

	1	2	3	4	5	6	7
Steps of Crop Production	Soil Preparation	Sowing Seeds	Manuring and Adding Fertilizers	Irrigation	Crop Protection	Harvesting	Crop Storage

Crop Production: Soil Preparation & Sowing Seeds

1 - Soil preparation: First step in crop production that helps loosen up the topsoil

Ploughing/ Tilling

Process of loosening & turning soil



Tools used



Plough



Hoe



Cultivator

Advantages

- * Allows deep penetration of roots
- * Better aeration for roots
- * Assist microbial & worm growth
- * Remove weeds & other wastes
- * Brings nutrient-rich soil on top

Levelling

Ploughed field is levelled



Tools used



Leveller

Advantages

- * Ensure strong foundation
- * Helps in uniform water distribution during irrigation

2 - Sowing seeds: Second step in crop production that implies planting high quality seeds in soil

Methods

a . Hand sowing/ Broadcasting



- * Scattering of seeds by hand
- * Distribution of seeds may not be uniform

b . Seed drill/ Machine sowing



- * Iron drills attached to tractor for sowing
- * Seeds are uniformly sowed at right depth

Precautions

- * Seeds must be planted at correct distance & interval. This ensures plants get fair share of light, water & nutrients.
- * Seeds must be sown at correct depth. Scattering on top may blow them away or may be eaten by animals while deep sowing may affect germination.
- * Seeds should be of high quality; and free from disease & germs.

3 - Manuring and Adding Fertilizers: Step to provide nutrients to the soil

Manure is a natural fertilizer



Composting: Plant & animal wastes are deposited in a pit, covered with thick mud layer & left undisturbed for months. Microbes decompose wastes & convert it to manure.

Manure

- * Made by composting plant & animal wastes
- * Improve water retention & aeration
- * Doesn't cause pollution as it is organic

Fertilizers

- * Natural or synthetic & are economical
- * Provide nutrients & chemical fertilizers; may act as insecticides but can be harmful

Crop Production: Irrigation, Crop Protection & Harvesting

4 - Irrigation: Process of application of water to the crops through artificial channels ensure proper growth

Sources of water



Dam & reservoir



Well



Water canal



Pond



Lake

Traditional Irrigation Methods



Moat



Chain pump

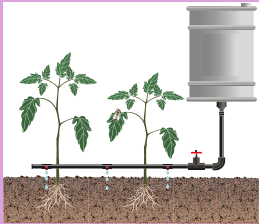


Dhekli



Rahat

Modern Irrigation Methods



Drip irrigation



Sprinkler

Importance of irrigation

- * Enables plant growth & photosynthesis
- * Provides moisture crucial for germination
- * Increases soil fertility
- * Improves crop yield

5 - Crop protection: Protection of crops from various dangers

Weeding:

Removal of undesirable plants growing alongside that compete with crops for resources.
E.g.: Wild oats, grass, *Amaranthus*, etc.

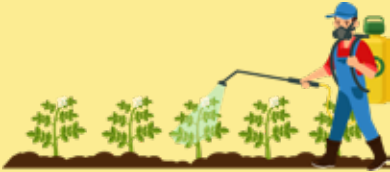
Methods



Hand plucking



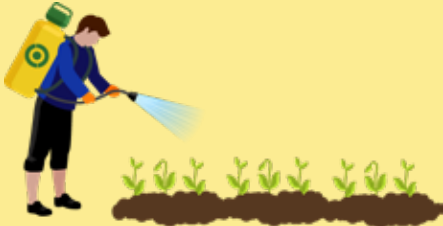
Using trowel & harrow



Spraying weedicide

Pesticides

Kill insect pests & rodents that destroy plants. These can also protect plants against various microbial infections when sprayed over the crops.



6 - Harvesting: Cutting & gathering of mature crops

Pre-harvest & Harvest Practices

Close examination of crops is needed to ensure harvesting of premature or over-ripened crops is not done.



Manual



Harvester

Post-harvest Practices

Threshing:

Process of separating the grains from their pods



Winnowing:

Process of separating the grains from their chaffs



Crop Production: Crop Storage, Types of Crops & Animal Husbandry

7 - Crop storage: Commercially cultivated crops produced in huge quantity needs to be stored for long term use & to prevent spoilage

Steps of storage

1


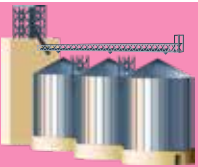

Drying grains:
Removing the moisture from the grains before storing them.

2







Storing:
Grains are stored in closed containers in small scale & in silos or granaries at large scale.

3

Pesticide treatment:
Prevent rodents & insects from destroying crops. Fumigation is done to suffocate pests. Bio-friendly pesticides are also used.



Types of Crops: Different types of crops according to their harvest season

Kharif	Rabi	Zaid
<div></div> <div>RiceMaize</div> <div><p>‘Kharif ‘ means ‘Autumn’ in Arabic</p><ul style="list-style-type: none">* They are monsoon crops* Sowing: June* Harvesting: Sep-Oct<p>E.g.: Rice, maize, bajra, groundnut, ragi, cotton, etc.</p></div>	<div></div> <div>WheatPea</div> <div><p>‘Rabi ‘ means ‘Spring’ in Arabic</p><ul style="list-style-type: none">* Sowing: Nov* Harvesting: Mar-Apr* Rains in Nov/Dec can ruin crops<p>E.g.: Wheat, green peas, mustard, barley.</p></div>	<div></div> <div>PumpkinCucumber</div> <div><ul style="list-style-type: none">* Short season between Kharif & Rabi* Crops are grown on irrigated lands & off-season rains can ruin crops* Season: Mar-July<p>E.g.: Pumpkin, cucumber, bitter gourd.</p></div>

Animal Husbandry: Science of breeding, caring, rearing and overall management of farm animals

Animal Husbandry Industry



Cattle rearing



Poultry



Apiculture



Fisheries

Aspects

Shelter:
Adequate shelter for the housing the animals

Feeding animals:
Nutritional requirement & feeding pattern of farm animals, medication, treatment & ration for feed need to be taken care of