

How to estimate Moisture Content with a Scale

This method lets you track your drying but it is only an estimate. This method helps track that your coffee is drying well without a constant use of a moisture meter. You will need a moisture meter to confirm the % moisture content at the end.

You can estimate coffee moisture by **tracking weight loss during drying**, since only the water is leaving; the dry coffee solids stay the same.

When the coffee is free from surface water (after a few hours of drip drying), take a 2 kilogram sample. Keep this sample separate, you will need to weigh it daily to track the weight loss.

Example 1: Starting Moisture 48%

Formula: Dry matter=Starting weight×(1−starting moisture fraction)

Let's say your **2.0 kg of wet parchment** starts at **48% moisture**.

- Dry matter = $2.0 \times (1 - 0.48) = 1.04$ kg [this weight of dry matter will not change]
- Water weight = 0.96 kg [any weight loss is due to water loss]

The next 1-2 days you weight the sample again but now it weighs **1.7 kg**:

- Water remaining = (new weight-dry matter) = water weight
- Water remaining = $1.7\text{kg} - 1.04\text{kg} = 0.66$ kg

- Moisture % = (water weight)/(total new weight) x100
- Moisture % = $(0.66\text{kg}) / (1.7\text{kg}) \times 100 = 38.8\%$

This means a 0.3kg drop in weight corresponds to a 9.2% drop in moisture content.

You **cannot know the exact moisture from weight alone** unless you already know the starting moisture.

We use 48% Moisture as a guideline, eventually you will need to confirm using a moisture meter. If the coffee was at **46% Starting moisture**, the new numbers would be:

Example 2: Starting Moisture 46%

- Dry matter = $2.0 \times (1 - 0.46) = 1.08$ kg [this weight of dry matter will not change]
- Water weight = 0.92 kg [any weight loss is due to water loss]

The next 1-2 days you weight the sample again but now it weighs **1.7 kg**:

- Water remaining = (new weight-dry matter) = water weight

- Water remaining = $1.7\text{kg} - 1.08\text{kg} = 0.62\text{ kg}$
- Moisture % = $(\text{water weight})/(\text{total new weight}) \times 100$
- Moisture % = $(0.62\text{kg})/(1.7\text{kg}) \times 100 = 36.4\%$

This means a 0.3kg drop in weight corresponds to a 9.6% drop in moisture content.

Example 3: Find target weight loss of 12% Moisture Content

Use this formula to see how much weight the coffee should lose before finding a moisture meter to confirm.

Best to have the coffee be at 10.5%-11% Moisture Content. But use 12%M.C for the calculation to avoid over-drying.

If your 2 kg lot **starts** at 48% moisture, the dry matter is **1.04 kg**, and the target weight for 12% moisture is:

- Target weight = $(\text{dry matter}) / (1 - \text{target moisture})$
- Target weight = $(1.04\text{kg}) / (1 - 0.12) = 1.18\text{ Kg}$

This means that if you start at 48% M.C. and your sample weighs 2.0kg, when it weighs 1.18Kg, you are at about 12% M.C. and you should find a moisture meter to confirm and check your drying more closely.

Example 4: Find target weight loss of 10.5% Moisture Content

If your 2 kg lot **starts** at 48% moisture, the dry matter is **1.04 kg**, and the target weight for 10.5% moisture is:

- Target weight = $(\text{dry matter}) / (1 - \text{target moisture})$
- Target weight = $(1.04\text{kg}) / (1 - 0.105) = 1.16\text{ Kg}$

If your 2.0 Kg parchment sample drops to below 1.16Kg, you may be over drying. Or, perhaps it started out closer to 50%M.C instead of 48%M.C