

VI. RECEIVING SAMPLES AND INITIAL TESTS

If a seed testing laboratory is to operate efficiently a system must be followed from the time the samples are received until results are reported back. All workers in the laboratory need to become completely familiar with the systematic handling of samples and the procedures to be used at each step in the process. The exact method of handling samples may differ somewhat from one laboratory to another. However, the testing procedures should be very similar to assure comparable results.

Figure 51 shows a systematic routing of seed samples through a laboratory.

Entering Samples

Laboratories will be receiving three different major categories of samples, namely (1) Service, (2) Certified and (3) Official. Service samples are those submitted by a cultivator, seedsman, cooperative or seed farm. They have no official status but must be tested promptly to provide the sender with immediate information about the quality of seed with which he is dealing.

Certified samples would have been drawn and submitted by a seed certification officer or inspector. The sample would be for the purpose of determining if the lot of seed from which the sample was collected is of satisfactory germination and purity to be tagged and sold as certified seed.

Official samples are those drawn by a seed control or seed law enforcement officer. They are submitted to the laboratory to determine if a seed lot being offered for sale meets the requirements of the seed act.

Separate entry books should be kept for the three categories of samples received and a different laboratory test number series used for each category. The samples should be left in the incoming containers until they are entered. A sample Entry Form is in Appendix VII. Having such sheets printed or mimeographed and then inserted in the a loose leaf binder is preferable to using a notebook which necessitates the lining and titling of each page by hand. Points to consider when entering samples are as follows :

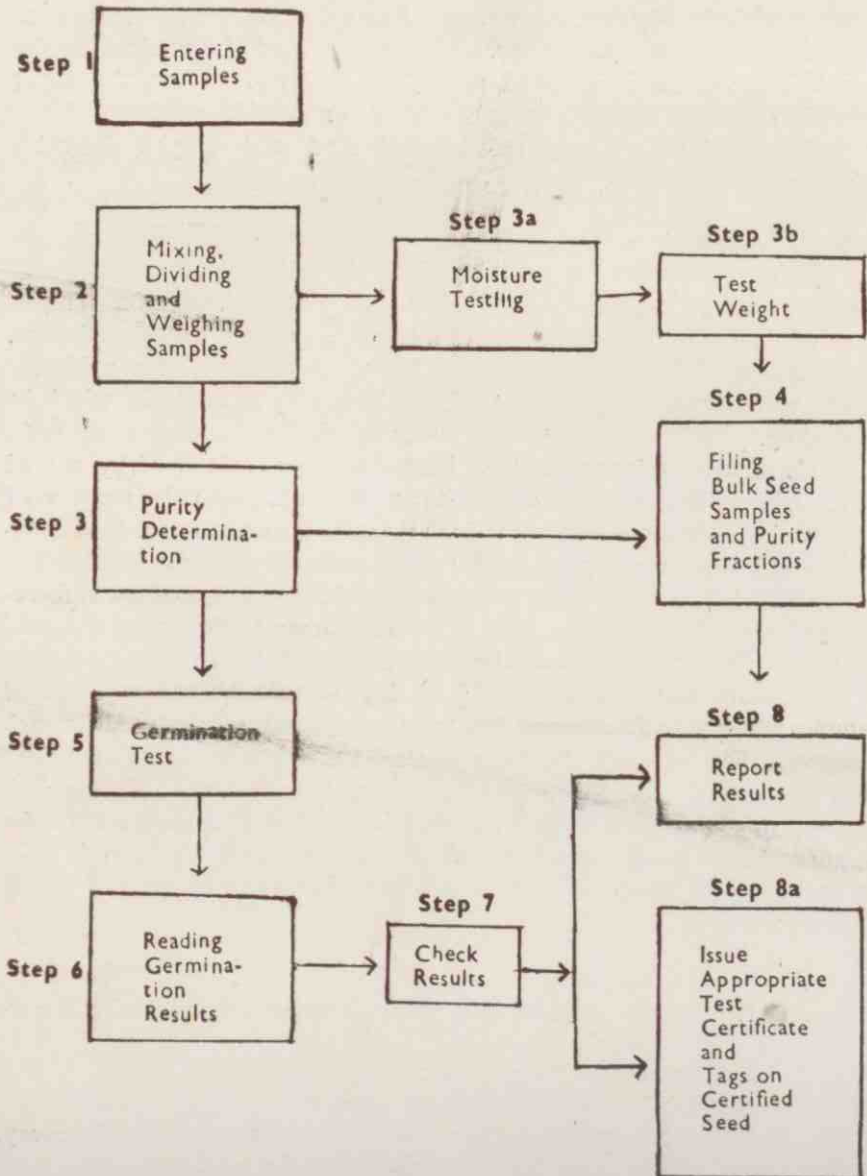
A. Service Samples

1. Open and place descriptive information in service sample entry book.
2. Assign test number to :
 - (a) Letter accompanying sample.
 - (b) Sample container used for holding sample in laboratory.
 - (c) Piece of paper for placing in the seed.
 - (d) Laboratory Form (Appendix VIII).
3. Check Laboratory Form to indicate tests required.

ROUTING A SAMPLE THROUGH THE SEED LABORATORY

If a seed laboratory is to operate efficiently a system must be followed. The following routing has been found to be successful :

(Figure 51)



B. Certified Samples

1. Enter in certification entry book with necessary descriptive information. A portion of the sample should have been submitted in a moisture proof container if a moisture determination is required.
2. Assign test number to :
 - (a) Certification inspector's inspection slip.
 - (b) Sample container used for holding sample in the laboratory.
 - (c) Piece of paper for placing in the seed.
 - (d) Laboratory Form
 - (i) Name of seedsman should not be placed on the Laboratory Form of certified samples.
3. Check laboratory form to indicate tests required.

C. Official Samples

1. Enter in official entry book.
2. Assign test number to :
 - (a) Inspection slip in sample and the original copy with laboratory supervisor.
 - (b) Sample container used for holding sample in laboratory
 - (c) Piece of paper for placing in the seed.
 - (d) Laboratory Form
 - (i) Name of seedsman should not be placed on laboratory form of official samples.
3. Check laboratory form to indicate tests required.

Mixing and dividing samples

After the sample is entered, it should be mixed and divided on the mechanical divider before sending it ahead for purity analysis. Laboratories have either a Boerner divider or a Gamet divider available for this purpose. The sample should be run through the mechanical divider three times to mix it thoroughly. The submitted sample should then be divided until a working sub-sample of approximately the correct size is obtained. The International Seed Testing Association Rules, Appendixes V and VI give the correct working sample size for individual crops. The seeds in one pan should be set aside after each division and the other half run through the divider again to obtain the correct working sample size. If the weight of the sub-sample is less than that required for the purity analysis, it can be increased by adding a portion properly divided from the sample which was set aside. If the sample is too large it can be reduced by repeated mechanical division. The sample must not be altered by adding or removing seeds by hand. Fig. 52.



FIG. 52—Most laboratories provide a special place for entering samples and mixing and dividing them in a mechanical divider. The measure weight may also be taken at this point.

If a mechanical divider is not available, the randomcup method described in the I.S.T.A. Rules (para. 2.4.2) and mentioned in the section on sampling may be used. (Appendix XIII).

The working sample is now ready for purity analysis. A part of the remaining portion of the sample could be used for a test weight or moisture determination if these tests are needed. Enough of the sample should be saved to do a second purity analysis, if necessary, and to provide a sample for storage.

Measure weight determinations

The measure weight determination is not normally made on service and official samples. It may, however, be needed on certain certified seed samples if the standards specify a certain minimum kilogr_m per hectolitre weight in order for seeds to be certified.

Moisture Tests

Moisture determinations will normally not be made on service and official samples unless they are requested. Certain seed certification standards may require that a minimum moisture level be achieved to certify the seed. In such cases, at least a portion of the sample should have been

submitted in an air-tight container to assure that the moisture level did the change from the time that the sample was drawn until it reached not laboratory.

References :

- (1) pp. 42-44, 183-186, 330-336 ;
- (2) pp. 350-353, 417-418, 443-447 ;
- (8) pp. 480-481, 488-495, 533-536 ;
- (13) pp. 57-58.