One sample carried root-knot nematodes (Meliodogyne sp.). Pink-root symptoms were found in nematode-free samples, hence the Okanagan form of pink-root is not dependent on the presence of nematodes. The study suggested that the nematodes were present in growers fields before the onions were planted (J. Bosher).

Outbreak of the Bulb and Stem Nematode in Ontario

W. B. Mountain

In July, 1957, a sample of muck soil from the Leamington Marsh submitted to the Harrow Laboratory was found to contain large numbers of the bulb and stem nematode Ditylenchus dipsaci (Kühn, 1857) Filipjev, 1936. This represents the first confirmed outbreak of this nematode on onion in Canada.

Onions grown in infested areas were found to be severely affected. Usually, within a month following emergence, the leaves became chlorotic, subsequently dying back from the tips, and frequently, by July, the plant had been killed. Damage to the onion bulbs included splitting and separation of the scales, splitting and doubling of the bulb and rotting which extended upwards from the base. It was learned that, in infested areas, practically no saleable onions are produced. As an example, one grower in the Leamington Marsh, whose farm is infested with the bulb and stem nematode harvested 200 pounds of onions from a five-acre field in 1957. Normal onion production for this field is approximately 75 tons.

In view of the potential threat of the nematode to onion production in Ontario, a preliminary survey of the other onion marshes in western Ontario (Erieau, Bradford, Thedford, and Janette's Creek) was carried out in September, 1957. Soil and onion samples from 20 fields in these marshes showed no trace of the nematode. A more detailed survey of these areas will be carried out in 1958.

An extensive survey of the Leamington Marsh was completed in the fall of 1957. During this survey, approximately 100 samples of soil or onion material were examined for the nematode. Included was a survey of all Dutch sets produced in the Leamington area for seeding in 1958. The collection of these sets was carried out by Inspectors of the Plant Protection Division and the Ontario Fruit Branch. The Dutch sets which were found to be infested by the bulb and stem nematode are being destroyed by the Provincial Department of Agriculture under the regulations of the Plant Diseases Act. The nematode has been found on 19 farms. Several other farms are believed to be infested but the nematode has not yet been recovered from these areas.

There is little doubt that the infestation is of recent origin. None of the growers had noticed the trouble before 1955 and few of them before 1956. Almost without exception, growers whose land is infested with the nematode had purchased Dutch sets for planting and it has been found that, in recent years, such sets were imported from Illinois. Since recent outbreaks in New York State have been traced to infested sets produced in Illinois it is assumed that our growers also received some of this infested material. However, it has not been possible to examine imported Dutch sets and therefore final proof of the source of the outbreak is lacking.

SMUT (Urocystis cepulae). A light infection was observed in commercial fields in sections of the Kelowna and Vernon areas, B.C. (G.E. Woolliams). There was less loss from smut in the Dutch set crop in the Thedford Marsh, Ont., than in any recent years (J.R.C.). Onion smut, though widespread in the Bradford-Thedford areas, caused little damage since most growers treated their seed with 1 or 3/4 lb. of 50 or 75% thiram per lb. of seed. Some untreated plantings had as much as 90% smut (L.V. Busch).

YELLOWS (Callistephus virus 1). A light infection occurred at Morden, Man. in Foundation seed plots (W.C. McDonald). Tr. infections occurred in Ont. Infected plants were yellow, stunted, twisted, and failed to form a bulb (J.R.C.).

PARSNIP

LEAF SPOT (Ramularia pastinacea) was mod. on all plants in a seed plot at Morden, Man. (W.C. McDonald).

YELLOWS (Callistephus virus 1). At Morden, Man. 3/4 of the plants in a seed plot were mod. infected (W.C. McD.).

PEA

The Incidence of Leaf and Pod Spot of Peas Caused by Ascochyta pisi in the Ottawa Valley

V.R. Wallen

Four fields of Sterling field peas and three fields of the variety Arthur grown in the Renfrew and Shawville districts were inspected twice during the summer of 1957 for the incidence of leaf and pod spot caused by Ascochyta pisi. The Sterling peas were inspected because screening tests, conducted in co-operation with the Cereal Crops Division, showed that variety to be more resistant to A. pisi than the varieties Chancellor and Arthur commonly