



## Tennessee Specific Industry Certification Horticulture Science Content Area Resource

This Tennessee Specific Industry Certification (TSIC) resource provides additional guidance as you prepare your horticulture science instructional materials. The general knowledge and skills are provided as a guide for developing lessons and lab activities that lead to deeper understanding of content. The list of sample terms are just that, a list of industry-specific terms that will build each student's knowledge base for this content area.

### *General knowledge and skills for Growing Structures and Environmental Controls*

- Explain the factors to determine proper greenhouse location and placement.
- Explain the advantage and disadvantage of each greenhouse structure.
- Determine annual weather conditions.
- Identify and explain the different types of heating and cooling systems used in production and retail operations.
- Identify and select the proper equipment for setting up and operating a hydroponic system.
- Explain the advantages of using a hydroponic unit to grow plants.
- Determine the proper bench type and layout for specific greenhouse crops.
- Identify and justify seasonal greenhouse maintenance schedules.
- Calculate flow rates using different size of pipes.
- Calculate heat cost using different heat sources.
- Identify the components and list the advantages of the different types of irrigation systems.
- Describe the components of the different types of cooling systems used in production and retail greenhouses.

### *Sample terms associated with content area:*

- Air leakage
- Air stone
- Algae
- Annual sunshine.
- Average annual temperatures.
- Back-up generator.
- Baffles
- Basket crops
- Bedding plant crops
- Benches
- Boiler
- British Thermal Units (BTU).
- Carbon
- Carbon dioxide
- Central systems
- Clay pebbles
- Coal
- Conduction
- Cut flower crops
- Diseases.
- Disinfectant
- Disinfecting
- Drip irrigation
- Dutch
- Easter lilies
- Ebb and flow irrigation
- Electricity
- Electrocutation
- Even span
- Exhaust fan



## Tennessee Specific Industry Certification Resource Topics and Terms

- Circulation Fan
- Fan tube cooling system
- Fog evaporative cooling
- Fan and pad evaporative cooling
- Humidistat
- Fiberglass
- Multibarrel vault house
- Filters
- Flush and clean pipes
- Forced hot air
- Fuel line
- Glass house
- Grow bed
- Gutter-connected
- Hand watering
- Hanging baskets
- Head house
- Heat exchanger
- Heat mats
- Heat pump
- Herbicide
- Hot water
- Humidity
- Hydroponics
- Insects
- Large greenhouses
- Lean-to
- Light intensity
- Low greenhouses
- Molybdenum
- Movable benches
- Natural gas
- Nickel
- Nitrogen
- Nutrient solutions
- Nutrient tank
- Orchids
- Overhead irrigation
- Peat planting cups
- Percentage of annual precipitation
- Permanent outdoor benches
- Pesticide poisoning
- Petunias
- Photoperiod
- Physical stress
- Plant clips
- Plant nutrition
- Plastic covering
- Potted plant crops
- Preservative
- Prevailing winds
- Production greenhouse
- Propagation
- Propagation
- PVC pipe
- Quonset
- Radiant heater
- Radiation
- Retail greenhouse
- Ridge and furrow
- Ridge and side vents
- Roses
- Safety hazard
- Seasonal production
- Seeds
- Single Gable
- Slope
- Small greenhouses
- Solarization
- Stationary benches
- Steam
- Stockpiled
- Tank
- Temperature
- Tools
- Topographical maps
- Trusses
- Unit heater
- Vegetables
- Water
- Water pump
- Weather bureau
- Wood
- Wood fired systems