Carbon and Nitrogen content

Application

This method covers the determination of total carbon (TC), organic carbon (OC) and total Nitrogen contents in soil and plant tissues using “Macro Elemental Analyzer”.

Sample preparation

Soil and plant samples are dried at 55ºC and 65ºC, respectively. The dried soil sample is then ground to pass a 2 mm screen and the plant tissue is ground to pass a 1 mm screen.

Methods

Operate instrument according to manufacturer's instructions. The following are generalized instructions:

- Turn gas regulators to desired flow rate (Helium 25 psi and Oxygen 36 psi).
- Set the furnace temperature based on the manual description.
- Wait until the furnace has stabilized at the set temperature.
- Test for leaks in before running any sample (in “Miscellaneous”— “Rough leak check”, reduce pressure to 20 psi before check the leak).
- Define the standard by entering the appropriate carbon content of the pure primary standard, which include three blanks, two running and three standards at the beginning of each run to calculate the calibration factor.
- Weigh out 100-500 mg of dried soil or plant tissue, respectively.
- Weights of samples are wrapped in tin foil and then transfer the weighed samples to the 40-position sample casserole and load it onto the autoloader.
- Run the samples.
- C% and N% will be shown.