

Improvement in Food Resources

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Food is our basic need. From food we derive energy to do all activities. In the last few decades, the population of our country has increased manifold. To provide the food security to this growing population is really a onerous task. It is necessary that there should be an improvement in food resources so that we can provide the food security to our people. Our government has made efforts to meet the food demand by increasing food production. The efforts have brought successes up to a certain extent. The green revolution has increased the production of food grains manifold. The white revolution, has led to better and more efficient use as well as availability of milk. The above mentioned revolutions have led to the extensive use of our resources that cause imbalances. We need to follow the method of sustainable development to ensure the conservation of our natural resources. Food security can be provided to the common man through sustainable development.

Enhancement in Crop Yields

To improve the crop yields, our government has taken many steps. The steps taken by the government has brought fruitful result as well. The following are the steps taken to improve the crop yielding:

Crop production and management:

Our country is an agricultural country where the large Population depends on the agriculture. Agricultural products are the sources of raw materials for industries. Thus, the proper crop production management is necessary, so that maximum benefit can be taken at the minimum cost. Government has ensured the crop production management at various level.

Genetic manipulation of crops for higher yield:

It is the incorporation of desirable character in the plants by various methods such as DNA recombinant technology, hybridisation, mutation, etc. In this process, a gene of one organism is inserted into the DNA of other organism and thus a new organism is born with better features.

Crop protection management:

Crops are in danger because of the pests, insects, moisture, mites, rodents, bacteria, etc. There are various methods that are used to protect the crops from the possible danger. Insecticides, pesticides and weedicides are used to kill insects, pests and weeds. The following are the techniques that are used to protect the crop from possible dangers:

Practice of crop rotation

Right time of sowing seed

Using high quality and resistant variety of seeds

Nutrient Management

Nutrient is an important part of plant's food. Plants require nutrients for their growth that are supplied by air, water and soil. The nutrients required by the plants is categorised into two parts that are macro nutrients and micro nutrients. The deficiency of any nutrient in the plant body leads to diseases and affects the growth of the plant. There are natural ways to supply these nutrients to the plants but artificial ways are also used on a large scale to supply all the nutrients required by the plants in the form of manure and fertilisers.

Difference between manure and fertilisers:

Manure	Fertiliser
1. Manure is a natural substance that is obtained from animal wastes such as dung of cattle and plant residues.	1. Fertiliser is a human-made substance that is mixture of inorganic salt or organic compound.
2. Manure contains nitrogen, phosphorus and potassium in small amount.	2. Fertiliser contains nitrogen, phosphorus and potassium in large amount.
3. Manure adds humus to the soil.	3. A fertiliser does not add any humus to the soil

4. Nutrients present in the manure are absorbed slowly by the crop plants since manure is not soluble in water.	4. Fertiliser is soluble in water and is readily absorbed by the crop plant.
5. Manure removes the general deficiency of the soil.	5. Fertiliser provides nitrogen, phosphorus and potassium to the soil according to the need.
6. Manure is inconvenient to store, transport, handle and apply to the crop.	6. Fertiliser is easy to store, transport and apply to the crop.
7. Manure is cheap and is prepared in rural homes or fields.	7. Fertiliser is costly and is prepared in factories.

Irrigation

Irrigation is an important part of crop production. Different plants require water in different amount. If water is not provided timely then it may cost the production of crops. In our country, monsoon rain is the main source of irrigation. Water is supplied to crops by rainfall. In case of failure of monsoon, crops are badly affected. Now the government has taken many corrective measures to provide the water to the crops without being dependent on monsoon.

The following are the sources of water for crops:

Wells: Water is stored in wells and supplied to the fields during the various intervals as required by plants.

Canal system: Canal system has been developed to make the water available to the crops especially in those areas where there is a scanty of rainfall.

Rivers: River water is drawn to the fields close to the river so that sufficient water can be provided to the plants.

Tanks: Tanks are water reservoirs from where water is supplied to the fields.

Crop Pattern

Crop pattern is the process of getting the maximum benefit from the field. Farmers use various crop patterns for increasing the productivity and maintaining the fertility of the soil. This process is very beneficial and economical.

Mixed Cropping

Mixed cropping is the practice of growing two or more crops in the same field simultaneously. In this process, one crop of longer duration and another crop of shorter duration are sown. Thus, there is an increase in production of food grains without disturbing the fertility of the soil. It helps in minimising the loss of crops due to bad weather condition.

Intercropping

Intercropping is the practice of growing two or more crops in the same field simultaneously in a definite row pattern. In the entire field, a few rows of one crop and a few rows of another crop are sown alternatively. The crops are selected on the basis of their requirements. In this way, nutrients are utilized at maximum level. This also helps in checking the diseases in plants. This process is beneficial and economical.

Crop Rotation

Crop rotation is a practice of growing of different crops on a piece of land in a preplanned sequence. Duration of crops is important for this practice. The combination of crops is done on the basis of duration. Moisture and irrigation are the two major factors that decide the choice of the crop to be cultivated after one harvest. Proper crop rotation helps in growing two or three crops in a year with good harvests.

Storage of Grains

After harvesting the crops and separating the grains from chaff, there is a big challenge of storing these grains. Earlier a major portion of the grains would get destroyed because of the lack of proper storage facilities. There are many factors that are responsible for causing harm to the grain. They are the following:

Insects	Rodents
Fungi	Bacteria

Mites

Moisture

These all factors cause a great harm to the grains and thus it leads to poor marketability. Proper attention has been paid to store these grains properly. Preventive and control measures are used before grains are stored for future use. They include strict cleaning of the crops before storage, proper drying of the crops first in sunlight and then in shade and fumigation using chemicals that can kill pests.

Animal Husbandry

Animal husbandry is the process of rearing animals on a large scale at home or in farms. It is a scientific management of animal livestock that includes various aspects such as feeding, breeding and disease control. Animals are the main sources of milk, meat, eggs and some other food items. So, they are reared on a commercial basis to supply the demand of growing population.

Cattle Farming

Cattle's farming is one of the most important activities in our country after agriculture. The main purpose of cattle farming is to get milk and labour from the animals. The animals of this category are divided into two parts one as a milk animal and other as a draught animals. To increase the production of milk lactation period foreign breeds of animals have been selected. The cross breed has been used for the production of milk. A special attention is paid to look after the animals and to provide them a clean and healthy life. Cattle suffer from a number of diseases. The diseases, besides causing death, reduce milk production. The parasites are found in the animals and cause diseases to them. These parasites are found in the external and internal body parts of the cattle. The external parasites live on the skin and mainly cause skin diseases. The internal parasites, such as worms, affect stomach and intestine while flukes damage the liver. Infectious diseases are also caused by bacteria and viruses. Vaccinations are given to farm animals against many major viral and bacterial diseases.

Poultry Farming

Poultry farming is practiced to provide the balanced diet to the human especially in the form of eggs and meat. Poultry farming is done on the commercial scale. Special attention is paid towards the cross breeding programme between Indian and foreign breeds so that large scale producing of the meat and eggs can be done. The following are the desirable traits for the cross breeding programme:

- (i) Increase in the number and quality of chicks.
- (ii) For commercial chick production dwarf broiler parent is used.
- (iii) To reduce the maintenance cost and requirement,

Fish Production

Fish is an important part of our diet that supplies protein to us. Fish is produced on a large scale by the process of fish farming. Fish can grow in fresh water as well as seas and oceans. The following are the types of fisheries:

Marine fisheries:

Marine fisheries are a major source of fish as India has a long coast line in the Arabian Sea and Bay of Bengal. Many people in the coastal region are involved in the fish production business. Some of the marine fishes are ribbonfish, flying fish, Hilsa, Betake, Salmon, etc.

Inland fisheries:

In India, the fish production is done on a large scale in rivers, lakes and ponds. India has a large area of inland waters where the fishes are produced. Some of the fishes of inland fisheries are katla, rohus, mrigals, etc.

Bee Keeping

The practice of bee keeping is called apiculture. The product of bee keeping is honey. Honey is widely used and therefore, beekeeping for making honey has become an agricultural enterprise. The beehives are good source of wax as well that has medicinal value. Some of the Indian varieties of bees are *Apis cerana indica*, etc. For commercial bee production *mellifera*, an Italian bee variety, is used. This variety of bee helps in large production of honey.