III. DISEASES OF VEGETABLE AND FIELD CROPS

ASPARAGUS

WILT AND ROOT ROT (Fusarium oxysporum). Several areas in an 8-acre field at Colchester South, Ont. had yellow, stunted plants from which Fusarium was isolated. Yield from the affected areas was very small during the 1958 cutting season (R.W. Walsh).

BEANS

Field Bean Diseases in Western Ontario in 1958

R.N. Wensley

Pythium wilt. The first evidence of this disease was found on the Kinghorn variety of wax beans in Essex County during the first week in July. Approximately 1 per cent mortality occurred among plants in several fields visited. This disease was subsequently found to be widespread in Essex and Kent Counties on the Michelite, Sanilac and Clipper varieties of white beans and on Dark and Light Red Kidney beans. Incidence of disease was variable, ranging from 1 per cent to a high of 70 per cent. However, recovery occurred in the more heavily affected fields subsequent to improved climatic conditions.

Root rot was prevalent on field beans throughout western Ontario. Severity of symptoms varied greatly from mild to severe according to field conditions, soil type, the time of planting, and crop sequence. Under the prevailing unfavorable weather conditions during the early spring period Pythium species remained the dominant causal factor. The most severe reductions in stand were found in fields successively cropped to white beans and in fields where drainage was inadequate.

Anthracnose (Colletotrichum lindemutheanum) was most prevalent in Huron County where the incidence of infection ranged from 5-25 per cent on Clipper to a high of 70 per cent on Michelite and Yellow Eye. No evidence of anthracnose was found on the early maturing white bean variety Sanilac.

Bacterial blight (Xanthomonas phaseoli) was prevalent throughout western Ontario on all varieties of white beans. This disease together with bacterial blight was predominant on Sanilac. However, the greatest intensity of infection was found on the varieties Michelite and Clipper.

Virus was not an important factor in 1958 and was rarely found.

Other Observations

GRAY MOLD (Botrytis cinerea) was tr. in all commercial fields seen in York Co., N.B. (S.R. Colpitts), and was tr. in part of a large planting at Weston, N.S. (K.A. Harrison).

ANTHRACNOSE (Colletotrichum lindemuthianum) was mod. in several home gardens at Lacalle, Que. (R. Crête). It was prevalent on the Soldier variety in York and Carleton counties in N.B. Infection appeared early and spread in wet weather and losses were heavy, ranging up to 60%. Lapin was generally free of infection (S.R.C.). Losses of 100% of the crop were sustained by a market gardener at Brackley, P.E.I. Two fields and several varieties were involved (J.E. Campbell). It was not generally troublesome in N.S. in 1958 though a small planting at Kentville was 100% infected (K.A.H.). Tr. infections were seen on Contender at St. John's West, Nfld. (O.A. Olsen).

ROOT ROT (Fusarium solani f. phaseoli). A small garden planting at Inglisville, N.S. was completely infected with this disease (C.O. Gourley).

HALO BLIGHT (Pseudomonas phaseolicola) caused sev. damage in 1 canning crop field at Coaldale, Alta. and tr.-sl. damage in a field at Fincastle (J.E. Moffatt). It was prevalent in early green beans and dry beans in most areas of N.B. Two early bean plantings were a complete loss (S.R.C.). Halo blight was seen at Waterville and caused a 75% loss at New Canaan, N.S. (K.A.H.).

SCLEROTINIA ROT (S. sclerotiorum) was seen in specimens from Kamloops, B.C. (G.E. Woolliams). A 1% infection was recorded in a field at Ste. Anne de la Pocatiere, Que. (L.J. Coulombe), and one-third of a 2-acre field was destroyed at Morristown, N.S. The rows in this field were close and heavy foliage favored the retention of moisture. Sclerotia and apothecia were scattered thickly over the soil (K.A.H.).

COMMON BLIGHT (Xanthomonas phaseoli). A 10% infection caused sl. damage to Sensation Wax at St. Prime, Que. (L.J.C.). A field, sown with seed from a sl. infection 1957 crop, was 100% affected at Charlottetown, P.E.I. (D.B. Robinson). Several acres of Yellow Eye at Grand Pre, N.S. showed a light general infection (K.A.H.).

COMMON MOSAIC (Bean common mosaic virus) occurred in varying degrees of severity throughout the Okanagan Valley, B.C. (G.E.W.). It was sl. in 2 fields and tr. in another at Fincastle, Alta. (J.E.M.). Mosaic was mod. in a 1-acre field at Ste. Clothilde, Que. (R. Crete). A few N.S. fields planted with local seed showed sev. infections. Canning crop fields were generally free of mosaic (K.A.H.).

FROST INJURY. Temperatures of 28-32°F on 10 June completely destroyed some fields in Kings and Annapolis counties in N.S. Many other fields remained yellow and plants had numerous necrotic lesions. Growth was still greatly retarded on 4 July. A loss of 20% in the overall crop is estimated (K.A.H.).

BEET

SCAB (Streptomyces scabies) was mod-sev. at Ste. Foy, Que. (D. Leblond). Infection was 80% in a garden plot at Salisbury, N.B. (S.R. Colpitts).

BROAD BEAN

WILT (Fusarium oxysporum f. fabae) was mod. at Ste. Foy, Que. (D. Leblond). The Windsor variety was 20% infected in a field at St. Felicien, Que. (L.J. Coulombe).

BORON DEFICIENCY. A condition, thought to be boron deficiency was seen in 50% of the plants in a 5-acre field at Salmon Arm, B.C. (G.E. Woolliams).

POD BLACKENING (non-parasitic) was sev. on Grosse de Windsor at Ste. Foy, Que. (D.L.).

BROCCOLI

CLUB ROOT (Plasmodiophora brassicae) was mod.-sev. in plantings in P.E.I. (G.W. Ayers).

HOLLOW STEM (Boron deficiency) was seen in specimens from a 3-acre field at St. Telesphore, Que. (R. Crête).

BRUSSELS SPROUTS

CLUB ROOT (Plasmodiophora brassicae) was sev. in a planting at St. Peters, P.E.I. Infection occurred in the seed bed (J.E. Campbell).

CABBAGE

YELLOWS (Fusarium oxysporum f. conglutinans). At Sandwich West, Ont. 75% of a 1.5-acre field was affected. In a portion of the field where cabbage was grown the previous year infection was 100% (R.W. Walsh).