

Crop production and management

India's most important crops include cotton, tea, rice, wheat and sugarcane. Other important cash crops include jute, groundnuts, oil seeds, and spices. Another central feature of India's agricultural economy is the raising of livestock, particularly horned cattle, buffalo, and goats. In 2005, the country had 185 million cattle, substantially more than almost any other country. The cattle are used mainly as draft animals and for leather. As the farmers increasingly use machinery, the number of livestock they raise will probably decrease. Buffalo is the main animal used for producing milk and dairy products. Milk production and distribution increased dramatically in the 1990s because of a nationwide, government-supported dairy cooperative program. Sheep are raised for wool, and goats are the main meat animal. Many Indians, particularly Hindus, refuse to eat beef for religious reasons, although they eat other meat, eggs and fish.

Crop : When plants of same kind are grown and cultivated at one place on a large scale, it is a crop. For example : crop of wheat means that all the plants grown in a field are that of wheat.

Basic practices of production :

Cultivation of crop involves several activities. These activities are referred to as agricultural practices. The activities are :

1- preparation of soil, 2- sowing, 3- adding manure and fertilisers, 4- irrigation, 5- protecting from weeds, 6- harvesting, 7- storage.

1. Preparation of soil :

The preparation of soil is the first before growing a crop. One of the most important tasks in agriculture is to turn the soil and loosen it. This allows the roots to penetrate deep into the soil. The loosened soil allows the roots to breathe easily even when they go deep into the soil.

The loosened soil helps in the growth of earthworm and microbes present in the soil. These organisms are friends of the farmer since they further turn and loose the soil and add humus to it.

Tilling :

The process of loosening and turning the soil is called tilling or plough. This is done by using a plough.

Agricultural implements for tilling :

Plough : in old days people use wooden plough, but in our days people use iron plough.

Hoe : is it's a simple tool which is used for removing weeds and for loosening the soil.

Cultivator : now a days ploughing is done by tractor-driven cultivator. The use of cultivator saves labour and time

2. Sowing :

Selection of seeds : sowing is the most important part of crop production. Before sowing, good quality seeds are clear and healthy seeds of a good variety. Farmers prefer to use seeds which give a high yield.

Tools used for sowing seeds :

Traditional tools : the tool used traditionally for sowing seeds is shaped like a funnel. The seeds are filled in the funnel, passed down through two or three pipes having sharp ends. These ends pierce into the soil and place the seeds there.

Seed drill : now a days the seed drill is used for sowing with the help of tractors. This tool sows the seeds uniformly at proper distances and depths. It also insures that seeds get covered with the soil.

3. Adding manure and fertilisers :

The substances which are added to the soil in the form of nutrients for the healthy growth of plants are called manure and fertilisers.

Soil supplies mineral nutrients to the crop. These nutrients are essential for the growth of plants. The field is never uncultivated or fallow. Because of this continuous growing of crops makes the soil poorer in certain nutrients. Therefore, farmers have to add manures to the field to replenish the soil with nutrients. This process is called *manuring*. Improper or insufficient manuring results in weak plants.

Manure and fertilisers :

Manure : is an organic substance obtained from the decomposition of plant or animal wastes. It can be prepared in the field. It provides a lot of humus to the soil. It is relatively less rich in plant nutrients.

Fertiliser : is an organic salt. They are prepared in factories. It does not provide any humus to the soil. Fertilisers are very rich in plant nutrients like nitrogen, phosphorus and potassium.

For example : urea ammonium sulfate, super phosphate, potash.

4. Irrigation

the supply of water to the crop at different intervals is called *irrigation*. The sources of irrigation are wells, tubewells, ponds, lakes, rivers, dam and canals.

Types of irrigation :

Traditional methods :



Modern methods



Sprinkler irrigation: is a method of applying **irrigation** water which is similar to natural rainfall. Water is distributed through a **system** of pipes usually by pumping. It is then sprayed into the air through **sprinklers** so that it breaks up into small water drops which fall to the ground.

Drip irrigation: is a type of **micro-irrigation system** that has the potential to save water and nutrients by allowing water to **drip** slowly to the roots of plants, either from above the soil surface or buried below the surface. The goal is to place water directly into the root zone and minimize evaporation.

5. Protection from weeds :

In a field, many other undesirable plants may grow naturally along with a crop . these undesirable plants are called weeds. Weeds can be controlled by using certain chemicals called weedicides.

6. Harvesting

Harvesting of a crop is an important task. Cutting a crop after its maturation is called harvesting. It can be done manually with the help of *sickle* or by a machine called *harvester* or *combine*. In the harvested crop, the grain are separated from the chaff by the process of winnowing and threshing.

7. storage : farmers have to store grains in jute bags or metallic bin. However large scale storage of grains is done in silos and granaries to protect them from pests like rats and insects.