

SURVEY OF NURSERY MATERIAL FOR PLANT DISEASES IN 1948

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In Table 2 are summarized the data gathered from rust nursery plots grown at 31 places in Canada. Separate tables were prepared for the cereal rusts and for powdery mildew of wheat and barley giving the disease intensity on each of the varieties in the plots, but the complete report, mimeographed separately, must be consulted for these tables.

Eleven varieties of wheat, six of oats, and three of barley were grown. They were as follows: wheat - McMurray, Hope x Timstein, Carleton, Little Club, Marquis, Spelmar, Thatcher, Vernal, Norka, Redman, and Exchange; oats - Bond, Trispermia, Ajax, Vanguard, Garry, and Clinton; and barley - Goldfoil, Gold, and Vantage.

Stem rust of wheat was present at all stations except those in central and northern Alta. and in B.C., but was severe only in Man. and at certain points in Ont. Infection by leaf rust of wheat was generally severe except in parts of Sask. and Alta., but at most points the disease did not reach its maximum intensity until late in the season. Redman was heavily infected in eastern Sask., Man., and several points in Eastern Canada, but it appeared resistant in B.C. and in other localities in Eastern Canada. Hope x Timstein, tested for the first time this year, was highly resistant in the Prairie Provinces, but at many places in Eastern Canada it carried a moderately heavy infection on about 50% of the plants and a mere trace of rust on the remainder. Exchange (Warden x Hybrid English) showed a high leaf rust resistance at all stations.

Moderate to severe infection of oat stem rust developed in Man., but elsewhere infection was light except for sporadic outbreaks, several of which are known to have occurred in Eastern Canada. Only traces or very light crown rust infection occurred in Man. and eastern Sask., but heavy infection developed here and there in Ont. and eastward.

Although leaf rust of barley was recorded at 11 out of 31 stations, it was severe only at Agassiz, Mindemoya, and Kentville.

Attention may be called to the distribution of speckled leaf blotch (*Septoria Passerinii*), a minor disease of barley. Although it has a limited distribution in Canada, it shows a marked tendency to appear year after year in certain localities. In the five years since 1944 it occurred at Brandon and Morden in all five years, at Winnipeg in four of the five years and at Melfort, Kapuskasing, and Normandin in three of the five years. For the same period, its appearance was recorded once at each of the stations, Edmonton, Indian Head, St. Catharines, and Lennoxville.

Besides the diseases recorded in Table 2 may be mentioned powdery mildew of oats which occurred only at Kemptville, Ont., in trace quantities and speckled leaf blotch of wheat (*Septoria Tritici*) found only at Lacombe and Edmonton, Alta.

Table 2. Incidence of certain pathogenic fungi on wheat, oats, and barley grown at 31 localities in Canada in 1948

Locality	Wheat						Oats			Barley				
	P. gr. Tritici	P. triticina	Erysiphe graminis	Septoria nodorum	S. Avenae f. sp. triticea	Fusarium spp. (Scab)	P. gr. Avenae	P. coronata Avenae	Septoria Avenae	P. graminis	P. Hordei	Erysiphe graminis	Septoria Passerinii	H. sativum
Saanichton, B.C.	0	3	0	0	0	0	3	0	0	0	1	0	0	0
Agassiz, B.C.	0	4	1	0	0	2	0	0	2	0	4	2	0	0
Beaverlodge, Alta.	0	1	1	1	0	0	0	0	0	0	0	0	1	2
Edmonton, Alta.	0	1	4	1	1	0	0	0	0	0	0	0	1	1
Lacombe, Alta.	0	4	0	0	0	0	0	0	0	0	0	0	2	3
Lethbridge, Alta.	1	4	2	0	0	0	0	0	0	1	0	0	1	1
Scott, Sask.	1	2	0	0	0	0	1	0	0	1	0	0	0	1
Melfort, Sask.	1	2	0	0	1	0	2	0	0	1	0	0	0	3
Indian Head, Sask.	3	4	0	0	2	0	2	0	0	1	0	0	1	0
Brandon, Man.	4	4	0	0	3	0	3	1	0	2	0	0	3	2
Winnipeg, Man.	4	4	0	0	3	0	4	1	0	2	1	0	3	3
Morden, Man.	4	4	0	0	3	0	4	1	0	1	0	0	4	4
Fort William, Ont.	4	3	0	2	2	1	3	0	3	3	0	0	2	0
Kapuskasing, Ont.	3	4	0	2	0	0	2	0	4	1	0	0	3	2
Mindemoya, Ont.	4	4	1	0	1	0	4	1	2	3	4	1	0	2
Guelph, Ont.	4	4	3	-	-	-	2	0	-	3	0	3	-	3
St. Catharines, Ont.	2	4	1	0	0	0	0	0	0	2	1	1	0	1
Appleton, Ont.	2	4	0	0	3	1	2	4	0	1	0	1	0	1
Ottawa, Ont.	4	4	4	0	3	0	2	2	0	3	2	2	0	3
Merrickville, Ont.	4	4	1	0	1	0	1	4	0	2	1	1	0	2
Kemptville, Ont.	3	4	3	0	2	2	1	4	0	2	2	3	0	1
Macdonald College, Que.	3	4	1	0	2	0	2	2	1	2	3	3	0	3
L'Assomption, Que.	2	4	0	0	1	0	3	4	0	1	0	4	0	4
Lennoxville, Que.	2	4	2	0	2	0	1	0	2	2	0	0	1	1
Normandin, Que.	3	4	1	0	3	2	1	1	4	0	0	0	4	1
Ste. Anne de la Pocatiere, Que.	2	4	1	0	1	0	2	2	3	0	0	0	0	1
Fredericton, N.B.	1	4	0	1	1	-	0	4	3	2	0	0	0	3
Kentville, N.S.	2	4	0	1	0	0	2	-	0	0	4	0	0	2
Pictou, N.S.	2	3	1	0	0	0	1	3	2	0	2	0	0	3
Lower South River, N.S.	2	3	1	0	0	0	2	4	0	0	2	0	0	2
Charlottetown, P.E.I.	1	4	1	0	1	0	2	2	0	0	0	0	0	3

Note: 1 = trace; 2 = light; 3 = moderate; 4 = heavy