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# Center for Smart Agriculture

## Protected floriculture



**Module 1:** Importance and types of protected structure

**Session 2:** Types of protected structure  
(Polytunnel)



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- Tunnels are the low-cost version of greenhouses.
- They are non-permanent structures with passive ventilation through the sides and ends and have reduced construction and maintenance costs.
- The structure's height directly influences air and soil temperatures under plastic roof covers.



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- Tunnels can be classified as
  - low ( $< 6$  ft high)
  - high ( $\geq 6$  ft high).
- Low tunnels (also known as microtunnels)
- Micro tunnels are small, simple, easily installed and inexpensive.



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- They are covered with a fine net or plastic film
- They provides temporary protection for the crop.
- Low tunnels are generally used to protect crops
  - ✓ During initial growth stages
  - ✓ Against adverse climatic conditions
  - ✓ To exclude certain diseases and insects



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- High tunnels are passively ventilated structures.
- High tunnels built with metal (e.g., galvanized steel or iron), plastic (e.g., polyvinyl chloride [PVC] pipes) or wood.
- Usually covered with one or more layers of plastic film and anti-insect screen.



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- Their height is generally between 10 and 16 ft.
- They are recommended for indeterminate-growth cultivars, which cannot be grown under low tunnels.
- Their height also allows for personnel and large agricultural equipment, unlike low tunnels.



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# Advantages of Polytunnel

- Crops grow earlier and possibly larger.
- Less expensive than glass or polycarbonate greenhouse.
- Wide range of sizes are available.
- Poly tunnels are more flexible structures.
- They can offer more growing space.



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- They protect growing plants from rain, frost, snow, hail and gales and therefore enable more autumn, winter and early crops to be grown.
- They absorb the sun and achieve the most productive germination and spring growing temperatures 2-6 weeks ahead of the open garden according to location
- Polytunnels are a budget-friendly option.





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**THANK YOU**