

Chapter 9: Strategies for Enhancement in Food Production

Animal Husbandry:

The scientific management of animal livestock.

Includes breeding, feeding, and disease management.

Dairy Farm Management:

Focuses on the management of processes in milk production.

Selection of high-yielding breeds, proper feeding, and shelter, ensuring health.

Poultry Farm Management:

Concerned with the production of broilers (for meat) and layers (for eggs).

Selection of disease-resistant breeds, hygiene, and vaccination are essential.

Fisheries:

Culturing fishes, including marine and freshwater varieties.

Includes pisciculture and prawn or shrimp farming.

Apiculture (Beekeeping):

Management of hives of honeybees for honey production.

Bees also aid in pollination of crops.

Plant Breeding:

Improving the genetic makeup of the crop plants.

Goals: Higher yields, disease and pest resistance, improved quality.

Methods of Plant Breeding:

Hybridization: Crossing between genetically dissimilar plants.

Mutation Breeding: Inducing mutations and selecting the desired mutants.

Green Revolution:

Rapid increase in crop yield through improved variety.

Introduced by Dr. Norman Borlaug.

Biofortification:

Breeding crops with higher levels of vitamins, minerals, and proteins.

Examples: Golden rice (rich in Vitamin A), iron-rich spinach.

Microbes in Food Production:

Fermentation processes for bread, curd, cheese, and alcoholic beverages.

Lactic acid bacteria promote milk fermentation to produce yogurt.

Single Cell Protein (SCP):

Protein-rich microbial cells from unicellular organisms.

Examples: Spirulina can serve as food and nutritional supplements.

Tissue Culture:

Growing plant cells, tissues, or organs in a sterile nutrient medium.

Helps in propagating plants in disease-free conditions.

Somaclonal Variation:

Variations seen in plants produced by tissue culture.

Can be a source of plants with better properties.