

P46A- PROCEDURE FOR SOIL ANALYSIS



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Objective

This document aims to standardize the method for collecting soil for subsequent analysis. Soil analysis is essential for understanding, monitoring, and optimizing how soil management practices affect soil carbon dynamics, contributing significantly to climate change mitigation efforts.

Properly conducted soil analyses ensure that carbon sequestration and emissions calculations are based on concrete and valid data, increasing the reliability of the carbon calculation certificate.

Scope of Application

This procedure applies to all project promoters who wish to certify their project both nationally and internationally.

References

INIAV- National Institute of Agricultural and Veterinary Research, IP

Responsibilities

CERTIS is responsible for issuing, modifying, reviewing and approving this procedure, based on the CCC+ standard and its reference standards.

Periodicity

One analysis should be performed at the beginning of the project, and a second at the end of the first year. From this stage onward, soil analyses should be performed at least every five years. This frequency can be increased annually after the first year to allow for early crediting.

Procedure

All requirements and standards mentioned here are mandatory to ensure the integrity and credibility of the certification process. This procedure serves as an essential guide to ensure that all project developers operate consistently and in compliance with the standards of excellence required by the CCC+ certification scheme.

1. Sampling Planning

Initially, the land should be carefully divided into homogeneous areas in terms of topography, soil type, cultivation history, and vegetation cover. Atypical areas, such as contour lines, areas near roads, buildings, waste dumps, areas with concentrated livestock, or areas with evident anthropogenic alterations, should be excluded from sampling.

2. Sample Collection

Soil sampling should preferably be carried out during pre-planting periods and under representative moisture conditions, avoiding periods immediately following the application of correctives or fertilizers.

It is recommended to use properly sanitized tools, such as cutting shovels or hoes, and clean plastic containers for storing samples.

Soil samples are collected for analysis at each sampling unit, and each sampling unit must not have an area greater than 5 hectares.

At the sampling site, a minimum of 15 to 20 subsamples should be collected, distributed evenly in a zigzag pattern throughout the area, observing the standard sampling depth—typically 0 to 20 cm for annual crops, and 0 to 20 cm plus 20 to 40 cm for perennial crops. It is recommended to remove surface debris, such as leaves or stones, beforehand to avoid contamination.

All subsamples must be georeferenced.

The collected subsamples should be homogenized in a previously sanitized plastic bucket, forming a composite sample representative of the plot. Subsequently, a fraction of approximately 300 to 500 grams is separated for sending to the laboratory.

3. Packaging, Identification and Storage

The composite sample of each sampling unit must be packaged in a clean plastic packaging and clearly and indelibly identified. It must contain essential information, such as the owner's name, area identification, sampling depth, collection date, crop type, geolocation (the exact locations of the subsamples must be sent in digital format (e.g., coordinates in shapefile or KML), etc. Transportation to the laboratory must be carried out in the shortest possible interval, preferably under conditions that minimize physical-chemical changes in the soil.

4. Submission and Analysis Request

The sponsoring entity must ensure that the laboratory is accredited and identified in the analysis report. If possible, it can provide information about the history of the area and the crop to be planted, aiming at the appropriate selection of analytical parameters.

The requested soil analyses must include the following analyses:

- pH;
- Organic Matter;
- Apparent Density;
- Textures and granulometric fractions;
- Macro and Micronutrients.

5. Submission of Results to the Certification Body

After receiving soil analysis results, they must be sent to the certification body in a timely manner (maximum 15 days) so that they are considered in the annual calculation. The geolocations of the subsample collections must also be sent.

File

Each project has an individual file folder where all documents/records relating to its certification process are archived.

All documents/records must be archived for a minimum period of 10 years or for the legally required period. Documents may be archived digitally, provided their integrity and accessibility are guaranteed.