Wilkinson and Smith (1975) found that 1,8-naphthalic anhydride and R25788 counteracted the EPTC-induced reduction of the synthesis of fatty acids in isolated chloroplasts.

Although the current scope of 'anti-herbicides' is limited, the potential is large. If substances are discovered which counteract the effects of other groups of herbicides, very fine herbicidal selectivity may become possible in the future by manipulating herbicide-antidote combinations. If, as suggested by research to date, these materials operate at the cellular or organelle level, it is conceivable that the principle would be effective with foliar-applied herbicides as well as with those applied to the soil.

Further development of the concept of the 'anti-herbicide' may allow for herbicidal selectivity between closely related species, or even, when the protectant is applied as a seed dressing, between genetically identical plants.

SOURSOB - THE YELLOW PERIL?

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Soursob (*Oxalis pes-caprae*), a bulb-forming noxious weed, occurs in many situations throughout Victoria; along roadsides, in vineyards and orchards, pastures, cereal crops, nurseries, parks and home gardens. It competes with cereal crops and pastures for moisture and nutrients and is poisonous to stock, particularly sheep.

On roadsides, soursob is largely ignored and justifiably little control work is carried out. Bulbs are spread by earth-moving equipment and often soursob is brought in with soil used in new road formations. In many ways, soursob is an ideal roadside plant, being low-growing, forming dense patches and attractive when flowering. Likewise, in vineyards and orchards, soursob may be a useful covercrop species, growing throughout autumn and winter and dying in spring. In these situations no control method is warranted on soursob.

In the past, some nurseries have been responsible for the spread of soursob; however, soil used for propagation of shrubs now is often fumigated for the control of weeds, insects and

diseases. Any soursob that may originate from nurseries is of no consequence to orchardists but could result in reduced sales to home gardeners who, rather unrealistically, attack soursob with considerable zeal. The only suitable control methods available to the home gardener are digging to remove plants and bulbs, or regular defoliation. Herbicides which may control soursob are often hazardous to annual plants and ornamentals in home gardens.

As no reasonable control method is available in annual pasture, soursob is a management problem in this situation. Sheep are able to develop a tolerance to ingestion of plants containing oxalic acid and soluble oxalates, so it is advisable that sheep should be allowed to graze soursob-dominant pasture for only a few hours at a time and be fed a hay supplement to reduce the chance of fatal poisoning. Herbicides are available to control soursob in pastures, but at the rates required the cost is high and they effectively exclude the legume component.

Although soursob is a strong competitor in cereals in local areas of Victoria, it is not destined to cause as great a problem as that experienced in South Australia because more frequent frosts retard the plant and reduce its vigour. Various methods of control of soursob in cereal-growing areas have been under investigation in Victoria for a number of years. It has been shown that cultivation, critically timed to the bulb exhaustion stage of soursob (May-June) followed by two additional workings at 2- to 3-weekly intervals, will reduce the soursob population by approximately 50%. However, no significant yield increase in the subsequent wheat crop was achieved using this technique. Problems arise with this method as wet soils sometimes preclude cultivation and at least 2 months' pasture is lost during winter when stock feed is often limited.

Research has shown that diuron at 1.1 kg of product per hectare sprayed at the two-leaf crop stage will result in 70-80% control of soursob and may increase wheat yield. This level of control persists through the subsequent pasture phase for at least 3 years. It was found also that little benefit was gained through combining the two control methods, when compared with spraying alone.

Crop spraying with diuron however, is not without its complications; as wheat and barley both have low tolerances to this herbicide, careful application techniques are essential.