

SOIL FERTILITY.

Soil fertility is the ability of the soil to supply crops with the necessary corrections for proper growth.

OR. The ability of the soil supply crops with adequate nutrients and water for good crop yields.

Or. Is the ability of the soil to support plant growth.

SOIL PRODUCTIVITY is the ability of the soil to produce high crop yields.

FACTORS AFFECTING SOIL FERTILITY.

- ❖ Availability of plant nutrients; a fertile soil Should have a correct type of nutrients needed by crops in the right proportions.
- ❖ Organic matter content; a fertile soil should have adequate organic matter to provide nutrients and improve soil structure.
- ❖ Pest and diseases ; a fertile soil should be free from soil borne pests and diseases that May hinder crop growth.
- ❖ Soil aeration ; for a soil to be fertile, it should be well aerated.
- ❖ Soil depth ;. A fertile soil should be deep enough to accommodate plant roots.
- ❖ Soil drainage; proper soil drainage is important for keeping microbes active.
- ❖ Soil PH ; this influence the availability of plant nutrients in the soil. A fertile soil should have a condusive PH.
- ❖ Soil structure; a fertile soil should have a good and well developed soil structure to allow proper root penetration.
- ❖ Water holding capacity; the soil be able to hold enough moisture content without becoming water logged.
- ❖ Weeds. The soil should be free from weeds because weeds interfere with proper crop growth.

CHARACTERISTICS OF A FERTILE SOIL.

- It should be free from pest and diseases.
- It should have a correct and condusive soil PH.
- It should have a good depth for root penetration and expansion.
- It should have a good drainage to reduce water logging.
- It should have suitable aeration to ensure enough oxygen to roots.
- It should have a correct type of nutrients needed by the crop.
- It should have a high organic matter content.
- It should be free from notorious weeds especially those that have rhizomes.

Causes of loss of soil fertility.

- ★ Soil erosion.
- ★ Pollution of the soil.
- ★ Development of soil hard pan and soil capping.
- ★ Leaching.
- ★ Changing of soil PH.
- ★ Infestation with pest and diseases.
- ★ Through monocropping.
- ★ Over cultivation leading to the loss of soil structure.
- ★ Poor soil drainage.
- ★ Over use of inorganic fertilizers that makes the soil saline.
- ★ Presence of weeds especially those that have rhizomes.
- ★ Volatilization of nutrients back to the atmosphere.
- ★ Crop removal of the nutrients from the soil.
- ★ Bush burning which reduce the organic matter content of the soil.

HOW TO MAINTAIN SOIL FERTILITY.

- ✓ Control of soil erosion and pollution.
- ✓ Ley farming.
- ✓ By mulching to conserve moisture.
- ✓ Application of organic manures and fertilizers.
- ✓ Minimum tillage to maintain soil structure.
- ✓ Bush fallowing to restore lost nutrients.
- ✓ Soil sampling to know the nutrients lacking in the soil.
- ✓ Crop rotation
- ✓ Carrying out irrigation to provide the soil with water.

Revision Questions.

- 1) How can you tell that your soils are fertile.?
- 2) Advise your parents on how to maintain the fertility of the soil in their garden.
- 3) Explain the factors that affect the fertility of the soil.
- 4) Describe the causes of loss of soil fertility.