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Class 9th

Sub. Biology

Date.02.07.20

1. Compare the use of manure and fertilizers in maintaining soil fertility.

- Manure improves the soil quality with added nutrients.
- Manure provides extra organic matter called humus to the soil and therefore increasing the water retention capacity of sandy soils and drainage in clayey soil.
- Manures reduces soil erosion.
- They provide food for soil friendly bacteria which are helpful in growing crops.

Effects of fertilizers are:

- Fertilizers make the soil to become too dry and powdered and rises rate of soil erosion.
- The organic matter decreases by decreasing the porosity of soil hence the plant roots do not get oxygen properly.
- The nature of soil changes either to basic or acidic.

2 . Which of the following conditions will give the most benefits? Why?

- (a) Farmers use high-quality seeds, do not adopt irrigation or use fertilizers.
- (b) Farmers use ordinary seeds, adopt irrigation and use fertilizer.
- (c) Farmers use quality seeds, adopt irrigation, use fertilizer and use crop protection measures.

Option (c) will give the most benefits because use of good quality seeds is not only sufficient until the soil is properly irrigated, enriched with fertilizers and protected from biotic factors.

3. Why should preventive measures and biological control methods be preferred for protecting crops?

Over exposure of chemicals leads to environmental problems hence, biological methods are preferred for protecting crops from pathogens, insects and rodents along with increasing the production. Since chemicals are harmful for plants and also for the animals which feed on it, hence bio-pesticides are used as the safe way of crop protection.

4. What factors may be responsible for losses of grains during storage?

Biotic and Abiotic factors are responsible for loss of grains during storage like:

- Rodents
- Pests
- Insects
- Fungi
- Bacteria
- Sunlight
- Flood
- Rain
- Temperature
- Moisture

5. Which method is commonly used for improving cattle breeds and why?

Cross breeding is generally the best method adopted for improving the cattle breed quality. In this method, breeding is between two good cattle breed results in a new improved variety of cattle breed or offspring. While breeding, it is taken care to have a good resultant with high yield having resistance to climatic conditions.