



# Microwave Test For Forage Moisture

Hay should not be baled before it has reached 20 percent or less moisture to avoid spoilage. A simple test in your home microwave will assist in making this management decision. Follow these steps:

1. Take a representative sample of the forage from several areas of the field under consideration.
2. Cut forage into 2- to 3-inch lengths.
3. Record empty weight of the paper bag that will hold your sample. A kitchen scale will work, but keep in mind that the more accurate the scale, the more accurate the test.
4. Place approximately 100 grams, or about one-quarter pound, of the forage into the bag (#3) and weigh it again. Record this wet weight.
5. Put an 8-ounce glass of water into the microwave to prevent charring the sample.
6. Heat hay in an open bag in the microwave oven for 2 minutes (4 minutes for haylage or silage), then weigh again and record the weight.
7. Mix the forage, rotate the container and reheat for 30 seconds (1 minute for haylage or silage), then reweigh.
8. Repeat Step #7 until very little change in weight (2 grams or less) occurs. Record the last reading as dry weight. If the sample begins to char, use the previous figure as dry weight.

Using the above results in the following formulas, the end result is the percent of moisture in your sample.

$$\frac{\text{Wet weight} - \text{Dry weight}}{\text{Wet weight}} \times 100\% = \% \text{ moisture or } \frac{(\text{Step 4} - \text{Step 3}) - (\text{Step 8} - \text{Step 3})}{(\text{Step 4} - \text{Step 3})} \times 100\% = \% \text{ moisture}$$

Example: Step 3 results = 5 grams       $\frac{(55 - 5) - (45 - 5)}{(55 - 5)} \times 100\% = 20\% \text{ moisture}$   
 Step 4 results = 55 grams  
 Step 8 results = 45 grams

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