

SUBJECT: AGRICULTURAL SCIENCE

TERM: SECOND TERM

CLASS: SS2

WEEK 12th week

EFFECTS OF AGRICULTURAL ACTIVITIES ON ECOLOGICAL SYSTEM

- 1)** Bush burning: Before the planting season, the farmer cuts down most of the trees, all the shrubs and herbs. Bush burning involves the setting of fire on bush to clear out the vegetation.

Effects of bush burning

- a) Burning of the bush destroys the organic matter in the soil.
- b) The atmosphere is polluted with smoke.
- c) Many of the micro-organisms are killed.
- d) It exposes the soil to erosion and leaching.
- e) It reduces the water holding capacity of the soil.

- 2)** Tillage: Is the breaking up of the soil in preparation for planting of crops.

Effects of tillage

- a) Tillage encourages leaching.
- b) It helps to loosen the soil.
- c) It exposes the soil to erosion.
- d) It can also lead to poor vegetation.
- e) It changes the texture and structure of the soil.

- 3)** **Herbicides:** Are chemicals used in weed control. Herbicides are of two types: Selective weed killers and non-selective weed killers. Selective weed killers would only kill some weed and spare other plants including crop plants. Non selective weed killers kill both weeds and cultivated crops.

Effects of herbicides

- a) It destroys other useful plants and animals.
- b) Excessive use of herbicides may destroy the crops/plants.
- c) They can cause death to aquatic animals (when chemicals are washed into the rivers).

- 4)** **Pesticides:** Are chemical substances which are used to destroy or kill pests.

Effects of pesticides

- a) Pesticides application can cause pollution of the environment.
- b) The use of pesticides in some places disturbs the dynamic balance of the ecosystem in some unexpected ways.
- c) When applied to crops, it reaches the soil and destroy the insects there.
- d) It could poison the aquatic organisms.

5) Fertilizer Application: It involves the application of certain chemical substances into the soil to improve its fertilities.

Effects of fertilizer application

- a) It deteriorates the structure of the soil.
- b) Fertilizer increases the porosity of the soil.
- c) Fertilizer increases the population of micro-organisms in the soil.
- d) Excessive application of fertilizer can cause soil acidity.

6) Overgrazing: Is a situation where animals can be supported to a particular pasture and put there to graze.

Effects of overgrazing

- a) Overgrazing removes the vegetative cover of the soil.
- b) It exposes the soil to erosion.
- c) It destroys the soil structure.
- d) It causes poor growth.

7) Deforestation: Is the continuous removal of forest stand (trees) either by bush burning or indiscriminate falling without replacing them.

Effects of deforestation

- a) Encourages soil erosion.
- b) Its results in loss of soil nutrient through leaching and erosion.
- c) It reduces the humus content of the soil.

8) Bush clearing: Is the practice where by the whole vegetation is cleared and removed.

Effects of bush clearing

- a) It leads to the removal of the rich top soil.
- b) It exposes the sun to direct sunshine.
- c) It increases the temperature of the soil.
- d) It exposes the soil to erosion.
- e) It leads to reduction of organic matter content in the soil.

DIFFERENT TYPES OF FARMING METHOD

There are different types of farming method which affect the balance in the ecosystem.

- 1) Shifting cultivation:** It involves the cultivation of a piece of land and plants crops on it for one or two years before moving to an uncultivated piece of land.

Effects of shifting cultivation

- a) It destroys valuable plants and animals in the area.
 - b) It decreases the activity of useful micro-organisms.
 - c) It reduces the mineral nutrients of the soil.
 - d) It wastes valuable land.
- 2) Crop rotation:** In crop rotation the same piece of land is cultivated continuously and different plants are grown on it at every growing season as to maintain the fertility of the soil.

Effects of crop rotation

- a) It cannot give room for mechanized farming.
 - b) It may lead to the use of fertilizers because of continuous cropping on a piece of land
 - c) It reduces yield due to excessive use of land.
- 3) Mono cropping:** Is a system of farming in which one crop is cultivated every year.

Effects of mono cropping

- a) It provides abundant food for pests.
 - b) It increases the population of pests.
 - c) It reduces the food and population of other animals.
- 4) Mixed cropping:** This is a system of farming where two species of plants are grown together. One advantage of this method is that insects, pests and fungi diseases are reduced.
 - 5) Continuous cropping:** This is the repeated cultivation of crops in one area of land.

Effects of continuous cropping

- a) It reduces the mineral nutrients and the contents of the soil.
- b) It ensures the spread or multiplication of germs.
- c) It ensures the multiplication of pests and parasites.
- d) It results in low yield of crops.