

Chapter – 15

Improvement in food resources

Module -2/4

Class IX

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IRRIGATION

The supply of water to the crops is called **irrigation**. Different kinds of irrigation systems are used to supply water to agricultural land.

a) Wells – There are two types of wells – dug wells and tube wells.

In **dug wells** water is collected from water bearing strata.

In **tube wells** water is collected from deeper strata.

b) Canals – Canals receive water from reservoirs or rivers and distributes it to fields.

- c) River lift system** – In this system, water is lifted from the rivers to irrigate fields close to rivers.
- d) Tanks** – They are smaller storage reservoirs.
- e) Check dams** – These are used to stop rain water from flowing away and help increase groundwater level and reduce soil erosion.



CROPPING PATTERNS

Different ways of growing crops are used for maximum benefit and yield.

- 1) **Mixed cropping** – It is growing two or more crops simultaneously in the same field. This reduces the risk if one crop fails.
Eg. wheat + gram, wheat + mustard, groundnut + sunflower.
- 2) **Inter cropping** – It is growing two or more crops simultaneously in the same field in a definite pattern.
Eg. Maize + soya bean, Millet + Cow pea
- 3) **Crop rotation** – It is growing different crops in the same field in succession. Two or three crops can be grown profitably and it controls weeds and pests.
Eg. Leguminous plants with cereal crops.



III) CROP PROTECTION MANAGEMENT

Crops in the fields are damaged by weeds, insects, pests and diseases. **Weeds** are the unwanted plants which grow in the fields. They compete with the crop plants for food, space, sunlight and nutrients.

Methods of weed control:-

1. **Mechanical method:** These include uprooting, weeding with trowel or harrow, scrapping, burning, ploughing etc.
2. **Chemical methods :** Weedicides and herbicides are sprayed.
3. **Biological control :** Involves use of organisms which consume and specifically destroy the weed plants.



- Insects and pests cause damage to the roots, stems and leaves.
- They suck cell sap and bore into stem and fruits.
- Pathogens like bacteria, virus and fungi cause diseases and reduce the crop yield.
- Weeds , insects, pests and diseases can be controlled by using chemicals like weedicides, insecticides, pesticides fungicides etc.
- They are sprayed on the crops and are used to treat the seeds and the soil.
- Excessive use of pesticides cause environmental pollution.

Storage of crops

- Factors responsible for the damage and loss of crops during storage:-

a) Biotic factors:

bacteria, fungi, insects, rodents, mites etc.

b) Abiotic factors :

Moisture, temperature in the place of storage.

Before storage, the grains are cleaned and dried in sunlight to remove moisture.

The storage places are also fumigated to kill the pests.

damage of grains causes degradation of crops, loss in weight and poor marketability.

FAQs

1. What is the difference between dug wells and tube wells?
2. What do you mean by river lift system?
3. What are the benefits of building check dams?
4. What is mixed cropping system?
5. What is Intercropping? What are its advantages?
6. What is crop rotation? What are its benefits?
7. What are the various methods of weed control?
8. Name some common weeds.
9. What are the various ways in which insects and pests damage the crops?
10. Why are insecticides and pesticides harmful?

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- Thank You !