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How Clean Is Your Seed?

Cooperative Extension South Dakota State University

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How Clean Is Your Seed?

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Crop seeds being planted in 1953 and 1954 were sampled for analysis of weed seed content at South Dakota State College. Many of these samples, taken directly from the drill box in the field, represented seed that had been cleaned. This leaflet reports the findings of this survey. They may surprise you.

It is often said that one of the most common ways in which weeds are spread is by planting grain containing weed seed. Usually these statements are made without adequate proof. To obtain additional proof a drill-box survey was made to determine to what extent weed seeds are being planted along with crop seeds.

Samples of oats, barley, wheat and flax were collected by the county Agricultural Extension Agents. If the sample had been cleaned, that was reported. Samples were taken from the drill or truck box with the farmer's consent, in order to have the assurance that the grain was actually being planted. The number of samples collected depended on the number of acres of the crop being planted in that county. The samples were analyzed in the Agronomy Seed

Testing Laboratory at South Dakota State College.

Condition of Seed

The survey showed that 90 per cent of the wheat, 86 per cent of flax, 84 per cent of oats and 73 per cent of the barley sampled had been cleaned with a fanning mill. For this reason a large percentage of seed planted is relatively free of weed seed and completely free of noxious weed seed. However, the survey also shows that there is still need for emphasis on seed cleaning, because in some cases the number of weed seeds per pound was high. The good work of the majority can sometimes be covered up by a few who are not doing their part.

**Agricultural Extension Service
South Dakota State College
U. S. Department of Agriculture**

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	Oats	Barley	Wheat	Flax
Number of samples	67	11	63	15
Per cent of samples cleaned with fanning mill	84	73	90	86
Average number weed seeds per pound in samples cleaned ..	134	121	155	881
Weed seeds per pound in uncleaned seed	235	3328	133	1045

The survey brought out the fact that many weed seeds are being planted. In some individual samples as high as 11 weed seeds were being planted in each square foot. This would be a good stand without the crop. Some of the samples that had been cleaned with a fanning mill contained many weed seeds. This brings out the need to examine the seed carefully during and after the cleaning operation, in order to be sure of a good job of cleaning. The high number of weed seeds found in fanned grain points out the need for better cleaning equipment, as well as using greater care in the cleaning operation.

Weed Seed Content

The second table shows the percentage of the samples containing noxious and secondary noxious weed seeds and the average number of these seeds per pound in those samples containing the weed seeds.

The survey indicates that many noxious and secondary noxious weed seeds are being planted. Seeds of two primary noxious weeds were present, these were field bindweed (creeping jenny) and quackgrass. Although the numbers of these noxious weed seeds were relatively

low, it must be remembered that once these weeds are established they soon spread by underground roots as well as producing more seed.

One seed could start a very costly infestation, yet in some samples as many as 70 noxious weed seeds were being planted in a square rod.

Secondary noxious weed seeds found were wild oats, wild mustard and hedge bindweed (sometimes called morning glory). These seeds were found in a much larger percentage of the samples and could result in costly losses. Wild oats, for example are causing severe losses to many farmers throughout the state. Wild oat seed was found in 54 per cent of all the samples collected and in some cases as high as 150 wild oat seeds were being planted per square rod.

Buckwheat Common

The most common weed seed found was wild buckwheat. Wild oats was second in prevalence, with yellow foxtail, green foxtail, wild mustard, sunflower and lambsquarters also found in a high percentage of the samples.

Special care in planting weed free seed can eliminate one source of weed infestation and reduce costly losses.

	Oats	Barley	Wheat	Flax
Total samples	143	25	127	29
Samples containing noxious weed seeds	11.9%	16.0%	14.2%	10.3%
Number of seeds per pound in infested samples ..	15	12	11	3
Samples containing secondary noxious weeds ..	76.9%	84%	65.4%	55.2%
Average number secondary noxious weed seeds per pound	44	83	19	30