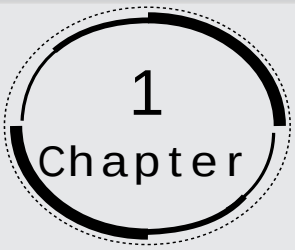
Crop production and management



1. Select the correct word from the following list and fill in the blanks.
float, water, crop, nutrients, preparation

(a) The same kind of plants grown and cultivated on a large scale at a place is called_____.

Ans: Crop

(b) The first step before growing crops is_____of the soil.

Ans: Preparation

(c) Damaged seeds would_____on top of water.

Ans: Float

(d) For growing a crop, sufficient sunlight,_____and_____ from the soil are essential.

Ans: Water and nutrients.

2. Match items in column A with those in column B.

A	B
i. Kharif crops **ii. Rabi crops** **iii. Chemical fertilizers** **iv. Organic manure**	**a) Food for cattle** **b) Urea and superphosphate** **c) Animal excreta, cow dung, urine and plant waste** **d) Wheat, gram, pea** **e) Paddy and maize.**

Ans: The table showing the matched answers is as below,

A	B
i. Kharif crops ii. Rabi Crops iii. Chemical fertilizers iv. Organic manure	e) Paddy and maize d) Wheat, gram, pea b) Urea and superphosphate c) Animal excreta, cow dung, urine and plant waste

3. Give two examples of each.

a. Kharif crop

b. Rabi crop

Examples:

a. Kharif crops - maize and millets.

b. Rabi crops - wheat and oats.

4. Write a paragraph in your own words on each of the following.

a. Preparation of soil

b. Sowing

c. Weeding

d. Threshing

Ans:

Ansa. Preparation of soil:

i. The first method in crop management is soil preparation. This process is done by loosening the soil with the help of plough which helps in ploughing or tilling it.

ii. Loosening of soil particles adds humus and nutrients and increases the absorption of water and manure in the soil which increases crop yields.

b. Sowing:

i. After the soil preparation, best seeds are chosen to sow in the soil for the production.

ii. Seeds are sown with the help of seed drill which is in the funnel shape used in the modern-day tractors to sow the seeds at particular depth in the soil.

c. Weeding:

i. Unwanted plants which grow and interfere along with the other plants to reduce their yield are called weeds. Unwanted plants are removed by the process called weeding

ii. We have to remove weeds as they compete with the plants in light and space and take up the nutrients given to the plant from the soil. Xanthium, Parthenium, etc. are some common weeds that affect the growth of plants.

iii. Weedicides are used to control the weeds which is a chemical that only kills the weeds not the crops.

d. Threshing:

i. After the crop harvesting, last step in which the grains are separated from the chaff is called threshing.
ii. "Combine" is a machine which carries out this threshing process. Combine is the combination of harvester and thresher which harvests crops and also separates the grains.

5. Explain how fertilisers are different from manure.

Ans: The table showing the difference between fertilizers and manure is as below,

Properties	Fertiliser	Manure
Availability	Fertilisers are commercially available plant nutrients.	They are natural substance prepared by the decomposition of animal excreta and plant wastes.
Types	They can be organic or inorganic in nature.	They can be organic with large quantities and little amount of plant nutrients.
Use	They provide nitrogen, phosphorus, potassium for the healthy growth of plants.	They help in enriching the soil with organic matter and nutrients.
Guidelines	The addition of fertilisers to the soil requires special guidelines such as dose time and post addition precautions.	The addition of manure does not require any special guidelines.
Humus	A fertiliser does not provide any humus to the soil.	Manure provides humus to the soil and increases soil fertility.

Causes	Its excessive use causes water pollution. It cannot replenish organic matter of soil.	It protects the environment and helps in recycling farm waste.

6. What is irrigation? Describe two methods of irrigation which conserve water.

Ans: Irrigation:

a) Supplying water to the crops in the field at various intervals for the growth of the plants is called irrigation.
b) The intervals vary from crop to crop, season to season and it also depends on the soil type and amount of rainfall.
c) The irrigation sources are lakes, ponds, rivers, canals and dams.

Two methods of which conserve water are drip irrigation and sprinkler irrigation.

i. Drip irrigation: It has an arrangement of pipes or tubes with small holes from which plants are watered drop by drop at the base of the root, so that water cannot be wasted.
ii. Sprinkler irrigation: It has an arrangement of vertical pipes with rotating nozzles on the top for the distribution of water to the uneven or sandy lands without wastage of water.

7. If wheat is sown in the kharif season, what would happen? Discuss.

Ans:

1. Kharif season is from June to October. If wheat is sown in this season, then the whole crop might get destroyed because of many factors such as lack of optimum temperature, adaptability and availability of pests.
2. Kharif season includes the rainy season, which is not favorable for the growth of wheat crop, as wheat has good growth in the winter or rabi season. Therefore, wheat crop should not be sown during kharif season, instead it should be sown in Rabi season.

8. Explain how soil gets affected by the continuous plantation of crops in a field.

Ans:

1. Continuous plantation of soil leads to the depletion of the soil minerals like potassium, phosphorus, nitrogen and various other nutrients.It takes up all the plant nutrients which take long time to replenish.

2. These ions are necessary for all the plants to grow. If continuous plantation is done these minerals won't get time to replenish and the crop yield decreases immediately.

9. What are weeds? How can we control them?

Ans: Weeds:

i. Undesirable or unwanted plants that grow along with crop plants which reduces crop productivity are known as weeds. Xanthium, Parthenium, etc. are some common weeds.

ii. Weeds compete with the crop for nutrients, light, and space. As a result, crop plants get lesser nutrients, light, and space for their development. We have to remove weeds as they compete with the plants in light and space and take up the nutrients given to the plant from the soil.

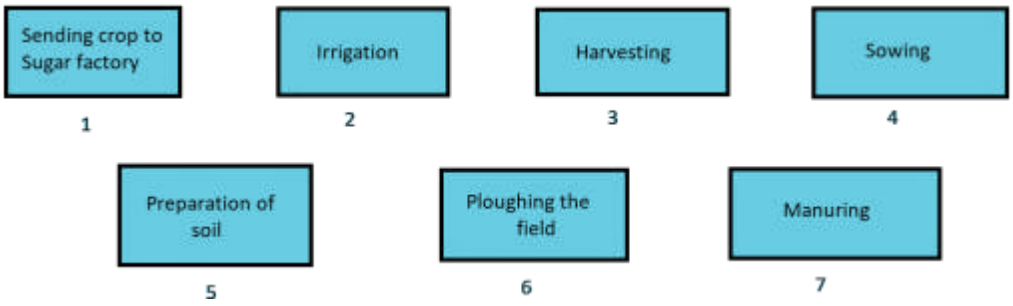
iii. This in turn, reduces their productivity. Thus, various weeding methods are employed.

Some important weeding methods to control the growth of weeds are:

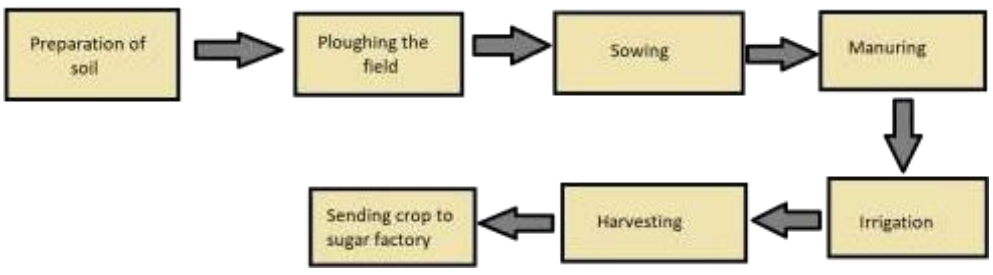
a. Weeds can be controlled using weedicides. It is a chemical, which is sprayed in the fields to kill all available weeds. Weedicides are not harmful to crops.

b. Tilling before sowing of crops also helps in removing weeds. Tilling uproots the weeds. The best time for the removal of weeds is before they produce flowers and seeds.

10. Arrange the following boxes in proper order to make a flow chart of sugarcane crop production.



Ans: Sugarcane production involves several processes such as growing the crops by preparing the soil first by ploughing it, then sowing the seeds and using manures. Then water is supplied by the irrigation method. After the crop production, harvesting is done, then the crops can be sent to a factory.



11. Complete the following word puzzle with the help of clues given below.

Down

1. Providing water to the crops.

2. Keeping crop grains for a long time under proper conditions.

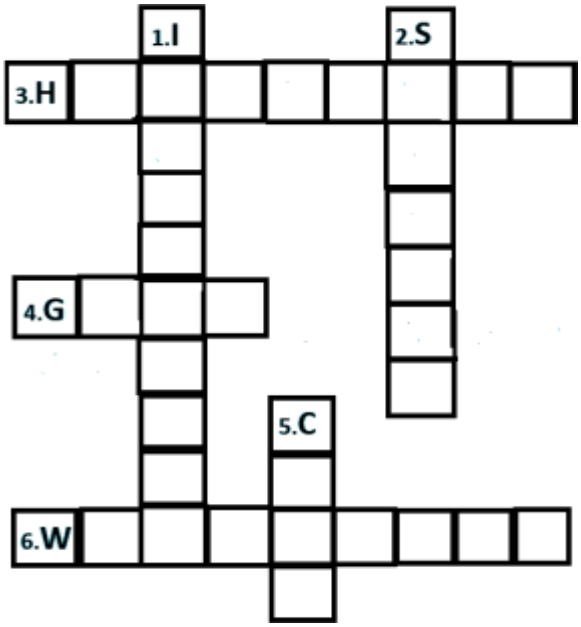
5. Certain plants of the same kind grow on a large scale.

Across

3. A machine used for cutting the matured crop.

4. A rabi crop that is also one of the pulses.

6. A process of separating the grain from chaff.



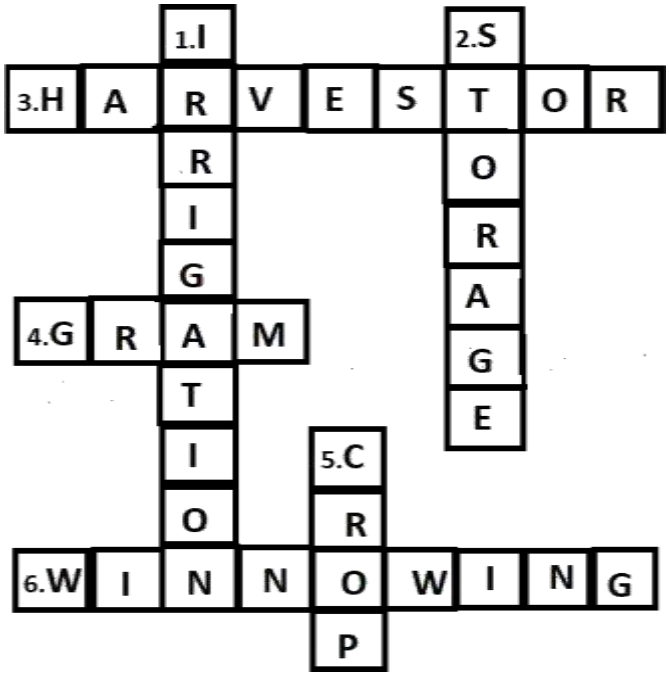
Ans:

Down

1. Providing water to the crops - IRRIGATION
2. Keeping crop grains for a long time under proper conditions – STORAGE
3. Certain plants of the same kind grow on a large scale – CROP

Across

3. A machine used for cutting the matured crop - HARVESTOR
4. A rabi crop that is also one of the pulses - GRAM
6. A process of separating the grain from chaff - WINNOWING



Extended Learning — Activities and Projects

1: Sow some seeds in the soil and arrange to water them by drip irrigation. Observe daily.
(i) Do you think it can save water?
(ii) Note the changes in the seed

Ans: The seeds when irrigated via drip irrigation, cannot retain water but they use the water for growth.

However, some amount of water is retained which is not for retention purpose but for germination purpose.

The seed germinates and a small bud grows outwards from the seed, indicating the birth of a new plant.

We can save water as water is given only to plants.

2: Collect different types of seeds and put them in small bags.Label them.

Ans: The description of some of the seeds are listed below

1. Sunflower Seeds

The seeds of sunflower plant is very rich in having Vitamin B complex.
These seeds keeps our neural or nervous system healthy. Seeds of sunflower contains Phosphorus, Magnesium, Iron, Calcium and Potassium.

2. Mustard Seeds

These

3: Collect pictures of some other agriculture machines and paste them in a file. write their names and uses

Ans: Tractor - The farm tractor is used for pulling or pushing agricultural machinery or trailers, for plowing, tilling, disking, harrowing, planting, and for other similar tasks.
Seeder - Seeders are used to spread the seeds in all over field. It has a small plow like piece that trough into soil.
Combin

4: Visit a farm, nursery or a garden nearby and gather the following information

(i)-importance of seed selection.
(ii)-method of irrigation.
(iii)-effect of extreme cold and hot weather conditions on plants.
(iv)-effect on continuous rain on the plants.
(v)-fertilisers or manures used

Ans: Seed selection is very important in order to get a good crop.

g Good seeds, produces ood and healthy crop.

In irrigation process, plants get water from regular intervals for agriculture.

In extreme cold weather the water in the plants get freeze which eventually leads to the expansion of water causi