Seed Sampling

Corn Belt Seed Conference
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Seed Sampling

- Objectives of Sampling
- Sampling Tools
- Obtaining the Samples
- Size of Samples
- Sampling Precautions
Sampling Objectives

- To obtain a representative sample of the entire lot of seed.
- The accuracy of the analysis depends on the quality of the sample taken.
Sampling Study

- Survey of AASCO Member States-1990
  34 States Responded
  20 different probes being used for large
  20 different probes being used for small

- AASCO Funded Sample Probe Study-1999
  Dr. Larry Copeland, Michigan State University
  Evaluate efficiency of different probes.
Sampling Study Conclusions

- The diameter of the probe opening is the most important feature of a probe to provide representative samples. If the opening is too small, the longer, more chaffy seeds are under-represented in mixtures.

- All probes should be long enough to reach across the entire length of the container.

- A short “thief” does not provide a representative sample.
Sampling Tools

- Compartmentalized, double-sleeve trier
  - Vertically, horizontal or angled
- Open tube, double-sleeve trier
  - Can only be used horizontally
- Open tube, single-sleeve trier
  - Can only be used horizontally
- Stream-sampling method
  - Used as seed is moving
  - Mechanical sampling devices
Obtaining the Samples

- Bag sampling (free flowing). Alfalfa, wheat, clovers, soybeans, etc.
- Hand Sampling (non-free flowing). Bromegrass, wheatgrasses, fescues, etc.
- Stream cut sampling
- Mini-bulk sampling.
Bag Sampling (free flowing seed)

- Bag should be in a horizontal position.
- Probe should be inserted diagonally with the slot side down.
- Probe should be long enough to reach all portions of the bag.
- Roll slots up and remove probe.
Bag Sampling (non-free flowing seed)

- Insert hand flat, with fingers together.
- Keeping the fingers together as the hand is closed, withdraw the sample.
- Because of possible segregation, hand samples should be taken from various locations.

If hand sampling treated seed, remember to use gloves and wash hands.
Stream Cut Sampling

- Know lot size
- Estimate how long the product will be moving
- Allow 10% at the beginning and end to pass by
- Must cut the entire stream
Sample Size

- Determining the number of bagged seeds to be sampled.
  - 10% plus 5 bag rule
  - Hand sampling, same as bagged
  - Stream cut
    - Lot size converted to 50# bags and use above formula
Sample Size

Submitted composite sample size.

- 2 ounces of grasses, alsike or white clover, or seeds not larger than these.
- 5 ounces of alfalfa, bromegrasses, red clover, rape, ryegrasses, or seeds of similar size.
- 1 pound of proso, sudangrass, or seeds of similar size.
- 2 pounds cereals, vetches, sorghum, or seed of similar or larger size.
- All vegetable seed samples shall consist of at least 400 seeds per sample.
Mini-bulk Sampling

- OISC Mini-bulk sampling
- We use a bin-cup style sampler
  Reduces chance to damage seed.
  1 cup full equals 175 grams wheat
  1 cup full equals 180 grams soybeans
- 12 probes total, 4 probes from 3 minibulks, 6 probes from 2, etc.
Mini-bulk Sampling
Mini-bulk Sampling
Mini-bulk Sampling
Sampling Precautions

- Make sure all bags are of the same lot number before sampling.
- Look at the sample in the probe.
- Try not to cause excessive damage to the bag or surrounding bags when sampling.
- Do not damage the seed
- Make sure all probe holes are patched.
- Practice good warehouse safety.
Close Call
Acknowledgements

- AASCO Inspector’s Handbook
- AAFCO Feed Inspector’s Manual
- AOSA Rules for Testing Seeds
- USDA Handbook No. 30
- Study of Relative Efficiency of Different Probes for Seed Sampling.
  
  Dr. L. O. Copeland, Michigan State University