The Kelvington Project for the Production of Smut-free Barley Seed

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In the early months of 1950, machines for applying the hot water treatment to cereal seed and for drying it after treatment were placed at Kelvington, Saskatchewan. They were to be used by local seed growers for the control of loose smut of barley. Seed was treated on a fairly large scale and it was found that smut-free stands of barley could be grown from the treated seed. However, the new crop of grain produced by these clean stands became reinfected to a greater or lesser extent, and it was necessary to use the embryo test to determine how much loose smut, if any, the new crop of seed carried.

In April 1952 a "Seed Control Area", two hundred square miles in extent was created by provincial statute in the Kelvington district. A supervisory committee of three local seed growers was selected to direct the project. According to the terms of the Act, no one within this area was allowed to sow barley carrying more than 0.5% infected embryos, as determined by the embryo test.

This project is still in operation. It is interesting to compare the figures for the average amount of loose smut found in the barley seed samples from this special area, with the figures for those from the remainder of the province. We are indebted to the Plant Products Laboratory in Saskatoon for permission to study the records on which the following figures are based.

Table 4. Average percentage of seed infected with loose smut

Year	Kelvington area	Remainder of Saskatchewan
1953	1.3	1.9
1954	1.8	3.5
1955	0.6	2.0
1956	0.5	1.7
1957	1.7	2.3

In most of these years the difference in the level of infection was quite noticeable but it is evident that the reinfection of smut-free stands by wind-blown spores interferes to some extent with the production of smut-free seed.