

## **Title:** High Tunnel Colored Bell Pepper Economics 2013

### Report to Pennsylvania Vegetable Marketing Research Program

#### **Personnel:**

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#### **Introduction:**

Steve has been carrying out field trials in non-tree fruit produce both cooperatively and independently for 11 years. Successful projects include row cover performance evaluations, strawberry nutrient analysis, summer squash field trials, tomato variety trials and a long running program evaluating cut flower cultivars and pest management practices. Since 2001, in conjunction with the Franklin County Master Gardeners and more recently the PSU Southeast Research and Extension Center (SEAREC) staff, Steve has been managing annual commercial and consumer tomato tastings and evaluations with varieties that have both market garden and more commercial applications.

Tim conducts educational programming for fruit, small fruit and commercial vegetable producers in Lancaster county, and conducts research trials at the Penn State Southeast Agricultural Research and Extension Center (in Lancaster county) to provide additional information for fruit and vegetable producers in Pennsylvania. Tim's long-running pumpkin variety trial is one of the first places growers look as they explore the next season's varieties.

#### **Introduction**

For the last two years (2011 and 2012), we've demonstrated that high tunnel production of colored bell peppers solves the twin problems of field losses due to fruit rots and entrance into the local market place late in the season. Tunnel culture of colored bell peppers increases packout to levels similar to green bells. Harvest of tunnel-grown colored bells begins at about the same time as field production of green bell peppers. What is not known are the economics of High Tunnel Bell Pepper production. Participant evaluations from the 2012 High Tunnel School in Lancaster indicate that production economics are one of the most important issues to new and expanding growers as they consider high tunnel production.

This trial will use a selection of the best colored bell pepper cultivars from the 2011 and 2012 trials planted in large enough blocks to be economically significant. The trial will be split into two sections: 1) Those that are harvested green as early as possible, then later allowed to fully ripen once field green peppers show up in the local market and, 2) Those that are harvested only fully colored. In this manner, we will be able to create two production budgets from this single trial, thus providing growers with management alternatives. This trial will be held at the PSU SEAREC in the four season tunnel. Peppers will be evaluated for yield, quality and marketability. All production costs including labor (here as time in this project for specific chores such as tying, spraying, harvesting...) will be tracked for use in creating the final budgets.

### **Results:**

This trial will need to be repeated due to catastrophic plant losses. Initially, the trial was installed in the soil in the 96' x 25' LedgeWood High Tunnel at PSU SEAREC. After losing a number of plants to what was believed to be Southern blight, the trial was replanted in #2000 nursery pots using a high coir potting media. Over the next month and running into the harvest period, plants continued to die off. The specific pest was identified as likely being a new insect, the European Pepper Moth. The larval stage of this pest girdles the plants around the base very near the soil line. Nearly 30% of the plants were eventually destroyed.

If this trial is refunded for 2014, regular basal applications of a Bt formulation will be applied to prevent a repeat of this insect infestation. The European Pepper Moth is a relative newcomer to PA, but had been identified in several MD greenhouses on petunia.