THE OCCURRENCE OF RED STELE IN STRAWBERRIES GROWN IN COASTAL BRITISH COLUMBIA

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The presence of red stele, caused by Phytophthora fragariae Hickman, in commercial fields of strawberries in coastal British Columbia has been known for over 15 years (4). Furthermore, it has been observed. that the disease is a limiting factor to strawberry growth in some fields. Most of the observations, however, have been of a casual nature; the extent and severity of the disease not being known. To remedy this situation a number of commercial fields in the Lower Fraser Valley on the mainland and on the Saanich Periinsulaof Vancouver Island were surveyed for the disease during the January to April period of 1961 and 1962. Samples were taken throughout the fields with particular attention being paid to low, poorly drained, areas. The fields which did not show the presence of red stele received especially careful sampling. The fallowing table summarizes the information obtained in this survey:

Table 1. Occurrence of red stele in strawberry varieties in coastal B. C.

Variety	Fields examined	Fields with red stele	Fields without red stele	Severity
British Sovereign	25	24	1	moderate to severe
Siletz	22	8	14	trace to moderate
Puget Beauty	13	11	2	moderate to severe
Northwest	14	10	4	moderate to severe
Marshall	5	3	2	moderate
Surecrop	1	1	--	moderate

The British Sovereign variety is susceptible to most races of the red stele organism, so the fact that it was moderate to severe in all but one of the fields examined is not surprising. The field which showed no evidence of red stele had no previous record of the disease,

Siletz is the standard variety for red stele resistance in the Pacific Northwest (1). The fact that it was found to be susceptible in eight of the fields examined emphasizes the need for finding varieties with greater resistance. In six of the fields in which Siletz was not affected, red stele was found in other varieties. This suggests the presence of at least one race of P. fragariae *to* which Siletz is resistant.

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Northwest (3) is highly susceptible to red stele. In the fields of the variety in which red stele was not found, there was no indication, from the reaction of other varieties, that the causal organism was present,

Puget Beauty was released as a variety showing some resistance to red stele (3). Recently, however, it has not been recommended for its resistance. In the six fields in which the variety was found to be free of the disease, red stele was found in other varieties, This suggests the presence of at least one race of P. fragariae to which Puget Beauty is resistant,

Marshall is not considered to be a resistant variety (3). Its apparent resistance in two fields in which red stele was present in other varieties is of interest and deserves further study.

Surecrop is the most red stele-resistant variety used for commercial planting in the eastern United States (2). Its susceptibility in the one commercial field in which it is grown in B.C. suggests the presence of a race or of races of P. fragariae not common in the east.

It is obvious, from the survey, that the incidence of red stele in commercial strawberry fields of coastal B.C. is widespread. Future surveys will endeavour to determine the distribution of specific races.

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