

# Aphid Control in Brassica Crops in Canterbury

**T**HOUGH marked improvement in pasture production and utilisation techniques has reduced materially the need for special supplementary fodder cropping, especially in the more favourable grass-growing regions, the fodder crop remains an essential feature on many farms and in many districts throughout New Zealand. In addition to their general role in providing feed to offset seasonal pasture production shortages or to provide for such special purposes as topping off lambs or flushing the ewe flock, fodder crops are not infrequently important in land development projects and in crop-rotation programmes planned to build up, restore, or maintain soil fertility. Over 850,000 acres of root and green fodder crops are grown annually, by far the greatest part consisting of members of the brassica family—swedes, turnips, rape, chou moellier, and kale—which aggregates about 800,000 acres. Unfortunately, however, brassicas are subject to serious damage by aphids. This article by the Extension Division, Department of Agriculture, discusses some aspects of the occurrence and control of aphids in Canterbury, where attacks were severe and widespread during the warm summer and autumn last year.

**N**OTWITHSTANDING their popularity, brassicas are prone to a number of serious diseases and the ravages of insect pests that either alone or in combination often seriously affect crop yields, the quality of the fodder produced, or both. Among the most troublesome of these pests are aphids. These fast-multiplying, sap-sucking insects are particularly partial to swedes, turnips, and rape and are also troublesome on chou moellier and kale.

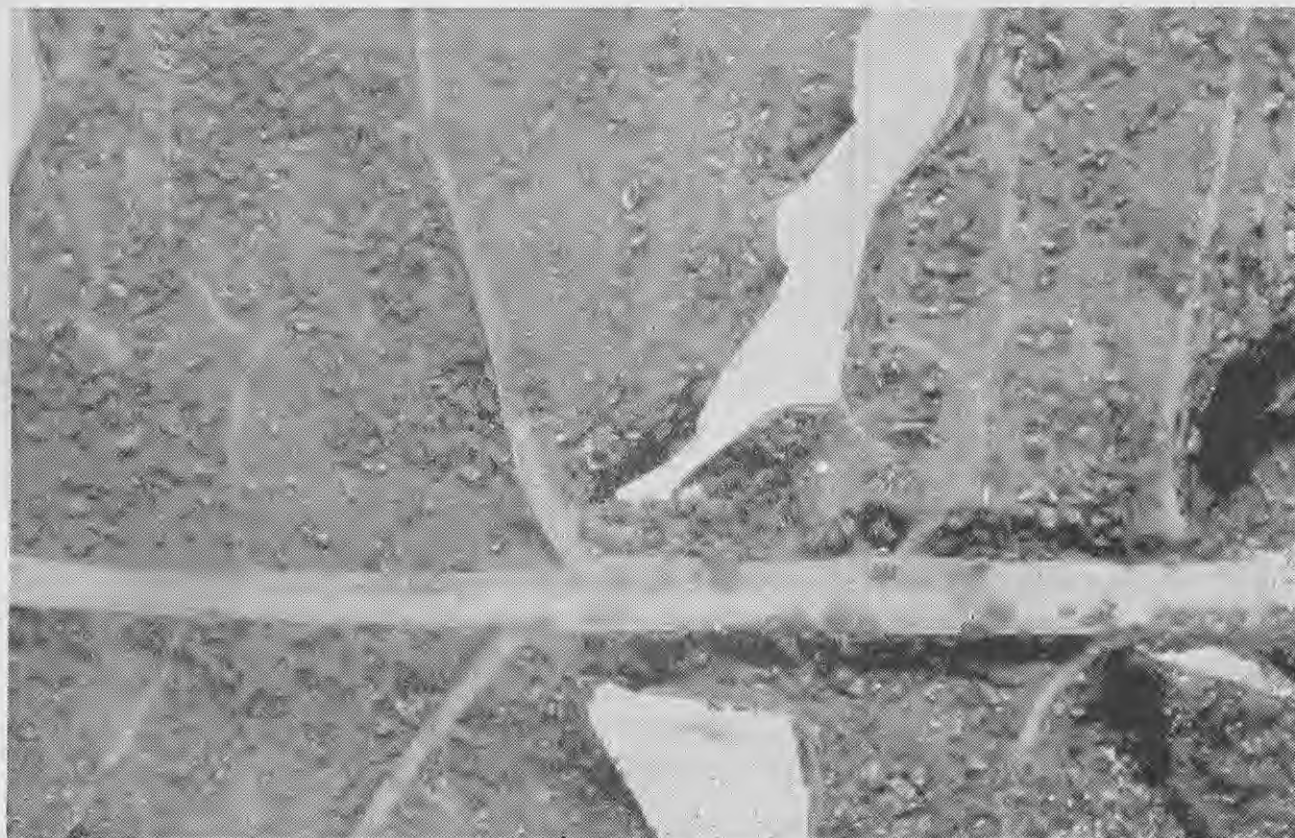
Unfortunately, aphids are capable of playing the dual role of insect ravager and disease carrier. Their sap sucking deprives infested plants of vital nutrients, and the activities of these insects and the severity of their attacks are proportional to the warmth and dryness of the season. The hotter and drier the season is the more rapid the build-up and spread of aphid populations will be and the greater will be the frequency of new generations. This adds to the struggle for

survival of plants already debilitated by semi-drought or drought conditions.

## Virus Disease

Even when aphids themselves do not materially and directly affect the growth and yield of the crops they infest, their role as disease carriers can ultimately affect crop production, even to the extent of the crop becoming a total loss. This happened all too frequently with many turnip crops in Canterbury during the drought season of 1955-56, when an aphid-transmitted virus disease (cauliflower mosaic) spread rapidly throughout individual crops and from crop to crop during late autumn. Even when aphid infestations were comparatively light and crops had bulked up reasonably well the development and spread of the virus resulted in the decay of infected roots to such an extent that by June many crops retained not more than 30 per cent. of sound roots. Some crops were ruined.

Many swede crops were also affected by virus, though in most instances less severely than turnips. With swedes



Unless control measures are begun early, aphid populations quickly build up to serious proportions.