

31. Food Production and Animal Husbandry

India has always been an Agrobased country and because of continuous agricultural research and sustainable farming, today it is among the top major agricultural nations. The credit for ‘Green Revolution’ goes to Dr. M.S. Swaminathan. An integrated approach for controlling the pests that damage our agricultural crops is being followed. Methods like crop rotation, mixed cropping, organic farming, using good manure and fertilizers, etc. together with the judicious use of pesticides is being practised by farmers to increase crop production. Also, **“a grain saved is a grain produced”** and thus scientific and safe storage of the agricultural produce is being adopted both by the farmers and the government. However, our food requirement cannot be fulfilled by agriculture alone and thus need of the hour is to strengthen our animal husbandry as well. We need to enhance our scientific approach for increasing the production of eggs, milk, honey, wool, meat etc. The field of biotechnology can be exploited both in the field of agriculture and animal husbandry to make our country self sufficient in food production.

Build Your Understanding

- In order to cultivate a crop successfully and profitably for food production, a farmer must adopt a large number of agricultural practices in a sequential order.
- Crop rotation, mixed farming, multiple cropping and organic farming are some of the methods of crop production.
- Peas, beans and pulses help in retaining the fertility of the soil after they are harvested as nitrogen fixing bacteria in their roots are left behind in the soil.
- Sowing of wheat with peas or groundnut with sunflower is advantageous to the farmers because they get two crops simultaneously from the same field. Can you recollect the name of the method?
- Organic farming enables the farmer to increase his agricultural produce without affecting the health of soil, ecosystem and people.
- The loosening of the soil by ploughing is beneficial to the farmers. Try to reason out as to why?
- Growing of crops repeatedly in the same field removes the important minerals, organic matter and other materials from the soil, making the soil infertile. Manure and fertilizers are added

to the soil to remove the deficiency of plant materials and organic matter in the soil.

- Growth of weeds along with cultivated crops in the field reduces the crop production because (fill in the blank).
- It is necessary to reduce the moisture content of grains before storing to prevent its spoilage during storage. Grains are stored in storage structures like Pusa bin or Silos which are moisture and rodent proof.
- Proper feeding of animals, proper shelter for them, proper breeding of these animals and prevention and cure of animal diseases are some of the practices necessary for the better production of food items and procurement of better services from animals.
- Poultry farming and fisheries have a special place in our country.
- GM Potato is a transgenic plant produced by the technique of genetic engineering. Tissue culture is also an effective technique for conserving rare plant species.
- Ration shops are public distribution systems and distribute the grain to the poor section of the society. Ration shops are state controlled.

✓ Maximise Your Marks

1. Explain how the irrigation requirement depends on the nature of the crop and also on the nature of the soil in which the crop is grown.
2. How do you think will the common man be affected if the Government did not have any policy for food security?

★ Stretch Yourself

- **Green Revolution:** Indian Agricultural scenario between 1968 and 1988 has been termed as the golden age of agriculture and is referred to as green revolution
- **Agronomy:** The branch of agricultural science which is concerned with crop production and management of farms
- **Crop Rotation:** The successive planting of different crops on the same land to improve soil fertility and help control insects and diseases.
- **Mixed Cropping:** Mixed cropping is a system of sowing two or three crops together on the same land, one being the main crop and the others, the subsidiaries.
- **Multiple Cropping:** Practice of growing two or more crops in the same space during a single growing season.
- **Transplantation:** Process of shifting new plants where they were sown to the main field
- **Plant Growth Regulators:** Adding chemicals that control the rate of growth of plants
- **Animal Husbandry:** The branch of agriculture concerned with the care and breeding of domestic animals such as cattle, hogs, sheep, and horses for better production of food items.
- **Poultry Farming:** Raising of domesticated birds such as chickens, turkeys, ducks, and geese, for the purpose of farming meat or eggs for food.

- **Fisheries:** The industry or occupation devoted to the catching, processing, or selling of fish, shell fish, or other aquatic animals
- **Agricultural Biotechnology:** Also referred to as “genetic engineering” or “genetic modification” (GM) is a sophisticated and precise means of modifying combination of plant genes for use in the production or processing of agricultural products.
- **Buffer Stock:** A supply of inputs held as a reserve to safeguard against unforeseen shortages or demands.

? Test Yourself

1. Arrange the following agricultural practices in a sequential order:
Sowing, irrigation, adding manure and fertilizer, preparation of soil, removal of weeds, harvesting, storage of food
2. Auxin and cytokinin are and are important for the plants because
3. Match the items in column A with those in column B

<i>Column A</i>	<i>Column B</i>
fumigation	tomatoes
vermicompost	cows
milch animals	chemical treatment
transplantation	earthworm
oysters	roundworm
	pearls
4. Farmers in India grow legumes like peas in one season and wheat or rice in the other season on the same land. What is this practice known as and how does this practice help in the replenishment of soil?