

UNIT 21 - CROP PRODUCTION AND MANAGEMENT

Class: VIII

Subject: Subject

I. Choose the best answer

1. The process of placing seeds in the soil is called as
a. ploughing **b. sowing** c. crop production d. crop rotation
2. Organism that control insects and pests of plant crops is
a. bio-pesticides b. bio-fertilizers c. earthworms d. neem leaves
3. The method in which water flows over the soil surface and allow it to infiltrate is
a. irrigation **b. surface irrigation** c. springler irrigation d. drip irrigation
4. Effective microorganism preparation is not used in
a. seed treatment b. foliar spray c. soil treatment d. bio-predators
5. Which of the following is not present in Panchagavya?
a. Cow dung b. Cow's urine c. Curd **d. Sugar**

II. Fill in the blanks

1. The process of actively growing seedling from one place and planting in the main field for further growth is called **Transplantation**
2. **Weed** is a plant growing in a place where it is not wanted.
3. The chemicals used for killing the weeds or inhibiting their growth are called as **herbicides**.
4. **Heirloom seeds** seeds transfer their unique characteristics to the descents.
5. **Krishi Vigyan Kendra** centers serve as the ultimate link between ICAR and farmers.
6. Several popular high yielding varieties of major crops have been developed by **IARI (Indian Agricultural Research Institute)**

III. Match the following.

- | | | |
|-------------------|---|------------------------|
| 1. Bio-pesticide | - | Bacillus thuringiensis |
| 2. Bio-predators | - | Control white flies |
| 3. Bio-fertilizer | - | Improve soil fertility |
| 4. Bio-indicators | - | Quality of environment |
| 5. Bio-repellants | - | Neem Leaves |

IV. Answer briefly.

1. Define ploughing.

Ploughing or tilling is the process of loosening and turning the soil up and down to facilitate the availability of nutrients in the root zone of that cultivating crop.

2. Name the methods of sowing.

The different methods of sowing are:

- Sowing by hand
- Seed drill
- Dibbling

3. What is foliar spray?

- Foliar feeding is a technique of feeding plants by applying liquid fertilizer directly to their leaves.
- Plants are able to absorb essential elements through the stomata in their leaves. Give a brief account on Krishi Vigyan Kendra.

4. Give a brief account on Krishi Vigyan Kendra.

- Krishi Vigyan Kendra is a farm science centre.
- This centre serve as a ultimate link between ICAR and farmers.
- They operate small farms to test new technologies.
- They also provide advice to farmers about weather and pricing of crops.

5. What is bio-indicator? How does it help human beings?

- A bio-indicator or biological indicator is any species or group of species whose function or status reveals the qualitative status of the environment.
- Biological indicators are used to document and understand changes in Earth's living systems especially changes caused by the activities of an expanding human population.

6. What do you mean by weeding?

The undesirable plants growing naturally with crop plants are called weeds. The removal of weeds is called weeding.

7. What is crop rotation?

Crop rotation is planting a series of different crops in the same field following a defined order. This helps to maintain fertility of the soil.

8. What is green manure?

- Some plants like Sun hemp or guar are grown in the field prior to the sowing of the crop seeds.
- These plants gradually decompose and turn into green manure which helps in ensuring the soil in nitrogen and phosphorous.
- Application of green manure always enhance the growth and yield of the crops.

V. Answer in detail.

1. Explain the agricultural practices.

1. Soil preparation: (Loosening of top soil)

- Ploughing - Process of loosening and turning the soil up and down to facilitate nutrient availability.
- levelling - Done with leveller and helps in uniform distribution of water for irrigation
- Basal Nianuring - Increase soil fertility by manuring

2. Sowing of seeds:

- Hand - Scattering of seeds by hand.
- Seed Drill - Sowing seeds by iron drills attached to a tractor.
- Dibbling - Placing seed in furrow or pits or hole by hand.

3. Adding manure and fertilisers:

- Manure is a substance added to the soil in the form of Nutrients to enhance plant growth.
- Organic Sources - Plant and animal waste
- Synthetic Sources - Urea, Super phosphate.

4. Irrigation:

Supply of water to crops:

- Traditional method - Irrigation done manually.
- Modem method - Involve two systems. Sprinkler system Drip system

5. Harvesting of crops:

- Manual harvesting - Harvested without tools. Eg - Groundnut crop, green gram, black gram, house gram.
- Mechanical method - Harvesting by instruments small sized farms Eg - Sickle.
- Machine harvesting - Used for large sized farms.

6. Threshing and Winnowing:

Process of separating the grains from their chaffs or pods.

7. Storage:

- Supply of the produce has to be stored properly.
- Grains must be free from moisture to avoid growth of microorganism.
- Need to be dried in Sun before storing.
- Collected in Gunny bags and stored in godowns.

2. Give a detailed account on irrigation.

- Water is important for the proper growth and development of plants. Plants absorb water from their surrounding with the help of the root system.
- The supply of water to crops at regular intervals is called irrigation. The time and frequency of irrigation varies from crop to crop, soil to soil and season to season.
- Fertilizers can also be applied through the irrigation. The various sources of irrigation are wells, tube wells, ponds, lakes, rivers, dams and canal.
- Effective irrigation is the controlled and uniform supply of water to crops, in the required amount at the right time with the minimum expenditure.
- Irrigation can be carried out by two different methods.

a. Traditional Methods

b. Modern Methods

a. Traditional Methods

- In these methods, irrigation is done manually. Here, a farmer pulls out water from wells or canals by himself or using cattle and carries to farming fields.
- Pumps are also commonly used for lifting water from various sources. Diesel, biogas, electricity and solar energy are the few important sources of energy needed to run these pumps.
- The method of pulling water may vary from one place to other place. The main advantage of this method is that it is cheaper. But its efficiency is poor because of the uneven distribution of water.
- It also leads to heavy water loss.

b. Modern Methods

The modern irrigation methods help to overcome the problems exist in the Traditional methods. It also facilitates the even distribution of moisture in the field. The modern methods involve two systems. They are:

a. Sprinkler system

b. Drip system

a. Sprinkler System

A sprinkler system sprinkles water over the crop and helps in an even distribution of water. This method is much advisable in areas facing water scarcity. Here a pump which generates pressure is connected to pipes, and water is sprinkled through the fine nozzles of pipes.

b. Drip System

In drip system, water is released drop by drop exactly at the root zone using a hose or pipe. This method is considered as the effective one in regions where the availability of water is less.

3. What is weed? Explain the different methods of weed control.

- In an agriculture field, many other undesirable plants may grow naturally along with the main crop.
- These undesirable plants are called weeds. The removal of weeds is called weeding.

Mechanical methods:

- Here, weeds are destroyed physically.
- Hand pulling or weeding with the help of weeding hole is the oldest and most efficient method for controlling weeds.

Tillage methods:

- It is the practical methods of destroying weeds of all categories.
- Weeds are buried in the soil and also exposed to Sun heat by deep ploughing.

Crop Rotation:

Proper rotation of crops is followed for controlling crop associated and parasitic weeds.

Summer tillage:

Deep ploughing after harvest of Rabi crop and exposing underground parts of weeds to strong sunlight during summer months is useful for destroying many annual and perennial weeds.

Biological weed control:

- Bio agents like insects and pathogens are used to control weeds.
- The objectives are not eradication, but reduction and regulation of the weed population.

Chemical methods:

- Very effective in certain cases and have great scope in weed control.
- The chemicals used for killing the weeds or inhibiting their growth are called herbicides.

- Chemicals are mixed with water and sprayed over the crops.

Integrated weed management:

- Integrated weed management combines different agronomic practices and herbicides use to manage weeds, so that the reliance on any one weed control technique is reduced.
- Mechanical, biological, cultural and chemical methods are included in integrated weed managements.

