

Pea-wilt.—The causal organism, *Fusarium orthoceras* v. *pisi*, of pea-wilt in New Zealand has been identified and its pathogenicity established. Field and glasshouse resistance trials have shown that of the varieties grown in the Dominion 10 garden-pea and four field-pea varieties are resistant.

Collar-rot of Peas.—The search for pea varieties resistant to collar-rot has been continued, but a further 10 varieties tested were all susceptible.

Stem-blight of Peas.—To ascertain the susceptibility of the common pea varieties to stem-blight, a field trial involving 29 varieties was laid down. It was shown that 8 varieties were highly susceptible, 14 moderately susceptible, and 7 slightly susceptible.

Field Survey of Pea Diseases.—To determine the relative importance of the different pea diseases, a survey of 121 crops in the Auckland, Marlborough, and Canterbury districts was carried out in November–December, 1949. The following is a summary of this survey: Collar-rot—67 crops infected; 27 severe, 8 moderate, 14 slight, 18 trace; losses in severely infected areas ranged from 25 to 75 per cent. Pea-wilt—20 crops infected; 11 severe, 5 moderate, 2 slight, 2 trace; the disease occurred in all districts, but was most severe in Canterbury. Downy-mildew—50 crops infected; 1 moderate, 49 slight; the disease was widespread in all districts. Septoria-blotch—16 crops infected; 3 severe, 13 slight; the disease occurred mainly in the Auckland district. Foot-rot—1 crop in the Auckland district showed severe infection. Powdery-mildew, stem-blight, pea-mosaic, and spotted-wilt occurred on odd plants in a few crops but were of minor importance.

Plum-mosaic.—In collaboration with Fruit Research Station, work on this stone-fruit virus disease has been continued, and it has been found that the disease is widespread in New Zealand. Preliminary investigations suggest that the disease can be eliminated from nurseries by roguing infected stocks and by the selection of budwood from healthy trees.

Verticillium-wilt of Stone-fruit.—*Verticillium dahliae* has been isolated from peaches in Hawke's Bay and Central Otago, and from plums in Hawke's Bay. This is the first record of the disease on these hosts in New Zealand.

Bacterial Spot of Plums.—In a search for a bactericide less toxic to plums than Bordeaux mixture, a number of therapeutants have been tested, and of these Shirilan and Zerlate did not cause injury to plum foliage, but their efficiency in controlling bacterial-spot has not yet been ascertained.

Fireblight.—In recent years blossom infection of apples with fireblight has become a serious problem in some districts. Preliminary experiments have been carried out to ascertain whether it would be possible to apply Bordeaux mixture at blossoming without causing undue russetting of fruit. Low concentrations ($\frac{1}{2}$ –1–100 and 2–4–100) applied at open cluster and full bloom caused negligible russetting on Granny Smith and Dunn varieties, and slight damage on Sturmer. Marked russetting followed petal-fall applications, and 6–8–100 caused excessive damage under all conditions of application. Bordeaux mixture applied to fireblight-infected cider-apple varieties during blossoming gave some control of blossom infection.

Cat-facing of Peaches by Capsid Bugs.—Investigations at Warkworth and Oratia have shown that a disfigurement of Paragon peaches similar to a condition known as cat-face in the United States of America was caused by an unidentified Capsid bug.