

SUBJECT: AGRICULTURAL SCIENCE

TOPIC: AGRICULTURAL POLLUTION

CLASS: SS2

WEEK: WEEK SEVEN (7)

TERM: 1<sup>ST</sup> TERM

### MEANING OF AGRICULTURAL POLLUTION

Agricultural pollution refers to the introduction of harmful substances into the environment as a result of agricultural practices. It is the totality of the contaminants present in the environment resulting from agricultural practices. Many agricultural practices such as fertilizer, use of pesticides, to attack plant pests, etc. have significant contaminating effect on land and water bodies.

### CAUSES/SOURCES OF AGRICULTURAL POLLUTION

1. Burning of bush and other waste products on the farm: during bush burning, carbon monoxide is released into the atmosphere. Carbon monoxide is poisonous to both man and animals. It also leads to suffocation of man and animals. It reduces visibility which may cause an accident on the farm. Excessive accumulation of carbon monoxide as a result of bushing may cause global warming.
2. Marine and oil spillage: crude oil and all its products may also lead to agricultural pollution because it renders the land meant for farming useless. Oil spillage may be washed down into the nearby streams, rivers, which may kill all the aquatic plants and animals.
3. Excessive application of chemical fertilizer: the residues left on the soil after applying chemical fertilizers may render the water useless.
4. Emission from the use of fossil fuel by tractors and other farm machines also constitute a nuisance into the farm environment: the smoke from tractors and other farm machines irritates the eyes, reduces visibility and may cause an accident on the farm.
5. Excessive use of herbicides to destroy weeds also results in land and water pollution: this is because the residues left on the plants may be washed down into the nearby river or streams during rainfall. This may be dangerous to man and animals that drink the polluted water.
6. The runoff from dirty farm yards and grazing fields: these materials can introduce offensive odour into the environment thereby constituting a nuisance to both man and animals.
7. Waste water and industrial wastes: wastes from industries may be toxic to both plants and animals. Farm land should be located away from the industries.
8. Washing down salts from the soil into water bodies: salts render water useless and unsuitable for drinking for man and animals. Polluted water may also introduce water-borne diseases such as cholera, typhoid etc.

Effects of land/pond pollution on farmer and agricultural productivity

Agricultural pollution not only causes financial losses to farmers but also causes serious environmental hazards. Fertilizers and other chemicals applied excessively cause significant loss of resources to farmers and bring about serious damage to the soil, soil organisms, plants and human health. Ground water which happens to be the source of drinking water for rural farmers can be contaminated by runoff of nutrients from farm yards and grazing animals. The consequences of these are the probability of disease transmission to farm animals.

Ways of preventing or minimizing pollution of land /pond

1. Alternative crop cultivation: alternative crop cultivation can be adopted to minimize agricultural pollution as the practice requires less fertilizer. The adaptability of these crops to the environment in which they are grown enables them to require less fertilizer.
2. Organic agricultural practice: under this practice, there is no use of harmful chemicals to raise crops and livestock are raised from natural resources thus agricultural pollution is prevented.
3. Careful planning of storage wastes and other materials on the farm: adequate provision should be made for proper storage of livestock slurry and manures, silage, animal feedstuffs, agricultural fuel, oil, dirty water, fertilizer, chemicals and pesticides.
4. Careful and correct use of agrochemicals: agrochemicals such as insecticides, pesticides, herbicides, and other chemicals should whenever the need arises, this should be done by accounting for every input used.
5. Control of runoff from the farm: runoff of wastes, herbicides, pesticides, fungicides, and insecticides, surface water should be controlled by the use of strips and other measures on the farm.
6. Careful handling of agrochemical: care should be taken in handling or applying fertilizer, organic wastes, pesticides or other chemicals in order to avoid the interference of these inputs on water bodies and other places that may likely be affected.

ASSIGNMENT

1. What is agricultural pollution?
2. Enumerate six sources of agricultural pollution.