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6-1-1967

Seed Testing

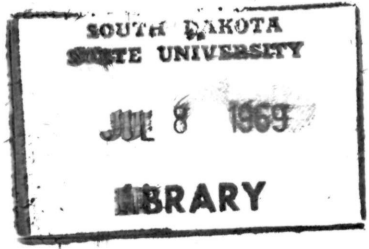
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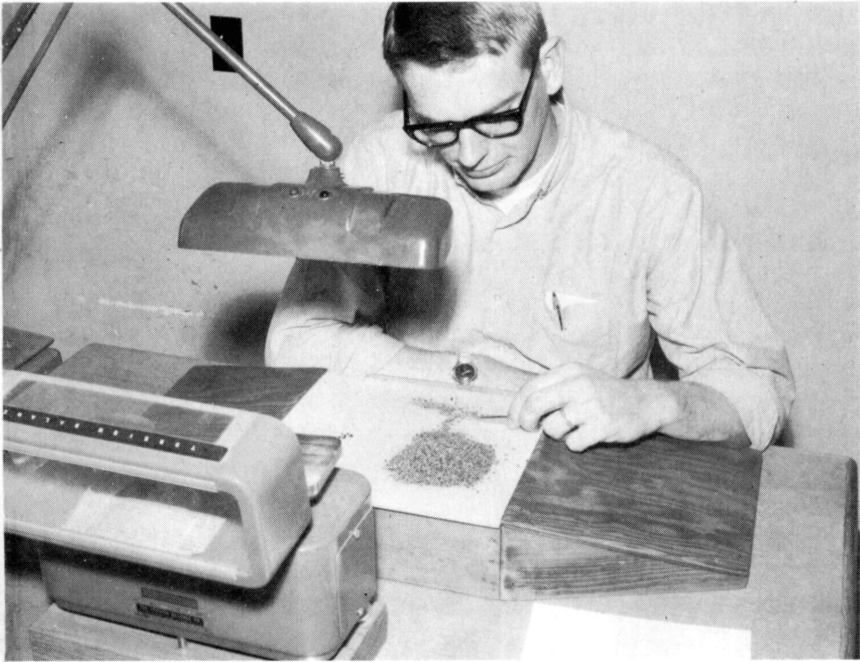
Recommended Citation

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SEED TESTING



Agronomy Pamphlet 84

Agronomy Department

College of Agriculture and Biological Sciences

South Dakota State University, Brookings

7.5M—6-67—6014

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A seed testing laboratory is maintained at Brookings by South Dakota State University to (1) teach students seed technology, (2) conduct research in seed problems, and (3) test, at cost, seed samples for farmers, seedsmen, the Certification Service, and the South Dakota Department of Agriculture.

The laboratory is equipped with the up-to-date testing equipment necessary to perform tests on all kinds of field crop, vegetable, tree, and flower 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 official rules of the Association of Official Seed Analysts. The report issued by the laboratory is an official test of the sample submitted.

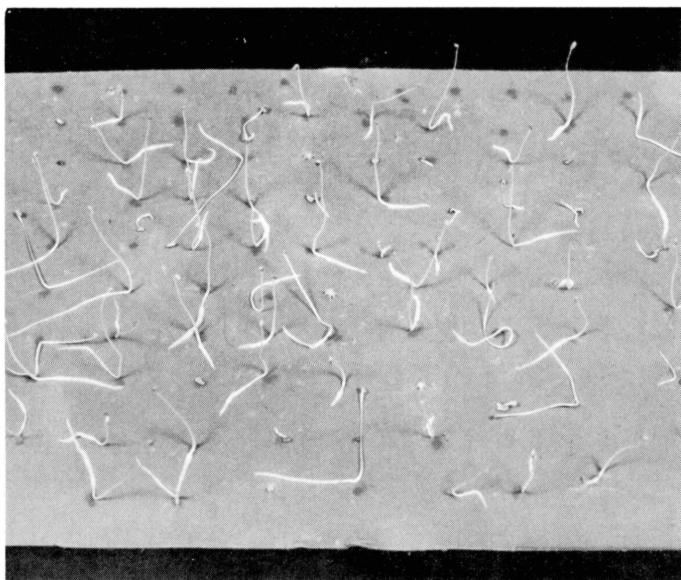
KINDS OF TESTS MADE

Purity (p)—a purity test reveals the actual percent of pure seed in the sample. Weed seeds, other crop seeds, and inert matter are removed and the percent of each determined. The pure seed of the sample is seed remaining after other seeds and inert matter have been removed.

Germination (g)—a germination test indicates the percent of seed that will grow and is capable of producing normal plants in the field. The percent of hard seeds, if any, is also given in the case of alfalfa; sweetclover; red, alsike, and white clover; birdsfoot trefoil; and soybeans. Hard seeds remain hard for the duration of the germination test. Not shown on the report but counted in each germination test are **abnormals** (seeds that start to grow but because of some kind of faulty development will never produce a plant in the field) and **dead** (seeds that soften but fail to germinate).

Noxious weed seed examination (n)—a noxious seed examination is usually made on the entire sample submitted. Noxious weed seeds, if present, are always reported as number found per ounce or pound of crop seed.

Tetrazolium viability test (tz)—indicates the percent of seed that is alive. It is a color test made on sectioned, soaked seed. If the germ



turns red, the seed is considered alive. The test can usually be made in less than 24 hours. It is not and does not substitute for a germination test but is a very fast method of determining viability.

Identification (kinds of seeds or plants)—Seeds and plants are identified whenever requested. Variety identification of most crops is extremely difficult if not impossible by an examination of the seed and is usually not made even when requested. No charge is made for identification of seeds or plants.

If no information is received about the kinds of tests wanted on a particular sample, the laboratory always completes the purity and germination test.

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 be representative of the seed that is to be sold or planted.

If the seed is in a bin or pile, take a handful from at least seven places by thrusting the hand into the bulk. For sampling seed in bags, take equal portions from the bottom, middle, and top of the bag. Take seed from every bag when there are less than five bags in the lot. Sample every fifth bag when there are more than five bags, but always sample at least five bags.

AMOUNT OF SEED NEEDED

One quart of seed is needed for large seeds such as soybeans, wheat, oats, barley, and corn. One pint of seed is needed for the sorghums and sudangrass, one-half pint for small seeds such as flax, alfalfa, millet, clovers, and grasses.

SENDING THE SEED SAMPLE

Heavy paper seed envelopes are best suited for sending seed through the mail. Cloth bags are also suitable, but avoid ordinary paper envelopes or breakable containers. The special postal rate for merchandise 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, send it under separate cover to avoid paying the first class postal rate on the seed sample.

TIME OF YEAR TO TEST SEEDS

Research has shown that there is 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 for any seed laboratory and a delay in receiving seed test reports may be expected at this time. To avoid the rush season and a possible delay in receiving reports, submit the samples as soon as possible in the fall or early winter.

COST OF SEED TESTING SERVICES

See attached colored sheet for the schedule of charges. Since seed samples are tested at cost, the charges for the several kinds of tests vary with the kinds of seeds and with changing conditions.

A "quick" service is maintained for those desiring the tests as quickly as possible. Upon request and payment of an extra 50 cents per sample fee, the sample will be placed at the head of the list and worked as quickly as possible.

The payment may be sent with the sample. However, the laboratory sends statements at the end of each month if you prefer to be billed.

Further information on seed testing and seed technology problems may be obtained by writing to R. C. Kinch, Seed Laboratory, South Dakota State University, Brookings, South Dakota, 57006.

SEED LABORATORY

South Dakota State University, Brookings, S. D. 57006
Phone 692-6111, Ext. 241

COST OF SEED LABORATORY SERVICES

Effective July 1, 1967

Purity test (p)

Small grains (wheat, oats, etc.) sorghums (milo, sorgo, sudan, etc.), flax, soybeans and proso millet	\$1.00
Small seeded legumes (alfalfa, sweetclover, red clover, etc.) and millets other than proso	2.00
Large and small seeded grasses (brome, western, intermediate, crested, bluegrass, redtop, fescue, etc.)	3.00
Native grass seed mixtures (\$5.00 per hour)	

Germination (g)

Grasses and flax	2.00
All other seeds	1.00

Noxious examination (n) 2.00

Quick service (q) (tests made immediately upon
receipt of sample)50

Tetrazolium viability test (tz) (does not include a
germination test but does include quick service) 6.00

Mottled seed determination (mt) of yellow blossom
in white blossom sweetclover 1.00

Moisture (mo) (must be received in a moisture proof container) ... 1.00

Other Services

Seed and/or plant identification free

The Seed Laboratory will make (upon request) noxious weed examinations on all samples submitted but reserves the right to refuse to test for purity and germination samples of screenings or very dirty, uncleaned seed.

Direct all inquiries about seed testing and seed testing charges to R.C. Kinch, Seed Laboratory, South Dakota State University, Brookings, South Dakota 57006.