BACTERIAL LEAF SPOT OF PEACH IN SOUTHWESTERN ONTARIO

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In recent years bacterial leaf spot of peach caused by Xanthomonas pruni (E. F. Smith) Dowson has become prevalent in southwestern Ontario. Consequently, to obtain more information on this important disease, peach orchards in Essex county were under frequent observation before and during the growing season of 1966.

A survey to determine the incidence of this disease was made in September in 3 orchards in Harrow-Leamington area. 20 to 40 trees of each of several varieties selected at random in each orchard were inspected and checked for symptoms on foliage and twigs. Summer cankers on current year's twigs as described by Anderson (1) were not found even on trees showing an abundance of foliage symptoms. However, dead terminal parts of current year's twigs resembling the "black tip" type of canker were fairly common, but it is unlikely that these were bacterial cankers because isolations from them did not show the presence of X. pruni. Deep purple and black leaf spots of irregular outline, chlorosis of leaf tissue adjacent to areas where such leaf spots coalesced, ragged shot holes left by dehiscence of leaf spots and defoliation were consequently the symptoms used in assessing disease severity.

Table 1. Incidence of and defoliation caused by bacterial leaf spot of peach in 3 orchards in Harrow-, Leamington area of southwestern Ontario in 1966.

Orchard	Variety and year planted		No. trees inspected	% infection	% severe infection	Defoliation
No. 1, Harrow	Sunhaven	1962	39	71.5	12.5	
	Dixired	1962	40	100.0	77.5	
	Kalhaven	1962	40	100.0	97.5	Severe
	Envoy	1962	40	100.0	80.0	Severe
	Redskin	1962	40	100.0	45.0	
	Cardinal	1960	40	100.0	47.5	
	Redhaven	1960	40	87.5	20.0	
No. 2, Harrow	Jubilee	1961	40	80.0	32.7	
	Cardinal	1961	20	100.0	75.0	
	Redhaven	1961	20	85.0	60.0	Severe
	Loring	1961	20	80.0	40.0	Severe
	Kalhaven	1961	20	100.0	100.0	
	Early Elberta	1961	20	100.0	30.0	
	Envoy	1961	20	100.0	70.0	Severe
No. 3, Ruthven	Loring	1961	30	63.3	23.3	
	Garnet Beauty	1961	30	93.3	60.0	Severe
	Keystone	1962	20	35.0	20.0	
	Envoy	1962	20	45.0	10.0	
	Redhaven	1963	30	96.6	40.0	Severe
	Dixired	1958	10	100.0	80.0	
	baby gold-5	1965	30	80.0	50.0	Severe
	Babygold-6	1965	20	55.0	10.0	
	baby gold-7	1965	20	80.0	25.0	

Disease severity ranged from light to severe (Table 1). From survey data as well as from general observations made in several other orchards it was concluded that the incidence of this disease in the major peach growing area of southwestern Ontario is relatively high and that it has become established in many young orchards. Varieties like 'Kalhaven', 'Envoy'. 'Dixired', and 'Garnet Beauty' were most severely affected and among the 'Babygold' varieties. new to this area. 'Babygold-5' was similarly severely affected. It was noted that infection was generally not uniform throughout a tree; while the southwestern part showed severe infection, the north and westernparts usually did not. Varietal differences in the degree of defoliation were also noted; severity of foliage infection and degree of defoliation were not always in agreement. For example, the 'Dixired' variety showed very little defoliation even though heavily infected.

The general impression gained from these surveys was that the more severely affected trees were definitely lacking in vigour.

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Literature cited

1. Anderson. H. W. 1956. Diseases of fruit crops. McGraw-Hill Book Company. Inc. New York.