

AIR -BORNE RUST INOCULUM OVER WESTERN CANADA IN 1963G.J. Green¹

The amount of rust inoculum in the air over western Canada in 1963, relative to earlier years, was estimated by trapping urediospores on Vaseline-coated microscope slides exposed in spore traps. The slides were exposed for 48-hour periods at Winnipeg, Morden and Brandon in Manitoba and at Indian Head, Regina and Saskatoon in Saskatchewan. The slides were examined at Winnipeg, excepting those exposed at Saskatoon which were examined at the Plant Pathology Section, Canada Department of Agriculture Research Station, Saskatoon. The number of spores caught on each slide is shown in Table 1.

The spore trappings indicate that the first spore shower, which deposited spores across Manitoba and southern Saskatchewan, began in Manitoba on June 6-7, but the finding of wheat leaf rust at Winnipeg on June 11 suggests that some spores were present about June 2-3. Another spore shower began on June 18-19 and deposited additional spores across Manitoba and southern Saskatchewan. Locally produced spores probably began to appear on the slides at about this time. Stem rust spores were scarcer during June and more abundant during July than for comparable periods in 1962. Leaf rust urediospores were more abundant throughout the growing season than in the 3 preceding years.

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Table 1. 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 1963.

Date	Winnipeg		Morden		Brandon		Indi	Head	Regina		Saskatoon ^{1/}	
	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	0	0	0	0	0	0	0	0	0	2 ^{2/}	0	0
May 31 -												
June 1	0	0	0	0	0	0	0	0	0	2	0	0
2-3	0	0	0	0	0	0	0	0	0	0	0	0
4-5	0	0	0	0	0	0	0	0	0	0	0	0
6-7	0	0	6	17	1	2	0	0	0	1	0	0
8-9	0	0	0	0	1	1	0	0	-	-	0	0
10-11	2	1	0	1	1	0	1	1	0	19	0	a
12-13	1	1	2	15	0	1	1	9	4	23	0	1
14-15	0	1	0	2	0	2	0	4	0	2	0	0
16-17	0	1	0	5	0	1	0	0	0	10	0	0
18-39	5	9	1	6	4	6	1	6	1	4	0	2
20-21	5	85	2	169	7	14	4	27	-	-	0	0
22-23	15	298	12	341	13	78	0	12	-	-	0	0
24-25	11	72	12	165	15	77	2	47	6	18	0	10
26-77	0	8	10	45	1	7	2	8	4	44	0	4
28-29	10	42	62	335	12	40	1	16	1	17	4	3
June Total	49	518	107	1101	55	229	12	130	16	140	4	22
June 30 -												
July 1	9	46	22	155	2	46	3	20	2	9	0	0
2-3	1	8	11	84	2	24	10	58	23	101	9	32
4-5	6	13	49	416	12	32	1	12	1	6	1	9
6-7	9	11	1	14	6	24	0	3	2	39	0	1
8-9	8	67	107	883	42	241	5	12	14	96	0	2
10-11	116	718	152	2014	35	225	7	224	38	874	1	16
12-13	16	77	39	979	21	107	14	398	49	1004	9	332
14-15	63	327	91	1322	44	141	14	213	97	709	5	172
16-17	42	508	77	1722	37	178	30	168	14	75	3	110
18-19	42	377	-	-	-	-	16	120	72	765	2	236
20-21	1	4	40	1740	-	-	234	2848	109	1793	55	4800
22-23	144	1439	202	1814	51	767	132	3708	496	8592	15	5275
24-25	37	705	6	89	15	434	47	2989	-	-	29	4125
26-27	41	284	23	327	49	1520	32	4037	0	0	13	4100
28-29	33	440	58	596	36	543	46	3962	188	10750	75	2425
30-31	80	618	232	2825	53	1731	36	5257	65	4766	50	8050
July Total	648	5642	1110	14980	405	6013	627	24029	1170	29586	267	9685
Aug. 1-2	95	340	109	1423	116	1511	7	3182	74	7725	225	5225
3-4	141	671	209	3028	63	1168	49	3541	109	7973	100	2175
5-6	144	1403	67	1319	18	209	25	2919	46	320	275	4375
7-8	66	521	169	623	146	1805	16	1237	51	4614	525	2950
9-10	25	86	95	663	46	192	62	192	58	2695	500	1750
11-12	174	1562	206	1402	234	1654	63	1425	-	-	675	1800
13-14	76	308	32	199	104	391	125	552	113	5879	1975	1250
15-16	56	194	74	406	175	866	72	338	18	2486	1025	1425
17-18	106	188	94	290	56	232	139	394	86	1305	-	-
19-20	167	338	49	431	40	84	132	640	44	1868	-	-
21-22	100	267	70	225	171	530	72	237	37	1601	-	-
23-24	248	387	40	209	72	259	35	151	39	1770	-	-
25-26	76	162	18	190	21	67	70	274	91	741	-	-
27-28	84	104	28	123	-	-	91	544	56	978	-	-
29-30	289	994	-	-	-	-	-	-	-	-	-	-
Aug. Total	1847	7525	1260	10531	1262	8968	958	15626	822	39955	5300	10950
Total	2544	13685	2477	26612	1722	15210	1597	39785	2008	69681	5571	10657

^{1/} Number of spores per slide. All others number of spores per square inch of slide.

^{2/} Caught May 29-30.