ROOT ROT OF PEAS IN PRINCE EDWARD ISLAND IN 1969[1]

H. Winston Johnston and J.A. Cutcliffe[2]

Production of vegetables for processing has become an important segment of agriculture in Prince Edward Island. The major crop produced for this rapidly expanding industry is peas. Land area devoted to this crop has steadily increased during the past ten years and over 5,500 acres were grown for freezing and canning in 1969.

Prior to 1969, disease losses were relatively minor and were usually caused by Ascochyta spp. (1). In 1969, fields were observed that lacked uniformity of stand and had areas which could easily be distinguished by a general lack of vigor. Plants in these areas exhibited symptoms of severe root rot and from their roots a biotype of Fusarium oxysporum was isolated. Soil dilution plate counts revealed from 2,000 to 3,000 Pusarium propagulcs per gram of undried soil from areas where plants exhibited slight to severe symptoms, respectively.

The disease symptoms were confined to about 600 acres near Bedeque in south-central P.E.I. The most severe losses occurred in one 70 acre field where yields obtained were 50% of the average for the area. The estimated overall yield reduction for the 600 affected acres was 20%. Peas have been produced in this area for a longer period than in other areas of the Province and during the past 4 to 5 years some of these fields have been cropped to peas continuously. There was no evidence of root rot in other pea producing areas where there are very few fields that have had more than 3 crops of peas during the past 10 years.

Presumably, the lack of crop rotation has enhanced the inoculum potential of the causal organisms. To minimize losses from root rot organisms, it appears that peas can no longer be produced under a monoculture cropping system in Prince Edward Island.

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Literature cited

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CHAR SPOT ON WHEATGRASSES[1]

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Char spot caused by Septogloeum oxysporum (Sacc.) Bromm. and Rouss. has been found on wheatgrasses, Agropyron spp., in Saskatchewan every year since 1965. Not until 1969 was it seen in sufficient amounts for comparison to be made of the disease reactions of strains. In a dryland test at Saskatoon on 17 July, ratings were made on 14 strains of slender wheatgrass (A. trachycaulum (Link) Malte) and on two strains of crested wheatgrass (A. cristatum [L.] Gaertn.). The design of the test was a 4 X 4 balanced lattice with 6-row plots 20 ft long. Ratings were made on 10 tillers at random in the middle rows of each plot (Table 1).

Table 1. Disease ratings for char spot on strains of A. trachycaulum and A. cristatum

Species and strain	Source	Average rating*/plant	
A. cristatum			a†
'Summit'	Sask.	0.15	
'Fairway'	Sask.	0.16	
A. trachycaulum			
1587	Sask.	0.27	b
1439	Sask.	0.29	
1710	U. S. S. R.	0.35	
1632	Sask.	0.37	
1142	Sask.	0.47	
1708	Hungary	0.48	
1358	Sask.	0.51	
1554	Sask.	0.52	
1181	Sask.	0.53	
'Primar'	U. S. A.	0.66	
'Revenue'	Sask.	0.72	
1466	Sask.	0.74	
1617	Sask.	0.77	
1294	Sask.	1.34	c

* On a 0-4 scale where 0 is no disease and 4 very severe disease.

† Duncan's multiple range test at the 5% level of significance.

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