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(Question & Answers)

Class: VIII

Subject: Science

Chapter: Crop Production and Management

Check Point (Page 3)

Q.1. Define agriculture. What do you understand by agricultural practices?

Ans. The branch of science that deals with methods of food production is known as agriculture. The methods of food production used to grow new and better varieties of crops, rear animals and birds, like cows and hens well so that they give more milk and better quality eggs (respectively) are called agricultural practices.

Q.2. Give any two examples of crops and oilseeds.

Ans. Two examples of crops are: kharif crops like paddy, and cotton; and rabi crops like wheat and legumes. Two examples of oilseeds are mustard and groundnut.



Paddy



Maize



Cotton



Wheat



Pea



Mustard

Q.3. Differentiate between agriculture and horticulture.

Ans.

Agriculture	Horticulture
1.The word ‘Agriculture’ comes from the Latin words ager meaning ‘Field’ and colere meaning ‘Cultivate’.	1. Horticulture is derived from two Latin words hortus which means ‘Garden’ and colere which means ‘Cultivate’.
2. Agriculture is the branch of science that deals with methods of food production.	2.Horticulturists carry out research to find new ways by which better varieties of fruits and vegetables can be grown in large quantities.

Q.4. Categorise the following crops on the basis of the season they grow: peas, gram, groundnut, cotton, mustard, cucumber, linseed.

Ans. Rabi crops – peas, gram, mustard, linseed.

Kharif crops – groundnut, cotton, cucumber.

Q.5. Define crop and produce.

Ans. The plants of same kind grown at one place on a large scale are collectively referred to as crop. Example:

Rabi crops – peas, gram, mustard, linseed.

Kharif crops – groundnut, cotton, cucumber.

The crops are grown in soil or in water. What we obtain from crops is known as produce.

Check Point (Page 6)**Q.1. What is tilling?**

Ans. It is necessary to prepare the soil before growing a crop. The preparation of soil involves loosening and turning of soil. The process of loosening and turning the soil is called tilling or ploughing.

Q.2. Why are earthworms called farmers friend?

Ans. The earthworms and microbes present in the soil are farmer’s friends because they aid in turning and loosening of soil and increase its fertility. The loosened soil also helps their survival.

Q.3. What are advantages of seed treatment before sowing?

Ans. Seeds can easily be attacked by microorganisms. The crops that grow out of diseased seeds will also be unhealthy. So farmers treat these seeds by dipping them in certain chemicals which do not allow the microorganisms to attack the seeds and damage them. (Such chemicals are called fungicides.)

Q.4. Define transplantation.

Ans. The seeds of certain crop plants like paddy and some of the vegetables such as tomato and onions are first sown in a nursery bed. When they grow to a certain age, the healthy and disease-free seedlings are selected and transplanted in the main field manually. This is known as transplantation.

Q.5. What is the use of a seed drill?

Ans. A seed drill is a long metal tube with a funnel at the top. It is tied to the back of the plough. As the plough makes furrows in the soil, the drill releases the seeds into the furrows and sows them. The seeds sown with drills are always in rows.

Check Point (Page 8)**Q.1. Why do we need to replenish nutrients in the soil?**

Ans. Plants require certain nutrients that are essential for their growth. These nutrients are obtained from the soil. Every crop utilises certain specific nutrients for its growth. Therefore, continuous growth of the same crop in a field makes the soil deficient in certain nutrients. Therefore, these nutrients need to be replenished in the soil.



Preparation of Soil

Q.2. What is multiple cropping?

Ans. Growing two or more crops together in the same field is called multiple cropping. The crops are chosen such that the products and waste materials from one crop help in the growth of the other.

Q.3. Define organic farming.

Ans. The farming that utilises organic manure is known as organic farming. Organic farming is the form of agriculture that uses techniques like crop rotation, green manure, compost, biological pest control and mechanical cultivation to maintain soil productivity and control pests, excluding or strictly limiting the use of fertilisers and pesticides.

Q.4. Why do we plant leguminous plants in the fallow land?

Ans. A leguminous crop does not take as long as wheat or rice to grow. So, by the time the farmer has to plant the cereal crops, the leguminous crop growth is ready to be harvested.

Leguminous crops include pea, beans, grams and pulses. They harbour nitrogen-fixing bacteria in nodules of their roots. These bacteria convert free nitrogen from atmosphere into usable forms. Thus, after leguminous crop is harvested, the soil is left fertile for other crops.

Q.5. Name two tools for weeding.

Ans. Two tools for weeding are: trowel (khurpi) and harrow.

Check Point (Page 11)

Q.1. Name the organisms that destroy crops in the fields.

Ans. Microorganisms and pests especially insects destroy crops in the fields.

Q.2. How are grains separated from the harvested crops?

Ans. When the crop is harvested, the grains are separated from the crop by a process called threshing. The crops are spread on the ground. Generally, certain animals like camels, oxen and buffaloes are used to trample over them. This separates the grains from the chaff or husk. In large farms, a machine, called thresher, is used for separating the grains. It has big rollers under which crops are passed, resulting in separation of grains.

Q.3. Name two weeds and two chemicals used to control them.

Ans. The examples of weeds are: Parthenium (carrot or congress grass) and Amaranthus. The examples of chemicals used to destroy them are: herbicides and fungicides.

Exercises (Page 13)

A. Choose the correct answer.

1. Watering the crops is called _____.

a. manuring b. **irrigation** ✓ c. sowing d. tilling

2. Loosening of the soil is called _____.

a. irrigation b. manuring c. **tilling** ✓ d. sowing

3. _____ is an organic matter. a

a. **Manure** ✓ b. Fertilizer c. Weedicides d. Pesticide

4. What do the farmers do with harvested crops?

a. process in fields b. store in granaries c. sell in market d. **both (b) and (c)** ✓

B. Match the correct answer.

- | | |
|-------------------------|-----------------------|
| 1. Sprinklers | a. Storage of grains |
| 2. Silos and granaries | b. Irrigation |
| 3. Kharif crops | c. Urea and phosphate |
| 4. Rabi crops | d. Wheat, gram, pea |
| 5. Chemical fertilizers | e. paddy and maize |

C. Fill in the blanks.

1. The first step before growing crops is **tilling** of the soil.
2. **Seed drill** is used for sowing of seeds.
3. The process of separation of grain from the harvested crop is known as **threshing**.
4. **Manure** and **fertilisers** are used to add nutrients in the soil.

D. Name the following.

1. Removal of undesirable plant from a field - **Weeding**
2. Putting of seed in the soil – **Sowing**
3. Rearing of animals on large scale - **Animal husbandry**

E. Very short answer questions.

1. Give two examples of kharif crops and rabi crops.

Ans - Kharif crop - Paddy, cotton

Rabi crop - Wheat, legume

2. What is agriculture and harvesting? Give the name of the tools used for weeding.

Ans- The branch of science which deals with methods of food production and raising animals is known as agriculture. The process of cutting and gathering of crops from the fields after the crops have matured is called harvesting. The tools used for weeding are plough and hoe.

3. Write the major sources of irrigation in crop fields.

Ans- Rainwater

4. What are granaries and crumbs?

Ans - A storehouse for threshed grain or animal feed is known as granary.

Crumbs are large chunks of soil that are formed by the ploughing of dry soil.

5. Which types of seeds float on the surface of water when put in water and why?

Ans- The infested seeds being hollow and light float on the surface of water when put in water.

6. Which bacterium is present in the legumes of leguminous plants?

Ans- Nitrogen-fixing bacteria are present in the legumes of leguminous plants.

F. Short answer questions. (Page 13)

Q.1. Why do we need to replenish the nutrients in soil?

Ans - Plants require certain nutrients that are essential for their growth. These nutrients are obtained from the soil. Every crop utilises certain specific nutrients for its growth. Therefore, continuous growth of the same crop in a field makes the soil deficient in certain nutrients. Therefore, these nutrients need to be replenished in the soil.

Q.2. Why do farmers grow different crops in a field? What factors control crop production?

Ans- Some farmers use the land for sowing leguminous crop in between the two seasons. A leguminous crop does not take as long as wheat or rice to grow. So, by the time the farmer has to plant the cereal crops, the leguminous crop growth is ready to be harvested. Leguminous crops include pea, beans, grams and pulses. They harbour nitrogen-fixing bacteria in nodules of their roots. These bacteria convert free nitrogen from atmosphere into usable forms. Thus, after leguminous crop is harvested, the soil is left fertile for other crops. This is known as rotation of crops. This has many benefits. Firstly, the land gets utilised. Secondly, the soil is not continuously depleted of a particular nutrient. This way the next crop gives a better yield.

Q.3. What is tilling? What purpose does it serve?



Tilling Tool

Ans- It is necessary to prepare the soil before growing a crop. The preparation of soil involves loosening and turning of soil. The process of loosening and turning the soil is called

tilling or ploughing. This had many benefits: • It improves the air circulation within the soil, allowing the roots to breathe easily. • The loosened soil allows the roots to penetrate easily. • It enhances the water-retaining capacity of the soil. • Turning of soil uproots the undesirable plants i.e., weeds growing in the field.

Q.4. Explain how fertilisers are different from manure.

Ans- A chemical fertiliser is usually rich in a specific mineral content. It is an inorganic chemical compound. Most fertilisers contain nitrogen (nitrogenous fertiliser) while others contain phosphate and other inorganic nutrients. It is prepared artificially. However, manure is an organic substance obtained from plant or animal wastes, such as cow dung, urine, plant parts, vegetable or fruit peels and other organic wastes. Manure is the traditional natural organic fertiliser used by farmers. It is less rich in inorganic nutrients.

Q.5. What are the natural methods of retaining soil fertility?

Ans-The different methods used to retain the lost nutrients in the soil are:

- Field fallowing: The field is kept fallow between the harvesting of two cereal crops. This helps in replenishing the lost nutrients naturally because during the fallow time, dead plants, animals and other organic matter get collected on the field. This collected matter gets decomposed by microbes thereby returning nutrients to the soil.
- Crop rotation: Some farmers use the land for sowing leguminous crop in between the two seasons. A leguminous crop does not take as long as wheat or rice to grow. So, by the time the farmer has to plant the cereal crops, the leguminous crop is ready to be harvested. Leguminous plants harbour nitrogen fixing bacteria in nodules of their roots. These bacteria convert free nitrogen from atmosphere into usable forms. Thus, leguminous crops help restore the fertility of the soil.
- Multiple cropping: Growing two or more crops together in the same field is called multiple cropping. The crops are chosen such that the products and waste materials from one crop help in the growth of the other.

Q.6. What is sowing? Why is the soil turned and loosened before seeds are sown?

Ans - Sowing is the process of putting seeds in the soil. The soil is turned or loosened before sowing seeds because it improves the air circulation within the soil, allowing the roots to breathe easily. The loosened soil allows the roots to penetrate easily. It enhances the water-retaining capacity of the soil. Turning of soil uproots the undesirable plants, that is, weeds growing in the field.

Q.7. Define weeding. What are the methods of weeding?

Ans - The process of removing weeds from the field is called weeding. Farmers adopt many ways to remove weeds and control their growth. For example: • Manual removal: The weeds can be removed manually by pulling or cutting them close to the ground from time to time. This is done with the help of a trowel or a harrow. • Use of natural herbicides or bioherbicides for removal of weeds.

G. Long answer questions. (Page 14)

Q.1. What are the basic principles of crop production?

Ans. Some of the agricultural practices that help to produce a good crop yield or good crop production are:

- The crop fields should be open so that sunlight and air are abundantly available.
- The fields should be protected from animals and insects.
- The soil should be loosened and ploughed before sowing. This allows easy penetration of roots to hold the plants firmly as well as helps the roots to breathe.
- The right amount of water should be available for proper growth of plants.
- The soil should contain sufficient nutrients for healthy growth of the plants.
- Unwanted plants, such as weeds, should be uprooted from the soil. These weeds compete with the main crops for nutrients and deprive them of their nourishment.

Q.2. What are the various methods used to replenish the nutrients in the field?

Ans. The various methods used to regain the lost nutrients in the soil are:

- **Field fallowing:** The field is kept fallow between the harvesting of two cereal crops. This helps in replenishing the lost nutrients naturally because during the fallow time, dead plants, animals and other organic matter get collected on the field. This collected matter gets decomposed by microbes thereby returning nutrients to the soil.

- **Crop rotation:** Some farmers use the land for sowing leguminous crop in between the two seasons. A leguminous crop does not take as long as wheat or rice to grow. So, by the time the farmer has to plant the cereal crops, the leguminous crop growth is ready to be harvested. They harbour nitrogen-fixing bacteria in the nodules of their roots. These bacteria convert free nitrogen from the atmosphere into usable forms. Thus, after leguminous crop is harvested, the soil is left fertile for other crops.

- **Multiple cropping:** Growing two or more crops together in the same field is called multiple cropping. The crops are chosen such that the products and waste materials from one crop help in the growth of the other.



Crop Rotation



Mixed Cropping

Q.3. Prepare a table to show the various agricultural practices and implements used in them.

Ans. The table to show the agricultural practices and implements used in them is:

S. No.	Agricultural Practices	Implements Used
1.	Preparation of soil (loosening and turning)	Plough Hoe Tractor
2.	Seed treatment	Fungicides
3.	Sowing of seeds	Seed drill
4.	Manuring	Chemical fertilisers Manure
5.	Irrigation	Sprinkler system Drip system
6.	Harvesting	Harvesters Threshers Winnowing

Q.4. Reuse of the same agricultural field reduces yield. Explain.

Ans. Plants require certain nutrients that are essential for their growth. These nutrients are obtained from the soil. Every crop utilises certain specific nutrients for its growth. Therefore, continuous growth of the same crop in a field makes the soil deficient in certain nutrients. Hence reuse of the same agricultural field reduces yield.

Q.5. Water and soil are the major factors that control yield of land. Explain.

Ans. A field needs to be managed properly to yield good crops. Crops are grown in soil or in water. The soil acts as a medium for the germination of seeds and the growth of crops. It provides water and minerals to the plants. The growth of plants depends upon the fertility of soil. Also, different kinds of plants require different kinds of soil and different amount of water. For example, paddy requires large amount of water to grow. Therefore, it is necessary to provide correct amount of nutrients and water to the soil in order to achieve good yield.

H. Let's Think (Page 14)

Q.1. People living in desert areas opt for 'desert farming'. Is desert farming possible? What according to you are the advantages and disadvantages of desert farming?

Ans. Desert farming is possible but it relies heavily on irrigation. If sufficient amount of water is provided to the plants, desert farming can be made possible. The advantage of desert farming is that plants can be grown even in deserts. The disadvantage of desert farming is that it leads to depletion of groundwater.

Q.2. Suppose that you are given a bunch of seeds to sow in the farm. How will you sort them into seeds that are healthy and the seeds that are not?

Ans. If we are given a bunch of seeds to sow, we can put them in a beaker containing water and wait for 5 minutes. The seeds that float are hollow and light because they may be infected or eaten by pests. As a result, they float on water. The healthy seeds are heavy and they will sink at the bottom.

Q.3. Nowadays some agricultural activities are harming the environment. Do you agree or not? Justify your answer.

Ans. No, we do not agree to the statement that farmers are not concerned about the environment. In fact, many farmers are now adopting healthy and organic farming practices of farming that are good and healthy for the environment.