

Diaporthe phaseolorum in Soybean Seed

V. R. Wallen

Diaporthe phaseolorum, the cause of stem canker and pod-and-stem blight of soybeans was found to occur in high percentages of the soybean seed grown in the Ontario counties of Essex, Kent, Lambton, Middlesex and Elgin in 1959. A survey of elite, registered and commercial seed from those areas revealed that D. phaseolorum was present in 139 of 150 seed samples examined. Infections ranged from one to 85 per cent with an average infection of 29 per cent.

In greenhouse trials the average emergence of seed was 77 per cent. Among the emerged seedlings, 10.5 per cent showed above-ground symptoms of the disease. The average emergence of healthy seed samples was 92 per cent. It is apparent, from the results obtained, that the fungus is causing a reduction in germination and subsequent emergence in addition to building up the supply of inoculum in the soil.

It is thought that the extremely hot, humid weather that prevailed during the latter part of the growing season induced early maturity of the soybean crop. In normal years the fungus attacks the crop late in the season and does not have sufficient time to establish itself within the seed.

SUNFLOWER

Sunflower Diseases in Manitoba in 1959

W. E. Sackston

Sunflowers were sown on 25,000 acres in Manitoba in 1959. Although the area devoted to this crop was reduced sharply from the 1958 seeding of 45,000 acres, preliminary estimates indicated that yields would be about 800 pounds of seed per acre, the highest average since 1955.

Forty fields were examined in mid-September; 33 of them in the central area, and 7 in outlying areas. Mr. John Hildebrand, Cooperative Vegetable Oils, Ltd., Altona, assisted in locating fields and took part in the survey for 1 day.

Rust (Puccinia helianthi) was found in 36 of the 40 fields. Although inoculum was plentiful in the fall of 1958 the rust outbreak, that might have occurred if conditions had been favorable in 1959, did not develop. Infections were generally lighter than in 1958. There were traces of rust in 18 fields; from 2 to 10 per cent rust on the middle leaves in 14 fields, and from 15 to 35 per cent rust in 4 fields. Only 1 field of Beacon showed more than a trace of rust (10 per cent). The other fields with appreciable amounts of rust were of Mennonite and some of Advance in the central area, and 1 of Advance in the outlying area near Carberry.