

High Tunnel Case Study

The Good Acre



The Farm

The Good Acre is a nonprofit food hub that works closely with farmers. One way which we do this is to trial crops in our high tunnels so that farmers can see different crops, growing practices and techniques that they can implement on their own farms.

The Tunnels

- Two high tunnels:
 - One 30'x96' gothic from Poly-Tex with double layer 6 mil poly with inflation fan. Cost (2016) \$10,000.
 - One 30'x96' Quonset from FarmTek with single-layer 6 mil poly, removed each winter. Cost (2016) \$6,000.
- Drip tape irrigation.
- Roll up side walls.
- Closed end walls with doors that are opened for ventilation.
- No heat. No lights.

We have tried several things in our tunnels over the past couple of years. Some good, some bad. One challenge we have is that our tunnels are not on a farm, so no one is here to open or close them late at night or on weekends if the weather changes.



We like to focus on production techniques that will help growers maximize production in their tunnels. For tomatoes this means pruning and trellising the plants for good air flow and ease of picking. We have also used grafted tomato plants to improve production.

This also gives us the opportunity to give hands on demonstrations with farmers when they are at our facility to do a delivery. Hands-on learning helps farmers remember a new technique and make it much more likely that they will use it.



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Crops we have tried:

Grapes - *We tried some warmer climate seedless red grapes, but even with heavy winter mulching the vines would die back to the ground.*

Blackberries and Raspberries– *The tunnel made a perfect environment for rabbits in the winter. Most canes were completely girdled and dead by spring. Once the rabbits were fenced out, fruit production was good, but ventilation issues and spotted wing drosophila were major problems.*

Peppers – *Were a good crop for us, especially being able to grow some longer-season peppers, like pasilla that won't grow outside in our climate, but compared to tomatoes they are less profitable.*

Tomatoes – *Every kind of tomato you grow will grow better in a high tunnel, we are approaching yields of 3 pounds per square foot of tunnel.*

Ginger – *Has been the second best crop in our tunnels, but storage is short-term and you must have a market for the crop.*

Management:

- Soil samples are taken annually and fertility is applied based on the results.
- We have also been experimenting with in-season fertigation to supplement pre-plant fertility, with some benefits.
- Plastic mulch is used for tomato beds, with straw in between. Black landscape fabric is used on both ends of the tunnel.
- All tillage is by hand, broadfork and rakes. Because of the high production environment, I never take mechanical tillage into a tunnel.
- Maintenance of plants in the high tunnel will take extra time, but the resulting increase in yield is worth it.

Cost and Upkeep

- Inexpensive tunnels are an easy entry point, but will not support the weight of your crop, internal trellises must be built.
- They also will not support a snow load, so plastic must be removed each year. It is better to spend the money on a stronger tunnel.