

Dry Matter and Moisture

The dry matter (DM) content of a feed is determined by weighing a sample before and after complete drying. For example, if a sample of silage weighs 100 grams before drying and 40 grams after, it contains 40% DM. Since most of the weight lost during drying is water, the original sample contained approximately 60% moisture. Drying may also evaporate other volatile compounds which may have nutritional value - particularly from silages.

DM and moisture content of feeds can be measured on-farm using a [Koster Crop Tester](#) or [microwave oven](#).

Most feed labs report analysis results on both a wet and a dry basis. The wet basis may be referred to by the terms: As Is, As Fed or As Received. The 100% dry basis is usually referred to as: Dry, DM, Dry Basis or Dry Result. You can convert from one basis to the other using the following formulas:

$$\text{As Fed basis} = \text{DM basis} \times (\text{Dry Matter \%} / 100)$$

$$\text{DM basis} = \frac{\text{As Fed basis}}{(\text{Dry Matter \%} / 100)}$$

When diets are formulated for dairy cattle, analysis results quoted on a DM basis are used. Forage quality results are also normally quoted on this basis. However, analysis guarantees on manufactured feeds are stated on an As Fed basis. If no Moisture % or Dry Matter % is given for the product, it can be assumed to be 90% dry matter. Before using manufactured feeds in a ration formulation, their guaranteed analysis levels must be converted to the DM basis using the second formula above. For example, a 16% Dairy Ration will contain 17.8% crude protein $[16 / (90/100)]$ on a DM basis.

for more information:

[Monitor Silage Dry Matter Content](#), *Alberta Dairy Management*

[Understand Your Feed Analysis Report](#), *Alberta Dairy Management*