



# AGRICULTURE AND CROPS

## Introduction

- The practice of crop production is called agriculture.
- The meaning of agriculture is the cultivation of soil to produce crops. A group of similar plants grown over a large area of land for a commercial purpose is called a crop.
- They can be classified based on their utility and the season in which they are grown.

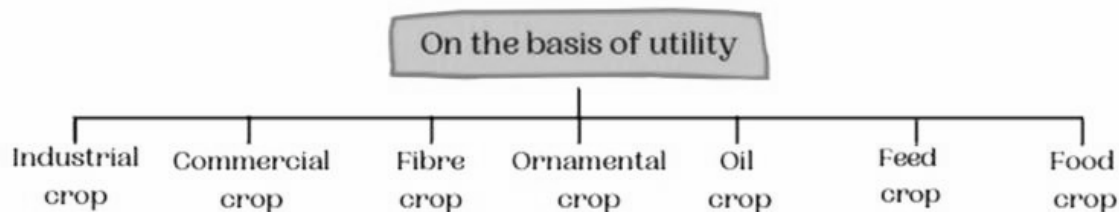
## Agriculture

Agriculture is a primary activity. It includes growing crops, fruits, vegetables, flowers and rearing of livestock. In the world, 50 per cent of persons are engaged in agricultural activity. Two-thirds of India's population is still dependent on agriculture.

### Classification of Crops

#### 1. Food Crops

- The crops which are grown to provide food to the human population all over the world are called food crops.
- Examples: Wheat, rice, millets, fruits, vegetables, etc.
- Wheat is the most grown crop worldwide, followed by rice.
- Food crops are either directly consumed or used to manufacture different processed food.
- Examples: Bread, pizza, and pastries are made from wheat as the base ingredient.



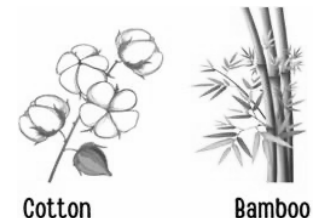
#### 2. Feed Crops:

- The crops which are grown to produce food for the livestock are called feed crops.
- Livestock refers to a group of animals like cows, goats, buffalo, sheep, etc., which man rears to obtain different animal products like milk, eggs, animal fibres etc.
- The fodder for animals is generally obtained from the leaf and stem of the crops grown.
- The vegetative parts of food crops like wheat, rice and millets are also used to make livestock fodder. Various kinds of grasses and hay belong to this category.



#### 3. Fibre Crops:

- Fibres are obtained from either plants or animals.
- Fibre crops are the crops that are mainly grown to obtain the plant fibres.
- Different parts of fibre crops are used for making plant fibres.
- Examples of Fibre Crops:
  - Jute fibres are extracted out of the stem of the jute plant; similarly, the cotton flowers are picked to make cotton fibre.
  - Bamboo leaves and sticks are used to make different items, and their pulp is used to make paper.
  - Dry coconut parts are also used to make fibres.



Cotton

Bamboo

#### 4. Oilseed Crops:

- The crops which are grown to produce oil are called oil crops.
- Oil is collected by pressing the seeds of such crops.
- The waste collected while extracting oil is used as manure and animal feed.
- Examples: Groundnut, sunflower, mustard, sesamum, and olives



Mustard



Sunflower

#### 5. Ornamental Crops:

- The crops that are cultivated to increase the scenic beauty of any landscape or garden are called ornamental crops.
- These crops produce flowers or possess coloured leaves of various shapes, making the plants look more attractive.
- Examples: Flower producing trees like Gulmohar, ornamental shrubs, grasses and climbers like 7 o'clock.

#### 6. Industrial Crops:

- The crops grown mainly for producing raw materials for different industries are called industrial crops.
- Examples:
  - Trees like rosewood, Sal, Arjun, and Mahogany for timber.
  - Hevea brasiliensis tree for the production of latex for manufacturing rubber.
  - Indigofera tinctoria for producing indigo, a blue dye.
  - Wood pulp from many trees is used for the production of paper.

#### 7. Commercial crops:

- As the name suggests, these crops are mainly grown to earn money by selling them.
- Examples: Fibre crops like jute and cotton.
- Various species of mango are also grown as commercial crops.
- Sugarcane is one of the most important commercial crops of India as it gives a considerable amount of economic returns to the farmers of India.



Gulmohar

### Classification of Crops Based on Their Cultivating Season:

#### 1. Rabi Crops:

- The crops which are grown in the winter season are called rabi crops.
- These crops require less irrigation and low temperature to flourish and give good productivity.
- Rabi crops are generally sown in the months of September to October and harvested in the months of March to April.
- Examples: Wheat, mustard, peas, gram, etc.
- Mustard and peas also can increase the soil's fertility by naturally increasing the nitrogen content of the soil.
- Due to this inherent capability of legumes, farmers grow these plants in turn with the other crops so that the soil's natural fertility is retained.
- Uttar Pradesh is the leading producer of wheat in India.
- Rajasthan is the largest mustard-producing state in India.
- rabi crops

#### 2. Kharif Crops:

- These crops are generally grown in summers.
- These crops require frequent irrigation and high temperatures for flourishing.
- Kharif crops are generally sown in the months of May to June and harvested in the months of November to October.
- Examples: Rice, maize, cotton, soybean, sorghum, etc.
- Sugarcane is a kharif crop that takes more than 6 months to mature. It matures in around 10-15 months.
- Uttar Pradesh is the leading producer of sugarcane in India.
- West Bengal is the top producer of paddy in India.
- kharif crops

#### 3. Zaid Crops:

- These crops are grown between the kharif and rabi seasons.
- They usually last for a short period, i.e., from March to June.
- The water requirement of zaid crops depends from crop to crop.
- Examples: Cucumber, watermelon, pumpkin etc.

#### Types of grains-

- Grains are the edible seeds of plants in the cereal family.
- There are many types of grains, but the most common ones are wheat, barley, oats, quinoa, rye, and rice.
- Grains are a good source of fiber, vitamins, and minerals and the largest source of food and nutrition in the world.
- Common Types of Grains to Eat
- There are many different types of grains, but some of the most common types of grains are wheat, barley, oats, quinoa, rye, and rice.
- Wheat

- Wheat is a cereal grain that is grown all over the world. Together with rice, it is a major source of food for humans and animals.
- Health Benefits**
- Wheat is a good source of fiber, selenium, manganese, phosphorus, copper, and folate. Wheat is also a low-glycemic food, meaning it doesn't cause a spike in blood sugar levels.
- Commonly Ate with Wheat** is a versatile grain that can be used in many different dishes. It can be used to make flour for bread, pasta, pastries, and other baked goods. Wheat can also be used in making beer and whiskey.



#### 1. Rice-

- Along with wheat, rice is the world's staple crop. This grain is raised in rice paddies, primarily in Asia, and provides sustenance to over half the world's population.
- Health Benefits**
- Brown, unrefined rice is a type of grain that is high in fiber, lignans, ferulic acid, manganese, niacin, thiamin, selenium, and magnesium. White rice loses many of these benefits when it is processed.
- Commonly Ate With**
- Rice is most commonly eaten as a side dish or in rice pudding, but it can also be used in baking or cooking. Rice pairs well with most proteins, including chicken, beef, fish, and tofu. Gobble's Classic Plan incorporates rice into many of its recipes, so you can enjoy a tasty, home-cooked meal fast!

#### 2. Barley

- Although not as popular as it used to be, barley is still an excellent choice for anyone looking for a versatile grain.
- Health Benefits**
- Barley is a type of grain that is high in fiber and antioxidants. It is a great source of thiamine, riboflavin, niacin, vitamin B6, iron, and magnesium.
- Commonly Ate With**
- Barley is most commonly eaten as a cereal, but it can also be used in baking or cooking. Many people enjoy incorporating it into salads, soups, and side dishes. Barley is also used in brewing beer.

#### 3. Oats

Oats are a cereal grain that is typically grown in cooler climates. The oats are planted in the spring and harvested in the fall

- Health Benefits**
- Oats are a type of grain that is high in fiber, antioxidants, and protein. Oats are also a good source of manganese, phosphorus, copper, and iron.
- Commonly Ate With**
- Oats are most commonly eaten as a cereal, but they can also be used in baking or cooking, such as in oatmeal cookies.

#### 4. Quinoa

- Native to the Andes Mountains in South America, this grain has recently become popular all over the world due to its health benefits and unique flavor.
- Health Benefits**
- Quinoa is a type of grain that is high in fiber, antioxidants, and protein. It is also a good source of iron, copper, thiamin, and vitamin B6.
- Commonly Ate With**
- Quinoa is most commonly eaten as a side dish or salad, but it can also be used in baking or cooking.

#### 5. Rye

Rye is a grass that is used extensively in specialty bread, whisky, and some vodka

**Health Benefits**

- Rye is a type of grain that is high in fiber, as well as thiamin, niacin, Vitamin B6, riboflavin, and folate.
- Commonly Ate With**
- Rye is most commonly eaten as bread, but it can also be used in baking or cooking. It is a popular bread for sandwiches. It also forms the basis of many spirits, such as whisky and a few vodkas. If incorporated properly, they can be an essential and easy-to-cook part of a healthy diet.

**Crop production-** Crop production involves the following practices: Soil preparation. Sowing of seeds. Irrigating the soil. Harvesting of crops. Crop production involves the following practices

- Soil preparation
- Sowing of seeds
- Irrigating the soil
- Harvesting of crops
- Storage of crops

## 1. Harvesting

- Once the crop is matured or fully ripen, they are cut and gathered (Reaping) which are collectively called as harvesting. Harvesting depends on many factors like season, crop variety, maturity period, etc.
- Over-irrigation, irregular sunlight can prolong ripening of crop which thus delays the harvesting time. Early harvesting causes loss of unripened grains while delayed harvesting leads to shedding off of grains.
- Besides this, rodents and even birds eat the grains. Therefore, regular examination of the crop is necessary as harvesting period approaches. The golden yellow colour is the indication of ripened crops for paddy, rice, and wheat.

## 2. Sowing of seeds-

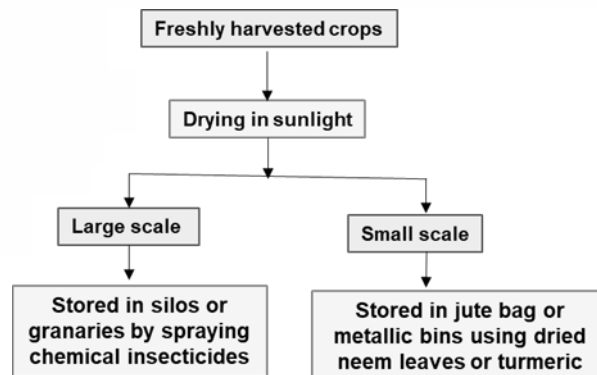
- Prepare moistened soil. You will likely have your best success growing your own seeds in seedling soil.
- Place soil into cells of tray.
- Place 2-3 seeds into each cell.
- Allow the seeds to grow.
- Remove all but one of the seedlings in each cell

## 3. Irrigation of soil-

- The supply of water to crops at different intervals is called irrigation.
- Water is important for the proper growth and development of plants.
- Water is essential because the germination of seeds does not take place under dry conditions.
- Nutrients dissolved in the water get transported to each part of the plant.
- Water also protects the crop from both frost and hot air currents.
- It is not good to depend on rain for water as it is not fully reliable.
- A proper irrigation system ensures timely and adequate water for crops.

## 4. Storage

- If the crop grains are to be kept for a longer time, they should be safe from moisture, insects, rats, and microorganisms.
- The fresh crop has more moisture. If freshly harvested grains (seeds) are stored without drying, they may get spoiled or may be attacked by organisms, losing their germination capacity.



## Solved Examples

### (1) What are the advantages of drip system of irrigation?

**Answer:** Advantages of drip system of irrigation are:

- (i) It is the best technique for watering fruit plants, gardens and trees.
- (ii) The system provides water to plants drop by drop. Water is not wasted at all.
- (iii) It is a boon in regions where availability of water is poor..

### (2) What are the practices involved in crop production?

**Answer:** Crop production involves the following practices:

- Soil preparation
- Sowing of seeds
- Irrigating the soil
- Harvesting of crops
- Storage of crops

### (3) What is crop production?

**Answer:** Crop production is the process of growing crops for domestic and commercial purposes. Some of the crops produced on a large scale include rice, wheat, maize, jute, etc.

### (4) What is an agriculture?

**Answer:** Nitrogen, phosphorus, magnesium, and potassium are some of the most important macronutrients. Carbon, hydrogen, and oxygen are also considered macronutrients as they are required in large quantities to build the larger organic molecules of the cell; however, they represent the non-mineral class of macronutrients.

### (5) What are the classifications of crops?

**Answer** Food crops: cereals, rice, wheat, maize, sorghum, ragi, pulses, legumes, fruits, vegetables, and nuts. Industrial crops: cotton, sugarcane, tobacco, groundnut, castor, gingelly, tapioca, etc. Food adjuncts: food and industrial use, no distinct demarcation; spices, condiments, beverages, and narcotics.

### (6) Importance of Crop Production

**Answer:** Agronomic crops provide the food, feed grain, oil, and fiber for domestic consumption and are a major component of U.S. export trade. Horticultural plants — those grown specifically for human use — offer variety to human diets and enhance the living environment.

### (7) What are the 7 basic practices of crop production?

**Answer:** Preparation of Soil, Sowing of Seeds, Irrigation, Application of manure, pesticides, and fertilizers to the crops, Protecting and Harvesting Crops, Storage and Preserving the produced Crops.

### (8) What are types of crop production?

**Answer:** There are three types of crops based on seasons:

- Kharif Crops.
- Rabi Crops.
- Zaid Crops.

### (9) What are Kharif and rabi crops?

**Answer:** Rabi crops are sown in winter from October to December and harvested in summer from April to June. Eg: wheat, barley, peas, gram and mustard. Kharif crops are grown with the onset of monsoon in different parts of the country and these are harvested in September-October.

### (10) What are Kharif and rabi crops with examples?

**Answer:** The kharif crops are sown in the rainy season from June to October and thus called monsoon or summer crop as well. Rabi crops are sown in the winter season, from November to April.



## Exercise

### FILL IN THE BLANKS

- (1) Rabi crops are generally sown in the months of September to October and harvested in the months of \_\_\_\_\_
- (2) The crops which are grown to produce oil are called \_\_\_\_\_
- (3) \_\_\_\_\_ are obtained from either plants or animals.
- (4) Kharif crops are generally sown in the months of May to June and harvested in the months of \_\_\_\_\_
- (5) \_\_\_\_\_ is one of the most important commercial crops of India

### TRUE OR FALSE

- (1) Paddy requires a lot of water. Therefore, it is grown only in the rainy season.
- (2) Maize, soybean, groundnut, and cotton are examples of Rabi crops.
- (3) Harvesting is the cutting down of the mature crop.
- (4) Proper storage of grain is necessary to protect them from pests and microorganisms.
- (5) Proper preparation of soil results in growth of weaker crops.

### OBJECTIVE TYPE QUESTIONS

- (1) Seed is a reproductive part of a plant it consists of –  
 (A) seed coat (B) cotyledons  
 (C) Embryo (D) All of these
- (2) What is a type of crop?  
 (A) Kharif (B) Rabi  
 (C) Zaid (D) All of these
- (3) Wheat is also known as –  
 (A) king of cereals (B) minister of cereals  
 (C) queen of cereal (D) None of these
- (4) Mention the Rabi season pulse?  
 (A) Chick pea (B) Gram  
 (C) Red gram (D) Wheat
- (5) Barley grows well in –  
 (A) Kharif season (B) Zaid season  
 (C) Rabi season (D) None of these
- (6) Arrange the following agricultural practices in the order in which they are followed.  
 (1) Harvesting (2) Sowing  
 (3) Storage (4) Irrigation (5) Preparation of soil  
 (A) 1→2→3→4→5 (B) 5→2→4→1→3  
 (C) 2→1→3→5→4 (D) 5→3→4→1→2

## Answer Key

### FILL IN THE BLANKS

- (1) March to April.
- (2) Oil crops
- (3) Fibres
- (4) Oct to Nov.
- (5) Sugarcane

### TRUE OR FALSE

- (1) True
- (2) False
- (3) True
- (4) True
- (5) False

### OBJECTIVE TYPE QUESTIONS

- (1) (D)
- (2) (D)
- (3) (A)
- (4) (A)
- (5) (C)
- (6) (B)