

Science

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(Chapter – 15) (Improvement in Food Resources)

(Class – IX)

Exercises

Question 1:

Explain any one method of crop production which ensures high yield.

Answer 1:

Crop rotation is one of the methods of crop production that ensures high yield. It is the method of growing two or more varieties of crops on the same land in sequential seasons. A crop utilises some particular nutrients in larger quantities from the soil. Then, if the same crop is grown in subsequent seasons those nutrients will get depleted in the soil. Therefore, crops having different nutrient requirements are rotated. For example, legumes which have nitrogen-fixing bacteria in their root nodules supply the soil with nitrogen. Therefore, these legumes are rotated with nitrogen requiring cereals such as wheat and maize. This method reduces the need of fertilizers, thereby increasing the overall yield of crops.

Question 2:

Why are manures and fertilizers used in fields?

Answer 2:

Manures and fertilizers are used in fields to enrich the soil with the required nutrients. Manure helps in enriching the soil with organic matter and nutrients. This improves the fertility and structure of the soil. On the other hand, fertilizers ensure a healthy growth and development in plants. They are a good source of nitrogen, phosphorus, and potassium. To get an optimum yield, it is instructed to use a balanced combination of manures and fertilizers in the soil.

Question 3:

What are the advantages of inter-cropping and crop rotation?

Answer 3:

Inter-cropping and crop rotation both play an important role in increasing the yield of crops. Inter-cropping helps in preventing pests and diseases to spread throughout the field. It also increases soil fertility, whereas crop rotation prevents soil depletion, increases soil fertility, and reduces soil erosion. Both these methods reduce the need for fertilizers. It also helps in controlling weeds and controls the growth of pathogens and pests in crops.

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Question 4:

What is genetic manipulation? How is it useful in agricultural practices?

Answer 4:

Genetic manipulation is a process where the gene for a particular character is introduced inside the chromosome of a cell. When the gene for a particular character is introduced in a plant cell, a transgenic plant is produced. These transgenic plants exhibit characters governed by the newly introduced gene.

For example, let us assume there is a wild plant that produces small fruits. If the gene responsible for a larger fruit size is introduced in this plant, this plant becomes transgenic, and starts producing larger fruits. Similarly, genes for higher yield, disease resistance, etc. can be introduced in any desired plant.

Therefore, gene manipulation plays an important role in agricultural practices. It helps in improving crop variety. It ensures food security and insect resistant crops. It also improves the quality and yield of crops.

Question 5:

How do storage grain losses occur?

Answer 5:

Factors responsible for such losses are biotic— insects, rodents, fungi, mites and bacteria, and abiotic— inappropriate moisture and temperatures in the place of storage. These factors cause degradation in quality, loss in weight, poor germinability, discolouration of produce, all leading to poor marketability.

These factors can be controlled by proper treatment and by systematic management of warehouses.

Question 6:

How do good animal husbandry practices benefit farmers?

Answer 6:

Cattle farming is one of the methods of animal husbandry that is most beneficial for farmers. Using this method, better breeds of draught animals can be produced. Such draught animals are engaged in agricultural fields for labour work such as carting, irrigation, tilling, etc.

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Question 7:

What are the benefits of cattle farming?

Answer 7:

Benefits of cattle farming:

- Good quality and quantity of milk can be produced.
- Draught labour animals can be produced for agricultural work.
- New variety that are resistant to diseases can be produced by crossing two varieties with the desired traits.

Question 8:

For increasing production, what is common in poultry, fisheries and bee-keeping?

Answer 8:

The common factor for increasing production in poultry, fisheries, and bee keeping is the proper management techniques that are to be followed. Regular cleaning of farms is of utmost importance. Maintenance of temperature and prevention and cure of diseases is also required to increase the number of animals.

Question 9:

How do you differentiate between capture fishing, mariculture and aquaculture?

Answer 9:

Capture fishing	Mariculture	Aquaculture
It is the method of obtaining fishes from natural resources.	It is the culture of marine fishes for commercial use.	It involves the production of aquatic animals that are of high economic value such as prawns, lobsters, fishes, crabs, etc.