Bacterial Soft-rots.—In experiments on control it was shown that soft-rot of carrots could be satisfactorily controlled by dipping roots in Bordeaux mixture, Perenox, Cuprox, Copper Sandoz, or Zeolite.

Lettuce-mosaic.—Thirty-three lines of lettuce seed were tested for the presence of seed-carried lettuce-mosaic infection. Only six lines were found to be free from virus, and infection in the remaining 27 lines varied from 0·6 to 9·4 per cent.

Cucumber-mosaic.—Celery and anemone are recorded as new hosts of cucumber-mosaic in New Zealand, and it has also been shown that the so-called woodiness disease of passionfruit is caused by this virus.

Tomato spotted-wilt.—This virus has been found occurring naturally on sweet-peas. This is a new host for spotted-wilt in New Zealand.

Virus diseases of gladioli.—Gladiolus varieties in commercial plantings and home gardens were found to be infected with two viruses. One of these was identified as cucumber-mosaic virus, the amount of infection varying widely with different plantings. The identity of the second virus, which also infects various leguminous species, has not yet been determined. This legume virus is very widespread in gladioli.

Red-core Root-rot of Strawberries (Phytophthora fragariæ).—Inoculations with this fungus have been carried out on nine varieties of strawberry to test for resistance. Four varieties—namely, Auchincruive Climax, Oberschlesien, Ettesburg, and Chapman's Seedling—proved resistant. Heat treatment of infected plants failed to control the disease without killing the plants.

Cypress Canker.—Both wound and surface inoculation of young Lawson's Cypress trees with *Coryneum cardinale* isolated from infected nursery trees caused severe gummosis. Nine months after inoculation, cankers encircled the trunk and caused death of branches above points of inoculation.

Crown-gall.—In further experiments on the control of this disease it was found that galls on marigold and peach seedlings could be destroyed by application of elgetol, iodine, or clove-oil.

Green-vegetable Bug.—During the past season this insect was found for the first time in the vicinity of Auckland City. It has also appeared at Gisborne and Coromandel. Therapeutant control is being investigated.

THERAPEUTANT TESTING

Glasshouse Tests

Established techniques of bio-assay of fungicides, using pot plants in the glasshouse, have been extended to include assays under conditions of artificial rain. Using late-blight on tomato as the indicator disease and Bordeaux mixture as the standard fungicide, the artificial-rain technique has shown: (1) various copper zeolites have high fungicidal values and show resistance to weathering; (2) copper oxychlorides show marked reduction in efficiency through weathering; (3) use of adhesives such as polyethylene polysulphide give marked improvement in weathering properties of copper fungicides; and (4) none of the materials tested performed at levels equal to those of Bordeaux mixture.

Various organic compounds have been compared with colloidal sulphur, using bean-rust (*uromyces fabae*) as the indicator disease. Tetramethylthiuram disulphide showed very high fungicidal properties, but because of instability or poor adhesion failed under conditions of artificial rain.