EXPERIMENT 1 SOIL SAMPLING

Structure

1.1 INTRODUCTION

You have learnt about soil and its importance in mulberry leaf production. You shall now learn how to collect soil samples in order to know the nutrient status of soil. This can help in finding the quantity of fertilizers required to be added to the mulberry garden for luxuriant growth of the plant. The soil samples can be sent to any soil testing laboratory for finding out the availability of nutrients in the soil. The knowledge of the nutrient status of soil can facilitate in improving leaf yield and quality of mulberry.

Objective

After studying and performing this experiment, you should be able to:

- collect soil samples and assess the chemical constituents and nutrient status of soil for mulberry cultivation.

1.2 EXPERIMENT

1.2.1 Principle

The purpose of collection of soil samples is to know the nutrient status of soil. This will help in deciding the level of inputs that are required to be added in the soil for luxuriant and optimum growth of the mulberry plant.

1.2.2 Requirements (Machinery/Instrument and Chemical/ Material)

- Crowbar, Spade and other garden implements
- Balance
- Measuring tape
- Polythene bags
- Newspaper
- Tin labels
- Note Book

1.2.3 Procedure

- Select a suitable piece of land (at least four spots) and draw an outline of 30 x 30 cm size in the field using a measuring tape.

- Dig a 30 cm deep pit.
- Collect about 250 grams of soil sample by scraping from all sides of the pit.
- Same procedure should be followed to collect soil samples from all the selected spots (at least four spots).
- Mix the samples collected from each location thoroughly.
- Spread the soil evenly on a newspaper.
- Divide the sample into four equal parts and reject the two opposite parts of the soil and mix the remaining two parts.
- Repeat the process and collect only 250 grams of the composite soil sample.
- Dry the soil under shade and pack it in a cloth/ polythene bag and label it.
- Label should contain the name of the sampling place, date and other details.
- Record the details of the soil samples in your note book.
- Seal the dried soil samples and send them to the laboratory for testing.

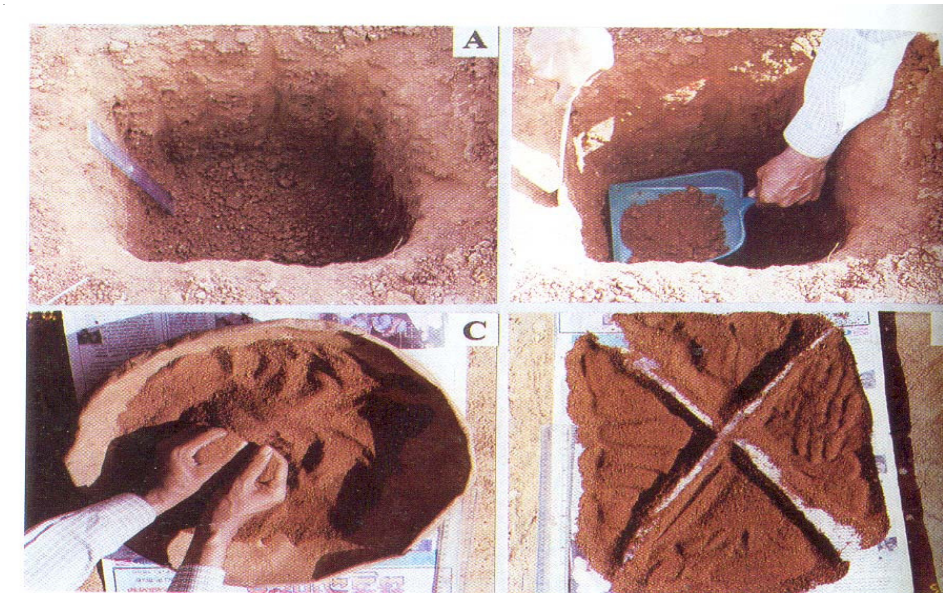

Fig.1.1: Process of collection of soil samples

1.2.4 Observations

After getting the soil sample analyzed, record the observation in the table:

Soil Sample No.	pH	Nutrient Status			Organic Carbon (%)	Classification of Soil Based on Nutrient Status as Low or Medium or High
		N (%)	P (%)	K (%)		
1						
2						
3						
4						

1.2.5 Results

From this experiment, you will be able to know the chemical constituents (pH, organic carbon) and quality of soils in terms of its nutrient status (NPK) which would allow you to classify the soils into low, medium or high in nutrient status and apply the required amount of manure and fertilizers accordingly in the mulberry garden.

Based on your observations, write down your results about the soil sample collected and classify the sample based on their nutrient content.

1.3 PRECAUTIONS

- Collect the soil samples free of stone / pebbles / debris.
- Collect the soil samples from at least 4-5 spots.
- Dry the samples in shade before packing.
- Use tin labels as paper labels can get destroyed.
- Mix the sample thoroughly as per the procedure.