

2010 Annual Report

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Summary

The production of ornamental spring bedding plants is an important sector in New York with more than \$107,400,000 in gross sales spread among some 800 growers. However, the production of flowers for the peak market season of May and June requires extensive heat inputs, often with propane, fuel oil or other non-renewable energy sources. Growers are challenged by escalating fuel costs. There is also increasing consumer demand for products grown with less non-renewable resources. Unheated 'high tunnel' greenhouses have become popular with vegetable growers for the harvest of early season produce without non-renewable heat inputs. In this project we are evaluating the commercial potential of combining vegetables and flowers in high tunnels.

In 2010 a trial of ornamental hanging baskets was grown above an in-the-soil crop of determinate tomatoes. These baskets were hung in blocks of different densities to measure yield impact on the understory crop. Other cold tolerant flower species were evaluated for economic performance in 'no-heat' tunnels.

The basket trial in 2010 gave very promising results with a net profit of 3.50/basket (after paying labor) or \$1050/4800 sq ft. This increase in revenue came with no loss of tomato yield.

Work continues in 2011 looking at more species for hanging baskets in low-to-no heat environments.

Objectives/Performance Targets

In 2010 we collected the following data:

- Photosynthetic active radiation (PAR) under the different blocks of baskets
- Economics of low-to-no heat hanging baskets based on farm gate value of petunias and tomatoes.
- Tomato yield under different basket densities (including a no-basket treatment)

Accomplishments/Milestones

Tomatoes grown without any baskets overhead (control) gave a mean yield of 24.63 lbs per plant compared to 24.18 lbs per plant for those with a low density of baskets and 25.08 lbs per plant under a high density of petunia hanging baskets. These differences were not significant statistically. The baskets received an average price of \$8.09 at wholesale auction. There were no recorded insect or disease issues on either crop.

In this trial hanging baskets above high tunnel tomatoes did not reduce tomato yield (although they did in a 2009 trial). The baskets themselves performed well economically with a wholesale gross of 8.09 per basket, netting \$3.50/basket (after expenses are deducted). Hanging petunia baskets would give a net return of \$525 per tunnel, if the tunnel were planted uniformly at a density of 32 sq ft per basket (75 baskets in 4800 sq ft). At the high density planting, of 16 sq ft per basket, the net return increases to \$1050 for the tunnel. It should be noted the grower reported a higher price for retail markets of 13.75 per basket. This would dramatically improve economic performance, yet these markets have additional expenses and may not sustain the same volume of sales as the wholesale auction.

Impacts and Contributions/Outcomes

Outreach of our results took place in the following meetings:

Dec 14 Mohawk Valley Produce Auction (Reid and Hoover)

Jan 11 WNY Bedding Plant School (Mattson)

Jan 12 Finger Lakes Produce Auction (Reid)

Jan 18 Long Island Ag Forum (Mattson)

Jan 27 Empire State Fruit and Veg Expo, Syracuse, NY (Hoover and Reid)

Jan 27 Pennsylvania, SE Region GH Grower's Day (Mattson)

Feb 16 Indiana Flower Growers Association Spring Bedding Plant Conference (Mattson)

Feb 22 Capital District Greenhouse School (Mattson)

Feb 23 Hudson Valley Greenhouse School (Reid)

A posting was made to the Cornell Vegetable Program blog: <http://blogs.cce.cornell.edu/cvp/archives/957>

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Attachments:

Copy of Empire Expo Proceedings paper.: [http://mysare.sare.org/mySARE/assocfiles/930611Reid_Expo_Proceedings_High Tunnel Hanging Baskets FINAL.pdf](http://mysare.sare.org/mySARE/assocfiles/930611Reid_Expo_Proceedings_High_Tunnel_Hanging_Baskets_FINAL.pdf)

Presentation with flower grower focus.: http://mysare.sare.org/mySARE/assocfiles/930611Mattson_LowEnergyAnnuals_18Jan2011.pdf

Presentation with vegetable grower focus.: [http://mysare.sare.org/mySARE/assocfiles/930611Reid_High tunnel baskets and tomatoes.pdf](http://mysare.sare.org/mySARE/assocfiles/930611Reid_High_tunnel_baskets_and_tomatoes.pdf)

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