Soil Sampling Method

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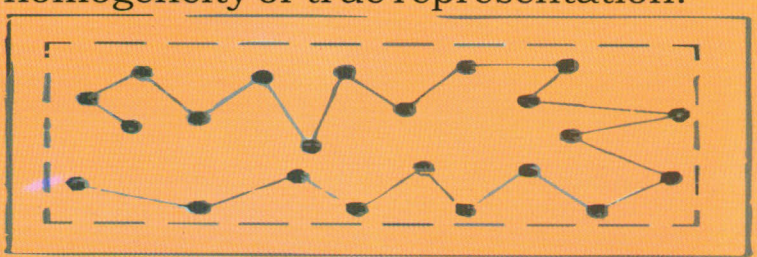
Soil sampling and its testing provides an estimate of the capacity of the soil to supply nutrients to meet the needs of growing crops. As is often emphasized, the soil sample collected for analysis of soil should be representative of the area sampled. This is not to be taken lightly because the nutrient management and financial input of a field may depend on the estimation made on a small sample of 0.5 kg finally sent to the laboratory. Therefore every care has to be taken to make this meagre sample a true representative of the whole field.

Material Required

1. Khurpi
2. Spade
3. Auger
4. Plastic tray or bucket
5. Sampling bags and Labels

Points to be considered

1. Collect the soil sample during fallow period.
2. In the standing crop, collect samples between rows, preferably of crop maturity.
3. Sampling at several locations in a zig-zag pattern ensures homogeneity or true representation.



4. Fields, which are similar in appearance, production and past-management practices, can be grouped into a single sampling unit.

5. Collect separate samples from fields that differ in color, slope, drainage, past management practices like liming, gypsum application, fertilization, cropping system etc.

6. Avoid sampling in dead furrows, wet spots, areas near main bund/boundaries, trees, and manure heaps/pits and irrigation channels.

7. For shallow rooted crops, collect samples up to 15 cm depth. For deep rooted crops, collect samples up to 30 cm depth. For tree crops, collect profile samples (30, 60 and 90 cm).

8. Always collect the soil sample in presence of the farm owner who knows his field(s) better.

Procedure

1. Divide the field into different homogenous units based on the visual observation and farmer's experience.

2. Remove the above ground surface litter out from the sampling spot.

3. Drive the auger to a plough depth of 15 cm and draw the soil sample.

4. If auger is not available, make a 'V' shaped cut to a depth of 15 cm in the sampling spot using a spade/Khurpi.

5. Collect at least 10 to 15 samples from each sampling unit and place these in a bucket or tray.

6. Remove soil from top to bottom of exposed face of the 'V' shaped cut in slice form and place in the clean container to make a composite sample from both sides.


'V' shaped cut


Composite sample

Reducing & labeling

1. Mix the composite sample(s) thoroughly and remove foreign materials like roots, stones, pebbles and gravels, etc.


Mixing

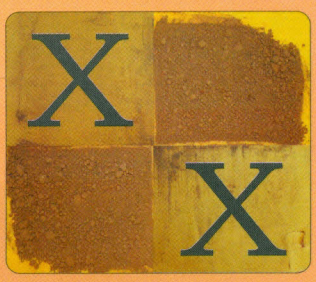
2. Spread the mixed sample in a square or circular form in uniform layer.

3. Reduce the bulk to about half to one kilogram by repeated quartering or halving through compartmentalization process.

4. In case of voluminous samples Quartering is done by dividing the thoroughly mixed sample into four equal parts; reject three parts and selecting one only for sample.

Quartering

5. For having the spread mixed sample is divided in four equal parts and two opposite quarters are discarded and the remaining two quarters are taken for having further reducing.



Removing

6. The process repeated with remixed parts until the desired sample size (about 0.5kg) is obtained.

Re-mixing

7. Collect the sample in a clean cloth or polythene bag and label the bag with following details:

Tagging

Name of the farmer, location of the farm, survey number/identification mark, previous crop grown, present crop, crop to be grown in the next season, date of collection.

Sr. No.	Crop	Soil sampling depth	
		Inches	Cm
1.	Rice, finger millet, groundnut, pearl millet, small millets etc. (Shallow rooted crops)	6	15
2.	Cotton, sugarcane, banana, tapioca, vegetables etc. (Deep rooted crops)	9	22
3.	Perennial crops, plantations and orchard crops	Three samples at 12, 24 & 36 inches	Three samples at 30, 60 & 90 centimeters

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