PENANG SANGAM HIGH SCHOOL

YEAR 13 GEOGRAPHY SUB - STRAND: VEGETATION

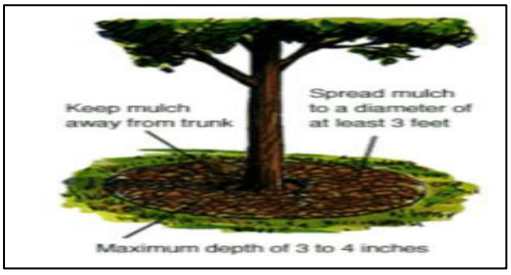
WEEK 9

Soil Conservation

The main aim of inventing different techniques of farming is to preserve the level nutrients in the soil and stop or minimise soil erosion.

The **Traditional Soil Conservation Methods** include –

i. **Mulching**



- This is the act of placing a protective barrier (mulch) around your plants and over your bare soil.

Advantages

a. Mulch cools the soil helping to provide a buffer heat and cold temperatures.

b. Mulch retains water helping to keep the roots moist.

c. Mulch keeps the weeds out to help prevent root competition.

d. Mulch prevents soil compaction

e. Mulch reduces lawn mower damage.

ii. **Composting**

- is decomposed organic material, such as leaves, grass clippings and kitchen waste.

Advantages

a. Reduce in garbage volume.

b. A rich, natural fertilizer cuts back on the use of chemical fertilizer.

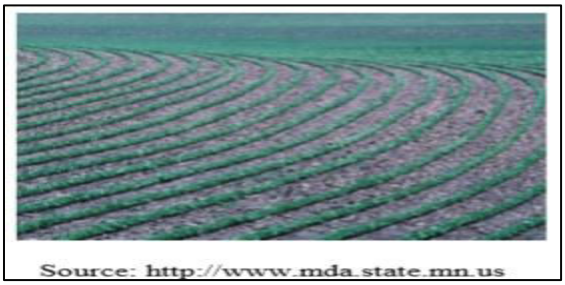
c. Improves the soil aeration and drainage.

d. Helps control weeds

e. Decreases the need for costly watering

iii. **Contour ploughing**

- involves ploughing grooves (levels) into the desired farmland, then planting the crop furrows in the grooves following the contours.



Source: http://www.mda.state.mn.us

Advantages

a. Contour lines creates a water passage which reduces the formation of rills and gullies during times of heavy water run-off.

b. The water break also allows more time for the water to settle into the soil.

c. In contour ploughing cuts made by the plough run across the slope rather then along or parallel to the slopes that easily collects the soil nutrients and water.

d. Also prevent tillage erosion.

iv. **Terracing and agroforestry**

- is a method of carving, flat levelled areas into hills.

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Advantages

a. steps are formed by the terraces which are surrounded by a mud wall to prevent run-off and hold the soil nutrients in the beds.

The **Modern Soil Conservation Methods** include –

i. **Agro-forestry**

- is the international integration of trees and shrubs into crops and animal farming systems to create environmental, economic and social benefits.

ii. **Silvopasture**

- combine trees with livestock and their forages on one piece of land.

Advantages

a. Trees provide timber, fruit or nuts

b. Provide shade and shelter for livestock and their forages that reduces stress on the animals from the hot summer sun, cold winter winds or a heavy downpour.

ii. **Cover crops/crop rotation**

- crop planted primarily to manage soil erosion, soil fertility, soil quality, water weeds, pests. diseases, biodiversity and wildlife in an agro ecosystem. For instance planting dry twigs and grasses used to cover the land.

Advantages

It improves

a. Soil health

b. yield potential over time

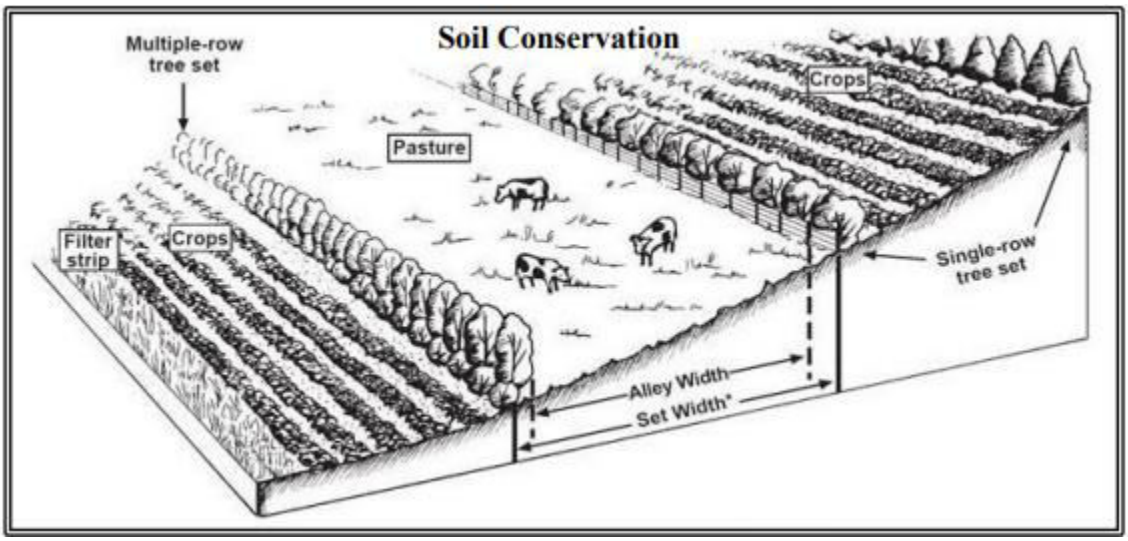
c. Weed control of winter annuals

d. Reduce erosion

e. Increase earthworm populations

f. improve soil microbiology

Activity



1. Identify the soil conservation method shown above.

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2. State how the method you identified can conserve the soil._____

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3. Identify the method of soil conservation shown above. _____

4. Provide two benefits of soil conservation method shown above. _____

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5. Differentiate between agroforestry and silvopasture. _____

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6. Briefly discuss two reasons of maintaining soil cover. _____

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THE END