METHODS OF SAMPLING AND TESTING
MT 403-04
SAMPLING AND INSPECTION OF SEEDING AND LANDSCAPING MATERIALS

1 Scope

1.1 Sampling, sample preparation and submittal, supervision of seed blending.

2 Referenced Documents

MT Materials Manual
MT 412 Topsoil Sampling, Sample Preparation and Testing

3 Sampling Procedure

3.1 All proposed seed, other than Montana certified "blue tag" seed, will be sampled under MDT supervision. Resampling will not be required if the proposed seed has been pretested at the grain and seed laboratory at Montana State University within a period of twelve (12) months. A miscellaneous sample sheet listing the supplier's name and all the information given on the purity and germination tag must be submitted to the Materials Bureau. List the name and approximate number of each kind or specie of restricted noxious weed seeds occurring per pound on the purity and germination tag. Acceptance of seed is based on compliance with the Standard Specifications for Road and Bridge Construction.

3.2 When sampling seeds in bags, a trier long enough to reach all areas in the bag will be used. The trier must be designed so that it will remove an equal volume of seed from each part of the bag through which the trier travels. Unless the trier has partitions in the seed chamber, it must be inserted into the bags horizontally. Sample non-free-flowing seeds difficult to sample with a trier by thrusting the hand into the seed and removing representative portions. When a sample is taken with the hand, insert the hand flat and with the fingers together. Keep the fingers together as the hand is closed and withdrawn. Because of possible segregation, hand samples should be taken from various locations in the bags.

3.2.1 Seed in bags.

3.2.1.1 For lots of one to six bags, sample each bag.

3.2.1.2 For lots of more than six bags, sample five bags plus at least 10% of the number of bags in the lot. Round numbers with decimals to the nearest whole number. Regardless of the lot size, it is not necessary to sample more than 30 bags.

3.2.1.3 Closed and open bags should be sampled with a long trier, probe, or bag sampler extending the full length of the bag. In sampling open bags it must be recognized that the sample may not represent the original shipment.

3.2.1.4 A trier or probe is available from the Materials Bureau on request and must be returned immediately upon completion of sampling.

3.2.1.5 Seed which has been pretested under Materials Bureau supervision need not be resampled by project personnel. If there is a reason to believe that the material received on the project has not been pre-tested, the sampling procedure described above shall be adhered to.

3.3 Submit a one quart (one liter) container for each lot of seed sampled. Should the total quantity of seed sampled be in excess of one quart (one liter), reduce the sample by means of quartering or splitting.

3.4 Submit the seed sample along with the purity and germination tag directly to the Seed Lab at Montana State University. Submit a miscellaneous sample sheet with the following information to the Materials Bureau: all pertinent project information, supplier's name and address, kind of seed, all of the information given on the purity and germination tag and the amount of seed the sample represents.

3.5 Blending supervision – Seed blending performed in the field will be supervised on the job site by project personnel. Arrangements will be made for the supervision of blending when performed by a dealer or supplier. A blending report will be submitted to the Materials Bureau.

3.6 On each seeding project, retain a one quart container of each blend until such time as the project has been completed and accepted. The same will apply to seed not incorporated in a blend, but applied directly. This will constitute a referee sample should a question arise relative to the purity and germination of the original sample.

4 Fertilizer

4.1 Sampling will be performed by field personnel at the project site. In the case of blended fertilizer, a sample of the blended material will be sampled for analysis. Obtain sufficient material to fill a one quart (one liter) container from the top, center, and bottom of each fertilizer container to be sampled. Only one sample will be required from each lot, except that sampling is not required for projects under 500 pounds.

4.2 Each sample submitted to the Materials Bureau will be accompanied by the certified chemical analysis tag, a miscellaneous field sheet listing the supplier's name, the kind of fertilizer, the lot number, all of the information given on the certified chemical analysis tag, and the total pounds the sample represents.

5 Mulch

5.1 Vegetative mulch – The project inspection of mulch for conformance with the Standard Specifications will be arranged by field personnel. In connection with this inspection, the Materials Bureau will be furnished with a report which will include the following information: Source, type, condition, purity, and moisture content of the mulch.

5.2 Wood cellulose fiber mulch – The project inspection of mulch for conformance with the Standard Specifications will be arranged by field personnel. In connection with this inspection, the Materials Bureau will be furnished with a report, which will include the following information: Source, type, and moisture content of the mulch.

5.3 Peat moss – A one pound representative sample will be submitted to the Materials Bureau for pH analysis.

5.4 Bark chip mulch – Bark chips derived from the bark of Douglas Fir, Pine, or Hemlock will be acceptable. All material must be reasonably free from weed seeds and other foreign material such as grasses, chaff, and substances toxic to plant growth. Individual bark chips will have a maximum dimension of 3 inches and not more than 10% of the chips can pass through a 3/4 inch sieve. A 25-pound sample will be submitted to the Materials Bureau for testing.

5.5 Manure – The term "Manure" will apply to stockpiled, well-rotted cattle, sheep, or horse manure or combinations of such, more than one year old, reasonably free of debris and foreign matter. Before being used in any planting operation, the manure must be shredded to break up large chunks and to assure proper mixing with other materials. Before any manure is hauled to the project site it must be approved by the landscape architect or engineer.

5.6 Fabricated netting – The project inspection of netting for conformance with the Standard Specifications will be arranged by field personnel. In connection with this inspection, the Materials Bureau shall be furnished with a report which shall include the source, type, and condition of the material.

6 Emulsified Binder

6.1 When the quantity of emulsified binder is in excess of 10,000 gallons, a one-quart representative sample of the emulsified asphalt proposed for use on the project shall be submitted to the Materials Bureau. Ship emulsified binder in plastic containers.

7 Topsoil

7.1 With the exception of topsoil which has been stripped and is stockpiled for later replacement, a two pound sample of each kind or type will be sampled and tested in accordance with MT-412.

8 Sod

8.1 The material will be inspected on-site, a miscellaneous field sample sheet (Form 46) will list source, grass specie, and thickness of sod, and also the total quantity of material represented by the sample, and forwarded to the Materials Bureau.

9 Nursery Stock

9.1 The project inspection of nursery stock will be performed by the Manager, Field Project Unit for conformance with the specifications contained in the project proposal. In connection with this inspection, the Materials Bureau is to be furnished with a report which will include the following information: supplier, stock name, quantity, condition, minimum and maximum size or spread of trees and shrubs, whether of nursery or collected stock, whether stock is bare-root, balled and burlapped or plotted and number of trees and shrubs accepted.

9.2 The following is an example of a nursery stock inspection report:

COMMON NAME	BOTANICAL NAME	QUANTITY	SIZE
Ponderosa Pine	Pinus ponderosa	6	1'6" - 1'0"

All of the specified size, all potted nursery stock, all in good condition and all accepted.

Common Lilac	Syringa Vulgaris	140	25" - 35"

All of the specified size, all nursery stock, all in good condition and all accepted.