ERGOT IN CEREALS IN WESTERN CANADA IN 1955

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A fairly extensive survey was carried for the third successive year to determine the incidence of ergot in cereal crops in Western Canada. The results of the previous surveys have already been published (P.D.S. 33:23-28; 34:30-32). I am particularly indebted to Dr. W.L. Gordon, Winnipeg, Dr. H.W. Mead, Saskatoon, and Dr. W.P. Campbell, Edmonton, for summarizing the information in the respective provinces. The results are presented in Table 3.

When the figures for the three years are compared the percentage of wheat fields showing ergot was sl. higher in 1955 than in 1953 and considerably higher than in 1954. The overall increase is due to the marked increase in Man.; the significant concentration of affected wheat fields in central Alta. and w.-central Sask. in 1953 has not occurred again. On the other hand, the barley percentages are the lowest for the three years. As in the past, a high percentage of the rye fields showed ergot.

In Man., the average infection in wheat fields showing ergot rarely exceeded a trace; in one field of Selkirk 5% of the heads were affected and in two others of this variety up to 12% of the heads on plants about the margin of the field bore sclerotia, although the av. infection was but tr.-0.1%. No significance is attached to the fact that the few appreciable infections were in Selkirk. The greater concentration of ergot in margins of the field was repeatedly observed in rye fields. Rarely did the av. infection exceed a tr. In one field at Plum Coulee the infection was more uniform: at the margins 20%, av. 14%. The presence of ergot in Agropyron and Bromus inermis growing at the margin or along the roadside was noticed on two occasions. In one field, the rye at the margin was heavily infected, in the other only a tr. was present and it was only slightly heavier at the margin. In the two fields of barley affected, infection was a tr. in one; and 25% at the margin, av. 1%, in the other (W.L. Gordon).

In Sask., ergot infection was rated as 6-tr. 2-sl. 2-mod./254 fields of wheat, 4-tr./45 fields of barley and 4-sl./5 fields of rye examined from Saskatoon. Infection in rye was lighter than anticipated as the grasses on the headlands were sev. infected this year. Infection in wheat was mostly at the margins of the fields (H.W. Mead). Traces were observed in 2 fields of barley and in one of wheat in central Sask. Ergot has been observed every year in tr.-sl. amounts in wheat and barley fields since the sev. outbreak in 1942. Before that year it was difficult to find ergot in these cereals (T.C. Vanterpool).

In Alta., infection in spring wheat was 3-tr. 1-mod. in the 164 fields examined in crop districts 1-4 and 14-tr., 1-0.5%, 2-1%, 1-3% and 1-5%/220 fields examined in central Alta.; in the 108 fields examined in n. Alta. and the Peace River district no ergot was seen. A mod. infection was also reported on several fields of Chinook and Rescue in the Medicine Hat area. Traces were

Table 3. Fields of Cereals inspected for Ergot by Province and Crop District in 1955.

C.D.	Wheat						Barley						Rye					
	Man.		Sask.		Alta.		Man.		Sask.		Alta.		Man.		Sask.		Alta.	
	Total	Ergot	Total	Ergot	Total	Ergot	Total	Ergot	Total	Ergot	Total	Ergot	Total	Ergot	Total	Ergot	Total	Ergot
1	-		22	3	66	2	-		5		11		-		1	1	-	
2	3	2	46	2	48		1		7		24		1	1	1		8	4
3	19	5	37	1	18	2	4		5	1	10		6	5	1	1	-	
4	-		11		32		-		-		8		1	1	-		-	
5	-		15		28	1	-		5		4		-		-		-	
6	4		66	1	52	6	-		12	1	15	1	-		1	1	3	3
7	7	3	27	2	47	2	1		3	1	9	1	3	3	-		2	2
8	4	2	19	1	31	4	2	2	6	1	31	3	4	4	-		-	
9	4	1	16		10		-		2		26		2	2	2	2	-	
10	7	2			34	4	2				20	1	1	1			-	
11	6	1			18	2	1				27	1	2	2			-	
12	-				-		-				-		-				-	
13	2				10		1				12	1	2	2			1	1
14	-				29		-				28		-				-	
15					8						11						-	
16					39						44						5	
17					11						7						-	
B.C.*					11						13	1					-	
TOTAL	56	16	259	10	492	23	12	2	45	4	300	9	22	21	6	5	19	10
% Ergot		28.6		3.9		4.7		16.7		8.9		3.0		95.5		83.3		52.6

* Peace River Block of B.C.

recorded in 8/241 fields of barley in central Alta. and the Peace River district. In rye infection was 6-tr., 1-2%, 1-8%, 1-10% and 1-40% in the 19 fields examined in Alta. Ergot was also found in volunteer rye by roadsides on 4 occasions (W.P.Campbell, J.T.Slykhuis).

Observations by Dr. Campbell in central and n. Alta. show that ergot was present on a wide variety of grasses. He made 158 observations as follows: Agropyron spp. 17, Agrostis alba 2, Avena fatua 1, Bromus inermis 69, other B. spp. 8, Calamagrostis canadensis 26, Elymus innovatus 31, Phleum pratense 3, Poa pratensis and Stipa viridula 1 each. From these and observations made in s. Alta. and elsewhere, it is evident that ergot was prevalent in wild grasses in the Prairie Provinces in 1955. Indeed it appears that ergot is probably of greater importance to agriculture as a menace to livestock than as a hazard in cereal production.