

If an auger is not available, make a 'V' shaped cut to a depth of 15-30 cm in the sampling spot using spade.

5. Remove thick slices of soil from top to bottom of exposed face of the 'V' shaped cut and place in a clean bucket.
6. Mix the samples thoroughly and remove foreign materials like roots, stones, pebbles and gravels.
7. Reduce the bulk to one kilogram by quartering or compartmentalization.
 - **Quartering** - divide the thoroughly mixed sample into four equal parts. Discard the opposite quarters, remix the remaining two quarters and repeat the process until the desired sample size is obtained.
 - **Compartmentalization** - uniformly spread the soil over a clean hard surface and divide into smaller compartments by drawing lines along and across the length and breadth. From each compartment collect a pinch of soil. This process is repeated till the desired quantity of sample is obtained.
8. Collect the sample in a clean khaki or polythene bag.
9. Label the bag with information including name of the farmer, location of the farm, previous crop grown, present crop, and date of collection.
10. Send sample to soil analysis laboratory for analysis.

NB: A soil test is only as good as the sample collected to represent the farm



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Soil sampling and testing for pyrethrum production





Introduction

Pyrethrum requires deep fertile soils that are rich in phosphorus; conima calcium and magnesium. The soils should also be well-drained with good texture and structure. A good structure ensures proper water infiltration and controls erosion.

The crop thrives in soils with a pH of 5.0 – 6.5. Flower yields are low in acidic and alkaline soils.



Soil sampling at a Farm In Molo, Nakuru county (Source: KALRO Molo)

Soil testing

If possible, all farmers are required to test soils before planting to get correction recommendation for pyrethrum growing for the 4-year crop cycle.

Soil testing determines:

- **Soil pH Levels**
 - The acidity and alkalinity of soil affects nutrient availability to pyrethrum plants as well as soil microbial activity.
- **Soil Nutrient Levels**
 - Provide data on presence or absence and amounts of essential nutrients. This helps tailor fertilizer application to meet pyrethrum requirements.
- **Organic matter content**
 - Organic matter improves soil structure, water retention and nutrient cycling, vital to pyrethrum production.
- **Soil texture**
 - This helps to determine irrigation needs and erosion risk influencing crop suitability.
- **Soil salinity**
 - Pyrethrum plants are sensitive to soil salinity, affecting the root formation and flower yield productivity.

Soil Sampling

Soil sampling is the systematic collection of representative soil samples from various locations within a field or area of interest for analysis, so as to gather accurate information about the soil's physical and chemical properties.

Areas that differ in the following should be sampled

separately:

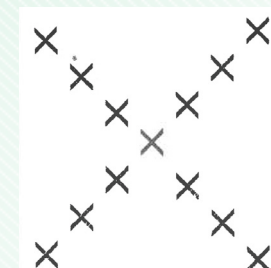
- Soil type
- Soil color
- Previous cropping history
- Previous lime and fertilizer application
- Slope
- Drainage

Materials required for soil sampling

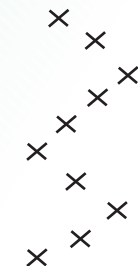
Sampling tool- Soil auger, spade, panga, Clean bucket, Soil sample bag (at least 1 kilogram), Ruler/tape measure and Labels/marker per.

Sampling Procedure

1. Divide the field into different homogenous units based on the visual observation and farmer's practice.
2. Remove the surface litter at the sampling spot.
3. Drive the auger to a plough depth of 15-30cm and draw the soil sample.
4. Collect at least 10 to 15 samples from each sampling unit, using a zigzag or traverse method of collection.



Traverse method



Zigzag method