

## **FERTILISERS.**

These are substances put in the soil to increase its fertility.

### **Types fertilizer**

- Artificial fertilizers.
- Natural fertilizers.

## **ARTIFICIAL FERTILIZERS**

Are fertilizers got from inorganic matter artificially?

### **Types of artificial fertilizers**

- Straight fertilizers.
- Compound fertilizers.

#### **Straight fertilizers.**

These are fertilizers that supply one nutrient to the soil.

**Examples:** SSP (single super phosphate), nitrogen, phosphorus, potassium.

#### **Compound fertilizers.**

These are fertilizers that supply more than one nutrient to the soil.

**Examples:** ammonium phosphate, NPK.

### **Advantages of using artificial fertilizers**

- They have a high nutrient content needed by the plants.
- They are easy to handle, use and store.
- They help to make plants resistant to diseases as they grow.
- They provide the needed minerals without fail.
- They supply a large quantity of mineral salts.
- They provide freedom of choice to farmers as they buy the type that they need.
- They improve crop yield.
- They supply the correct amount of mineral salts to soil to meet the requirement of crops.

## **Disadvantages of using artificial fertilizers**

- They are expensive to buy.
- They require skilled labour to apply it.
- They stay in the soil for a shorter period.
- They are poisonous to animals, people and birds.
- They pollute water sources when washed there.
- They destroy soil texture and structure.
- They make the soil acidic.
- They kill organisms in the soil.

## **Natural fertilizers (manure)**

These are fertilizers made from decayed plant and animal materials[ humus)

## **Types of natural fertilizers (manure)**

There are four types of manure

1. Compost manure
2. Green manure
3. Farm yard manure
4. Organic mulch.

## **ACTIVITY**

1. What are fertilizers?
2. Name the two types of fertilizers.
3. Write in full SSP.
4. A part from straight fertilizer, mention another type of artificial fertilizer.

## **Compost manure**

Is got from both plant and organic waste matter left to decay.

## **Things used to make compost manure.**

- banana peeling.
- dry grass
- maize stalks
- leaves.

## **COMPOST HEAP.**



### **Importance of compost manure**

- Adds humus to the soil (improves soil fertility)
- Controls leaching
- Improves soil structure

### **Advantages of compost manure**

- It is cheap.
- Its nutrients last for a longer time
- It is not poisonous to people, animals and birds
- It does not require skilled labour to apply it.
- Provides many nutrients to the soil at the same time.

NB: When making compost manure, water should be added to the compost heap to make the rotting faster.

### **Disadvantages of compost manure**

- Produces bad smell
- It takes a lot of space
- Soil nutrients take long to be released into the soil
- It is not easy to tell which nutrients is present in the compost manure

### **Green manure**

It is made from green crops especially legumes that are ploughed back into the soil at the flowering stage.

Why legumes? They can rot in a shorter time.

### **Advantages of green manure**

- It lasts for several seasons in the soil.
- It rots and mixes easily into the soil.
- Its nutrients last for a longer time
- It is not poisonous to people, animals and birds
- It does not require skilled labour to apply it.

### **Disadvantages of green manure**

- It is time wasting.
- It requires a lot of labour to plough it back into the soil.
- It is not easy to tell which nutrient is present in the green manure.

### **Farm yard manure**

Is the manure got from animal wastes like dung and urine mixed with their bedding materials?

### **Advantages of farm yard manure**

- It is cheap
- Its nutrients last for a longer time
- It is not poisonous to people, animals and birds
- It does not require skilled labour to apply it.
- Provides many nutrients to the soil at the same time

### **Disadvantages of farm yard manure**

- It contains little amount of mineral salts.
- Produces bad smell
- It takes a lot of space
- Soil nutrients take long to be released into the soil
- It is not easy to tell which nutrient is present in the compost manure.

### **Effects of harmful materials on the soil**

- Non degradable materials do not rot or decay
- They prevent or block air and water from entering the soil
- They lead to soil exhaustion.

## **These materials are called pollutants**

### **Examples of soil pollutants.**

- Polythene papers (buviera)
- Plastic materials
- Rubber materials (old shoes)
- Glass and broken bottles
- Metallic materials like nails, tins, etc
- Concrete from broken buildings.

### **Ways of properly handling wastes.**

- Reusing plastic materials like jerry cans for other purposes like fetching water.
- Making new things from some wastes (recycle)
- Returning some wastes like bottles to the factories that make sodas.
- Rejecting/ refusing the use of non biodegradable materials like polythene bags.
- Reducing on the production of non biodegradable materials.

## **ACTIVITY**

- 1. What is compost manure?**
- 2. State two advantages of compost manure.**
- 3. Suggest any two disadvantages of green manure.**
- 4. What are soil pollutants?**
- 5. Give two examples of soil pollutants.**

## **SOIL BARRIERS**

These are things (materials) that prevent soil from being carried away by the agents of soil erosion.

### **Examples of soil barriers**

- Grass ( cover crops)
- Trees /roots
- Rocks
- Concrete walls

- Contours
- Gabions. Etc

## **SOIL CONSERVATION**

Is the maintaining (preserving) of soil fertility.

### **Methods of soil conservation**

- Afforestation /re-afforestation
- Bush fallowing
- Terracing hilly areas
- Rotational grazing
- Contour ploughing
- Strip cropping
- Crop rotation
- Mulching
- Cover cropping
- Mixed farming
- Manuring /application of the fertilizers
- Agro-forestry.

### **Importance of soil conservation**

- Retains soil fertility
- Retains soil moisture
- Prevents spread of diseases and pests.

### **ACTIVITY**

1. What are soil barriers?
2. give any four examples of soil barriers
3. What is mulching?
4. State any two advantages and disadvantages of mulching.