THE WEED SITUATION IN VEGETABLE CROPS IN QUEENSLAND

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GENERAL SITUATION

Vegetable growing in Queensland is practised mainly in the south-east coastal and sub-coastal districts in the 30-50 inch rainfall belt. Winter tomatoes and seed beans are produced in the low rainfall areas of North Queensland.

Many weed species often of high population are encountered in most areas. These include about 20 major species which are widespread. Another 20 species are quite common and many more are minor species. These high weed populations often develop as a result of the common practice of allowing a cover crop of weeds to seed before ploughing.

There has been a shift in weed species in areas taken up for vegetable crops from perennial and long term annual weeds to weeds with a shorter growth cycle which can succeed under conditions of frequent cultivation.

The use of black polythene mulch for some crops like tomatoes and cucurbits has greatly reduced weed problems in the situations where it has been applied, though cost is a limiting factor. A lack of suitable post-emergence herbicides for most crops is evident. In general weed control practice in vegetable crops involves mechanical cultivation of the inter-row spaces with band spraying of herbicide in the crop row. Hand hoeing may be done where chemical control has not given acceptable results or when chemical weed control becomes less effective. The behavious of some herbicides under Queensland conditions often differ quite markedly from expectations based on results of workers in other areas.

PROBLEMS

The limited market potential for herbicides for some crops deters herbicide distributors from promoting and marketing materials which have shown great promise during their evaluation in Queensland.

The wide range of weed species present in many crop situations makes effective chemical weed control difficult.

In some localities nut grass is a serious problem. This weed is not controlled by polythene mulch, cultivation nor 'safe' chemicals in vegetable crop situations.

Although much progress has been made in the past ten years, some difficulty is still being encountered in the extension of findings. Some distributors are reluctant to accept the use of mixtures of herbicides to broaden the spectrum of weed control. Some growers are unable to identify many of the weeds found on their properties and lack of care in measuring and applying herbicides has led to variable results.

There is insufficient information at present on chemical residues in the soil. Growers have blamed residues for poor results in crops succeeding situations where herbicides have been used.

Difficulty has been encountered with pre-emergent herbicides used in the furrow irrigation situation. Good results are not obtained from surface application in the absence of sprinkler irrigation or rainfall. Materials suitable for mechanical incorporation have not given the spectrum of weed control necessary.

CROP HERBICIDE TREATMENTS

Beetroot - Good control using Pyrazon + Propachlor mixtures, band sprayed.

Carrots and Parsnips - Excellent control using Trifluralin + Propazine mixture in winter and Trifluralin + Prometryne mixture in summer.

French Beans - Mixture of Diuron + Trifluralin or Prometryne + Trifluralin give good results.

Peas - Propazine + Trifluralin can be used in peas for fresh market. Economic weed control in peas for processing can be obtained using 4 oz. a.i. per acre of either Linuron or Prometryne if crop growth is vigorous.

Lettuce - Benefin mechanically incorporated will give good control of grasses and some broad leaved weeds.

Cucurbits - Surface application of Benefin gives good control of grasses and some broad leaved weeds. Incorporation causes damage.

Tomatoes - Diphenamid pre-planting or early post-planting gives good broad spectrum control. Trifluralin may also be used and Allichlor (CP50144) shows promise.