

Agriculture

The term **crop** is used to describe plants of the same kind that are grown and cultivated at one place in significant quantities. Plants that are planted during the rainy season are called **kharif crops**. Crops that grow during the winter season are called **rabi crops**.

Many activities are performed before cultivating a crop, which are termed as **agricultural practices**. **Soil preparation** means **loosening** the soil or turning it. **Earthworms** decompose plant and animal waste, and thereby **benefit** the soil by increasing the humus and nutrient level in it. Ploughs have been in use since ancient times for **tilling** soil, adding manure and fertilisers, and for scraping of soil. Depending upon the animals available on a farm, **ploughing** is done using horses and camels to pull ploughs. A plank is used to break the **crumbs** into fine soil. The next step is to **level** the soil with the help of a **leveller**.

Ploughs were made from wood. Nowadays, iron ploughs have become more popular. Earlier, a **hoe** was used for tilling, but these days we use it only to remove weeds. When the **cultivator** is pulled by a tractor, the teeth assist in breaking the soil. **Healthy seeds** contain more nutrients. **Damaged seeds** are hollow, discoloured and contain fewer nutrients. **Seed selection** is done by soaking the seeds in a beaker containing water. **Modern seed drills** sow seeds at a proper depth and distance, and cover them with a layer of soil, keeping them well out of a bird's reach. The **traditional seed drill** contains a funnel-shaped container, from where the seeds pass and get placed into the soil. Bananas are first sown in a **nursery** and the saplings are planted in the field.

Crop Protection

Agriculture is cultivating on large areas. **Manure** provides **soil** with **nutrients**. The **crop** has been **harvested** last week and is left fallow to **recover nutrients**. **Decomposition** occurs in **pits** dumped with **organic** waste with the help of **earthworms** and bacteria.

Fertilisers are **chemicals** used to add minerals like **potassium, phosphorus** and **nitrates** to the soil. The supply of **water** to crop is **irrigation**. The **frequency** of irrigation varies from **season** to season. Manure increases the water retention capacity of soil, making it **porous**. Plants contain nearly **90%** water, and need water for proper **development** of **flowers, fruits** and **seeds**. In dry conditions, seeds do not **germinate**. Water protects plants from **frostbite** and **hot air currents**. Water protects crops from hot air by **evaporation**, and **traps** cold breeze. **Traditional methods** of irrigation include **moat, chain pump, dhekli** and **rahat**, and need **animal** and **human labour** to draw water.

Wells, tube wells, ponds, lakes, rivers, dams and **canals** are sources of water. **Sprinklers** and **drip** systems are used when the soil is **sandy** or **uneven**. **Pumps** lift water and run on biogas or solar energy. During **summer**, it is difficult for farmers to water crops. **Weeds** are removed **manually** before they produce **flowers** and **seeds**. Weeds are controlled by **chemicals** such as 2, 4-D, a systemic **weedicide** that kills weeds. Weedicides are **poisonous** to humans. **Drip** irrigation waters **fruit** plants and suits regions that have **scarcity** of water. **Khurpi** is used to remove weeds.

Farmers use weedicides in **diluted** form and they **handle** weedicides **carefully** by **covering** their **nose** and **mouth** while **spraying**. This stops their **propagation** in the field. **Tilling** the soil uproots the weeds.

Harvest and Storage

Cutting the crop after it has ripened and **gathering** the grains is known as **harvesting**. We can use the word crop ripened rather than using the word **crop mature**. A **sickle** has a sharp serrate-edged metal blade attached to a wooden handle. A sickle is used for cutting the crop. A **harvester** is a machine that helps to cut the ripened crop from the fields. **Threshing** is the process of separating the grains from the straw and chaff. A **thresher** is used for threshing. A **combine** is a combination of a thresher and a harvester. **Winnowing** is a process in which we allow natural wind to blow through the grains, so the lighter substances fly away, whereas the heavier grains fall to the ground.

The fan in a **winnowing machine** blows away the chaff. **Protection of crops** against **microorganisms**, **rodents**, pests and **moisture** is done by drying in sun and exposing to fumes. **Silos** are huge, air-tight **cylindrical structures** used to store grains. **Granaries** are large rooms built above ground level to prevent rodents and pests from getting near the grains. In **cold storage**, vegetables and fruits are stored at low temperatures. **Animal husbandry** means rearing and breeding livestock on a large scale. **Poultry farming** means **rearing** hens, ducks and turkey for meat and eggs.