The investigations into the control of the disease in transit and store have shown that an economical treatment can be secured by dipping. Further work is necessary, however, before recommendations can be made.

The Cawthron Institute has maintained for the benefit of Nelson orchardists an ascospore maturity notification service similar to that for black-spot of pome fruits.

SMALL FRUITS.

Standard Collection.

Forty-five varieties of red and black currant, gooseberry, and raspberry have been introduced from East Malling Research Station and are being grown in quarantine at Mount Albert. They represent the full range of available varieties produced as pure lines. Trials will be commenced next year to ascertain if they are superior to varieties at present in the Dominion.

Strawberries.

An area of approximately ¼ acre has been planted to two varieties of strawberries which are being used for studies in root-rot. An additional two commercial varieties from Queensland and selections secured from East Malling are being grown for comparison.

Raspberries.

The Entomology Division at the Cawthron Institute has commenced a study of the raspberry bud-moth and the raspberry saw-fly.

(*a*) *Raspberry Bud-moth (Carposina adreptella).*—This native insect is the most serious pest of raspberries, and practically no information was available concerning its life-history and habits. A preliminary investigation now concluded has given valuable information on the biology of the pest without pointing the way to any economic method of control.

(*b*) *Raspberry Saw-fly (Priophorus tener).*—The work has been confined to observations on the biology of this recently established European pest. It was reported for the first time in 1936–37, its larvæ feeding on the leaves of the raspberry.

Passion Fruit.

An area of 100 plants of passion fruit has been set out for a study of grease-spot and its control.

CITRUS.

Fertilizer Experiments.

The Horticulture Division of the Department of Agriculture has carried out liming experiments on lemons in the Tauranga district for the past seven years, and plots which had 2 tons of lime per acre in 1930, followed by a further 2 tons per acre in 1935, produced in the two years following the latter treatment 374 lb. of fruit per tree, as against 300 lb. per tree for the no-lime plots. The difference is statistically significant. The data relative to quality and yield of cured lemons from the experiment are being summarized.

Root-stock Experiments.

Materials for citrus-stock studies have been planted out in the Mount Albert area of the Plant Diseases Division. Approximately one thousand stocks of sweet and sour orange, citronelle, and trifoliata have been set out. A number of each have been double-worked with the other stock varieties, about a score of combinations being available for budding next year.

Seedlings of four different types of Cook Island orange are being grown for use in rootstock investigations.

Insect Pests.

In co-operation with the Horticulture Division of the Department of Agriculture, the Plant Diseases Division is preparing a series of papers on citrus pests and their control, the first having been forwarded to the *New Zealand Journal of Agriculture.*

Bacterial Diseases.

(*a*) *Citrus-canker.*—This serious bacterial disease was found to be widespread in the citrus-growing areas of the North Island, except Hawke's Bay. The organism has been isolated and identified by the Plant Diseases Division as *Pseudomonas citri*, the cause of this disease in other countries.

(*b*) *Citrus-blast.*—This is a bacterial disease of recent origin, and specimens have been collected from Gisborne, Tauranga, and Auckland. The disease has been found to be caused by *Pseudomonas syringae*, the cause of a similar disease elsewhere.

Physiological Diseases.

Mottle-leaf.—At the instigation of Dr. M. M. Burns, Canterbury Agricultural College, investigations were undertaken by the Plant Diseases Division for the treatment of this physiological disease. It is widespread in the Auckland Province, and the symptoms resemble those recorded for the disease in the United States.

In America the disease has been found to be related to zinc deficiency, but in New Zealand the trouble has not responded to zinc treatments. As in preliminary work promising results were secured with manganese, a series of field trials has been laid down to test the effect of this element on a large scale.