

Dry Matter (100 °C)

Materials:

Drying oven set at 100 °C
Electronic balance (accurate to 0.0001 g)
Aluminum pans, 5.5 cm
Spatula or scoopula
Trays (to hold pans)
Desiccator

Procedure:

1. Label bottom of pans with sample ID, your initials and/or project name, and date on **ALL** aluminum pans.
2. Tare balance before placing pans on balance.
3. Weigh and record exact pan weight (with glass doors of balance shut).
4. Mix sample well, then place 1-5 g of sample into pan (usually 2 g is sufficient for most samples). Duplicates or triplicates of the sample must be run to insure accuracy. Include at least one “in-house” standard daily.
5. Weigh pan and sample, recording exact weight. Place pans on tray.
6. Place trays with samples into drying oven (100 °C) for 12-24 hours (usually overnight).
7. Remove the samples and place into desiccator. Allow to cool, generally 20 to 60 min.
8. After samples are cool, remove one tray at a time and weigh each sample, recording the exact weight using the same balance that was used for the initial weighing.

Calculations:

	A	B	C	D	E	F	G
Sample	Empty Pan	Wet Sample + Pan	Dry Sample + Pan	DM %	DM % Mean	Sd	% CV
#50	1.3311 1.3172	3.3292 3.1955	3.1420 3.0178	90.63 90.54	90.59	0.065	0.07

$$D = \left[\frac{C - A}{B - A} \right] \times 100$$

$$90.63 = \left[\frac{3.1420 - 1.3311}{3.3292 - 1.3311} \right] \times 100$$

To calculate E, F, and G see section on statistical analysis

Reference

AOAC method # 934.01, Association of Official Analytical chemists, 18^h Ed., Revision 3, 2010.