Module 1: Introduction of Hi-Tech Horticulture
Session 1: Introduction, scope and importance of Hi-Tech Horticulture
Hi-Tech Horticulture

Hi-Tech interventions which include high density planting, adoption of improved package of practices, cultivation of fruits, vegetables and flowers with high yielding hybrids
Advantages of High-Tech Horticulture

- Increase in yield up to 5 to 8 times – high productivity per unit area

- Significant saving in key inputs like water (up to 50%), fertilizers (25%) and pesticides.

- Better growth and uniformity in quality

- Feasible even in undulating terrains, saline, water logged, sandy and hilly lands.
Hi-Tech horticultural practices

- Hi-Tech propagation of horticultural crops
- Developing High Density Planting (HDP) in horticultural crops
- Micro-irrigation and fertigation in horticultural crops
- Hydroponics
- Organic farming in horticulture
- Design and development of greenhouses for different Agro-climatic conditions
- Greenhouse Technology for production of cut flowers and high value vegetables
- Scope of protected cultivation of vegetables in high altitudes.
- Integrated Pest Management (IPM)
- New Developments in Post-Harvest Management
Potential areas for Hi-tech Horticulture

- Urban and peri-urban areas to meet requirements of fresh produce like vegetables, fruits and flowers round the year.
- Areas with limited land and water resources
- Areas where availability of land for cultivation is restricted because of snowfall and where low temperature is prevalent restricting cultivation of crops under open field conditions.
- Small and marginal land holdings for adopting intensive production technologies
- As an agri-business enterprise for enterprising youth in rural and urban peripherals
Integrated Pest Management (IPM)

Integrated Pest Management aims at a judicious use of cultural, biological and chemical control of pests and diseases.

- Yellow and Blue sticky trap in polyhouse
- Vegetable fly trap
- Light trap
Integrated Nutrient Management (INM)

It refers to maintenance of soil fertility and plant nutrient supply to an optimum level for sustaining the desired crop productivity.
Plasticulture

✓ Plasticulture has become a popular hi-tech horticulture technology today
✓ The practice of using plastics for commercial horticultural production is termed as ‘Plasticulture’
✓ Plasticulture reduces temperature fluctuations and moisture fluctuations and also helps in controlling pest and disease infestations.

Example:
✓ Greenhouse structures
✓ Plastic low tunnels
Greenhouse Cultivation

✓ Protection from adverse climatic conditions
✓ Increased yield (4-5 times than traditional planting)
✓ Harvesting time can be adjusted
✓ Off-season crop production
✓ Disease free plants
✓ More profit due to continuous supply of produce throughout the year
✓ Water saving as use of drip/sprinkle system
✓ Barren and uncultivable land may be brought under use
✓ Gain of more foreign exchange due to export
✓ Useful technology for hybrid seed production
✓ Employment generation
Hydroponics

- Hydroponics is also known as soilless cultivation.

- Hydroponics helps producers grow plants in nutrient solution, without using the standard soil medium.
Micro-irrigation

Optimum utilization of irrigational water, maximum water use efficiency by supplying water within the root system of the plants, and minimum evaporative loss of soil moisture.
THANK YOU