

THE WEED SITUATION IN POTATOES AND ONIONS IN QUEENSLAND

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POTATOES

Because of the short length of time the crop is in the ground and the need for regular inter-row cultivation for purposes other than weed control, weeds do not present a major problem in potato growing in Queensland.

As a general practice pre-emergence herbicides are not used commercially in the crop. There has been very little demand from growers for their use and this is indicated by the fact that in Queensland there is not a pre-emergence herbicide registered for use in potatoes. Post-emergence herbicides of the contact type are used to a very small extent during emergence of the crop and at the end of the crop to facilitate harvesting.

Cultural practices include harrowing during crop emergence primarily for weed control and inter-row cultivation with tynes and hilling with discs or sweeps during the later stages of the crop primarily to prevent greening of tubers and entry of tuber moth. The inter-row cultivation and hilling operations also serve to provide adequate weed control for the duration of the growing season.

ONIONS

Onions, because of their long growing period and inability to compete with weeds, are a crop in which weed control is important from planting to harvesting. Weeds in the early stages of the crop can offer serious competition for moisture, nutrients and light while weeds in the later stages can prevent full bulb development and ripening, create conditions suited to downy mildew and interfere with harvesting. Should weeds be allowed to grow unchecked, they can reduce yields by up to 90%. The most critical stage is in the first 30% of the life of the crop when 60% of the total yield loss can occur.

The cost of removing weeds can represent a very large proportion of the overall cost of production. The cost of cultivation and hand weeding can reach \$150 per acre while chemical methods of weeding can total \$50 per acre.

The onion planting season in Queensland extends from February to July with the major plantings taking place from

mid-March to mid-April. It can be seen, therefore, that both summer and winter growing annual weeds can be encountered regardless of the time of planting. This places a large demand on a herbicide or herbicide combination. Not only is it expected to provide long term control, it is also expected to control a large and diverse range of weed species. There are approximately 7 annual grass species and 32 annual broad-leafed species that can be regarded as weeds of onions under Queensland conditions.

Present weed control practices are based on very thorough land preparation and the use of a pre-emergence herbicide. These are supplemented by inter-row cultivation, hand chipping and the use of a number of contact type post-emergence herbicides. The present wide acceptance of herbicides in onion production in Queensland can be attributed largely to an intensive programme of research and extension over the past five years.