

First to the Market

Amy Ivy

Direct market customers eagerly await the first veggies of the season. If a grower can beat their neighbor by even just a week or two they may well have a loyal customer for the rest of the season.

With this thought in mind, we ran a trial last summer to see if using a high tunnel would produce some warm season crops earlier than if grown outside. We also looked at whether using rowcover in both settings helped significantly. High tunnel space is considered 'valuable real estate' so growers rightly question whether taking up this space with a simple crop like beans or zucchini is worth it.

We held the trial at the Cornell Willsboro Research Farm in Essex county, with funding from the Northern NY Agricultural Development Program. The crops we trialed were bush green beans, zucchini and red bell peppers. The inside crops were planted in a 30x96' unheated, single layer high tunnel on April 23; one treatment had rowcover pulled over whenever the temperature was below 80 degrees and the other had no rowcover. The outside crops were planted on May 17 on black plastic.

One treatment was uncovered and the other was completely covered until June 14 (4 weeks). The zucchini variety was 'Partenon' which is parthenocarpic so it does not need pollination. The zucchini and peppers were set out as transplants and the beans were direct sown as seeds.

The full report will be available later this winter and will be available on our website, but in the meantime here are our key findings:

Bush Beans

- Cool soil temperatures resulted in very poor germination, both inside and outside the tunnel. We had to replant the tunnel planting and still didn't get good germination.
- To really push this crop consider setting out transplants for the first harvest.
- The tunnel did provide the first harvest a full week before the field planting, so this might be worth it in certain markets and then the crop could be pulled to make room for a mid-summer crop like basil.
- The rowcover did not make a difference in yield or timing either inside or outside the tunnel.

continued on next page



The tunnel on May 3 showing the covered and uncovered blocks. There were 4 replications of each treatment.

Zucchini

- The first tunnel harvest was 3 weeks before the first field harvest (May 23 in the tunnel, June 13 in the field).
- The rowcover in the tunnel and in the field gave only a slight improvement in earliness and yield, and good protection from early cucumber beetles, but this did not result in a statistical difference. The tunnel made a difference, but not the rowcover.
- By mid-June both locations had similar yields so in practice, the tunnel crop could be removed at this point to make room for a mid-summer crop like basil while the field plantings continue to produce.

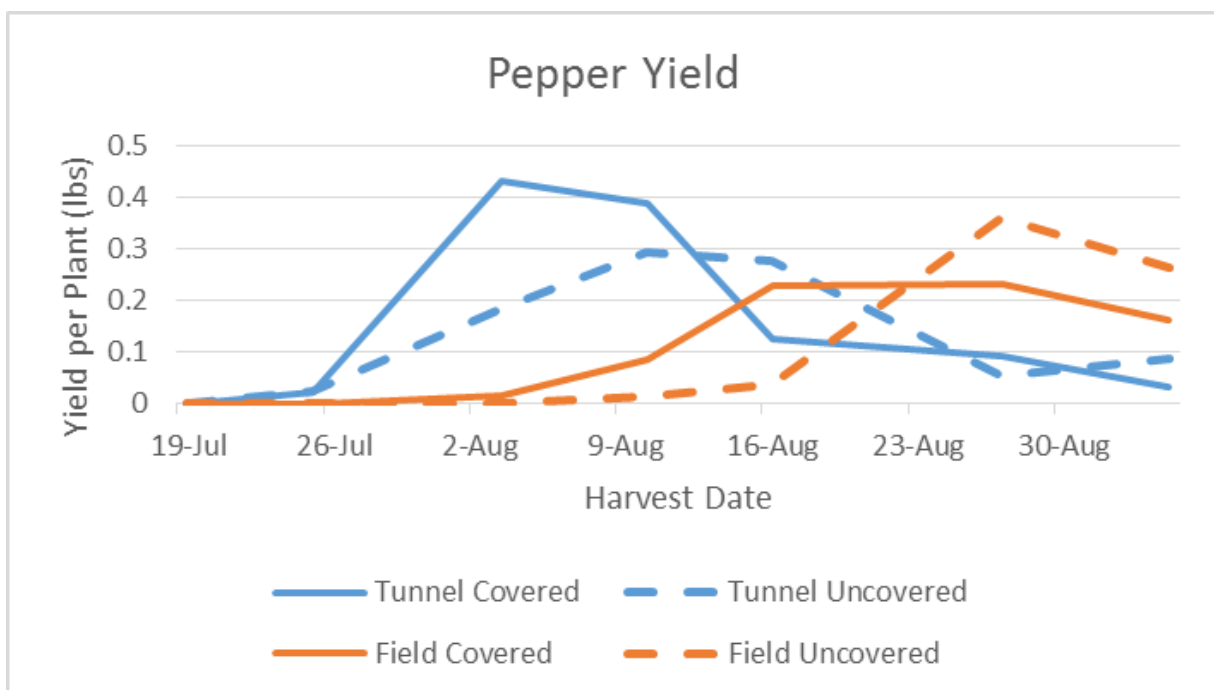
Sweet Red Bell Peppers

- The plants inside the tunnel began yielding 2 weeks earlier than the outside plantings.
- There were many fewer culls from sunscald on the inside tunnel plantings.
- Rowcover only slightly increased yields on both plantings, but not significantly.
- The April 23 planting date into the unheated tunnel was too early. These warm season plants languished under the chilly temperatures from late April through June.

- A later planting date of mid to late May would be more appropriate in this northern location. Our 2017 pepper trial had a planting date of May 25 and the plants were much more robust than the 2018 plants that got off to a very slow start. Further study on optimum transplant dates in tunnels is needed.



In our trial sunscald was worse on the plants grown outside the tunnel than inside. Sunscald and blossom end rot can cause similar symptoms on peppers. Check where the damage is occurring while the fruit is still on the plant. For sunscald, the damage will be on the side facing the sun the most directly. Blossom end rot also appears on the sides of peppers, rather than centered on the bottom of the fruit as it does in tomatoes.



This chart shows that the tunnel plants began yielding 2 weeks before the field plantings and the covered plants had only slightly higher yields than the uncovered plants.