Agriculture

Agriculture is the branch of applied science. The term agriculture has been derived from the Latin word 'ager' meaning land or field and 'culture' which means cultivation i.e., it is also the science and art of production crops and livestock for economic purposes. In addition, it is referred as the science of production crops and livestock from the natural resources of the earth. The diverse branches of agriculture are as follows: agronomy, horticulture, entomology, plant pathology, plant physiology, soil chemistry, agricultural economics, agricultural engineering, plant breeding and animal husbandry.

Agronomy

The word agronomy has been derived from two Greek words 'ager' which means field and 'nomos' which means to manage. Literally, it means the art of managing fields. More precisely, it can be defined as the branch of agriculture which deals with scientific crops production and soil management. The central theme of agronomy is soil-crop relationship. For crops without soil cannot be considered and soil without crop is barren. In the present context, agronomy can be seen as art, science and business.

Evolution of Field Crops

Cultivated plants have undergone extensive modifications from their wild prototypes as a result of the continuous efforts of human to improve them. The differences between cultivated and wild forms are largely in their increased usefulness to an individual, due to such factors as yield, quality, and reduced shattering of seed. Through the centuries man selected from among thousands of plant species the few that were most satisfactory to his needs and which, at the same time, were able to culture.

Vavilov divided all cultivated plants, into two groups:

1- Those that originated from weeds such as rye. Cultivated rye is believed to have originated from wild rye which even today is a troublesome weed in wheat and winter-barley fields in certain parts of Asia. Oats are said to have come into culture as a weed found among ancient crops such as emmer and barley, and vetch.

2- Fundamental crops which are known only in cultivation, such as maize.

Crops were spread by people during their migrations as they always have taken their basic cultivated plants with them to insure a permanent food supply and support of their culture. This happened in prehistoric as well as in recorded times. Also known to have transported weeds and disease and insect pests along with the crops.

Field Crops Identification

It is the plant that is sowed by wide areas and product the seeds which can be stored for a long time. Crops that are grown on a huge open land, their growth habits are determinate, as the flower and mature at one time therefore, they harvest at one time with an exception to this rule, cotton or tobacco leaves which can pick more than one time, also field crops tolerate transportation and longer storability than other crops.

Classification of Crop Plants

Agronomic Classification

1- Cereals (or Grain Crops) Cereals are grasses grown for their edible seeds. The term "cereal" is applied either to the grain or to the plant itself; e.g. wheat, barley, rice, maize, grain sorghum, oats, rye.

2- Legume for Seeds (Pulses)

Such as broad bean, chickpea, lentils, field beans, peas, cowpeas, soybeans, mung beans.

3- Forage Crops

Fresh or preserved, utilized as feed for animals. Forage crops include grasses, legumes, crucifers, and other crops cultivated and used for hay, pasture, fodder, silage or soilage.

4- Root Crops

Crops designated in this manner are grown for their enlarged roots. The root crops include sugar beets, carrots, turnips, sweet potatoes.

5- Fiber Crops

Fiber crops include cotton, flax, kenaf and hemp.

6-Tuber Crops

A tuber is not root; it is a short, thickened, underground stem such as potato.

7- Sugar Crops

Sugar beet and sugarcane are grown for their sweet juice from which sucrose is extracted and crystallized. Sorghum as well as sugarcane is grown for syrup production. Dextrose (corn sugar) is made from corn and sorghum grain.

8- Drug Crops

Drug crops include tobacco and mint.

9- Oil Crops

Oil crops include flax, soybeans, peanuts, sunflower, safflower, sesame, castor bean, rape. Cottonseed is an important source of oil, and corn also supplies edible oil.

10- Rubber Crops

The field crop grown for rubber. Natural rubber is used extensively in many applications and products, either alone or in combination with other materials. In most of its useful forms, it has a large stretch ratio and high resilience and also is water-proof

Purpose Classification

1- Cover Crops

These crops are seeded to provide a cover for the soil. Such a crop turned under while still green would be a green-manure crop, such as clovers, alfalfa, vetches, soybean, cowpeas and rye.

2- Catch Crops (Emergence Crops)

These are substitute crops; planted too late for regular crops or after the regular crop has failed. Short- season crops such as millet are often used for this purpose.

3- Soiling Crops

Crops cut and fed green, such as vetch, field peas, and maize, are soiling crops.

4- Silage Crops

Silage crops are those preserved in a succulent condition by partial fermentation in a tight receptacle. Such as corn, sorghum, forage grasses and legumes.

5- Companion Crops

Sometimes called nurse crops, companion crops are grown with a crop such as alfalfa or red clover in order to secure a return from the land in the first year of a new seedling. Grain crops and flax are often used for these purposes.

6- Trap Crops

Planted to attract certain insect or parasites, trap crops are plowed under or destroyed once they have served their purpose.

7- Green-manure Crops

Those crops are grown to be plowed under or to be disked into the soil to increase its productivity. As a rule, legumes are more desirable than non-legumes for this purpose, as they often add nitrogen to the soil. Such crops as soybean, cowpeas, vetches, clover and rye are used for this purpose.