INCIDENCE OF LEAF SCORCH OF STRAWBERRY IN AND NEAR THE NIAGARA PENINSULA FROM 1961 TO 1963

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Commercial strawberry plantations and varietal testing plots in and near the Niagara Peninsulawere surveyed for leaf scorch (Diplocarpon earliana (Ell. & Ev.) Wolf) during the years 1961 to 1963.

Disease incidence was evaluated by examining plants at various places in each varietal plot for the frequency of scorch lesions, their relative size and sporulation. The observations acquired from 1961 to 1963 are summarized in Table 1while those from the varietal testing plots at the Horticultural Experiment Station, Simcoe, Ontario taken in August 1963 are presented in Table 2.

In these surveys the varieties 'Louise', 'Pocahontas', 'Earlidawn', 'Jerseybelle', 'Guardsman', 'Frontenac', 'Robinson' and 'Redglow' were very susceptible whereas 'Catskill', 'Redcoat' and 'Premier' ('Howard 17') were relatively free from scorch. 'Surecrop' and 'Sparkle' were variable, being free from scorch in some years and in some areas and showing a heavy incidence in others. On susceptible varieties, although lesions of varied size occurred throughout the season they became larger and blotchy in late summer and fall.

There is an obvious regional variation in leaf scorch resistance among strawberry varieties. Thus, 'Surecrop' and 'Robinson', which have been reported among the most resistant and as exhibiting low scorch incidence in Indiana (3), were very susceptible at times in Ontario. This suggests pathogenic races in the pathogen. Leaf scorch lesions of different sike, from pinpoint to blotchy, have been ascribed to differences in host varieties (2), or to differences among isolates of D. earliana (1). Only blotchy lesions were reported in a recent disease survey in Nova Scotia (4). In our observations the incidence of blotchy lesions increased towards the end of summer and in fall in Ontario and this suggests also a seasonal influence.

Table 2. Field incidence of strawberry leaf scorch disease in varietal testing plots at Simcoe, Ontario, in their first fruiting season. August 8, 1963.

Row no.	Strawberry variety blocks I	II	III
1	Fletcher	Fulton+	Redcoat
2	Fulton+	Redcoat	Jerseybelle++++
3	Erie+	Erie+	Fulton++
4	Robinson++++	Guardsman	Robinson++++
5	Jerseybelle++++	Robinson++	Sparkle++
6	Guardsmant	Fletcher t	Robinson++++
7	Redcoat	Erie++	Redcoat
8	Fulton+	Frontenac+++	Jerseybelle++++
9	Fletcher	Fulton++	Guardsmantt
10	Erie+	Jerseybelle++++	Fulton++
11	Sparkle+	Sparkle++	Frontenac++++
12	Frontenac++++	Redcoat	Fletcher++
13	Robinson••••	Guardsmant	Erie++
*			
1	Catskill	Grenadier	Redcoat
2	Redcoat	Pocahontas++++	Surecrop
3	Catskill	Grenadier	Surecrop
4	Grenadier	Earlidawn++++	Redcoat
5	Surecrop"	Catskill'	Premier
6	Premier+	Cavalier+	Pocahontas++++
7	Pocahontas++++	Pocahontas++++	Midwayt
8	Redcoat	Premier	Grenadier
9	Midwayt	Surecrop	Earlidawn+

* Line separates 2 different areas of testing plots.

Disease index: order of increasing severity t to ++++; = denotes very few plants infected in the row.

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Table 1. Summary of leaf scorch disease incidence of strawberry varieties in and near Niagara Peninsula during the years 1961 to 1963.

Variety	Location and field reaction
Premier (Howard 17)	Mostly free from leaf scorch. In the fall of 1962 in one plantationat Jordan, most of the plants were infected and bore sporulating lesions.
Catskill and Redcoat	Mostly free from leaf scorch. Whenever found, the lesions were confined to the older leaves, restricted in size and with few acervuli.
Surecrop, Jerseybelle, Robinson and Fulton	Plants at the end of summer in 1962 in the year of planting and in the summer and fall of 1963 in the year of fruiting were severely infected at Vineland. Lesions were blotchy, 5-10 mm diam. and were sporulating heavily.
Redglow	Plants during the summer and fall of 1961 to 1963 at Vineland had severe leaf scorch with heavily sporulating lesions on the leaves.
Pocahontas	Leaf scorch was found at many locations in Clarkson-Niagaraarea during summer and fall of 1961-1963. Lesions found in May-June were narrow and elongated while those in the fall were blotchy.
Dixieland	Moderate leaf scorchwas seen on this varietyin and around Vineland from 1961 to 1963 throughout the growing season. Individual lesions were narrow and elongated.
Louise	Moderate to severe infection was seen at Whitby and Dixie, during 1961 and 1962. Lesions became blotchy in late summer and fall and were sporulating heavily.
Sparkle	Severe infection seen only in one plantation in Jordan in 1961. Since then 'Sparkle' has been free from scorch at many locations.
Guardsman	Heavily fruiting, blotchy lesions were found in severely affected plants at Oshawain late summer and fall in 1961, and at Vineland from 1961 to 1963.
Earlidawn	Leaf scorch was found quite commonlyat many locations, in the Clarkson-Niagara area and east and west of Toronto from 1961 to 1963. Moderate sized lesions were found in summer and in the fall they were blotchy and fruiting heavily.