

**High Tunnel Construction**

Brian K. Ward Ph.D.  
[bw@clemson.edu](mailto:bw@clemson.edu)  
 Clemson Coastal Research and Education Center

## High Tunnel Basics

- **Definition**

An enclosed polyethylene, polycarbonate, plastic, or fabric covered structure that is used to cover and protect crops from sun, excessive rainfall, or cold, to extend the growing season in an environmentally safe manner.

- **Purpose of High Tunnels**

Improve plant health and vigor.

## High Tunnel Basics

- **Types of High Tunnels**

**Gable Style**

**Quonset Style**

**Gothic Style**

**Gutter Connected High Tunnel** indicates that two or more bays are connected at the gutters

**French Tunnel** is the European term for a single-bay high tunnel

**Spanish Tunnel** is the European term for a multi-bay high tunnel

**Caterpillar Tunnel** is the cheapest, quickest yet least reliable and functional to build (911 Tunnel)

<http://hightunnels.org/types-of-high-tunnels/>

## Gable Style



## Quonset Style



## Gothic Style



### Gutter Connected High Tunnel



### French Tunnel



### Spanish Tunnel



### Caterpillar Tunnel



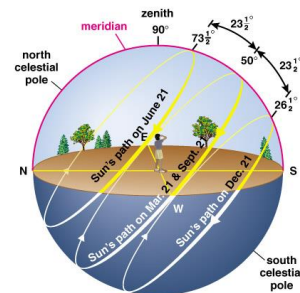
### High Tunnel Orientation

Typically Greenhouses and High Tunnels are orientated from North to South to Maximize the Inclination of the Sun's Energy to the Plants.

East to West Orientation Can Cause shading by South Facing Plants on their North Facing Friends.

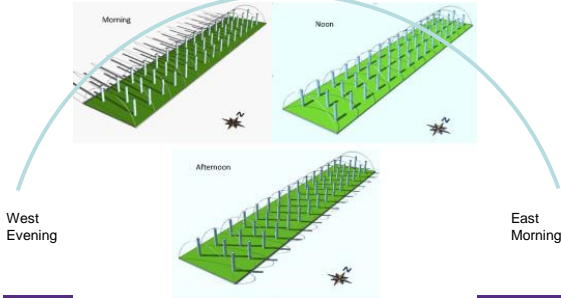
"However", If you Utilize Water Ballast on the North Wall in an East/West Orientation, you can Add Passive Heating Ability to and Add Season Extension to your tunnel Going into Winter. \*\*\*\*

### High Tunnel Orientation

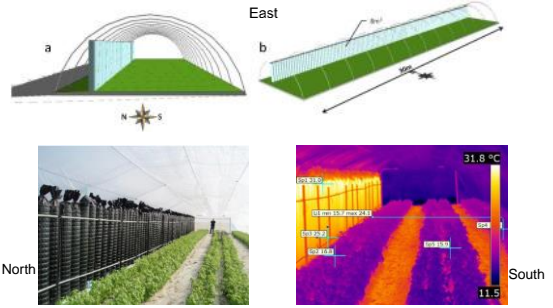


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### North to South High Tunnel Orientation



### The "However"



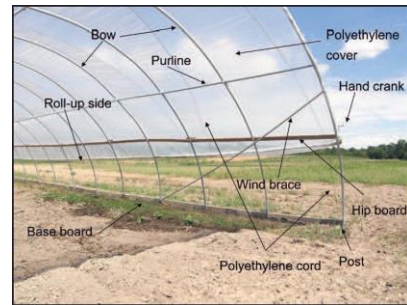
<http://ginegar.com/es/film-experiment/item/115-an-innovative-way-for-heating-greenhouses-using-solar-energy-during-the->

### High Tunnel Basics

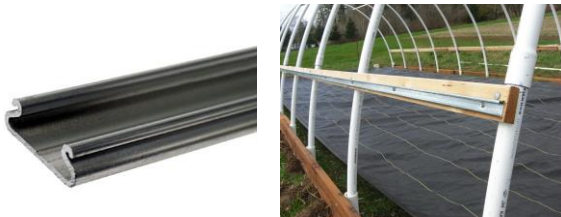
#### Main Terms

- Bow/Rib** - a curved member supporting a vault or defining its form.
- Purline** - a longitudinal member in a roof frame, usually for supporting common rafters or the like between the plate and the ridge.
- Hip Board** - the sharp edge of a roof from the ridge to the eaves where the two sides meet.
- Wind Brace/Corner Brace** - a diagonal brace from the end wall to the base of the baseboard preventing longitudinal shifting
- Base Board** - board wrapping the base; adds definition and stability
- Wiggle Wire** - the magic behind plastic adherence

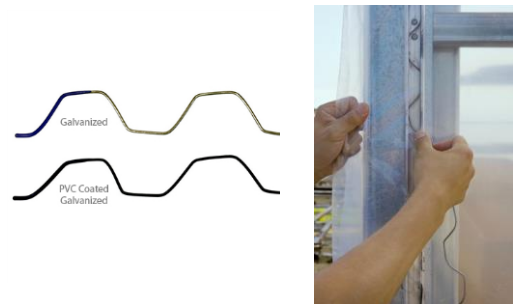
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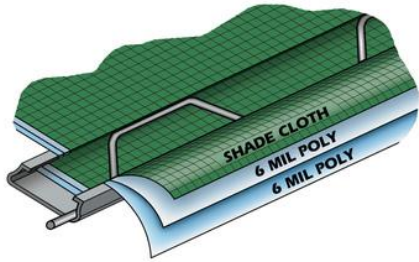


### Wiggle Wire -vs- Board and Tape



### Wiggle Wire -vs- Board and Tape

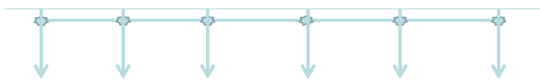




### Let's Build A High Tunnel

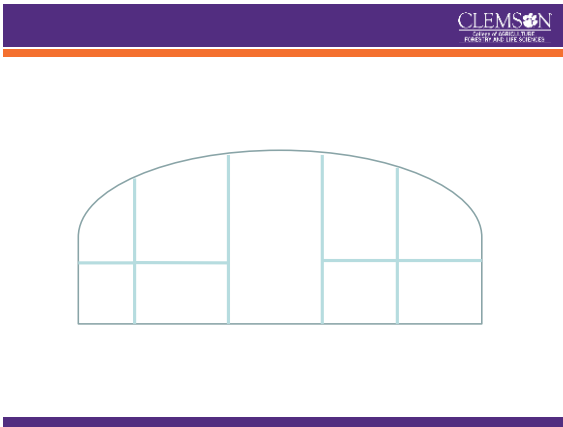


### Let's Build A High Tunnel



### Frame Bottom





**Plastic**

<https://youtu.be/NJNZOL2IXbk>

2nr

10 wide  
 $2 \times 3.14 \times 5 = 31.4$  feet



### High Tunnel Kits

GrowSpan Round Economy High Tunnel - 20'W x 12'H x 24'L	\$2,145.00
GrowSpan Round Economy High Tunnel - 20'W x 12'H x 36'L	\$2,779.00
GrowSpan Round Economy High Tunnel - 20'W x 12'H x 48'L	\$3,105.00
GrowSpan Round Economy High Tunnel - 20'W x 12'H x 72'L	\$4,425.00
GrowSpan Round Economy High Tunnel - 20'W x 12'H x 96'L	\$5,355.00
GrowSpan Round Economy High Tunnel - 26'W x 12'H x 48'L	\$3,425.00
GrowSpan Round Economy High Tunnel - 26'W x 12'H x 96'L	\$5,789.00
GrowSpan Round Economy High Tunnel - 30'W x 12'H x 36'L	\$3,275.00
GrowSpan Round Economy High Tunnel - 30'W x 12'H x 48'L	\$3,965.00
GrowSpan Round Economy High Tunnel - 30'W x 12'H x 72'L	\$5,625.00
GrowSpan Round Economy High Tunnel - 30'W x 12'H x 96'L	\$6,429.00







**Thank You !**

**Questions?**