WEEDS IN HORTICULTURAL CROPS IN TASMANIA

Reviewed by
B.J. Baldwin
Department of Agriculture, Tasmania

VEGETABLE CROPS

Approximately 29,000 acres (11,800 ha.) of vegetables are grown in Tasmania, over 90% consisting of green peas, 14,000 acres (5,700), and French and runner beans, 1,600 acres (650) for processing and potatoes, 11,500 acres (4,700). Other crops in which weeds are important are:

Carrots and parsnips, 550 acres (220), onions, 200 acres (80).

About 80% of the acreage is in the north-west where vegetables are commonly grown in rotation with cereals, pulses and pasture. The main soil type used is a basaltic krasnozem with some crops on alluvial soils and sands. A further 10% is in the north-east on similar soil types. The general climate is one of cool, wet winters and relatively warm, dry summers. Approximately half of all crops are irrigated.

SIGNIFICANCE AND OCCURRENCE OF WEEDS

The majority of weeds are annual dicotyledons. More than 40 species are common, ten or more frequently occurring in a single paddock. In most areas there is a large reserve of weed seed in the soil.

Time of year, type of cultivation, soil temperature and moisture all affect the species and proportions of weeds germinating with *Fumariaceae, Cruciferae, Polygonaceae, Labiatae, Calandrinia* sp., *Stellaria media* and *Spergula arvensis* predominating in early spring sown crops. *Chenopodium album* usually appears later in the season, while *Trifolium subterraneum* and *Erodium moschatum* are typical summer weeds.

The effects of weeds on production are very variable, ranging from nil to a complete loss, depending on the type of crop, its management, the weed species present, the density of both crop and weeds and the season. The relative importance of these factors has not been studied and it is impossible to predict potential losses in production for any given situation.

Weeds can also increase production costs through interference at harvest.

PRESENT PRACTICE OF WEED CONTROL

Green peas

Most growers use selective herbicides - propazine for pre-emergence use in early crops and dinoseb amine for post-emergence work.

Potatoes

Usual practice is post planting cultivation which is satisfactory except for early crops when conditions are wet. Haulm destruction and weed control are sometimes carried out before harvesting.

French beans

Stale seed bed spraying technique used occasionally but no selective herbicide so far evaluated has proved as effective as inter-row cultivation.

Other crops

Except for brassica crops, swedes, cabbage, cauliflower, etc. which total 1,600 acres (610), there is a steady increase in the use of herbicides. This has reduced the cost of weed control and made possible more productive crop spacing.

EFFECTIVENESS OF RESEARCH AND EXTENSION

In recent years most research has been directed towards the evaluation of selective herbicides. Those that have proved effective in trials and are recommended for commercial use are quickly adopted by growers.

ORCHARD CROPS

Significance of Weeds

The main interest in weeds and their control is in pome fruits, 19,500 acres (7,700) where perennial weeds *Rumex* spp., *Agropyron repens* and occasionally tall annuals are a problem and in berry fruits, 1,500 acres (610) where in addition, *Arrhenatherum elatius* and *Ranunculus repens* cause trouble.

PRESENT PRACTICE

Pome fruits

Dipyridyls and occasionally 2.2-D.P.A. are used for weeds in tree lines. Lands are cultivated or left as a sward using paraquat for chemical mowing and to help maintain clover dominance.

Berry fruits

Weed control mainly by cultivation or hand hoeing. Some spraying now being carried out with 2.2-D.P.A. phenoxybutyrics and chlorthiamid.

EFFECTIVENESS OF RESEARCH AND EXTENSION

Little research has been carried out. Extension work is reasonably effective.