

# Sustainable Hoop house Production: economics and horticulture

Judson Reid

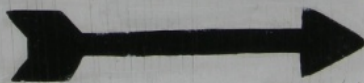
Cornell Vegetable Program

Strawberry  
Festival

Sat. AUG. 14

5 pm

West Fayette  
Church



FARM FRESH  
PRODUCE

STRAWBERRY  
TOMATOES  
ASPARAGUS  
SPINICH

OPEN

















# Tomato values

Tunnel Size                      2996 sq feet  
(square feet):

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Number of Plants:    600

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Variety:                      BHN 589

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Yield:                        16500 lbs

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Marketing:                \$1.5/lb

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**Total Revenue            \$24750**

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**Variable Costs            \$ 1089.35**

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**Total Revenue            \$ 23660.65**

**Return per sq ft=\$7.90**

Can tomatoes be beat?







# A High Value Crop

Tunnel Size                      3000 sq ft  
(square feet):

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Number of Plants:    1500

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Variety or Cultivar:    Presidio

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Yield:                              64950 cucumbers

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Marketing:                      1 cucumber@ 0.33

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**Total Revenue**                      \$21433.50

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**Total Costs**                              \$ 5,609.7

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**Total Revenue**                      \$ 15823.80

Sq ft return=\$5.27



# High Tunnel Peppers



# Tunnel Pepper Economics?

- Peppers-2/3 of a .5 bu per plant
- 500 plants per 3000 sq ft
- 330 boxes per year
- \$3,330
- Return per square foot=\$1.11
- Sq ft weeks equal to tomatoes but with less than half the return.
- Much less labor than tomatoes.
- Must be staked.





# Steps:

- Market!
- Build.
- Seed
  - Varieties
  - Dates
  - Fertilizers
- Manage pests.
- Harvest.



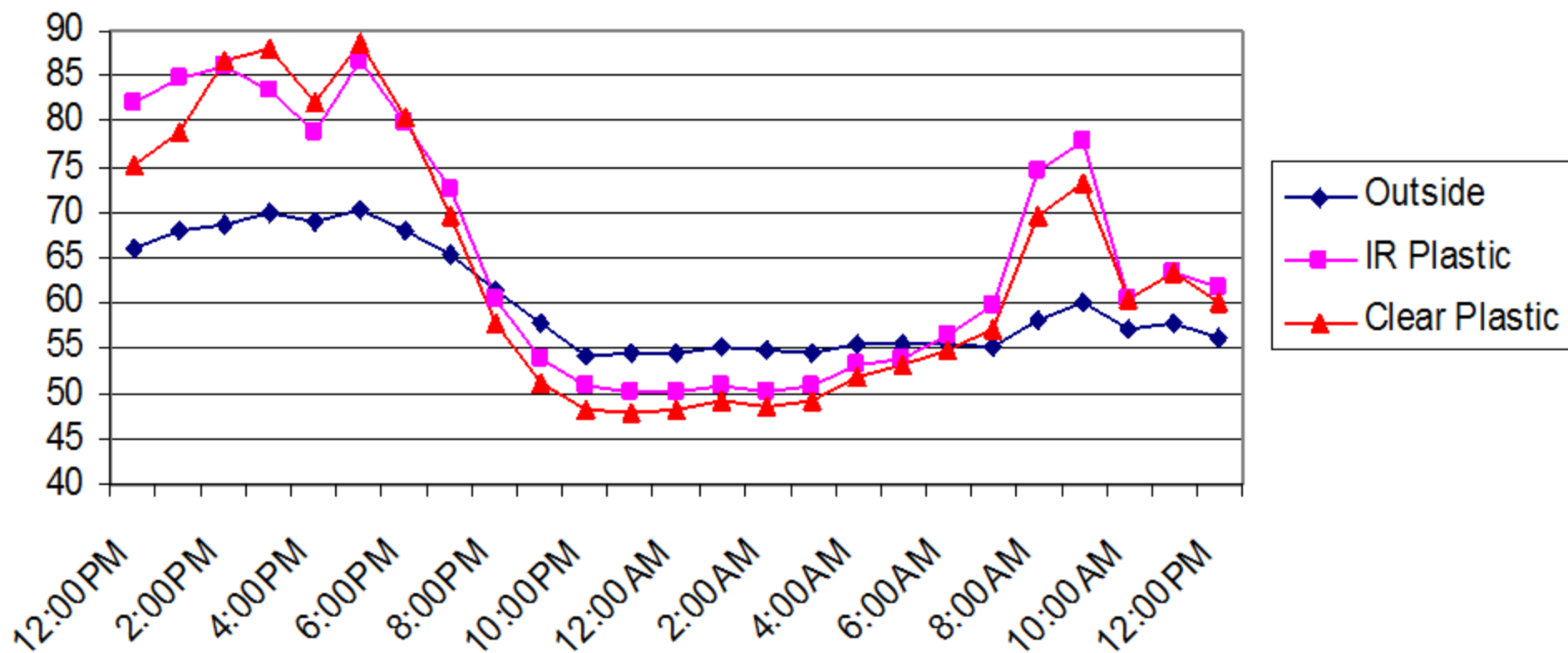








## High Tunnel Temperatures







# Winter greens values

Tunnel Size (square feet):	2996 sq ft
Number of harvests:	3
Varieties:	Chard, Arugula, Asian Greens
Yield:	900.00 lbs
Marketing:	\$10/lb
<b>Total Revenue</b>	<b>\$9000</b>
<b>Variable Costs</b>	<b>\$ 1320</b>
<b>Net</b>	<b>\$ 7680</b>

Return per sq ft=\$2.56

Annual returns:

\$424,023.53 per acre

or

\$1,047,338.13 per hectare

# Aphids and Whiteflies on tomato

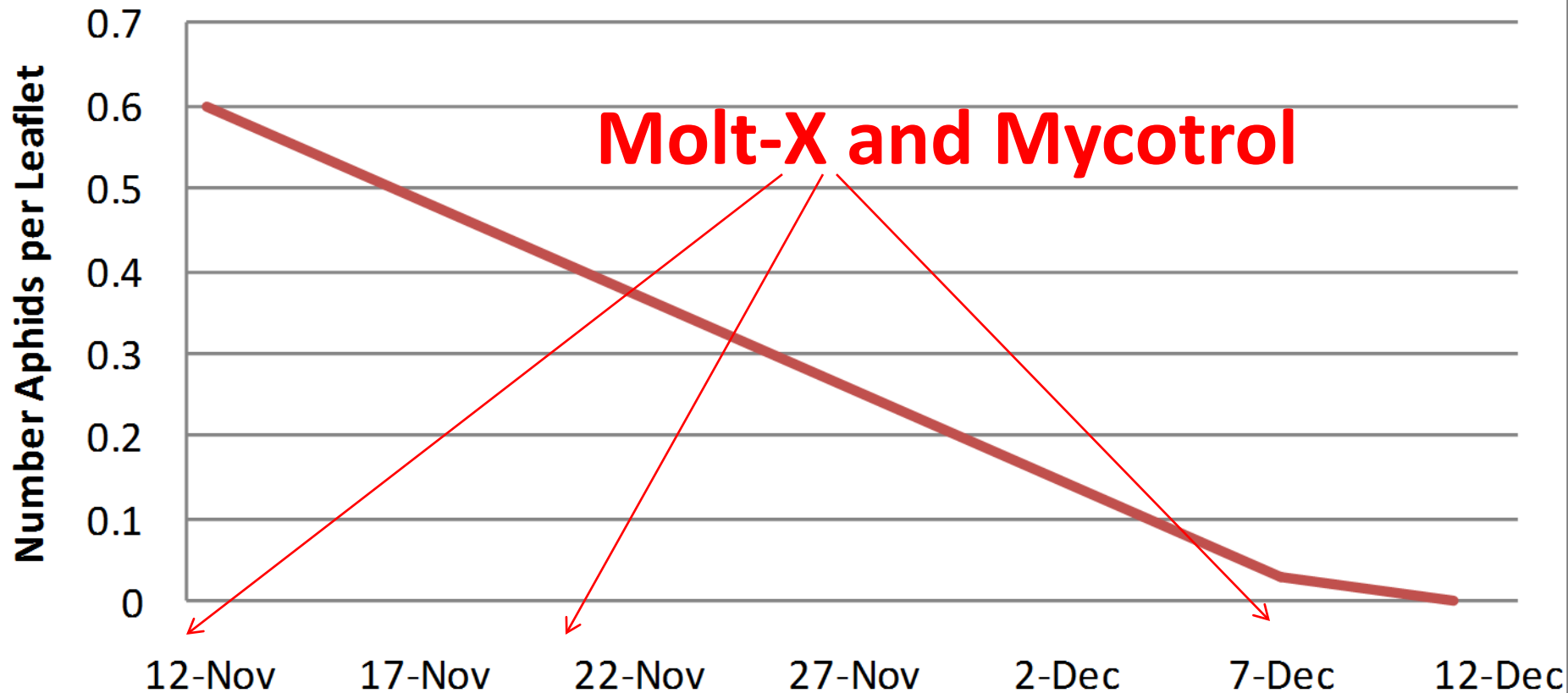




# Parasitoids




# Aphid Population in High Tunnel Winter Lettuce





# Colorado State University:

Percent Salt Reduction	Amount of Water Required
50%	6 inches
80%	12 inches
90%	24 inches

A long, empty, arched metal structure, likely a greenhouse or tunnel, covered in snow under a clear blue sky. The structure is made of many parallel metal arches supported by vertical posts. The ground is covered in a layer of snow, and the background shows a line of bare trees. The text "Soil health" is overlaid in the center of the image.

Soil health









Triticale, oats and vetch  
cover crop.



# Sustainable hoop houses

- Economics
  - Maximize yields per square foot while matching market demand
- Pest management
  - Variety selection
  - Low impact pest interventions
  - Rotation
- Soil health
  - Management
  - Rotation
  - Cover crops
- Social
  - Farmer and farmworker well being

# Questions?

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