxyacetic herbicides are present. Trials have also indicated that some herbicides used extensively on certain crops in other states or outside Australia are not suitable when used in Tasmania for these same crops.

Research has proved useful in determining the best weed control measures in cruciferous crops and the future of the poppy industry would be less in doubt but for promising research developments with selective herbicides.

Weed control legislation can be ignored as a factor affecting weed control in agricultural crops.