AIR-BORNE RUST INOCULUM OVER WESTERN CANADA IN *1965*

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A relatively large number of urediospores of the cereal rusts were caught in 1965 on vaseline-coated slides exposed in spore traps at three locations in Manitoba and at three locations in Saskatchewan (Table 2).

Rust spores from the south were present over Western Canadaduring May and the first half of June but the widespread and severe leaf rust epidemic that developed in the region was probably initiated by the heavy spore shower of June 15-18 that deposited spores on most of Western Canada. On June 17 and 18, 1,793 leaf rust spores per square inch of slide were caught at Regina. A second heavy, widespread spore shower occurred between June 23 and June 30. Leaf rust infections were especially heavy in western Saskatchewan where the susceptible variety 'Thatcher' predominates. As a result, the total numbers of leaf rust spores caught at Brandon, in western Manitoba, and at the three Saskatchewan locations were greater than in any year since 1960 (Table 1). Most of the spores caught after mid-July probably were produced locally.

Spores of stem rust, although not as numerous as those of leaf rust, were alsopresent in large numbers (Table 2). Spore showers of primary inoculum from the south coincided with those of leaf rust but stem rust development was restricted by the resistance of the commonly grown varieties. The large number of stem rust spores caught at Regina in late July and August probably originated in south-western Saskatchewan where susceptible varieties of durum wheat were heavily rusted.

Table 1. Total numbers of urediospores of stem rust and leaf rust caught in spore traps in Western Canada from 1960 to 1965.

Year	Winnipeg		Morden		Brandon		Indian Head		Regina		Saskatoon	
	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	1,719	1,295	677	1,708	223	546	49	2,087	49	3,674	0	10,277
1961	88	153	109	212	24	80	27	71	37	101	8	246
1962	782	1,563	2,236	6,282	1,640	2,972	789	1,874	3,000	4,840	198	2,498
1963	2,544	3,685	2,477	26,612	1,722	5,210	1,597	39,785	2,008	69,681	5,571	80,657
			18,578	14,780	16,439	2,797	3,798	6,918	8,632	42,129	132	531
			5,362	25,978	2,698	16,981	10,559	66,730	31,635	227,576	1,927	77,502

Acknowledgements

Slides were exposed at Morden, Brandon, Indian Head and Regina by Canada Department of Agriculture staff at these locations. The data for Saskatoon was supplied by the staff of the Canada Department of Agriculture Research Station, Saskatoon. Slides from spore traps at all locations, excepting Saskatoon, were examined at Winnipeg by Mr. N. Enns.

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Table 2. Numbers of urediospores of stem rust and leaf rust per square inch caught on Vaseline-coated slides exposed for 48-hour periods at 3 locations in Manitoba and 3 locations in Saskatchewan in 1965.

Date	Winnipeg		Morden		Brandon		Indian Head		Regina		Saskatoon	
	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	3	11	2	14	3	6			0	0	0	0
June 1-2	0	0	0	0	0	1	0	0	3	0	0	0
3-4	0	0	2	3	1	0	0	2	0	1	0	0
5-6	0	1	0	0	0	0	0	1	11	1	0	0
7-8	1	2	2	3	0	2	0	0	0	0	0	0
9-10	1	1	0	2	0	0	1	0	0	0	0	0
11-12	1	4	1	6	1	5	4	12	8	27	0	0
13-14	3	5	1	12	0	3	2	2	2	3	0	0
15-16	2	11	1	13	0	9	5	29	202	442	0	5
17-18	21	42	11	109	8	22	96	131	1,134	1,793	2	6
19-20	4	11	0	27	11	18	2	7	3	6	0	0
21-22	0	6	1	13	2	5	0	1	0	0	0	0
23-24	0	9	1	12	0	5	55	223	309	1,013	0	4
25-26	23	14	15	32	11	41	120	134	11	43	0	3
27-28	4	8	15	80	1	4	0	2	0	7	0	0
29-30	0	3	0	1	0	1	0	1	599	1,194	--	--
June Total	60	117	50	313	35	116	285	545	2, 282	4, 530	2	18
July 1-2	0	1	2	16	2	21	2	4	2	6	0	0
3-4	0	1	0	0	0	13	15	8	46	157	0	3
5-6	1	10	1	25	0	8	7	49	93	137	0	17
7-8	0	11	2	9	0	16	0	50	4	52	0	10
9-10	0	5	1	17	0	161	8	125	36	233	0	6
11-12	1	15	5	124	4	111	50	130	11	238	0	3
13-14	0	20	2	90	5	147	84	114	21	239	0	40
15-16	1	11	2	18	1	12	214	430	14	1, 603	0	530
17-18	0	7	5	70	5	74	28	183	14	2,841	150	3,075
19-20	7	49	0	2	11	22	1	52	0	302	50	2,425
21-22	0	1	2	84	0	12	42	4,707	28	4,515	50	6, 250
23-24	0	1,456	0	851	0	2, 138	28	12,475	127	11, 307	25	9, 200
25-26	0	12	7	162	0	354	0	1,055	84	2,405	50	8, 250
27-28	0	8	0	247	0	42	141	6, 104	464	13, 347	75	6,250
29-30	0	274	7	731	56	1, 969	113	4,951	239	9,521	25	4, 700
July Total	10	1, 881	36	2,446	84	5, 100	733	30,437	1, 183	46,903	425	40.759
July 31 - Aug. 1	0	316	0	162	57	2,264	70	5,203	155	8, 115	125	5,875
2-3	0	0	0	1, 392	0	999	183	4, 374	394	11,317	50	9, 650
4-5	56	323	225	4, 120	70	1, 210	84	5,471	141	19,952	275	13,000
6-7	55	520	0	2, 208	13	619	83	2,855	422	3,480	75	1,175
8-9	14	450	0	63	28	900	212	4, 229	1,688	32, 155	250	3,500
10-11	253	3,868	661	6, 793	56	1,091	788	3,910	3,592	25, 137	725	3,525
12-13	7	77	633	3,558	211	774	6,158	7,994	12, 798	22, 411	--	--
14-15	56	176	155	1, 139	478	2, 208	63	155	142	3,619	--	--
16-17	408	380	295	1, 252	21	345	84	70	139	1, 392	--	--
18-19	138	407	239	394	3	21	98	197	829	5,429	--	--
20-21	91	141	394	478	57	56	294	295	705	18, 143	--	--
22-23	900	211	2, 279	1, 336	148	175	577	548	703	8,720	--	--
24-25	107	145	253	225	759	689	12	15	1, 744	4, 247	--	--
26-27	155	282	42	42	154	127	182	183	1,019	4,079	--	--
28-29	197	98	98	43	451	196	578	213	2, 813	7, 454	--	--
30-31	2, 433	408	--	--	70	85	70	28	886	493	--	--
Aug. Total	4, 870	7, 802	5,274	23,205	2,576	11,759	9, 536	35, 740	28, 170	176, 143	1,500	36, 725
TOTAL	4, 943	9, 811	5,362	25,978	2, 698	16, 981	10, 559	66, 730	31, 635	227, 576	1,927	77,502