

Board –CBSE

Class –9th

Topic – Improvement in Food Resources

1. What do we get from cereals, pulses, fruits, and vegetables?

Ans. (i) Cereals provide us with carbohydrates. Also, they are a rich source of energy.
(ii) Pulses give us proteins.
(iii) Fruits and vegetables are rich sources of vitamins and minerals. A small number of proteins, carbohydrates, and fats are also present in them.

2. How do biotic and abiotic factors affect crop production?

Ans. A variety of biotic factors such as pests, nematodes, diseases, etc. can reduce net crop production. A pest causes damage to agriculture by feeding on crops. For example, boll weevil is a pest on cotton. It attacks the cotton crop, thereby reducing its yield. Weeds also reduce crop productivity by competing with the main crop for nutrients, light, and space. Similarly, abiotic factors such as salinity, temperature, etc. affect the net crop production. Some natural calamities such as droughts and floods are unpredictable. Their occurrence has a great impact on crops sometimes, destroying the entire crop.

3. What are the desirable agronomic characteristics for crop improvements?

Ans. The desirable agronomic characteristics for crop improvements are.
(i) Tallness and profuse branching in any fodder crop.
(ii) Dwarfness in cereals.
These desirable agronomic characteristics help in increasing crop productivity.

4. What are macro-nutrients and why are they called macro-nutrients?

Ans. Macro-nutrients are nutrients required in relatively large quantities for the growth and development of plants. They are six in number. Since they are required in large quantities, they are known as macro-nutrient. The six macro-nutrients required by plants are nitrogen, phosphorus, potassium, calcium, magnesium, and sulphur.

5. How do plants get nutrients?

Ans. Plants require sixteen essential nutrients from nature for their growth and development. All these nutrients are obtained from air, water, and soil. Soil is the major source of nutrients. Thirteen of these nutrients are available from the soil. The remaining three nutrients (carbon, oxygen, and hydrogen) are obtained from air and water.

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

Ans. Manures increase soil fertility by enriching the soil with organic matter and nutrients as it is prepared by the decomposition of animal excreta and plant wastes. On the other hand, fertilizers are mostly inorganic compounds whose excessive use is harmful to the symbiotic micro-organisms living in the soil. Their excessive use also reduces soil fertility. Hence, fertilizers are considered good for only short term use.

7. 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.

Ans. (c) Farmers using good quality seeds, adopting irrigation, using fertilizers, and using crop protection measures will derive the most benefits.

(i) The use of good quality seeds increases the total crop production. If a farmer is using good quality seeds, then a majority of the seeds will germinate properly and will grow into a healthy plant.

(ii) Proper irrigation methods improve the water availability to crops.

(iii) Fertilizers ensure healthy growth and development in plants by providing essential nutrients such as nitrogen, phosphorus, potassium, etc.

(iv) Crop protection measures include various methods to control weeds, pests, and infectious agents. If all these necessary measures are taken by a farmer, then the overall production of crops will increase.

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

Ans. Preventive measures and biological control methods should be preferred for protecting crops because excessive use of chemicals leads to environmental problems. These chemicals are also poisonous for plants and animals. Preventive measures include proper soil and seed preparation, timely sowing of seeds, intercropping and mixed cropping, usage of resistant varieties of crops, etc. On the other hand, biological control methods include the usage of bio-pesticides that are less toxic for the environment. An example of bio-pesticides is *Bacillus thuringensis*, which is an insect pathogen that kills a wide range of insect larvae. Therefore, both preventive measures and biological control methods are considered eco-friendly methods of crop protection.

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

Ans. During the storage of grains, various biotic factors such as insects, rodents, mites, fungi, bacteria, etc., and various abiotic factors such as inappropriate moisture, temperature, lack of sunlight, flood, etc. are responsible for losses of grains. These factors act on stored grains and result in degradation, poor germinability, discolouration, etc.

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

Ans. Cattle farming is commonly used for improving cattle breeds. The purpose of cattle farming is to increase the production of milk and draught labour for agricultural work. Dairy animals (females) are used for obtaining milk and draught animals (males) are engaged in agricultural fields for labour work such as carting, irrigation, tilling, etc. Crossbreeding between two good varieties of cattle will produce a new improved variety. For example, the cross between foreign breeds such as Jersey Brown, Swiss (having long lactation periods) and Indian breeds such as Red Sindhi, Sahiwal (having excellent resistance power against diseases) produces a new variety having qualities of both breeds.

11. What management practices are common in dairy and poultry farming?

Ans. Common management practices in dairy and poultry farming are.

(i) Proper shelter facilities and their regular cleaning.

- (ii) Some basic hygienic conditions such as clean water, nutritious food, etc.
- (iii) Animals are kept in spacious, airy, and ventilated places.
- (iv) Prevention and cure of diseases at the right time is ensured.

12. What are the differences between broilers and layers and in their management?

Ans. Layers are meant for egg production, whereas broilers are meant for poultry meat. Nutritional, environmental, and housing conditions required by broilers are different from those required by egg layers. A broiler chicken, for its proper growth, requires vitamin-rich supplements especially vitamin A and K. Also, their diet includes protein-rich food and enough fat. They also require extra care and maintenance to increase their survival rate in comparison to egg layers.

13. What are the desirable characters of bee varieties suitable for honey production?

Ans. Bee varieties having the following desirable characters are suitable for honey production.

- (i) They should yield a high quantity of honey.
- (ii) They should not sting much.
- (iii) They should stay in the beehive for long durations.
- (iv) They should breed very well.

14. What are the advantages of composite fish culture?

Ans. An advantage of composite fish culture is that it increases the yield of fish. In a composite fish culture, five or six different species are grown together in a single fish pond. Fishes with different food habits are chosen so that they do not compete for food among themselves. Also, this ensures the complete utilization of food resources in the pond. As a result, the survival rate of fish increases, and their yield also increases.