TRAINING MATERIAL

Sampling methods for the monitoring of the soil quality parameters

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ICBA
AGRICULTURE FOR TOMORROW

The target of this manual is to provide:

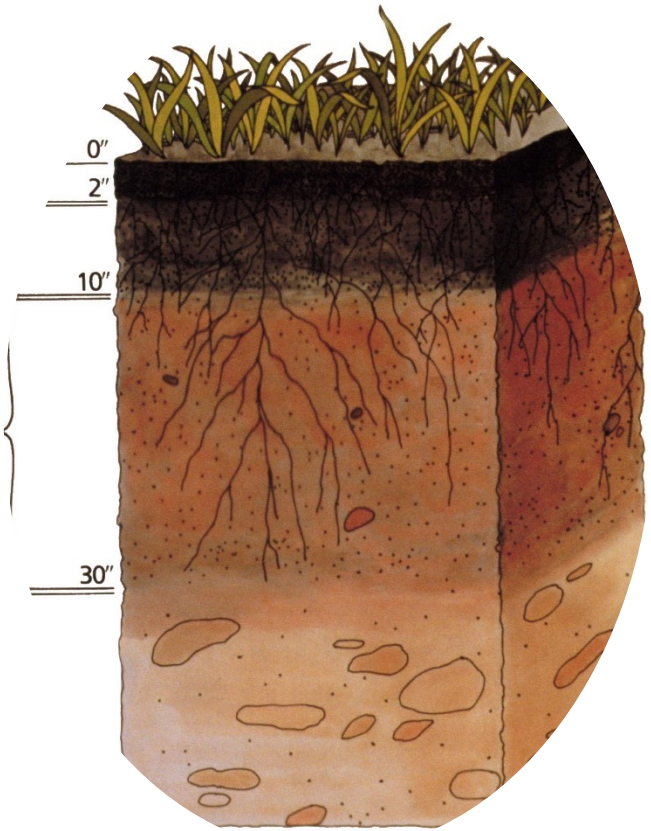
- The best practices for proper soil and water sampling

S o i l
sampling purpose

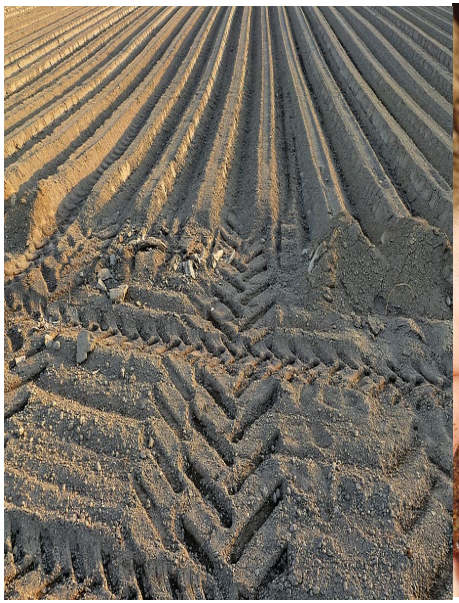
- Specific research Objective
- Soil fertility status
- Establishing fertilization programs
- Monitoring soil quality
- Monitoring soil contamination

How frequent should we do soil sampling

- For most field cropping systems, sampling and testing the soil in each field at least once every 3 years is adequate.
- Soils with higher clay content, pH and nutrient levels are more stable. While sandy soils with low CEC nutrient and pH levels may change more rapidly.
- In these soils, sampling more frequently is suggested.
- For large farm operations, sampling and testing one-third of the acreage each year is an alternative that provides continuity over time.
- For intensive cropping systems where large amounts of fertilizer may be applied annually or crop removal may be high, annual soil testing enables the grower to maintain stable soil fertility conditions. This is especially important for many of the vegetable crops that are grown on sandy soils.



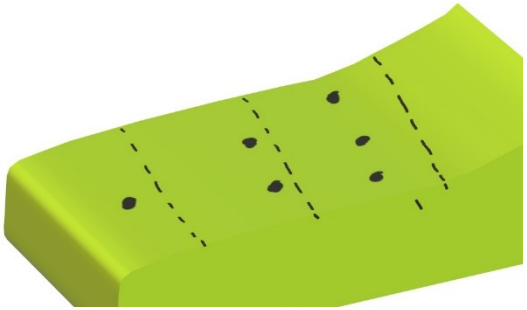
Suitable sampling time



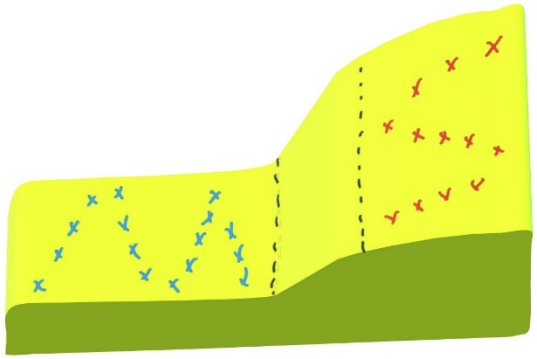




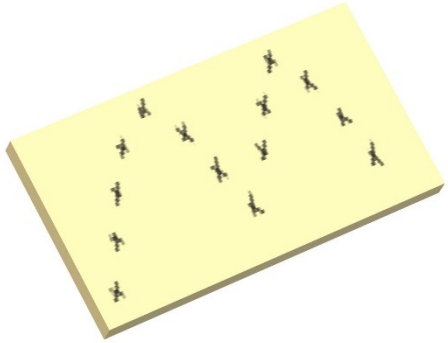
Taking a representative composite soil sample



Non-representative complex sample



Sampling complex samples from a non-homogenous field

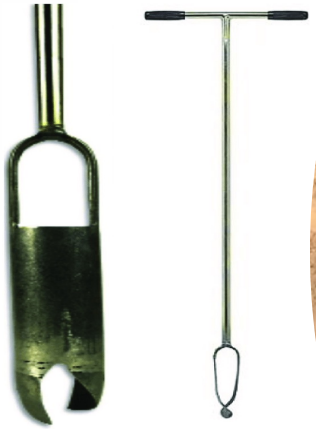


Representative complex sample from a homogenous field

What tools do we need for soil sampling?

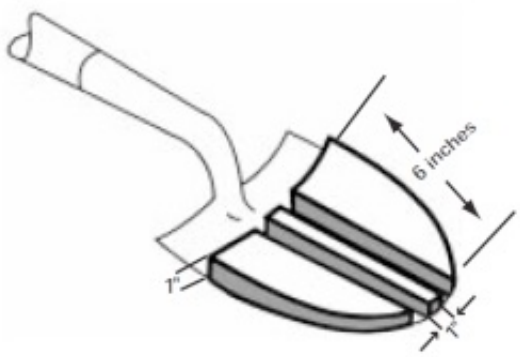
Sampling tools

- Soil tube (Probe) i suitable for a agricultural soils,. Provide minimal sample disturbanc



- Soil Augur (Probe) is suitable for sampling and drilling hard soils

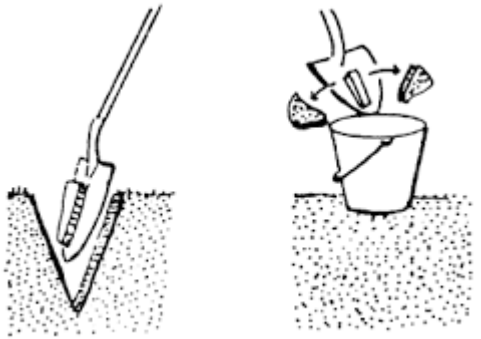
Sampling tools

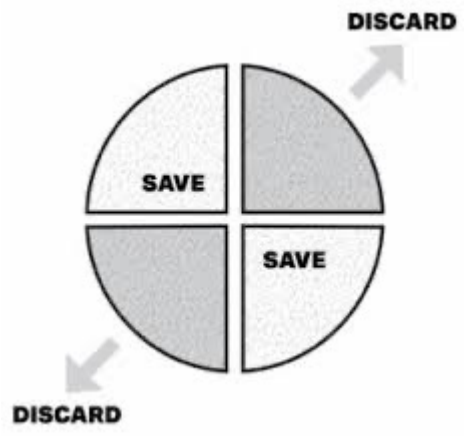


- Shovel is a suitable tool for coarse textured soils

Collecting soil samples

- Scrap the soil surface from litter before sampling
- Collect sample from the surface layer (0-15 cm) using the aforementioned tools.
- Collect the soil in a clean bucket
- Repeat until you cover the desired area (9-10 times)
- Mix thoroughly and break fragments
- Reduce the size by dividing the sample into four equal piles





Sample preparation

- Collect 2-3 composite samples for each hectare.
- Odd spots should be sampled separately
- Transfer samples to plastic bags
- sample data should be clearly recorded on the bag.
- Record the sampling location or GPS coordinates
- Prepare information sheet for the lab use

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