

*Tomato Aucuba-mosaic.*—This strain of tobacco-mosaic has now been found in New Zealand. It developed to the extent of 100 per cent in two glasshouses in Auckland during the past season. Losses are much heavier than with the type strain.

*Beet-mosaic.*—This virus, which until recently had been confined to the Manawatu, has appeared in Canterbury. Its natural host range has been extended to include silver beet.

*Lettuce-mosaic.*—The natural host range has been extended to include groundsel. Vectors have been determined as *Myzus persicae*, *Macrosiphum solanifolii*, and *Aphis gossypii*, the last being a new record. The virus is non-persistent in its vectors. Physical properties of the virus are similar to those of Lactuca virus of Smith (1937). Yields are greatly reduced when plants are infected early in the season. Artificial transmission of the virus has been made to pea, sweet pea, endive, aster, cineraria, and marigold, the last four being new host records.

*Strawberry-crinkle.*—This virus has been found to be widespread in the Dominion.

*June-yellows.*—A severe yellow and green mottling of foliage of the Captain Cook variety of strawberry, present in Auckland and Waikato districts, has been shown to be caused by the same disease as that producing June-yellows in the United States of America. It is not graft transmissible.

*Hop-mosaic.*—Preliminary investigations with a bold yellow mottling of hop leaves, from a garden in Sherry River district of Nelson, have shown the condition to be transmissible by inch grafting. Similar symptoms have been observed on hops from Tasmania being grown at Levin.

*Plum-mosaic.*—The disease has been found to occur naturally on apricots and Japanese and English plums. It is transmitted by budding.

*Apple-mosaic.*—The disease is now known to be widespread throughout the Dominion. The natural host range has been extended to several varieties of crab apples. It has also been transmitted experimentally to hawthorn and loquat.

*Tomato Leaf-mould.*—A further tomato variety, Improved Bay State, imported from the United States of America, has been tested for resistance to this fungus. Ten per cent. of plants showed a high degree of resistance, the others less. A check species, *Lycopersicon peruvianum*, showed a resistance of 100 per cent. Yields of this new variety were compared with the commercial Potentate with promising results, Improved Bay State producing an average per plant of 7lb. 13oz., as against 5lb. 10oz. for Potentate.

*Verticillium-wilt.*—The only species of fungus isolated from plants showing typical wilt symptoms was *V. dahliae*. It has been found attacking stock, aster, fat-hen, and black nightshade. A survey of field and glasshouse tomato crops was made during the season in two districts. At Auckland an average of 21 per cent. infected plants was found in 15 glasshouse crops, and 44 per cent. in the field. At Christchurch an average of 12 per cent. infected plants was found in 14 glasshouse crops, and 20 per cent. in two field crops. Twenty-one tomato varieties were tested for resistance to the disease, all proving susceptible.

*Fusarium-wilt of Watermelons.*—Five watermelon varieties imported from the United States of America were tested for resistance to the causal organism, *Fusarium bulbigenum* var. *niveum*. The following percentages of surviving plants were secured: Hawkesbury, 88 per cent.; Klondyke R7, 57.1 per cent.; Blue Ribbon, 30.4 per cent.; Klondyke black-seeded, 14.8 per cent.; Klondyke brown-seeded, 15.3 per cent.

*Red-core Root-rot of Strawberry.*—The disease, caused by *Phytophthora fragariae*, is prevalent in Auckland Province, and has also been isolated from infected plants from Wellington and Canterbury. Of 15 nurseries examined, 8 were found to be infected. Severity of infection was highest in soils with a high moisture content.

*Yellow-leaf of Phormium tenax.*—A comprehensive investigation is being resumed on this, the most serious disease of our indigenous fibre plant. Surveys are being made of phormium areas and possible pathogens isolated.