AIR-BORNE RUST INOCULUM OVER WESTERN CANADA IN 1964

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A measure of the number of cereal rust urediospores in the air over western Canada during the 1964 growing season was obtained by exposing vaseline-coated microscope slides for 48-hour periods in spore traps. The spore traps were located at Winnipeg, Morden and Brandon, Manitoba, and at Indian Head Regina and Saskatoon, Saskatchewan. The urediospores on the slides at Saskatoon were counted at the Canada Department of Agriculture Research Station, Saskatoon; slides exposed at the other locations were examined at the Canada Department of Agriculture Research Station, Winnipeg.

Table 1. Total numbers of urediospores of stem rust and leaf rust caught in spore traps at six locations in western Canada from 1960 to 1964.

Year	Winnipeg		Morden		Brandon		Indian Head		Regina		Saskatoon[a/]	
	Stem Rust	Leaf Rust	Stem Rust	Leaf Rust	Stem Rust	Leaf Rust	Stem Rust	Leaf Rust	Stem Rust	Leaf Rust	Stem Rust	Leaf Rust
1960	1719	1295	677	1708	223	546	49	2087	49	3674	0	10277
1961	88	153	109	212	24	80	27	71	37	101	8	246
1962	782	1563	2236	6282	1640	2972	789	1874	3000	4840	198	2498
1963	2544	13685	2477	26612	1722	15210	1597	39785	2008	69681	5571	80657
1964	12827	15041	18578	14780	16439	12797	3798	6918	8632	42129	132	531

[a/] Numbers of spores per slide. All other numbers of spores per square inch of slide.

The finding of spores on slides that were exposed in western Canada in *May* (Table 2) was unusual. Normally, spores are not found on the slides until June. A light spore shower occurred over southern Manitoba between June 7 and June 10 and a heavy shower occurred in Manitoba and Saskatchewan from June 25 to 30. The latter shower appears to have been responsible for the appearance of the cereal rusts in southern Manitoba on July 7.

More stem rust urediospores were caught in the spore traps than in any year since 1960, excepting at Saskatoon (Table 1). Large numbers of leaf rust urediospores were caught also but they were not as abundant as in 1963. The large numbers of leaf rust spores caught in 1963 and 1964 in Manitoba probably resulted from the development of leaf rust after heading time on the predominant varieties Selkirk and Pembina.

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Table 2. Numbers of urediospores of stem rust and leaf rust caught on vaseline-coated slides exposed for 48-hour periods at three locations in Manitoba and three locations in Saskatchewan in 1964.

Date	Winnipeg		Morden		Brandon		Indian Head		Regina		Saskatoon[a]	
	Stem Rust	Leaf Rust	Stem Rust	Leaf Rust	Stem Rust	Leaf Rust	Stem Rust	Leaf Rust	Stem Rust	Leaf Rust	Stem Rust	Leaf Rust
May Total	5	4	5	3	1	9	3	7	4	1	0	0
June 1-2	0	2	0	2	0	0	1	0	0	0	1	2
3-4	1	1	1	2	0	1	2	1	1	2	0	0
5-6	2	1	1	1	0	1	1	1	1	4	0	2
7-8	2	1	5	11	3	3	1	1	0	1	0	0
9-10	6	2	0	1	1	0	0	2	1	2	0	0
11-12	1	1	0	0	1	0	0	0	0	1	0	0
13-14	0	1	0	1	1	0	1	1	0	0	0	0
15-16	0	2	0	0	1	0	0	0	0	0	0	0
17-18	1	0	0	0	-	-	0	0	0	0	0	0
19-20	0	0	0	0	0	1	0	0	0	0	0	0
21-22	0	1	0	0	0	0	1	1	0	2	0	0
23-24	1	4	0	1	0	1	1	1	0	1	1	2
25-26	176	88	2	1	0	1	1	5	1	13	3	2
27-28	1	1	352	88	68	47	3	11	4	4	0	4
29-30	0	3	0	2	1	2	2	5	0	4	0	4
June Total	191	108	361	110	76	57	14	29	8	34	5	16
July 1-2	0	1	2	0	0	2	0	5	0	1	0	1
3-4	2	37	8	28	2	8	1	5	0	1	0	3
5-6	8	15	6	5	18	13	2	8	0	0	0	1
7-8	0	3	0	1	0	3	0	0	0	0	0	1
9-10	0	4	0	4	0	0	1	0	0	1	0	1
11-12	1	1	1	4	0	0	2	9	21	18	1	18
13-14	44	86	23	88	4	15	40	49	138	121	6	0
15-16	95	1,593	17	44	8	21	1	3	17	16	0	5
17-18	7	66	4	111	5	13	4	29	15	36	4	8
19-20	8	32	23	105	6	40	27	37	41	28	4	28
21-22	43	272	63	182	9	25	28	23	71	98	11	9
23-24	149	812	205	917	109	263	6	22	18	101	0	0
25-26	4	4	355	1,020	135	387	22	74	77	629	0	2
27-28	61	283	44	291	30	416	1	13	49	123	2	1
29-30	357	2,760	662	3,808	104	1,487	151	1,122	656	2,344	26	78
July Total	779	5,969	1,413	6,608	430	2,693	286	1,399	1,103	3,517	54	156
July 31-Aug. 1	4	11	179	364	54	306	33	352	15	74	1	1
2-3	69	691	217	1,919	43	454	45	118	62	873	0	3
4-5	346	639	188	489	176	1,227	74	1,049	661	6,540	35	164
6-7	229	1,641	158	979	76	1,058	76	791	619	4,669	9	38
8-9	1,151	1,011	2,206	756	258	498	255	1,143	1,969	11,106	12	71
10-11	176	380	109	320	372	1,427	16	35	25	219	0	17
12-13	193	184	343	170	41	23	89	170	2,855	4,641	12	50
14-15	938	396	319	272	287	299	136	114	80	948	4	15
16-17	76	55	996	306	173	121	308	237	57	176	-	-
18-19	3,249	1,491	7,707	1,927	4,824	1,500	624	1,052	323	7,468	-	-
20-21	2,658	1,899	237	71	5,049	2,208	26	7	15	20	-	-
22-23	123	34	1,215	141	135	55	56	36	62	193	-	-
24-25	185	86	938	132	938	123	200	76	319	1,354	-	-
26-27	2,455	442	1,890	199	667	71	66	42	170	152	-	-
28-29	-	-	96	13	1,793	560	190	94	285	144	-	-
30-31	-	-	1	1	1,046	108	1,301	167	-	-	-	-
Aug. Total	11,852	8,960	16,799	8,059	15,932	10,038	3,495	5,483	7,517	38,577	73	359
TOTAL	12,827	15,041	18,578	14,780	16,439	12,797	3,798	6,918	8,632	42,129	132	531

[a] Number of spores per slide. All others number of spores per square inch of slide.