What is a High Tunnel?

High tunnels are plastic-covered, solar greenhouses which are used to lengthen the growing season and protect the crop(s) from stresses such as rain, wind, diseases, insects and wildlife.

1. Uses solar heat. (back-up heaters optional)
2. No electricity (fans, heaters, vents, etc.)
3. Vented through sidewalls or endwalls.
4. Drip irrigated.
5. Ground culture.
6. Single layer of plastic (6-mil.)
Advantages:

- Relatively low-cost
- Highly productive
- Pest exclusion
- Season extension
- Facilitates diverse production
- Complement field production
### Manufacturer | Dimensions | Cost (US $/ft²)
--- | --- | ---
Atlas Greenhouses | 30 ft. x 96 ft. | 0.74
Conley Greenhouse Mfg | 24 ft. x 96 ft. | 0.72
FarmTek | 26 ft. x 96 ft. | 1.16
Harnois Greenhouses | 20 ft. x 96 ft. | 0.97
Haygrove Tunnels | 24 ft. x 200 ft. | 0.75
Stuppy Greenhouse | 20 ft. x 96 ft. | 0.96
Zimmerman Welding | 30 ft. x 96 ft. | 1.00
Average | 25 ft. x 96 ft. (2400 ft²) | 0.94 ($1.50)

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One inch of water per week = 1800 gallons of water for a typical high tunnel structure.
One inch of rainfall = 2300 gallons of water collected per commercial high tunnel.

Small high tunnels

Large high tunnels

Season Extension?
(3 season High Tunnel)

1-2 crops/year

Year-round production?
3-4 crops/year

Disadvantages:
- Shorter useful life
- Single poly cover
- Less environmental control for crop growth
- More vulnerable to damage from inclement weather
Ridge or peak vent

Free-standing, Single-Bay High Tunnels

"Increase Profits
"Makes More Money"
High Tunnel Design Components:

30 feet width

96 feet length

Sidewall

1. Choose a site
2. Soil test
3. Amend the soil and prepare the site
4. Construct the high tunnel
Cover crops within high tunnels.

Grass/legume mix.
10

Space the ground posts

Assemble the bows

Level the ground posts
Mobile High Tunnels

Photo Credit: Rimol Greenhouse Systems
Multiple purlins with no braces
Increasing the height of the high tunnel by 3 feet will increase usable bed space for crops and provide a higher sidewall for air movement.

Marginal returns > Marginal costs
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