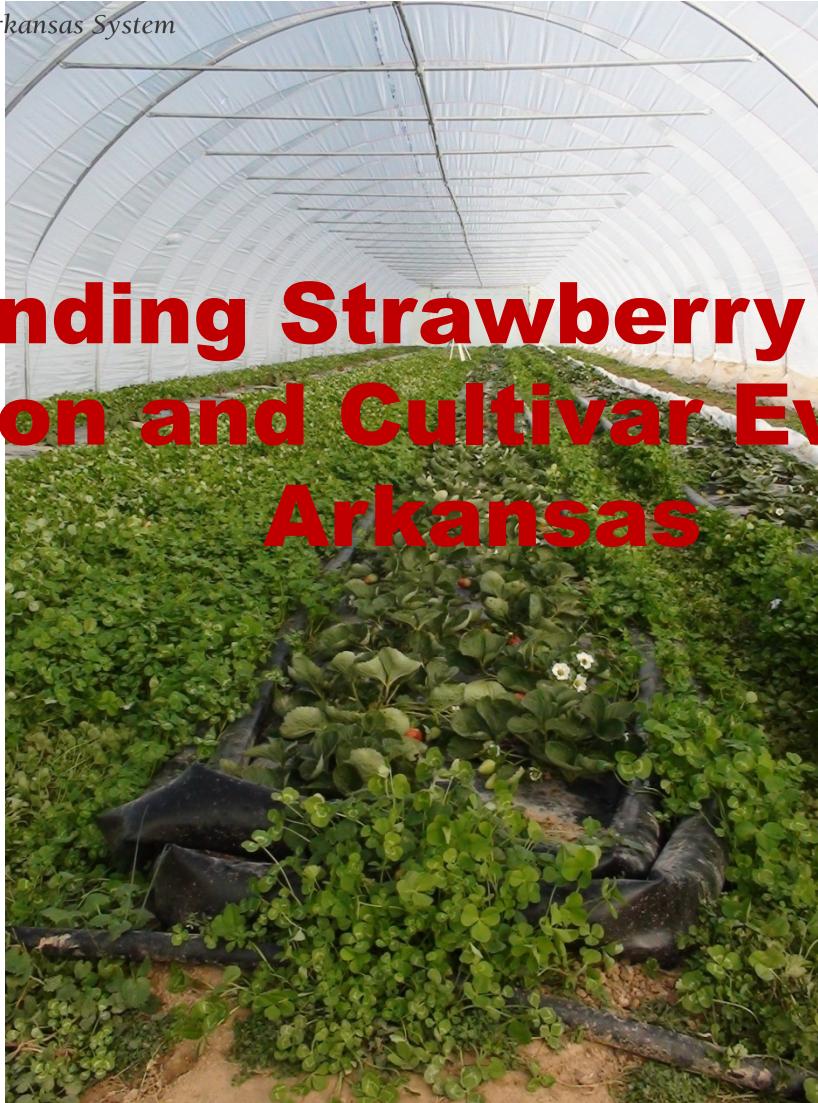


# **Expanding Strawberry Season Production and Cultivar Evaluation in Arkansas**



**M. Elena Garcia, D. Dickey, and C. I. Vincent**

# Strawberry production in AR

- Currently in Arkansas the fresh strawberry market extends from April to May
- There is market potential for fresh, locally grown strawberries throughout the year.
- Off-season production would be a unique and specialized item for holiday consumption, and could bring high returns to the grower<sup>z</sup>.

# Objective

- To determine feasibility for off-season strawberry production under a high tunnel plasticulture system in Arkansas.
- To determine cultivars (Alvion and Festival) best suited to the local environment in a high tunnel plasticulture system in November through December.

# Off- Season Strawberry Production

- Location: Fayetteville, AR
- Planting dates:
  - Sept 15, 2010 and Oct 1
- Cultivars: 'Festival' and 'Albion'
- Plants were sent by Dr. Poling (North Carolina)
- Beds are approximately 28" wide.
- 'Albion' plugs were considered to be only in "fair" condition.

- Split plot design



- **October 15, 2010-** First bloom noticed on September planted 'Festival'.
- **November 1, 2010-** Noticed first bloom on October planted treatment.

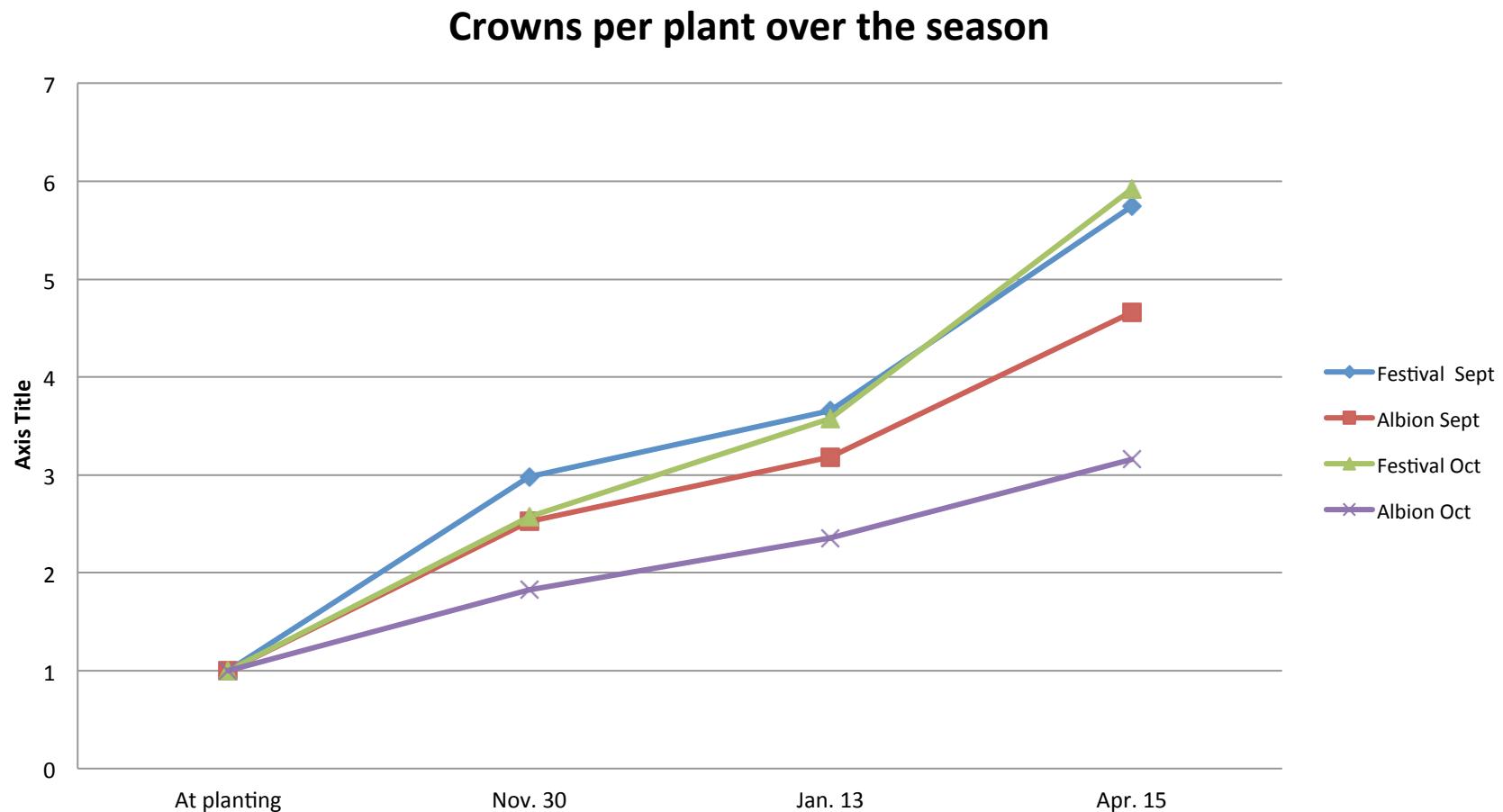
# Pollination

- **Mid--November** - A hive of bumble bees was placed in the high tunnel for pollination purposes.
- BBs lasted approximately six weeks.
- BB activity seemed negligible when tunnel temps were below 70 degrees F.
- A hive of honey bees was brought in high tunnel but hive began to deteriorate possibly due to disorientation under the tunnel.

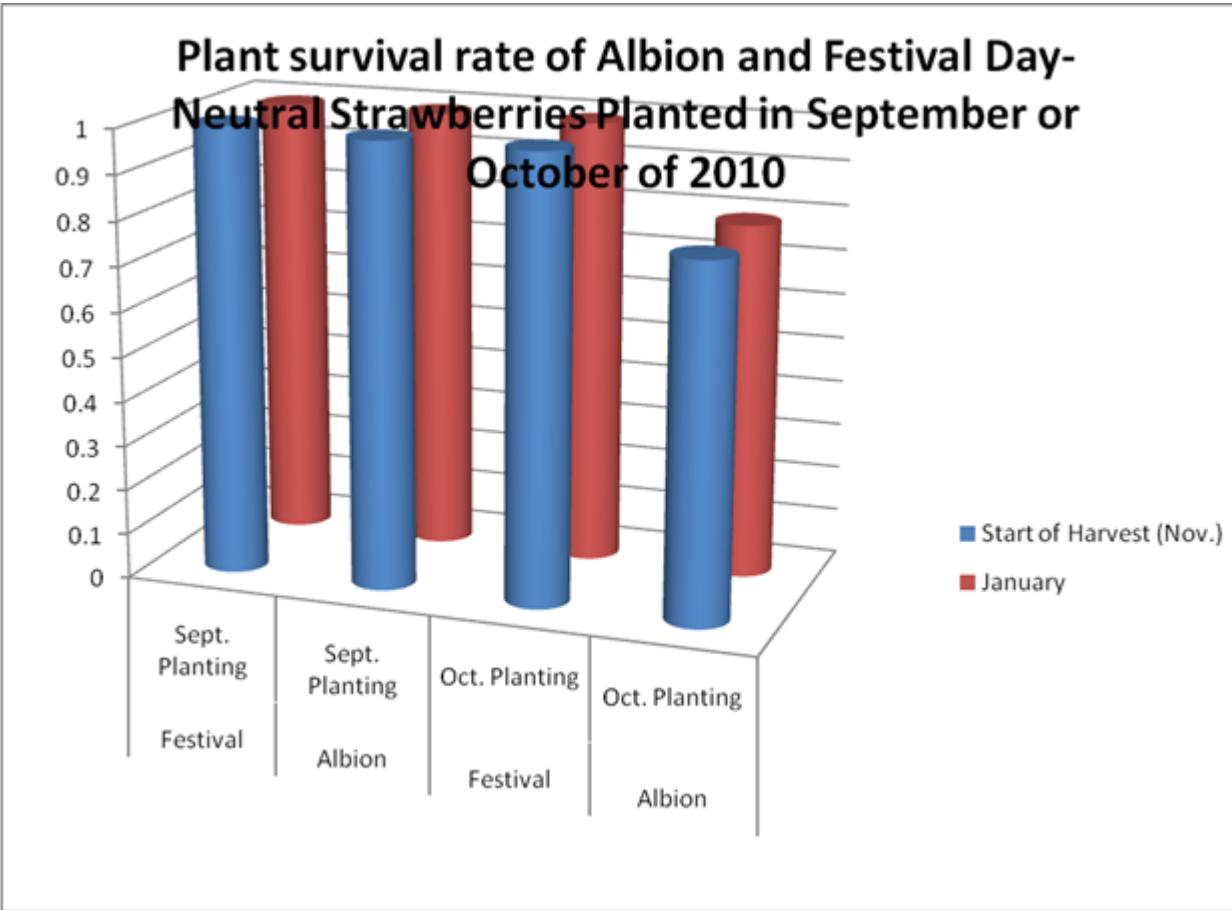
# Harvest

- November 30 - Harvested first berries
- January 11, 2011-
  - Harvest all fruit
  - Double row covers left off plants to incrementally prepare plants for quiescent period.
- On 10 February 2011, the minimum temperature reached in:
  - Fayetteville =  $-20.2^{\circ}\text{F}$  and remained below  $-10^{\circ}\text{F}$  from 3am to 10am
- Feb 21- Reopened tunnels

# Results: Number of crowns

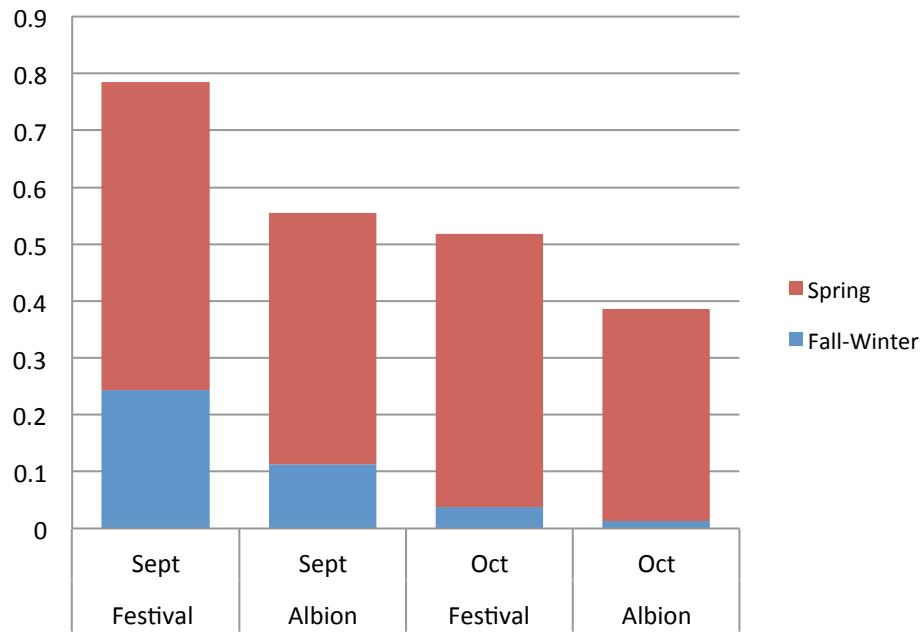


# Results: Plant survival

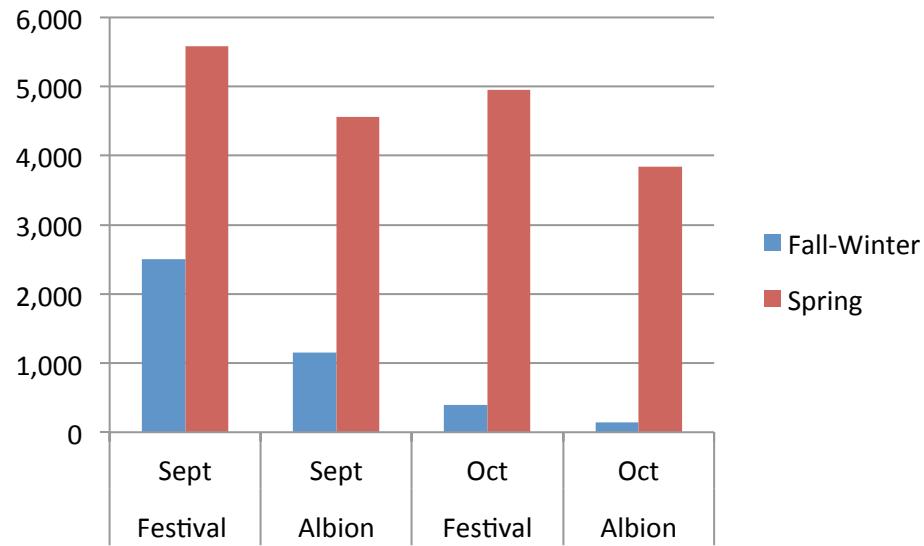


# Results: # Berries

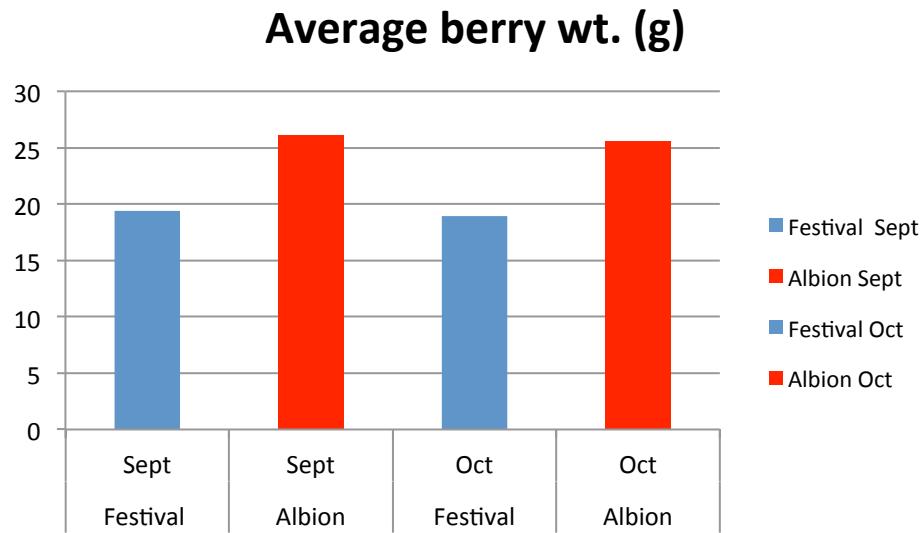
**Total yield (lb/plant) in fall, winter, and spring harvested day neutral strawberries**



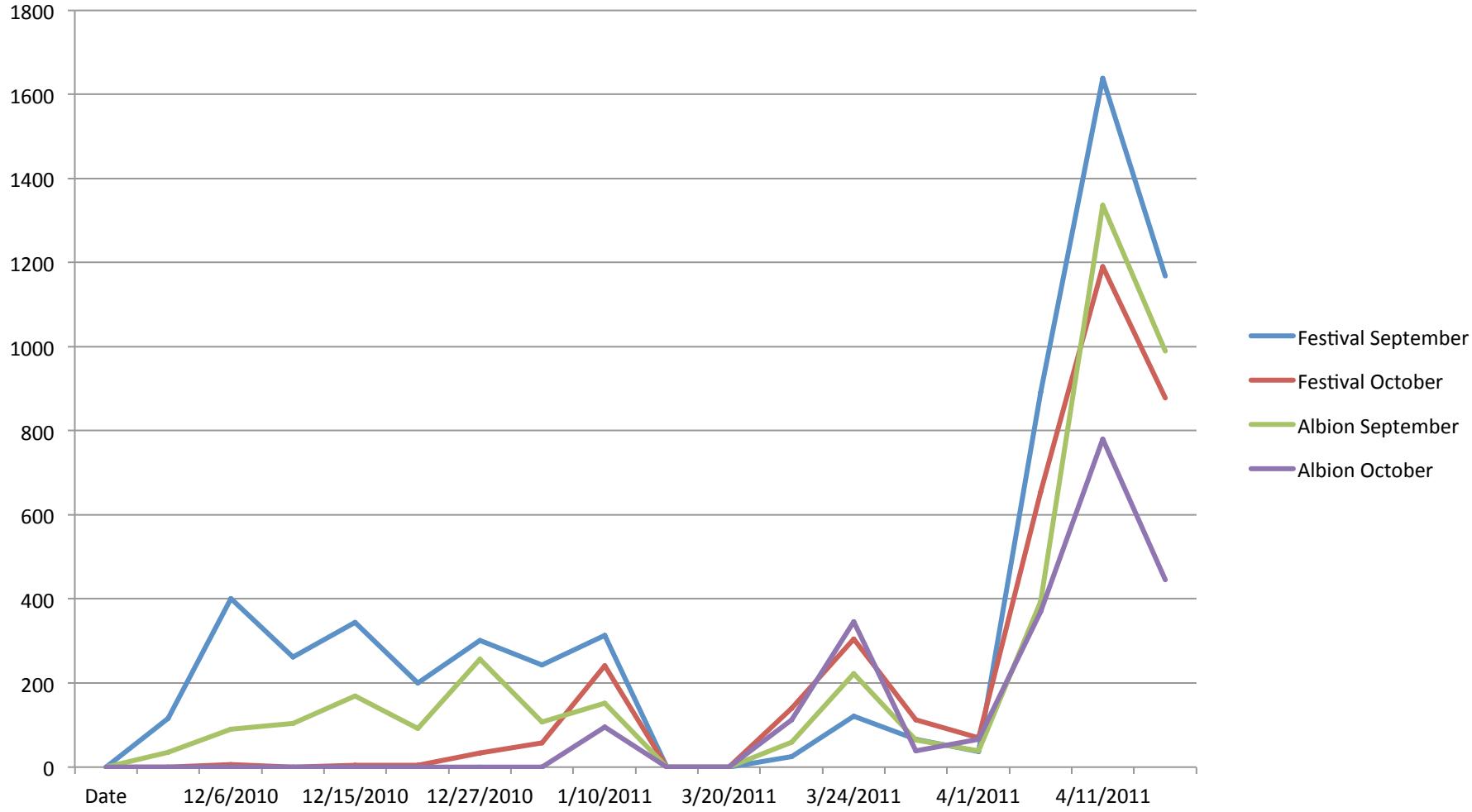
# Results: Yield per acre



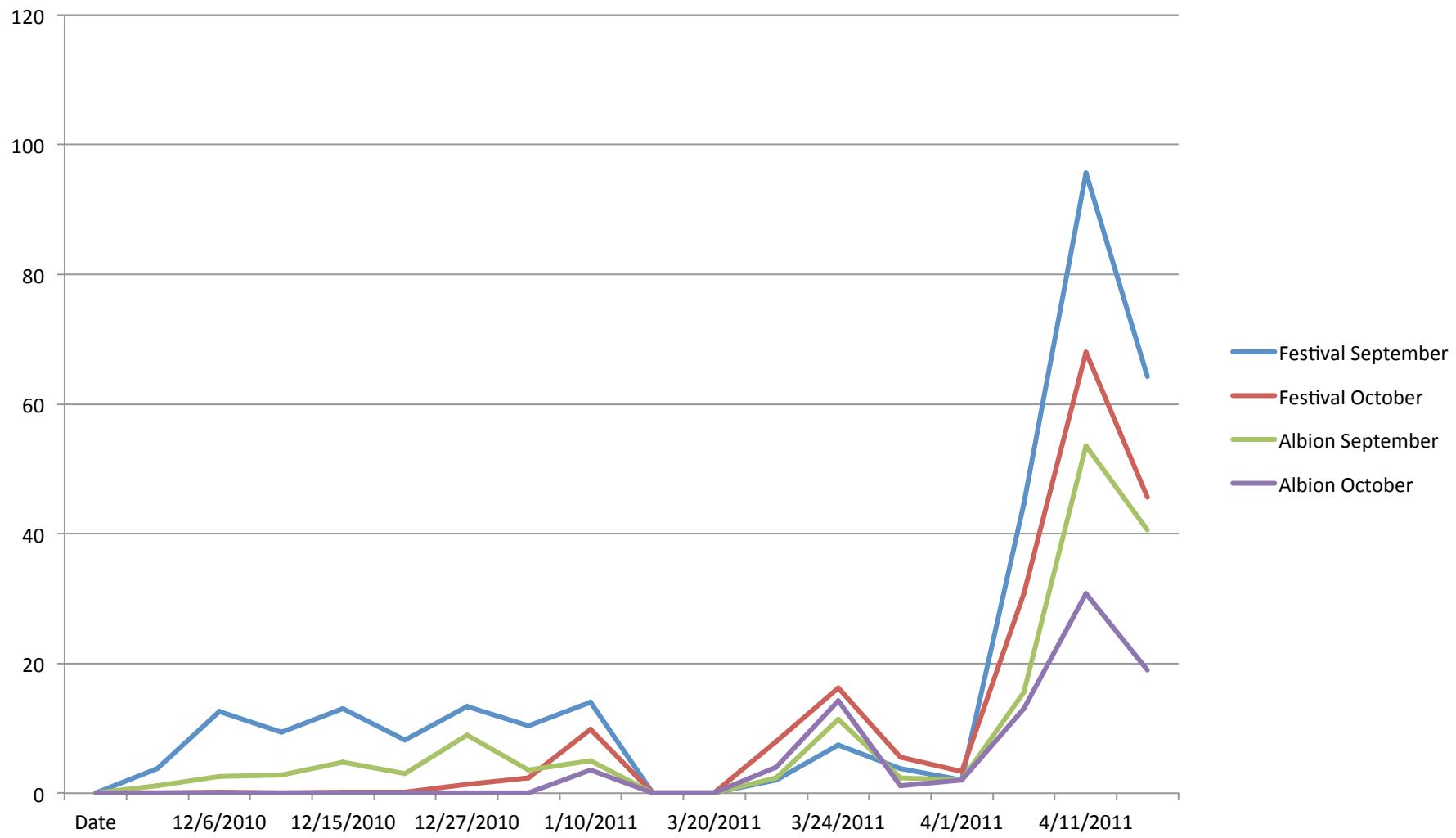
# Preliminary Results: Berry Weight



# Preliminary Results: Yield over Season (lbs/acre)



# Preliminary Results: # berries/harvest





# Problems

- Deer
- Powdery mildew
- Aphids
- Crickets
- Mice
- Humidity
- Prolonged berry harvest
- Nutrition management