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Seed Testing in South Dakota

South Dakota Agricultural Experiment Station

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A seed testing laboratory is maintained by the Agronomy Department at South Dakota State College for the purpose of (1) teaching students in identification, handling, cleaning and testing of seeds, (2) research work with the Experiment Station on seed germination and processing, (3) examining and testing all lots of seed certified by the South Dakota State Seed Certification Board, and (4) testing seeds, at cost, for farmers, seedsmen and others in the state.

Frequently farmers, seedsmen and others desire tests, examinations or other quality determinations on seeds that are to be planted or handled. The Agronomy Department offers a seed testing service to anyone in the state who has need of accurate and reliable seed tests, since the department already has the personnel trained and experienced in the testing and handling of seeds.

The following information outlines the kinds of seed testing services available to anyone in the State and is intended to clarify questions about the tests and analyses.

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AGRONOMY DEPARTMENT
SOUTH DAKOTA AGRICULTURAL EXPERIMENT STATION
SOUTH DAKOTA STATE COLLEGE
BROOKINGS

Farmers Testing Own Seeds

Anyone may analyze and label seed, provided he has the technical training and equipment required to perform accurate and reliable tests. In many cases farmers can make reasonably accurate germination tests for their own use on coarse seeds such as corn, small grains and sorghums. However, when seed is to be sold, the purity percentages are also needed and the farmer finds he has no sensitive scale to weigh separations nor is he able to identify all the weed seeds. It becomes necessary then, for labeling purposes, to have the services of a properly equipped reliable seed laboratory.

Seed Laboratory Reports Are Official

The Agronomy Seed Laboratory is equipped with all the up-to-date seed testing equipment necessary to perform tests on all kinds of agricultural and vegetable seeds. It is staffed with experienced technically trained analysts and part time assistants who work under constant supervision. All analyses performed by the laboratory are made according to the officially prescribed rules of the Association of Official Seed Analysts. All analysis reports issued by the laboratory are official tests of the samples submitted.

When the purity, germination and noxious weed tests have been made on a sample of seed, the report issued by the laboratory contains all the information needed to comply with the labeling requirements of the South Dakota State Seed Law and also the Federal Seed Act regulating the shipment of seed to other states.

Kinds of Tests Performed

Purity—A purity test reveals the actual percentage of the crop seed contained in a sample. By hand separation, the percentage and kinds of weed seeds, the percentage and kinds of other crop seeds, and the percentage of inert matter are determined. After the foreign seeds and material are removed, the remainder is pure seed and its percentage is determined. Whenever possible a variety indentification is made on the pure seed.

Germination—A germination test indicates the percentage of seed that grows and produces normal plants. A hard seed percentage is also given on legumes such as alfalfa, sweet clover, red clover, etc., that have a hard seed coat which is impervious to water. These hard seeds, while not dead, fail to germinate during the germination test period.

Noxious Weed Examination—Information as to the presence of any noxious weed seeds in crop seed is of vital importance to every farmer. A noxious weed examination of the entire sample submitted is made whenever requested. In general, the larger the sample examined the more reliable will be the noxious weed examination report.

Obtaining Samples for Analysis

A seed test is of little value unless it truly represents the entire bag, bin or container from which the sample was taken. Since an analysis is made on the

sample submitted to the laboratory, it is essential that the sample is representative of the lot and that nothing has been removed to improve its quality.

If the seed is in a bin or pile, a handful should be taken from at least seven places by thrusting the hand into the bulk. These handfuls should be placed in a clean container, thoroughly mixed and smaller portions taken from seven places to make up the laboratory sample.

For sampling seed in bags, equal portions should be taken from the bottom, middle and top of the bag. Seed should be taken from every bag when there are less than five bags in the lot. Every fifth bag should be sampled when there are more than five bags, but at least five bags should always be sampled.

Amount of Seed Needed

One quart of seed is needed for the large seeds as soybeans, wheat, corn, sorghums and flax. One pint of seed is needed for the small seeds as alfalfa, millet, clover and the grasses.

Sending the Seed Sample

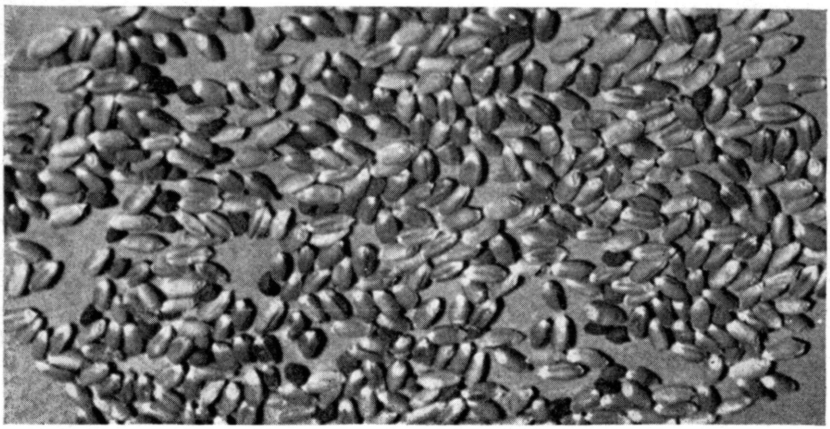
Heavy paper seed envelopes are best suited for sending seed through the mail. Cloth bags are also suitable, but ordinary paper envelopes or breakable containers should be avoided. A special postal rate of one cent for each two ounces may be used if there is no writing, other than name, address and identification mark enclosed, and the container is not sealed. If a letter or card is to accompany the sample, it should be sent under separate cover to avoid paying the first class postal rate.

Time of Year to Test Seeds

Research has shown that there is practically no difference in germination tests made at different seasons of the year if the proper techniques are employed to break the dormancy found in certain freshly harvested seeds. January, February and March are the busy months of the year for any seed laboratory and during these months a delay in receiving seed test reports may be expected.

In order to avoid the rush season and a possible delay in receiving reports, the samples should be submitted as soon as possible in the fall or early winter.

Seed of the noxious weed—Field Bindweed (Creeping Jenny)—in wheat



Cost of Seed Laboratory Services

Since seed samples are tested at cost, the charges for the various kinds of tests vary with changing conditions.

A schedule for charges now in effect is attached to this pamphet.

A "quick" service is maintained for those desiring the tests as quickly as possible. On payment of fifty cents per sample fee, the sample will be placed at the head of the list and worked as quickly as possible.

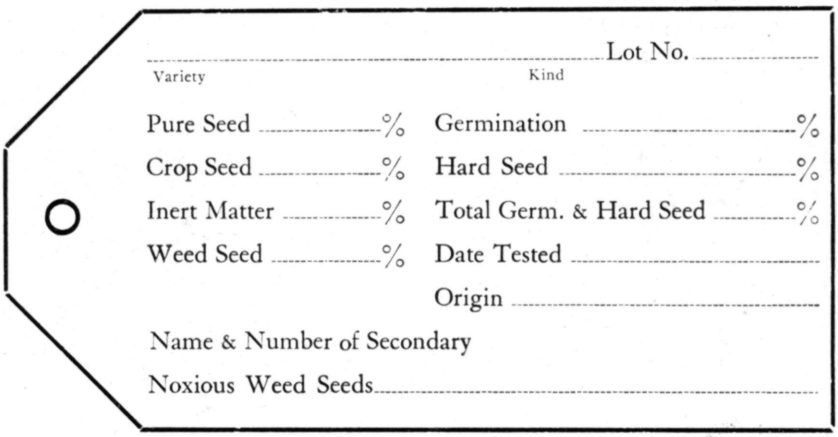
The remittance should accompany the sample to the laboratory. It is suggested that persons or firms sending a number of samples during the season deposit $10.00 with the laboratory. Itemized records will be kept and when the account is exhausted, notice will be sent with the itemized statement of the account.

Seed Tags for Labeling Purposes

Seed tags or labels attached to containers of seed indicate the quality of seed in the container. Any person who examines the label can then tell quickly the kind and quality of the seed and determine if it is suitable for his needs. The complete report of a seed test issued by the Agronomy Seed Laboratory gives all the information needed for labeling seed except the "origin," which is best known by the owner of the seed.

This information contained on the seed test report may then be copied directly on a seed tag to complete the South Dakota Seed Law requirements for labeling seed.

Farmers or small seed dealers who wish to sell seed may obtain seed tags similar to the one shown below. These tags are available at the Agronomy Seed Laboratory at one cent (1c) each.



For further information write to Agronomy Seed Laboratory, Department of Agronomy, Brookings, South Dakota.