**GRAVIMETRIC DETERMINATION OF SOIL MOISTURE CONTENT**

Knowing the moisture of the soils is necessary for almost all microbial and biochemical analyses, because all the values are referred to the mass of dry soil in the sample (e.g. NH4 g g-1 dry soil), as this is a more stable value than moist soil (moisture content is very variable and depends on management and environmental factors).

Soil moisture is determined gravimetrically by weighing a soil sample before and after drying at 65 ⁰C over 48 h (until constant weight).

Materials:

* Numbered soil tin
* Precision scale
* Oven
* Soils samples

Procedure:

1. Weigh the soil tin, record weight and tin number under column
2. Add sieved (2mm, homogenized soil (two spoonful, at least 10 g fresh mass)
3. Record weight of tin + wet soil sample
4. Place the samples in the oven at 65C for 48h (minimum)
5. Using oven gloves, carefully remove 6 tins from the oven and allow them to cool down.
6. Weight and record the dry soil samples + tin
7. Return to oven, reweight 6 sampled tins. If dry mass has not changed, remove all samples, let cool and weigh.
8. Process gravimetric moisture data immediately as outlined in ‘biogeochem\_example.xlsx’

**Calculate soil moisture as follows:**

0

\* 100

Soil dry mass per gram field mass (field-collected soil) can be expressed as:

For future calculations involving field-collected (not dried) soil, we would convert the fresh weight of the subsample to the equivalent dry weight using the dry (g)/fresh (g) calculated today:

Dry weight ***study sample*** (g) = fresh weight ***study sample*** (g) \*