MIND MAP : LEARNING MADE SIMPLE

CHAPTER - 9

Strategies for enhancement of Food Production

Animal husbandry

- Farm and farm animals
  - Poultry farm Management
  - Dairy farm Management
- Fisheries
  - Freshwater fishes- Catla, Rohu, common carp etc.
  - Marine fishes - Hilsa, Sardines, Mackerel, etc.
- Bee Keeping
  - Practice of bee-keeping for honey and beeswax.
  - *Apis indica* is most common species used.
- Animal Breeding
  - Inbreeding
    - Mating of more closely related individuals with in the same breed for 4-6 generations.
    - Continued inbreeding, leads to inbreeding depression.
  - Out-breeding
    - Out-Crossing
    - Cross-breeding
    - Inter-specific hybridization
  - Controlled breeding techniques
    - Artificial insemination
    - MOET

Tissue culture

- Meristem culture
  - This method is used to recover healthy plants from diseased plant.
  - Meristem (apical and axillary) is the only virus free part of a virus infected plant.
  - E.g., Banana, sugarcane, potato etc.
- Somatic hybridization
  - Process of fusion of protoplast of different varieties on a suitable nutrient medium in vitro to develop somatic hybrid.
  - E.g. Pomato= tomato + potato protoplasts.

Single Cell protein

- *Spirulina* is used for SCP, so as to provide alternate source of nutrition.
- It is rich in protein, minerals, fats, carbohydrate and vitamins.

Biofortification

- Objectives
  - To improve Protein content and quality.
  - To improve Oil content and quality.
  - To improve Vitamin content.
  - To improve Micronutrient and mineral content.
- Example
  - Hybrid maize
  - Wheat variety: Atlas 66
  - Iron fortified rice

Plant Breeding

- Steps
  - Collection of genetic variability
  - Evaluation of germplasm and selection of parents
  - Cross hybridisation among the selected parents
  - Selection of superior hybrids
  - Testing, release and commercialization of new cultivars.
- Reasons
  - For disease resistance Varieties
    - Conventional Breeding technique
    - Mutation Breeding
  - For Developing resistance to pest

Crop	Variety	Insect pests
Brassica (rapeseed mustard)	Pusa Gaurav	Aphids
Flat bean	PusaSem 2, PusaSem 3	Jassids, aphids and fruit borer.
Okra (Bhindi)	PusaSawani, Pusa A-4	Shoot and Fruit borer.