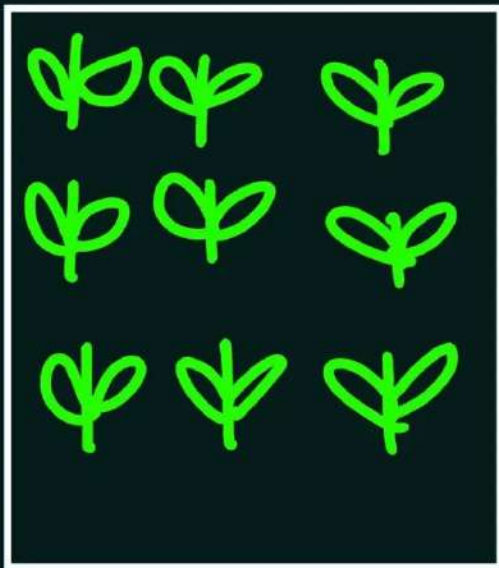




Crop

Define

- **Crop:** Plants of the same kind that are grown and cultivated as a source of food in a large cultivable land is called a crop.



<p>Food Crops</p>	<ul style="list-style-type: none"> ▪ The term 'Food crops' refers to plants, which provide food for human consumption, cultivated by man by agriculture. ▪ E.g. rice, wheat, maize, millets – jowar, bajra, ragi; pulses– gram, tur (arhar), etc.
<p>Cash Crops</p>	<ul style="list-style-type: none"> ▪ A cash crop or profit crop is an agricultural crop which is grown to sell for profit. It is typically purchased by parties separate from a farm. ▪ E.g. cotton, jute, sugarcane, tobacco, oilseeds, groundnut, linseed, sesamum, castor seed, grapeseed, mustard, etc.
<p>Plantation Crops</p>	<ul style="list-style-type: none"> ▪ A plantation is a large-scale estate meant for farming that specializes in cash crops. ▪ E.g. tea, coffee, coconut, areca nut, rubber and spices, cardamom, chillies, ginger, turmeric, etc.

Season

#2-3m



S. No.	Types of Crops	Time Period	Crops	States
1.	Rabi Crops	Sown: October–December Harvested: April–June	Wheat, barley, peas, gram, mustard etc.	Punjab, Haryana, Himachal Pradesh, Jammu and Kashmir, Uttarakhand and Uttar Pradesh
2.	Kharif Crops	Sown: June–July Harvested: September–October	Rice, maize, jowar, bajra, tur, moong, urad, cotton, jute, groundnut, soybean, etc.	Assam, West Bengal, coastal regions of Odisha, Andhra Pradesh, Telangana, Tamil Nadu, Kerala and Maharashtra
3.	Zaid Crops	Sown and harvested: March–July (between Rabi and Kharif)	Seasonal fruits, vegetables, fodder crops, etc.	Most of the northern and northwestern states



Agricultural Practices



1. Preparation of Soil



3. Adding Manure and Fertilizers



5. Protection from Weeds



7. Storage



2. Sowing



4. Irrigation



6. Harvesting



Paawat
Preparation of
Soil

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Sowing

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Adding Manure
and fertiliser

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Irrigation

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Protection
from
Weeds

Hai
Harvesting

Saath
Storage



Preparation of Soil



- It involves loosening and tilling of the soil (i.e., ploughing and watering).
- The process used to loosen and turn the soil is called **tilling or ploughing**.

Need:

- Allows the roots to go deeper into the soil
- Helps in the growth of microbes and earthworms
- Nutrient-rich soil comes to the top and can be used by plants.
- **Removal of weeds**

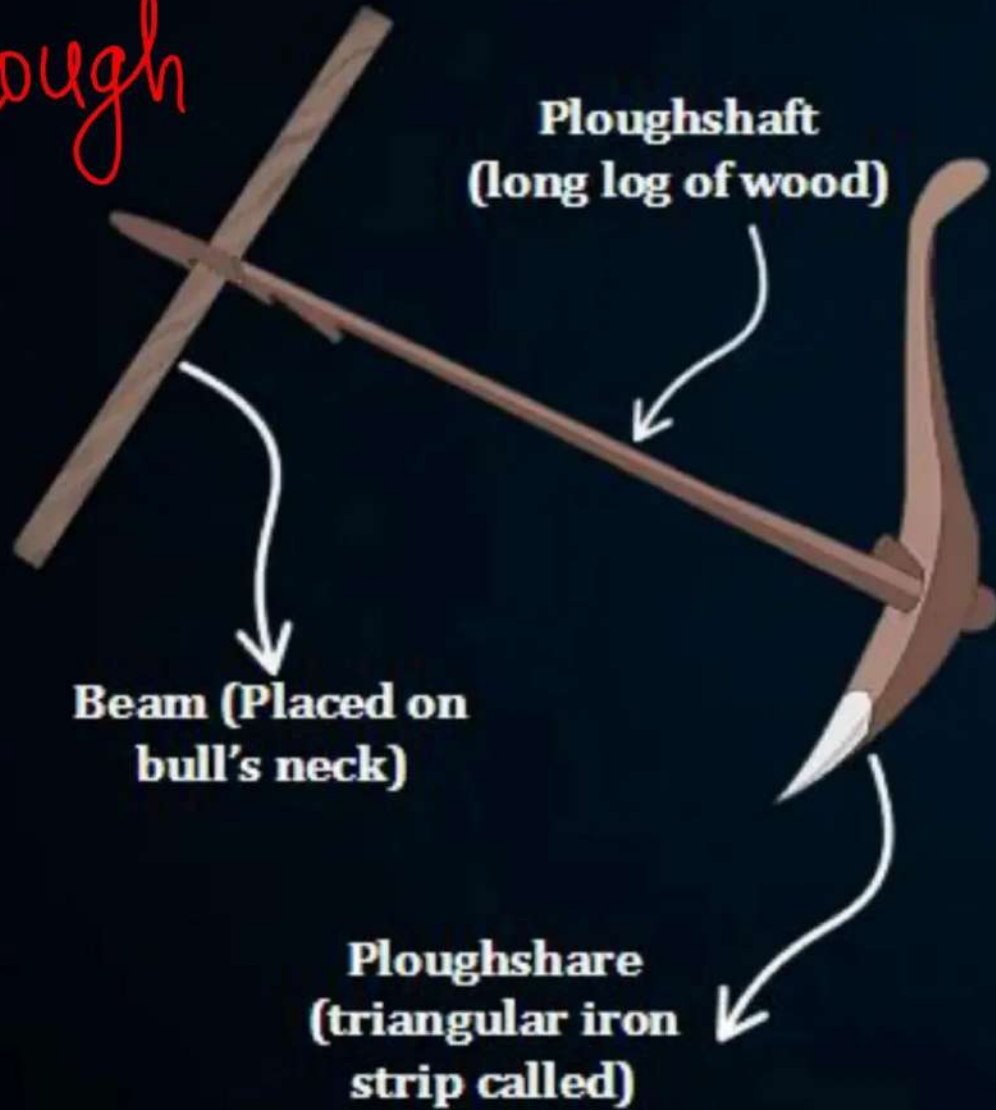




Tools for Ploughing



Plough



Removal of weeds

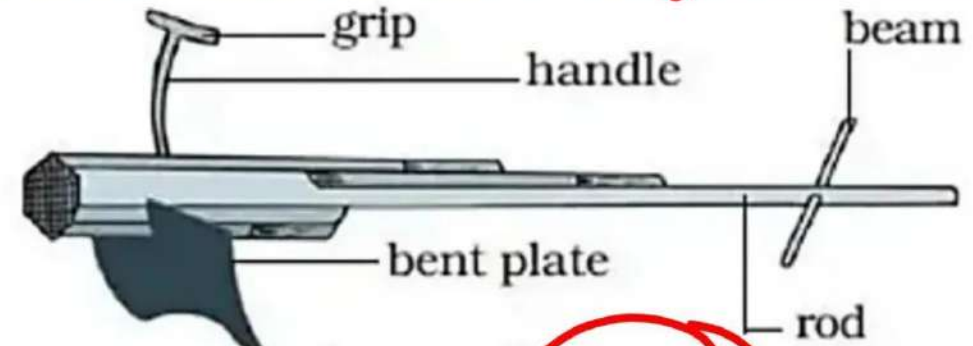


Fig. 1.1 (b): A hoe





Levelling



Why Levelling?

- After tilling, soil is uneven.

Levelling:

- Prevents soil erosion by wind and water.
- Ensures uniform water distribution.
- Helps in proper seed placement.



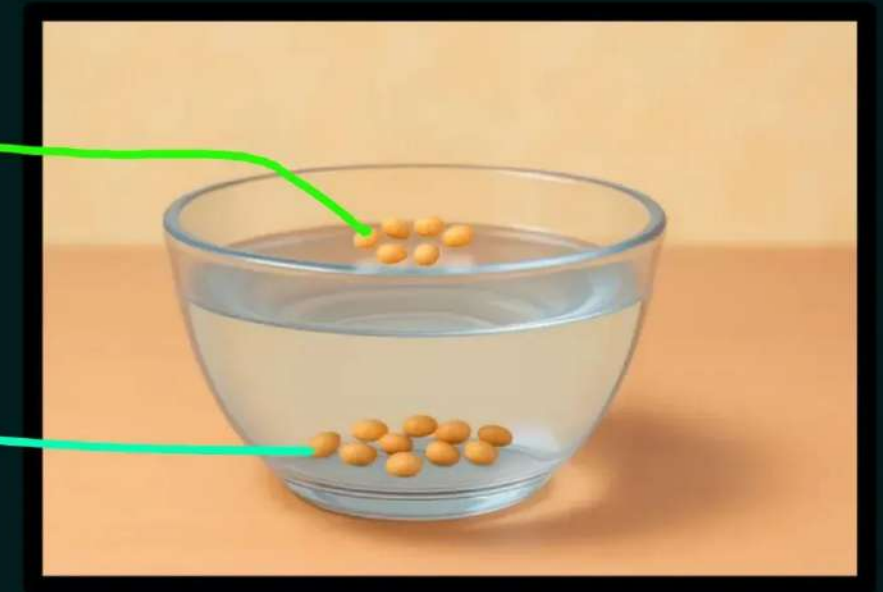


Sowing

- **Sowing** is the process of putting seeds in the soil.
- The quality of the seed is an important factor that determines the crop yield.
- The selection of good seeds is done by putting the seeds in water.
- The dead and damaged seeds become hollow and float on water, whereas the good seeds sink.

(Hollow)
Poor quality
seeds

Good
quality
seeds



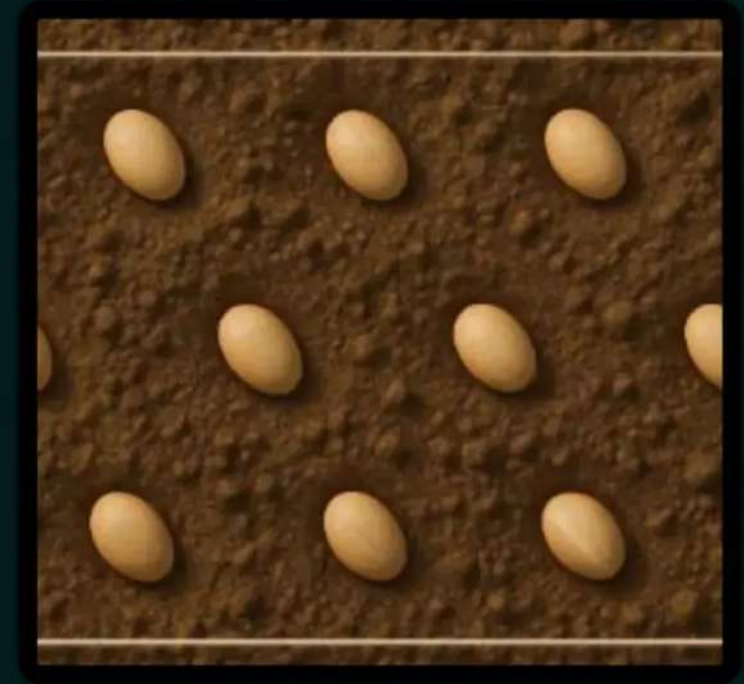


Sowing

Proper sowing ensures:

- Uniform growth
- Adequate spacing
- Optimal yield

depth



space



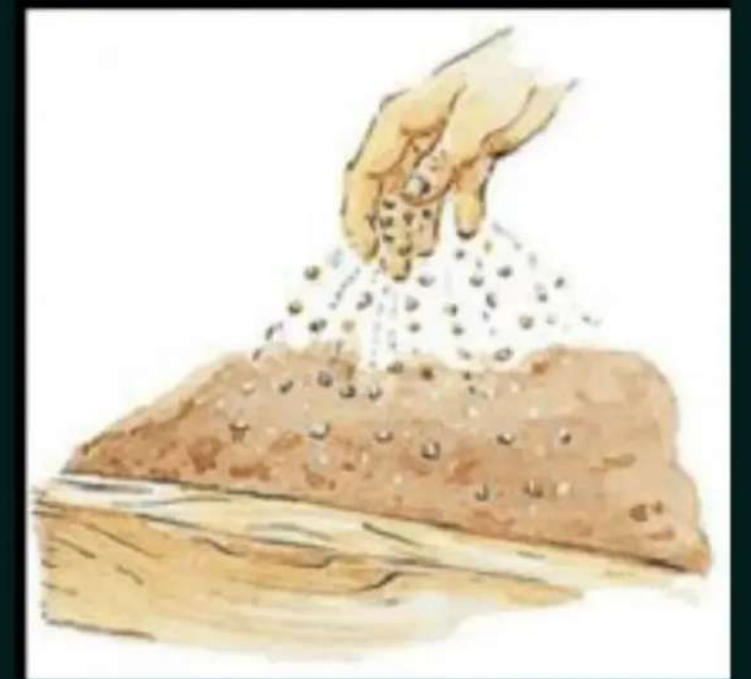
Methods of Sowing



Funnel



Seed drill



Broadcastings

MANURE	FERTILIZER
• Manure is an organic substance.	• Fertilizer is an inorganic substance.
• Manure is prepared in fields.	• Fertilizer is prepared in factories.
• It provides humus to the soil.	• It does not provide humus to the soil.
• It is absorbed slowly by plants.	• The plant quickly absorbs it.
• It does not cause water pollution and has no side effects.	• It causes water pollution if used in excess.
• It helps in retention of water.	• It does not help in retention of water.



3-4m
Differences





Advantages of Manure



- ✓ Increases water holding capacity
- ✓ Reduces soil erosion
- ✓ Promotes the microbial growth
- ✓ Improves soil aeration
- ✓ Cost-effective
- ✓ Promotes soil health, reduces the need for chemical inputs, and recycles waste materials.





Disadvantages of Fertilisers



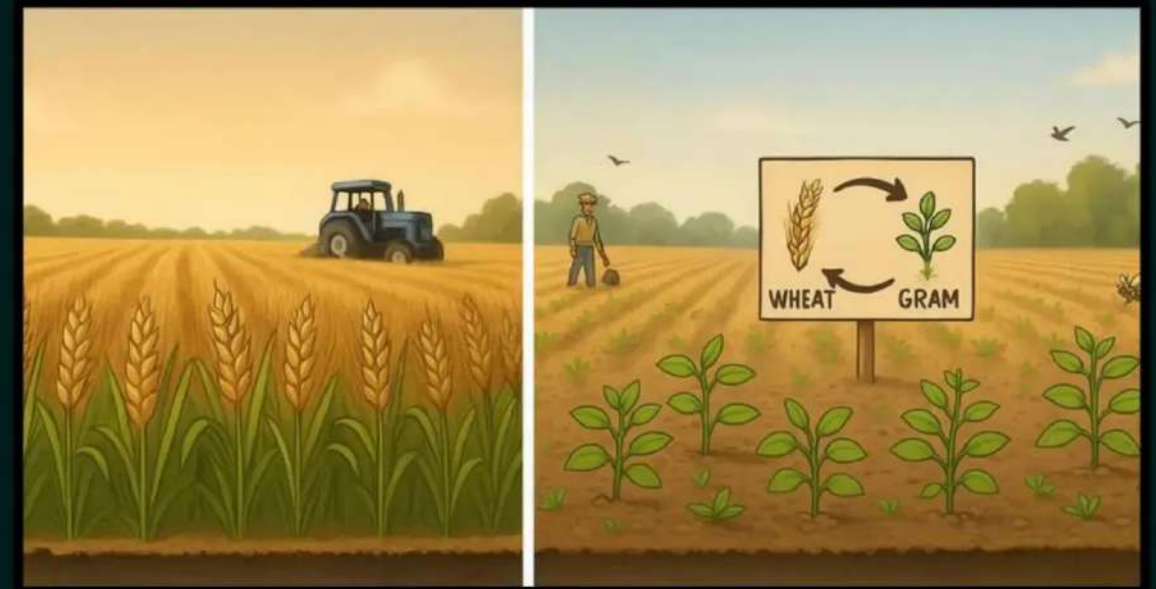
- ✓• Soil degradation
- ✓• Groundwater contamination
- ✓• Pollution
- ✓• Greenhouse gases
- ✓• Expensive





Improving soil fertility

- ✓ • **Vermicomposting:** Compost made using earthworms.
- ✓ • **Compost:** It is a well-rotted plant and animal residue.
- ✓ • **Crop rotation:** Different crops are grown alternately to allow the soil to replenish with different nutrients.
- ✓ • **Leaving the land fallow**
- ✓ • **Biofertiliser:** These are the nitrogen-fixing organisms that are widely used in organic farming.





Irrigation



- **Irrigation:** Supply of water to crops at appropriate intervals is called irrigation.
- **Sources:** Wells, Tubewells, Ponds, Lakes, Rivers, Dams, Canals.





Traditional Methods of Irrigation



Moat (Pulley System)

- Lifting water from wells using a bucket and rope.



Chain Pump

- Chains with buckets pull water from the source.



Traditional Methods of Irrigation

3-5m

Traditional v/s
Modern Irrigation
Methods.



Dhekli

- A lever system with a weight at one end and bucket at the other to draw water.



Rahat (Persian Wheel)

- Animal-driven wheel lifts water from a well.



Modern Methods of Irrigation



- The **sprinkler system** uses a pressurized pipe network in order to deliver water to the installed rotating nozzles that spray water into the air.



- **Drip irrigation** involves the slow release of water directly to the roots of plants through a network of pipes.



Protection from Weeds



Define

- **Weed:** Weeds are the unwanted plants that grow along with the crops.
- **Examples:** Amaranthus (Chaulai), Parthenium (Gajar ghas)
- **Weeding:** The act of removing unwanted plants from a garden or field.



Khurpi (hand hoe)



Hand pulling



Amaranthus



Parthenium

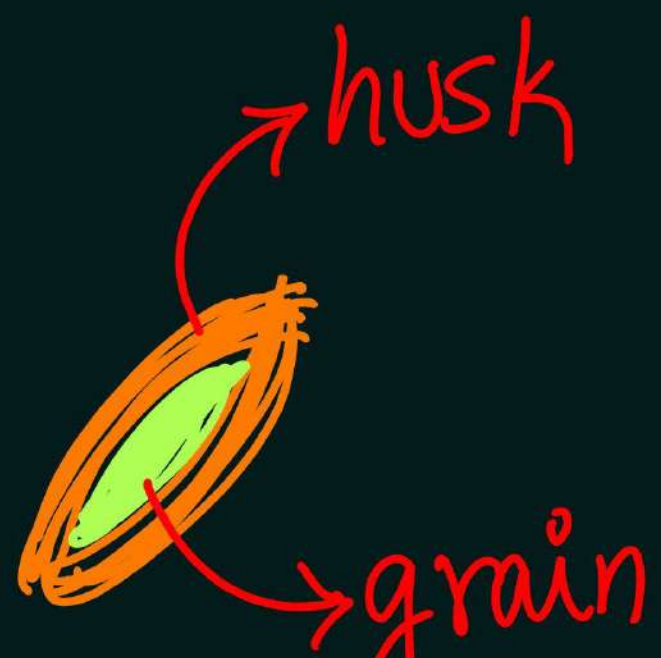


Protection of Crops

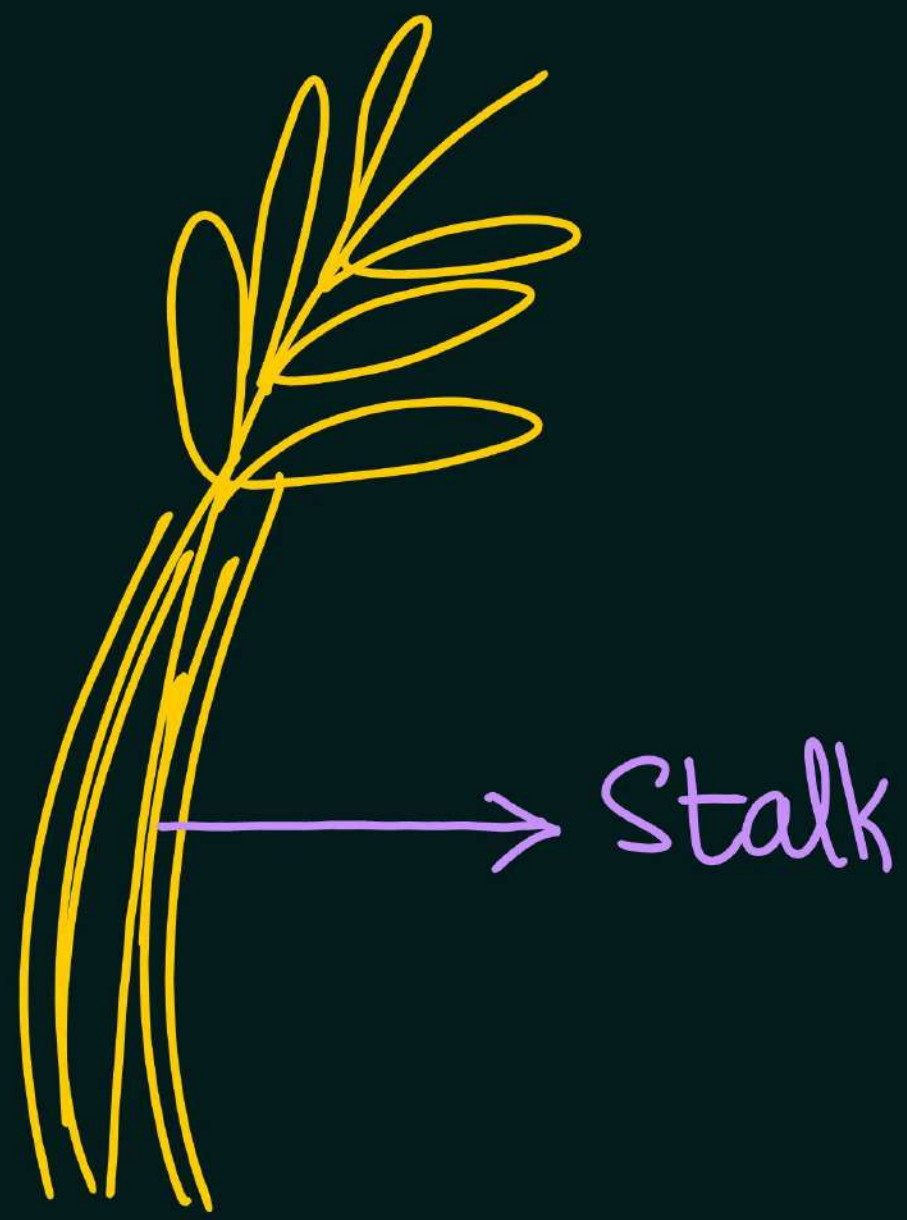


- **Weedicide:** A chemical used to kill unwanted weeds.
- **Pesticide:** A substance that kills pests like insects or rodents.
- **Fungicide:** A chemical that kills fungi causing plant diseases.
- **Biopesticide:** A natural pesticide made from living organisms to control pests.





Winnowing





Harvesting

- **Harvesting:** The process of collecting mature crops from the fields.

- **Techniques of harvesting:** Harvester, Combine, Sickle.

- **Threshing:** The process of separating stalk from grains.

- **Winnowing:** The process of separating husk from grain by the use of wind.





Storage

Why to store?

- ✓ Preservation of Quality
- ✓ Supply Management
- ✓ Buffer against Market Fluctuations
- ✓ Food Security
- ✓ Facilitating Trade
- ✓ Seasonal Consumption

* Pots with neem leaves.

* Silos

* Granaries





Animal Husbandry



- **Animal husbandry:** The practice of raising and caring for farm animals.
- **Apiculture:** The cultivation of bees for honey and other products.
- **Sericulture:** The production of silk by raising silkworms.
- **Aquaculture:** The farming of fish and other aquatic organisms in controlled environments.



Question



1. What are the different types of crops based on their growing seasons? Provide examples for each type.

Rabi
Kharif
Zaid

} Seasons
Sown
Harvest
Examples
States

2. Describe the process of sowing seeds. What factors should be considered to ensure successful germination?

Broadcasting }
Funnel }
Seed drill } Space
depth
seed quality

3. Explain the importance of weeding in crop management. What methods can be used to control weeds effectively?

Weeds. { Hand
Khurpi
Weedicide

4. Explain the different methods of irrigation used in agriculture. Discuss the advantages and disadvantages of each method.

Traditional

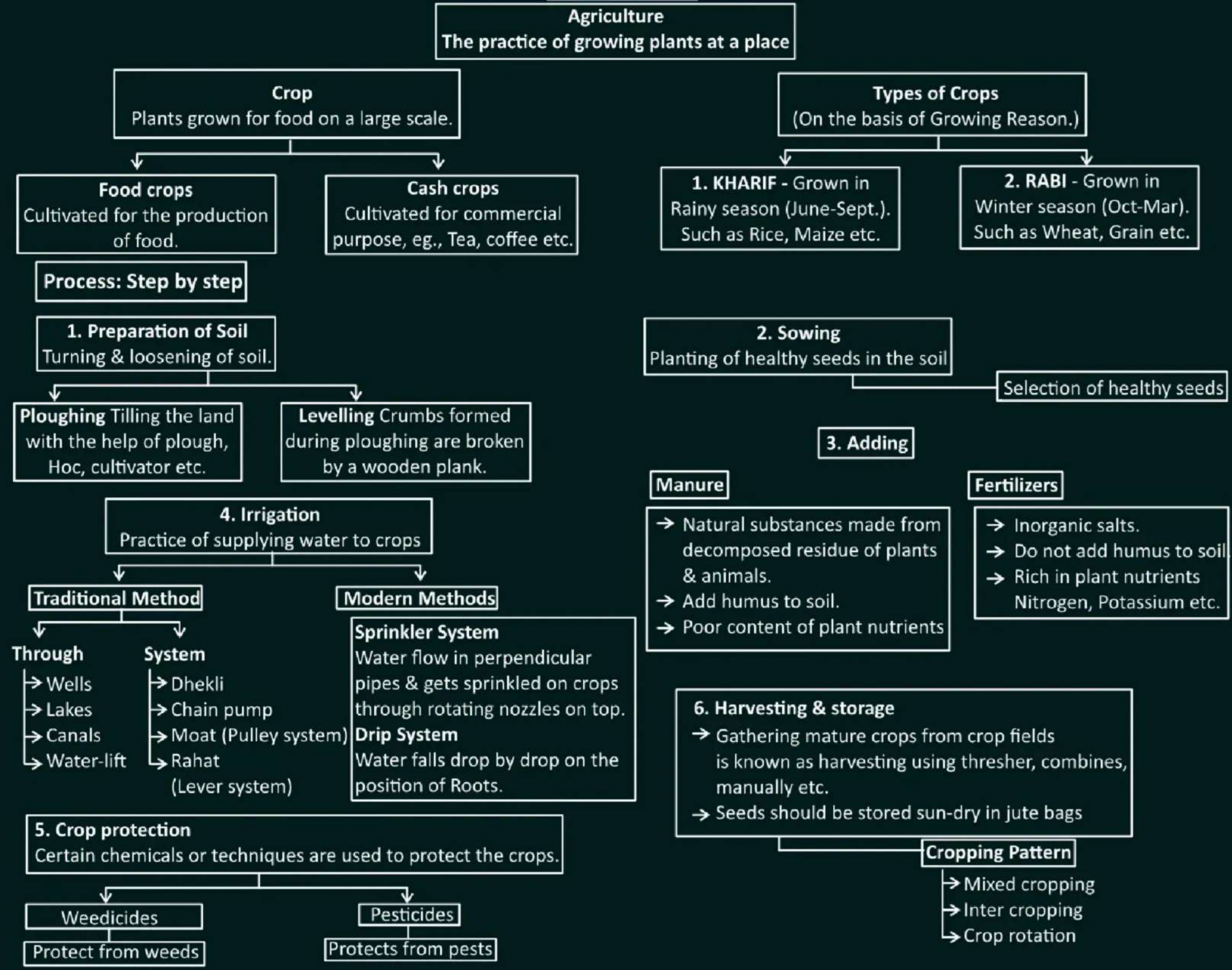
Modern

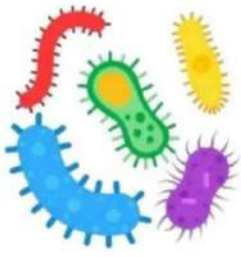
Question



5. What are the advantages of using modern agricultural techniques over traditional methods? Provide examples.

One pager

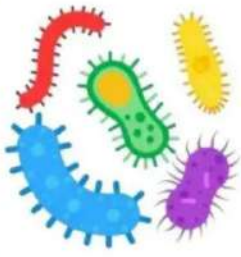




Homework- 01

Transfer of seedlings from the nurseries to the main field is termed as

- A** Weeding
- B** Sowing
- C** Transplantation
- D** Ploughing



Homework- 02

Which is the by-product of honeycomb?

A Grease

B Wax

C Vitamin

D Sugar



Homework- 03



Read the given statements and select the correct option.

Statement 1: Biofertilizers are the living organisms that enhance the nutrient quality of the soil.

Statement 2: N_2 -fixing bacteria, N_2 -fixing cyanobacteria and mycorrhizae act as important biofertilizers.

- A** Both statements 1 and 2 are true and statement 2 is the correct explanation of statement 1.
- B** Both statements 1 and 2 are true but statement 2 is not the correct explanation of statement 1.
- C** Statement 1 is true and statement 2 is false.
- D** Both statements 1 and 2 are false.



Thank
You