

New techniques in green house

- Agriculture is a new method of planting and producing a variety of vegetables and flowers in a private house that can be climate controlled by heating, cooling, and ventilation, and protecting plants from the wind Strong thunderstorms and rain.
- Greenhouse is the most practical method of achieving the objectives of protected agriculture, where the natural environment is modified by using sound engineering principles to achieve optimum plant growth and yields.

❖ Green House used for

- A greenhouse lets you create your own microclimate, controlling the temperature and humidity you expose your plants to.
- Whether you want to grow vegetables all year long, cultivate exotic plants, or start seedlings off very early in the season, your greenhouse provides the adaptable growing environment you need.
- Some greenhouses are even equipped with additional features like ventilation systems, shading mechanisms, and automated watering systems to optimize growing conditions for different types of plants ..
- People use greenhouses mainly for growing plants, especially ones that need specific conditions to thrive, like certain fruits, vegetables, flowers, or even exotic plants. .



❖ Green House technology

- Now, greenhouse technology has come a long way. From simple structures made of glass or plastic to more advanced setups with automated climate control systems, like temperature and humidity regulators. These technologies help farmers and gardeners grow crops more efficiently, regardless of the

weather outside. It's like creating a little piece of summer all year round for your plants!

❖ **Classification**

- Classification of a greenhouse is according to its **basic shape**.
- ✓ **Types include**
 - Gable.
 - Flat arch.
 - Raised dome.
 - Sawtooth.
 - Skillion.
 - Tunnel.

❖ **Advantages of greenhouse**

- ✓ Manipulation of Growing season.
- ✓ Round the year production of most desired crop.
- ✓ Higher production per unit area is obtained.
- ✓ Higher value and higher quality crops can be grown.
- ✓ Efficient use of Irrigation Water.
- ✓ Infestation of pests and diseases is eliminated.
- ✓ Nursery for all vegetable crops can be grown.
- ✓ Drastic reduction in wastage of Fertilizers and Pesticides.

❖ **Disadvantages of Greenhouse Technology**

- ✓ High initial and maintenance costs.
- ✓ Increased energy consumption.
- ✓ Reliance on fossil fuels and non-renewable energy sources.
- ✓ Potential for pests and disease outbreaks.
- ✓ Limited crop diversity.

- ✓ Limited scalability in certain regions.
- ✓ Risk of environmental degradation and pollution.

❖ **Components Green House**

➤ **Green House components can be broadly divided into 3 main categories:**

- Structural Design.
- Green House Covering.
- Environmental Controls.

❖ **Things to be consider when building Green House**

1. Ventilation

Ventilation is perhaps the most important component in a successful greenhouse.

2. Temperature

Regulation Temperature regulation can be as simple as opening windows and letting heat out.

3. Supplemental heat

The basic principle of a greenhouse are simple. Sun streams through the windows and warms the surfaces inside the greenhouse.

4. Orientation

When orienting your greenhouse, pay attention to the path of the sun and the way that path changes through the year.

❖ **Integrated Pest Management in Greenhouse**

- Greenhouse production of horticultural crops is a profitable business; nevertheless, plants will be attacked by pests at some point in time.
- In protective environment, pest situation often develops more rapidly and with greater severity than outdoors.
- Integrated pest management is a sustainable approach to manage pests by combining cultural, mechanical, biological and chemical tools in a way that minimizes economic, health and environmental risks.
- The IPM is based on the principle that it is not necessary to eliminate all the pests but to suppress the pest population to a level at which these pests do not cause significant losses.

New technique mulching :

Mulch is a material that is spread across the surface of the soil and around the base of plants and trees to form a protective layer which can provide numerous benefits to your landscape and garden. It helps conserve moisture, suppresses weeds and enriches the soil,

Type of mulching :

Organic mulch is derived from natural materials such as leaves, straw, wood chips, bark, grass clippings, or compost. Among the most popular options are shredded bark mulch made from cedar, cypress and pine.