

ALDOT-240-74
DETERMINATION OF MOISTURE CONTENT IN MULCHING MATERIALS

1. Scope

- 1.1. This method of test establishes a procedure for determining the moisture content of mulching materials such as hay, straw, grass, sawdust, wood chips, peanut hulls, pecan hulls and similar materials.

2. Apparatus

- 2.1. The testing apparatus shall consist of the following:
- 2.1.1. Balance - The balance or scales shall have a capacity of at least 1000 g, readable to 0.1 g and with an accuracy of at least ± 0.2 g.
- 2.1.2. Oven - A vented, thermostatically controlled, adjustable electric oven with a maximum of 284°F (140°C) accurate within $\pm 5^\circ\text{F}$ (3°C) large enough to contain a 8 in. x 10 in. x 2 in. (200 mm x 250 mm x 50 mm) pan.
- 2.1.3. Pan - A drying pan with dimensions 8 in. x 10 in. x 2 in. (200 mm x 250 mm x 50 mm).

Note: Other size pans will be permissible provided they may be contained in the drying oven.

3. Size of Sample

- 3.1. The size of sample shall be governed by the maximum size of particles shown in the following table:

Table 1
Size of Sample

Nominal maximum size of particles passing sieve Inch (mm)	Minimum weight of sample for moisture test g
3 in. (75 mm)	1000
2 in. (50 mm)	750
1 in. (25 mm)	500
½ in. (12.5 mm)	350
3/8 in. (9.5 mm)	300
No. 4 (4.75 mm)	250
No. 8 (2.36 mm)	200

4. Sample Preparation

- 4.1. Reduce sample as received to the size required in Step 3.1.
- 4.2. This may be done by using a Riffle or by quartering using AASHTO T-248.

5. Procedure

- 5.1. Weigh and record the wet weight of the prepared sample. Place sample in pan and then into oven. Open the vents on the oven approximately 25% and set the oven for 248° F (120°C). Allow sample to remain in oven for at least 12 hours.
- 5.2. Remove sample from oven, weigh and record.
- 5.3. Return sample to oven and allow to remain at 248°F (120°C) for two hours.
- 5.4. Remove sample from oven and weigh. If the weights of the dried sample in Steps 5.3 and 5.2 are the same, then the test is complete. If the weight in Step 5.3 is less than that obtained in Step 5.2, the sample must be re-turned to the 248°F (120°C) oven setting and allowed to remain for two hours. Repeat steps 5.2 and 5.3 until a constant weight is obtained.

6. Calculations

6.1. Moisture Content = $\frac{A-B}{B} \times 100$

Where

A = wet weight of sample in grams

B = dry weight of sample in grams

7. Reporting

- 7.1. Report test results on Form BMT-16.