

High Tunnel Case Study

Holistic Health Farms



The Farm

Holistic Health Farms is a non-profit urban farm run by Timothy Page and Cherry Flowers. They focus on urban farming, aquaponics and education. Their demonstration plot high tunnel is located at their home in St. Paul where they grow a wide variety of crops in a rotation system with their field space.

The Tunnel:

- One 30'x38' high tunnel.
- Round sided greenhouse frame converted to high tunnel.
- Drip tape irrigation.
- Roll up side walls.
- Thermostat controlled vent fan.
- No heaters or lights.
- Rain capture system with gutters.
- Solar system installed, not used.
- Double-wall 6mm plastic.

"Knowledge is our number one crop and we make the most income from our expertise. We run workshops, teach classes and consult for people new to high tunnel production."

"We want to plant more perennials. We think a permaculture approach could do really well in a high tunnel."



"High tunnels are great for anything that loves the heat. We even have a stone fruit tree out there doing way better than we expected."

Crops:

- | | |
|------------------|----------------|
| • Tomato | • Sweet Potato |
| • Peppers | • Ginger |
| • Eggplant | • Turmeric |
| • Chard | • Peach |
| • Lettuce | • Plum |
| • Kale | • Apricot |
| • Collard greens | |



THE GOOD ACRE

FOOD + COMMUNITY

High Tunnel Case Study

Holistic Health Farms

Advice from Tim

"The thermostat controlled fan does a great job and we never really need to check the temperature. Before we got it, we had to check 3-4 times a day and it would get way too hot."

"Since we have so little space we can't rotate crops like others do. So we do succession and companion planting. We try to keep it as diverse in the tunnel as possible and move crops outside whenever we can."

"We don't take our plastic down for the winter – the frame is strong enough to hold the snow."

"Plastic is supposed to be replaced every four years but some people wait six or seven years. It's really a question of how cloudy the plastic gets. Holes are easy to patch and never the reason to replace."

"We don't use our irrigation timer in the tunnel because managing water and moisture properly is critical to having a healthy crop."

Management:

- Plants a month earlier and keeps growing a month later in the year.
- Rarely checks temperature – automatic fan works very well.
- Broad forks the soil in spring.
- Applies vermicompost, compost tea and fish emulsion for fertility.
- Coffee bags and straw for weed control.
- No sprays/fungicides.
- Rotates crops *each season (Spring/Summer/Fall)* to control disease with limited space.
- Succession and companion planting heavily prioritized.
- Red clover, rye, pea and vetch cover crops as part of a UMN experiment.
- Keeps plastic up year-round.

Cost and Upkeep:

- Used tunnel: \$1,000
- New plastic: \$400
- Family helped construct tunnel.
- Need to patch plastic 1-2 times per year. Easy to do.
- Estimated yearly cost of tunnel is less than \$500.