SPINACH

WILT (Fusarium oxysporum). A 20% infection of wilt was seen at Les Saules, Que. (D. Leblond). At Ste. Anne de la Pocatiere, Que., 25% of the plants in one field were infected (L.J. Coulombe).

SQUASH

POWDERY MILDEW (Erysiphe cichoracearum) was prevalent during late Aug. and during Sept. on all squash crops in Essex Co., Ont. Premature defoliation resulted (C.D. McKeen).

LEAF SPOT (Septoria cucurbitacearum). A sev. outbreak developed in Aug. in a garden plot at Kentville, N.S. The vines lost their foliage early and an estimated 20% decrease in yield was sustained (K.A. Harrison).

SWEET CORN

STEWART'S WILT (Bacterium stewartii). At Anderson, Essex Co., Ont. 5% of the plants in a 1/2 acre section of a 15-acre field were infected with bacterial wilt. This portion of the field had not received an application of D.D.T. (R.W. Walsh).

SMUT (Ustilago maydis). Specimens were received from Corning, Sask. (T.C. Vanterpool), and from two widely separated districts in Sask. The disease is comparatively rare in the province (R.J. Ledingham). Specimens were received at the Kentville laboratory from scattered points in N.S. It is not important in commercial fields (J.F. Hockey).

LEAF SCORCH (physiological). Plants at La Prairie, Que. showed leaf scorch due to a water deficiency (R. Crete).

TOMATO

Diseases of Canning Tomatoes in Southwestern Ontario in 1957

W.G. Benedict

Anthracnose (Colletotrichum sp.) continues to be the most important disease of the canning tomato crop. Field experiments on anthracnose control were conducted in 1957 using two different spray schedules on many of the locally grown varieties and some anthracnose-resistant varieties. The data obtained indicated that bimonthly applications of Manzate at the rate of 3 lbs. per acre beginning early in July and continuing until the second

week in Sept. gave satisfactory control of the disease in early maturing varieties. Differences in yields from sprayed and unsprayed plots of varieties ripening in mid-season or later were small at the peak of the harvest season about 30 Aug. However, during the following weeks almost twice as many disease-free fruits were picked from sprayed than from unsprayed plots. Where the second spray was delayed until ripe fruit appeared, slightly lower yields resulted. There are at present a few high-yielding tomato varieties that are resistant to anthracnose under local conditions on soil types and in areas where anthracnose is most prevalent.

Late Blight (Phytophthora infestans) appeared in 1957 for the first time in nearly a decade. The disease was confined to certain districts across the northern part of Essex Co. and caused considerable losses in isolated fields in late Aug. and early Sept.

Root lesioning and Damping off (Rhizoctonia solani) occurred again in 1957 where tomato plants were transplanted into non-steamed compost soil and placed in an A-type greenhouse to grow until planting time. Varietal differences in susceptibility to this fungus were evident. In the Harrow variety 66/250 plants were killed in comparison with 10/250 plants of the variety Valient. Few Harrow plants in the test lacked extensive root lesions during the early stage of attack by the fungus. The plants which survived were retarded but later developed normally.

Other Observations

EARLY BLIGHT (Alternaria solani) was sl. in the early basket crop in s. Essex Co., Ont. A higher incidence of disease was observed in several unsprayed canning crops throughout the county (C.D. McKeen). It was present in most fields in the Burlington-Toronto area. A potentially serious outbreak was checked by a combination of sprays and better weather conditions (E.F. Muir.) Traces of early blight were present in many fields in Hastings and Prince Edward Counties, Ont. but in contrast to 1956 did not cause serious defoliation (J. Cutcliffe). Early blight was widespread in fields in Queens and Sunbury Counties, N.B., but did little damage (S.R. Colpitts). Sl. infections were seen on Bonny Best (R.R. Hurst), and on Monarch, with some fruit lesioning at Charlottetown, P.E.I. (J.E. Campbell). Sev. outbreaks developed on all varieties in Kings Co., N.S. during the summer and defoliation was heavy. An estimated 15% of the crop was unmarketable because of fruit spotting (K.A. Harrison). Fifty % of the fruit of Valnorth was affected with rot at the Exp. Farm, St. John's West, Nfld. (O.A. Olsen).

GRAY MOLD (Botrytis cinerea) was general throughout the fall greenhouse tomato crop in Essex Co., Ont. In many instances sev. foliage infections prevented the proper sizing of fruit. By early Dec. the most

seriously affected crops were nearly defoliated (R.W. Walsh). Gray mold rot, which caused serious losses to a grower at Berwick, N.S., in 1956, was kept well under control on the same farm in 1957 by the use of Thylate in the spray program. Losses were estimated at 5%. At Kentville, N.S. in replicated plots of the variety Stokesdale, 27% infection was recorded. Results obtained in spraying experiments at Kentville in 1956 and 1957 indicate strongly that Botrytis on field tomatoes is favored by the application of carbamate sprays (K.A.H.).

LEAF MOLD (Cladosporium fulvum) occurred in the greenhouse at Fort Vermillion and in Edmonton, Alta. (W.P. Campbell). The disease appeared in four large greenhouses at Harrow, Ont. in the spring crop and yield was reduced by one-third. Since leaf mold is seldom troublesome at this time completely susceptible varieties are often grown in the spring crop greenhouses. High atmospheric humidities in the spring of 1957 favored leaf mold development (C.D. McK.). A. sl. attack developed in March in a greenhouse at Kingston, N.S. (K.A.H.).

WILT (Colletotrichum atramentarium). The development of a wilt condition in a 10-acre field near Burgessville, Oxford Co., Ont. resulted in the entire field being affected by harvest time. Sev. affected plants showed marked vascular discoloration. Isolations and infection tests indicate that C. atramentarium is involved in this disturbance, which, in the field resembles Fusarium wilt (B.H. MacNeill). (see MacNeill, B.H., P.D.R., 41:12, 1032, 1957). (D.W.C.).

ANTHRACNOSE (Colletotrichum spp.). In general, anthracnose was much less serious in 1957 in canning crops in Essex Co., Ont. than it has been for several years. The cool, wet summer may not have favored the disease (C.D. McK.). Tr. infections were noted in Hastings and Prince Edward Counties (J. Cutcliffe). Commercial fields in N.S. showed very little anthracnose, but some gardens and plots on the Exp. Farm, Kentville where tomatoes are raised year after year were mod. affected (K.A.H.).

Tomato Anthracnose in Ontario

W.I. Illman and R.A. Ludwig

A survey was made of the tomato anthracnose organism as it affects the canning crop in Ontario. For this purpose infected fruits were collected from cannery trim lines by cooperating field-men and sent to the London Laboratory for examination. The affected fruits thus obtained were representative of the entire tomato growing area. A total of 105 isolations were made in 1956 and 169 in 1957. These, with one exception, were