



Centurion
UNIVERSITY

*Shaping Lives...
Empowering Communities...*

Center for Smart Agriculture

Applied Hi-Tech Horticulture



Module 2: Innovative Technologies in Hi-Tech Horticulture

Session 10: Media and Soilless media used for raising seedlings



Centurion
UNIVERSITY

Shaping Lives...
Empowering Communities...

Types of media:

- ❖ **Soil:** This is the most commonly employed medium for pot plant.
- ❖ **Sand:** Used for rooting of cutting.
- ❖ **Peat:** It consists of the remains of aquatic marsh, bog preserved in under water.
- ❖ **Sphagnum moss:** Used for air layering.
- ❖ **Leaf mold:** Used for potting mixture.



Centurion
UNIVERSITY
*Shaping Lives...
Empowering Communities...*

Continues....

- ❖ **Saw dust:** Used in nursery as soilless substrates
- ❖ **Grain husk:** Byproduct of the rice milling industry, It is extremely light in weight and good drainage facility.
- ❖ **Cocopeat:** Byproduct of the coconut industry and commercial used in vegetable grafting and plug tray.
- ❖ **Vermiculite:** Used as soilless root substrate with high nutrient and water holding capacity.
- ❖ **Perlite:** It 3-4% water holding capacity.

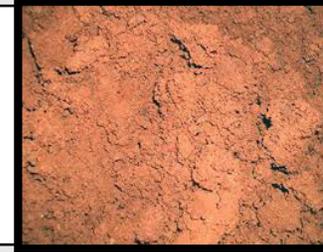


Centurion
UNIVERSITY
*Shaping Lives...
Empowering Communities...*

Cocopeat



Soil



Peat Soil



Spagnum moss



Vermiculite



Perlite





Centurion
UNIVERSITY
*Shaping Lives...
Empowering Communities...*

Structure of nursery

1. Green house



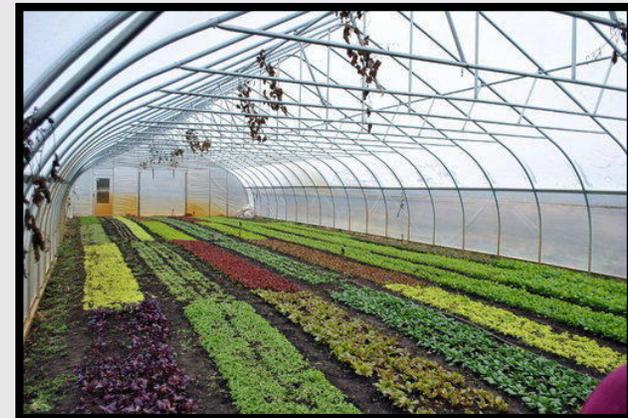
Green house

2. Shade net house



Shade net house

3. Walking tunnel



**Swastik Agri Solution Co
Walking tunnel**

4. Low tunnels

5. Mist Chamber



**Centurion
UNIVERSITY**

*Shaping Lives...
Empowering Communities...*



Low Tunnel



Mist chamber



Centurion
UNIVERSITY

*Shaping Lives...
Empowering Communities...*

Advantages of nursery management for greenhouse cultivation

- ❖ Plants are protected from biotic stress and abiotic stress
- ❖ Due to use of artificial soil-less media is commonly free from soil borne disease and nematode as compare
- ❖ Minimum weed infestance.
- ❖ Low cost labour.
- ❖ Germination per cent is high.
- ❖ Year round production of seedling and not severe problem in rainy season.
- ❖ Minimize the infestation of pest as well as cost of pesticides used.
- ❖ Early seedling production gives higher price in the market and economically more profit.



Centurion
UNIVERSITY

Shaping Lives...
Empowering Communities...

THANK YOU