A SURVEY OF FUNGAL AND BACTERIAL DISEASES OF VEGETABLE CROPS IN EASTERN AND CENTRAL ONTARIO IN 1967[1]

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A survey of diseases of vegetable crops in southern Ontario was performed in 1967 by Reyes, et al. (1). The results of a similar survey in eastern and central Ontario are presented in this report.

The counties surveyed in eastern Ontario were Dundas, and Lennox and Addington: in central Ontario the counties were Durham, Northumberland, Ontario, Prince Edward, and York. Each county was visited on a rotational basis from early May to early October. The diagnosis and prevalence of each disease was determined as reported in the earlier report (1).

Most of the diseases observed were caused by fungi (Table 1). Species of Fusarium caused the greatest number of diseases followed in order by Alternaria, Botrytis, Pythium, and Rhizoctonia. Species of Erysiphe, Plasmodiophora, Septoria, Urocystis, and Verticillium caused one disease each. The most common causes of bacterial diseases were Xanthomonas and Pseudomonas.

A number of diseases were detected that were not observed during the survey in southern Ontario: carrot leaf blight, alternaria blights of carrot and celery, black rot of Brussels sprouts and cabbage, leaf spot of cabbage, late blight and root rot of celery, fruit rot of muskmelon, onion blast, wilt of potato, and club root of turnip.

Literature cited

1. Reyes, A.A., J.R. Chard, A. Hikichi, W.E. Kayler, K.W. Priest, J.R. Rainforth, I.D. Smith, and W.A. Willows. 1968. A survey of diseases of vegetable crops in southern Ontario in 1967. Can. Plant Dis. Surv. 48: 20-24.

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Table 1. Incidence of diseases of vegetable crops in eastern and central Ontario in 1967

Crop	Disease and cause	Prevalence* and county
Eastern Ontario		
Bean	Root rot (Fusarium spp.)	Tr. 1/1** field (Lennox and Addington)
Carrot	Leaf blight (Cercospora carotae)	Sev. 1/2 fields (Dundas)
Lettuce	Damping-off (Fusarium spp.)	Tr. 1/3 fields (Dundas)
	Drop (Sclerotinia sclerotiorum)	Tr. 1/3 fields (Dundas)
Tomato	Bacterial canker (Corynebacterium michiganense)	Tr. -mod. 2/2 fields (Lennox and Addington)

* Tr. (trace) = 1-10% of plants affected in the greenhouse or field; sl. (slight) = 11-30%; mod. (moderate) = 31-60%; sev. (severe) = 61-100%.

** Number of fields or greenhouses in which the disease was found/number of fields or greenhouses inspected.

Table 1 (continued)

Crop	Disease and cause	Prevalence* and county
Central Ontario		
Asparagus	Root-rot or wilt (Fusarium spp., Rhizoctonia solani, Pythium spp.)	Tr. 1/1 field (in each of Northumberland and Prince Edward)
Bean	Damping-off (Rhizoctonia solani, Fusarium spp.)	Tr. 1/1 field (Northumberland)
Beet	Damping-off (Rhizoctonia solani, Pythium spp., Fusarium spp.)	Mod. 1/2 fields (York)
Brussels sprouts	Black rot (Xanthomonas campestris)	Sev. 1/2 fields (York)
Cabbage	Black rot (Xanthomonas campestris)	Sev. 4/8 fields (York)
	Clubroot (Plasmodiophora brassicae)	Tr. 2/8 fields (York)
	Damping-off (Fusarium spp.)	Tr. 1/2 fields (Ontario)
	Leaf spot (Alternaria brassicae)	Sev. 3/8 fields (York)
	Yellows (Fusarium oxysporum f. conglutinans)	Sl. 1/8 fields (York)
Carrot	Blight (Alternaria dauci)	Sl. 1/1 field (York)
Cauliflower	Bacterial leaf spot (Xanthomonas sp.)	Mod. 3/4 fields (York)
	Black rot (Xanthomonas campestris)	Mod. 3/4 fields (York)
	Leaf spot (Alternaria brassicae)	Sl. 1/4 fields (York)
Celery	Blight (Alternaria dauci)	Mod. 1/6 fields (York)
	Late blight (Septoria apii)	Sl. - Sev. 2/6 fields (York)
	Root rot (Fusarium spp., Stemphyllium spp.)	Tr. 1/6 fields (York)
Cucumber	Angular leaf spot (Pseudomonas lachrymans)	Sl. - Sev. 5/5 fields (Durham), sev. 1/4 fields (Northumberland)
	Bacterial wilt (Erwinia tracheiphila)	Tr. 3/5 fields (Durham), tr. - sl. 3/4 fields (Northumberland)
	Leaf blight (Alternaria cucumerina)	Sev. 2/4 fields (Northumberland)
	Powdery mildew (Erysiphe cichoracearum)	Tr. 1/5 fields (Durham)

Table 1 (concluded)

Crop	Disease and cause	Prevalence* and county
Muskmelon	Fruit rot (Fusarium spp.)	Sl. 1/1 field (Prince Edward)
Onion	Blast (Botrytis spp.)	Mod. 1/3 fields (Durham), mod. - sev. 3/8 fields (York)
	Damping-off (Pythium spp., Fusarium spp.)	Tr. 1/8 fields (York)
	Pink root (Fusarium spp.)	Sl. 1/3 fields (Durham)
	Purple blotch (Alternaria porri)	Sl. 1/3 fields (Durham)
	Smut (Urocystis cepulae)	Tr. 4/8 fields (York)
Pea	Root rot (Fusarium spp.)	Tr. 1/2 fields (Northumberland), sl. - sev. 2/4 fields (Prince Edward)
Potato	Wilt (Verticillium dahliae)	Tr. 1/3 fields (Ontario)
Tomato	Bacterial canker (Corynebacterium michiganense)	Tr. 1/1 greenhouse (Durham), tr. 1/6 greenhouses (Prince Edward), mod. 2/8 fields (Prince Edward)
	Bacterial speck (Pseudomonas tomato)	Tr. 2/8 fields (Prince Edward), sl. 2/3 fields (Durham)
	Bacterial spot (Xanthomonas vesicatoria)	Tr. 1/5 fields (Northumberland), tr. 1/8 fields (Prince Edward)
	Damping-off (Pythium spp., Rhizoctonia solani, Fusarium spp.)	Tr. 3/6 greenhouses (Prince Edward), tr. 2/8 fields (Prince Edward)
	Early blight (Alternaria solani)	Sl. 1/1 greenhouse (Northumberland), sl. 3/3 fields (Durham), sl. 1/5 fields (Northumberland), sl. 2/8 fields (Prince Edward)
	Gray mold (Botrytis cinerea)	Mod. 1/5 fields (Northumberland)
Turnip	Clubroot (Plasmodiophora brassicae)	Mod. 1/4 fields (York)