



Diagnostic Laboratory

Sampling and Sample Sizes Required For Testing

Sampling is an extremely important part of seed testing that can often be overlooked. Seed growers, producers, and conditioners need to pay attention to how samples are taken when submitting them for testing. The most important factor in sampling is obtaining a sample that is representative of the field or seed lot. This can be done in a number of different ways. Probing bags or bins is one way. Usually, several probes are taken and then bulked into a single sample. A portion of this sample can then be submitted for testing. A convenient way to sample is to periodically draw a sample at regular intervals as the seed is going into or out of a bin. These samples can be bulked and mixed together in the same manner as probed samples. Growers should also keep a reference sample on hand as a backup sample. The importance of having a representative sample to submit for testing cannot be over emphasized. A seed test is only as good as the quality of the sample submitted. In fact, the accuracy of some seed health tests is highly dependent upon the sample submitted.

The following is a list of sample sizes required by the North Dakota State Seed Department.

SEED HEALTH TESTS

- Anthracoze (Edible Bean; 2 lb. seed)
- Ascochyta, 500 seed test (Field Pea, Chickpea, Lentils 1 lb. seed)
- Ascochyta, 1,000 seed test (Chickpea; 2 lb. seed)
- Bacterial Blight (Soybean; 5 lb. seed)
- Barley Stripe Mosaic Virus (½ lb. seed)
- Blackleg (Canola; ½ lb. seed)
- Dome Test (Edible Bean; 3 lb. seed)
- Lentil Fungal Scan (½ lb. seed)
- Loose Smut (Barley, Wheat; ½ lb. seed)
- Phomopsis (Soybean; ½ lb. seed)
- Other virus tests (soybean mosaic, bean pod mottle; call)

HERBICIDE TRAIT/TRANSGENIC TESTS

- Roundup[®] Herbicide Bioassay Test (Soybean; ½ lb. seed)
- Liberty[®], Roundup[®], or Clearfield[®] Herbicide Bioassay Test (Canola; ½ lb. seed)
- Clearfield[®] Herbicide Bioassay Test (Wheat, Rice, Sunflower; ½ lb. seed)
- Lateral Flow Strip GMO presence (Soybean; 1 lb. seed)
- ELISA GMO presence (Soybean; 1 lb. seed)
- PCR qualitative GMO presence (Soybean; 1 lb. seed)

GENETIC PURITY/VARIETY IDENTIFICATION

- Seed Protein Electrophoresis Test (cereals; ½ lb. seed)
- DNA Test (1 lb. seed)

GERMINATION/PURITY TESTS

Germination Tests:

The minimum size of samples submitted for a germination test shall be at least 800 seed.

Seed Purity Tests:

1. Four ounces of small-seeded grasses, white or alsike clover or seeds of similar size.
2. Eight ounces of sweet clover, red clover, alfalfa, grasses, millet, rape, flax or seed of similar size.
3. One and a half pounds of cereals, soybeans or seed of similar size.