

# VIII Science

## Chapter 1

### CROP PRODUCTION AND MANAGEMENT

## Types of C

rops

### *Kharifcrops*

These are the crops grown in rainy season during the month of June to October. They are also known as summer or monsoon crop. Seeds of these crops are sown in the beginning of the monsoon season. They are harvested by September or October. For example: Maize, sugarcane, soybean, groundnut and paddy.

### **Rabi crops**

These crops are sown in winter that is between November and December. These are known as winter crops. These crops are harvested in March or April. For example: Wheat and Barley. These crops require less water to grow.

## Agriculture Implements

Agriculture implements are those tools that help in agriculture and they are very necessary for agriculture. For example: Plough, hoe, seed drill, and cultivator.

### Plough

Plough contains a strong iron strip called plough share and a long log of wood called plough shaft. There is a handle on one end and another handle is attached to a beam placed on bull's neck. This can easily be operated by a pair of bulls or man.



**Hoe** It consists of long rod of wood. A strong broad plate of iron is fixed to one of its end and works like blade.

It is also pulled by animals. It is used for removing weeds and for loosening soil.

### **Cultivator**

When plough is attached to a tractor is called as cultivator.

It saves time and labour.



### **Seed drill**

It is used for sowing seeds. In a seed drill, an iron tube with a funnel is placed at the top. Seeds are put in the funnel and then released in soil furrows.

It saves time and seeds are sown at the right depth. This is the efficient method for practicing agriculture.

## **Preparation of soil**

It involves ploughing, leveling, and manuring

Ploughing is defined as turning and loosening of soil with a plough.

### **Advantages of ploughing**

- 1.It helps in the penetration of roots deeply.
- 2.Soil gets loose by ploughing and therefore, air can pass through it. So, we can say that it aerates the root.
- 3.It is helpful in removing unwanted plants or weeds.
- 4.It is helpful in mixing or upturning of soil.
- 5.It is helpful in destroying harmful organisms.

### **Leveling**

After ploughing, certain lumps are left. Then, leveling helps in breaking of big lumps of soil. It is done by a leveler.

### **Advantages of leveling**

- 1.It is helpful in protection of soil from erosion.
- 2.It promotes irrigation.

## Manuring

It is defined as mixing of soil with manure. It is helpful in increasing soil fertility.

Fertility means soil has sufficient nutrients.

## Sowing

It is defined as process of putting seeds in soil.

Seeds are selected on the basis of:

- 1.High yielding variety (HYV) seed is used.
- 2.Seeds should be germinated in nature and germinated in plant. It should not be dormant and it means the seeds which is not converted into plant.
- 3.Seeds should be sown at right depth.
- 4.There should be a proper distance maintained between each seed. Overcrowding should be avoided.
- 5.Seeds should be free from diseases.
- 6.Seeds used should be viable means it should be converted into plant.

Weed is any plant that grows wild and forcefully, especially among cultivated plants. Weeds are unwanted plants. These unwanted plants compete with the main crop plants for nutrients and space.

Weeds can be removed by uprooting or cutting them close to the ground, from time to time. This is done with the help of a plough. Weeds can be removed by using weedicides. The process of removing the weeds from the crop field is called weeding.

## **Manures**

These are the organic substances obtained by the decomposition of plants and animals waste.

The advantages of manure are as follows –

- 1.It adds nutrient to soil.
- 2.It adds humus to soil.
- 3.It improves the quality of soil.

**Fertilizers** These are the inorganic compounds which supply specific nutrients.

For example: NPK (Nitrogen Phosphorous Potassium), ammonium sulphate, ammonium phosphate etc.

### difference between fertilizers and manure

#### **Manure**

It is a organic substance.

It provides all the essential nutrients to the soil.

Its action is slow.

Manure adds humus to the soil.

Manure is required in very large number.

Manure takes long period of time to show result.

Manure is difficult to store and transport.

Manure is biodegradable.

It is prepared in fields.

#### **Fertilizer**

It is it is an inorganic substance.

It provides all the required or specific nutrients to the soil.

Its action is fast.

It does not add humus to soil.

It is required in small numbers.

It shows result in very less period of time.

FertiFertilizers are easy to store and transport.

Fertilizer is non-biodegradable.

It is prepared in laboratories.



## Irrigation

It is supplying water to plants.

### Sources of irrigation

Water can be obtained from pond, lake, tube well.



## Traditional method of Irrigation

The traditional methods of irrigation are as follows-

**Moat:** Water is pulled out from the well and directly supplied to the plants.

**Dhekli:** In dhekli, buckets are used and then with the help of rope, water is pulled out from the well.

**Rahat:** In this method, buckets are knotted with rope on wheel and then bulls rotate the handle due to which wheel turned up and then water gets filled into the bucket and used for different purposes.

**Chain pump:** In this method, two wheels are used. The one wheel is easily visible and the another wheel at the bottom is slightly dipped into the soil. These two wheels are connected with each other through chain and buckets are joined with wheel. When wheels rotate buckets get filled and used for different purposes.

## Modern methods of irrigation

In modern methods, two methods are used which are as follows:

**Sprinkler** In this method, water is distributed through a system of perpendicular pipes usually by pumping.

**Drip system** In this system, water falls drop by drop just at the position of root.

**Harvesting** The process of cutting and gathering mature crops from the field with sickle is called harvesting.

The different methods of harvesting are as follows –	

## **Threshing**

It is the process of separating grain from hay.

## **Winnowing**

It is the process of separating chaff from grains.

## **Storage**

If storage is not done in well maintained order, our crops get destroyed.

### **Methods Employed for storage**

**Drying:** Seeds can be stored by drying as by doing this, moisture gets removed and it prevents the growth of microorganisms.

### **Maintaining storage containers**

Gunny bags, earthen pots, etc should not be used repeatedly. It should always be new, without cracks etc. By doing this, microorganisms will not grow and seeds can be saved for a longer period of time.

## **Chemical treatment**

Godowns, etc. should be sprayed with fumigants and there should be no seepage so that crops can be stored properly. If water is present in godowns, it may lead to formation of microorganisms and these microorganisms might spread diseases. Thus, it can harm storage.

## **Advantages of storage**

1. Food does not get spoiled.
2. It is helpful in availability of fruits & vegetable whole year.
3. It is also helpful in maintenance of emergency stock like during flood.

## Crop Production and Management

### WORKSHEET

1) In which season Rabi crop is grown.

- a) Winter b) Rainy season
- c) Summer d) Autumn Season.

2) When healthy seeds are dipped in water, seeds

- a) Sink in water b) Float in water
- c) Neither sink nor float d) All of these.

3) Which one is used to store grains on large scale.

- a) Jute bags b) Silos
- c) Metallic bins d) All of these.

4) Write cropping pattern for the following crops (Rabi / Kharif)

- a) Paddy, Maize, soyabean, goundnuts \_\_\_\_\_
- b) Wheet, gram, peas, mustard, Alsi \_\_\_\_\_.

5) Sources of Irrigation. (Any four)

6) Write one word for following sentences.

- a) Undesirable plants which are grown along with crop  
\_\_\_\_\_.

- b) To turn the soil and loosen it. \_\_\_\_\_.

- c) Bacteria present in roots of leguminous plants  
\_\_\_\_\_.

- d) Rearing of animals at large scale \_\_\_\_\_.

7) Differences between fertilizer and manure