

Production Of Food From Plants

Improve your learning

Q. 1. State reasons why wheat is cultivated in Kharif?

Answer : Wheat is not grown as kharif crop instead it is grown as rabi crop i.e. it is grown in winter season. It does not require too much water for its growth. It requires cooler climate for its growth. It requires less light intensity which is not available during kharif season. So it grows better during rabi season.

Q. 2. Ramaiah's field is flattened. Somaiah's field has many up and downs. Who will get more crop?

Answer : Ramaiah will get more crops as seeds can be properly sown so that germination can take place properly. Water and manure can reach evenly to the seeds so proper germination of seeds can take place and crops can be grown easily. But if the field is up and down seeds cannot be sown easily and germination may not occur properly due to the presence of small stones or rocks. This may affect the germination process. Water and manure cannot evenly reach the seeds.

Q. 3. What are the advantages of ploughing?

Answer : The advantages of ploughing are-

- a. It allows the roots of the plants to penetrate and reach deep into the soil so that plants are held more firmly to the ground.
- b. It helps in the better trapping of air into the soil so that roots can breathe freely.
- c. It helps in mixing of soil better with fertilizers.
- d. It helps in removing weeds and retains moisture for a longer duration.
- e. It brings nutrient-rich soil to the top.
- f. Ploughing loosens the soil which helps in growth of earthworms and microbes in the soil.

Q. 4. Treating with fungicides before sowing the seed is necessary. Why?

Answer : Seeds, before sown, should be treated with fungicides so that harmful microbes like fungi, bacteria cannot damage the seeds. Better and healthy crops will be yield. We can get good quality crops free from microbes and productivity will also be high.

Q. 5. Why do farmers dry the paddy crop after cutting them from fields?

Answer : Dried crops can be stored for a long time without being damage from the attack of microbes like bacteria, fungi, insects, pests etc. So on drying the paddy crops moisture is removed and it can be stored safely for a long period of time.

Q. 6. Give some examples of plants that grow after replanting?

Answer : Some plants that grow after replanting are paddy, rose, sugarcane, tomatoes, chillies etc.

These crops are first grown in nurseries and allowed to grow into tiny plants called seedlings. Favourable conditions and good nutrients should be provided in nurseries. These healthy seedlings are then transferred to the regular field which is called transplantation or replanting.

Q. 7. Rahim removed weeds in his crop field, but David did not. Guess who get more yield. Why?

Answer : Rahim will get more yield than David. Weeds are unwanted plants that grow along with our food crops and compete for light, space, nutrients, water etc. thus reducing our crop yield. Some weeds are also poisonous which may damage crops. Some interfere in harvesting. Some weeds are a carrier of diseases, serve as host for different diseases. Thus it is necessary to remove weeds from time to time so that it will not interfere with crop yield.

Q. 8. What is natural manure? How to prepare it? Give two examples?

Answer : Natural manures are formed by decomposing plant and animal wastes.

In open spaces, these wastes are deposited in a pit. Bacteria act upon it and degrade them into simpler form and form manure which contain various useful nutrients that are required for the growth of plants or crops. Examples are compost and humus.

Q. 9. Why do farmers plough their field during summer?

Answer : Farmers generally plough their field during summer because the fields are dry and hard and it is easy to break and tilt the soil and soil can be well aerated. But in the rainy season due to waterlogging ploughing cannot be done properly and soil cannot be well aerated for good supply of air which is required for growth of crops.

Q. 10. Rajendra cultivated cotton crop in his field. He did not get sufficient yield. Can you guess the reasons?

Answer : The reason he cannot get sufficient yield is-

- a. Seeds may not be of good quality.
- b. He might not have added sufficient manure or fertilizer.
- c. Cotton requires less water, he might have given more water which may damage the crops.
- d. Crops might have damaged due to the attack of microbes.

Q. 11. What do you observe in the experiment of dropping a fist of Bengal gram seeds in water?

- What are the differences you observed in both the seeds?
- Do you know why the floated seeds are lighter in weight?
- Which seeds germinate well? Why?
- Which seeds would not germinate properly? why?

Answer : a. When we drop a fist of Bengal gram seeds in water some seeds come to the top surface of water and float on the surface of water and some sink to the bottom of water.

b. The seeds which are light float on the surface of water whereas those are heavy sink to the bottom. The seeds which are in bottom of the beaker are healthy and good quality seeds. While the seeds that are lighter and float on the top of beaker they are damaged seeds.

c. Floated seeds are damaged ones due to disease caused by microbes like bacteria or fungi. They might be damaged due to attack of pests or insects too. As they are eaten by these microbes they become hollow and light weight thus float on the surface of water.

d. Those seeds found in the bottom of water are good, healthy ones so they will germinate well. They are not damaged by microbes or attack of pests or insects. So they will germinate well and yield good and healthy crops.

e. The seeds which float on the surface of water would not germinate well as they are damaged by attack of pests, insects or microbes like bacteria, fungi etc. They will not germinate properly and will not yield good crops.

Q. 12. I am a plant. I grow in crop fields. Farmers pluck me. I do not know the reason. Can you tell who am I?

Answer : We are weeds. Weeds are the unwanted plants that grow along with our food crops and compete for nutrients, space, sunlight, air, water etc. They reduce our crop yield. Some are poisonous, some causes diseases and some interfere in harvesting process. So farmers pluck and remove them.

Q. 13. GO to your nearest fertilizer shop and collect the information about chemical fertilizers and fill the table. Copy the following table in your note book.

Name of the fertiliser	% of Nutrients			Name of the crops used
	N	P	K	

Answer :

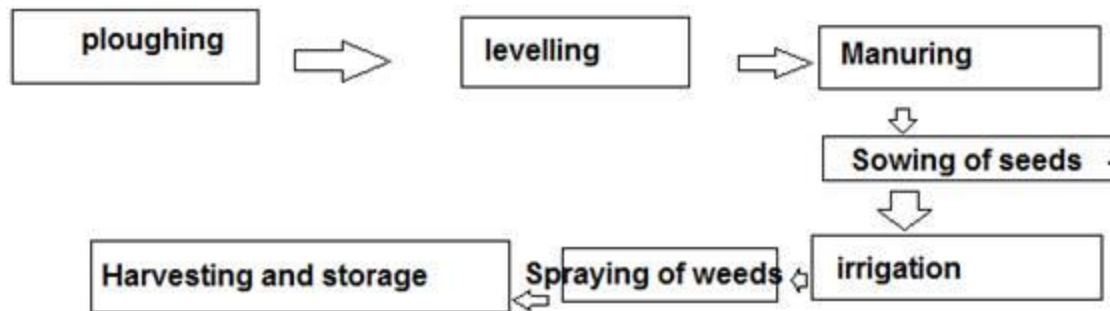
Name of the fertiliser	% of Nutrients			Name of the crops used
	N	P	K	
Urea	46	0	0	It can be used for all types of crops like paddy, potato etc.
Ammonium phosphate	12%	61	0	Corn, wheat, rye, lawn grass
Potassium sulphate	0	0	50	Hibiscus

Q. 14. PREPARE a flow chart from ploughing to yielding in paddy

Answer : First the field is ploughed and then it is leveled with a leveler. Manure is added to replenish the soil with nutrients. Then good quality seeds are sown at an appropriate distance. Water is supply to the crops at regular intervals. This process is called irrigation. Weedicides are sprayed from time to time to remove weeds. Pesticides are also sprayed from time to time to protect the crops from an attack of pests. Finally, harvesting is done and then crops are dried and stored. First, paddy crops are grown in the nursery then the tiny plants are transferred to fields. This process is called transplantation.

Q. 15. How do you appreciate the irrigation systems used in the drought-prone areas?

Answer : In drought-prone areas very less water is available. So the type of irrigation in which minimum water can be used such method is employed in those areas. Drip irrigation is employed in such areas where water falls drop by drop near the roots of the plants thus using very less amount of water. Water is also not wasted in this type of irrigation. Sprinkler method is also employed in water scarcity areas where water is sprinkled through nozzle tips of a rotating sprinkler.



Q. 16. Narendra sprayed over dose of pesticides on his cotton crop. Ramesh says it is a hazard to bio diversity and crop yield. Can you support Ramesh? How?

Answer : Yes as the pesticides are chemical in nature as it makes the soil either more acidic or more alkaline i.e. soil becomes less fertile. They also get washed away into water bodies causing pollution which affect marine life like animals and plants. Some pesticides like DDT cause biomagnification i.e. it enters the food chain and its concentration goes on increasing at every trophic level thus causing toxic to higher trophic level organisms. Sometimes it also kills good microbes. Higher doses may damage our crops. Thus it hazardous for crop yield as well as biodiversity.

Q. 17. Venkatesh observed the irrigation method for paddy field. He wanted to follow the same practice for his Maize crop. What suggestions do you give him?

Answer : Paddy crops require a huge amount of water so the method of irrigation is different for paddy crops. But maize crop requires less amount of water so irrigation method for maize is different otherwise maize may die if we follow the method of irrigation of paddy. We should provide favourable conditions suitable for maize crops to get a good yield.