



Performance of Blueberry Cultivars under High Tunnels

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High tunnels

- Unheated, plastic covered structures.
- Passive ventilation (roll-down side walls).
- Temporary structures.
- \$20-30K/acre.

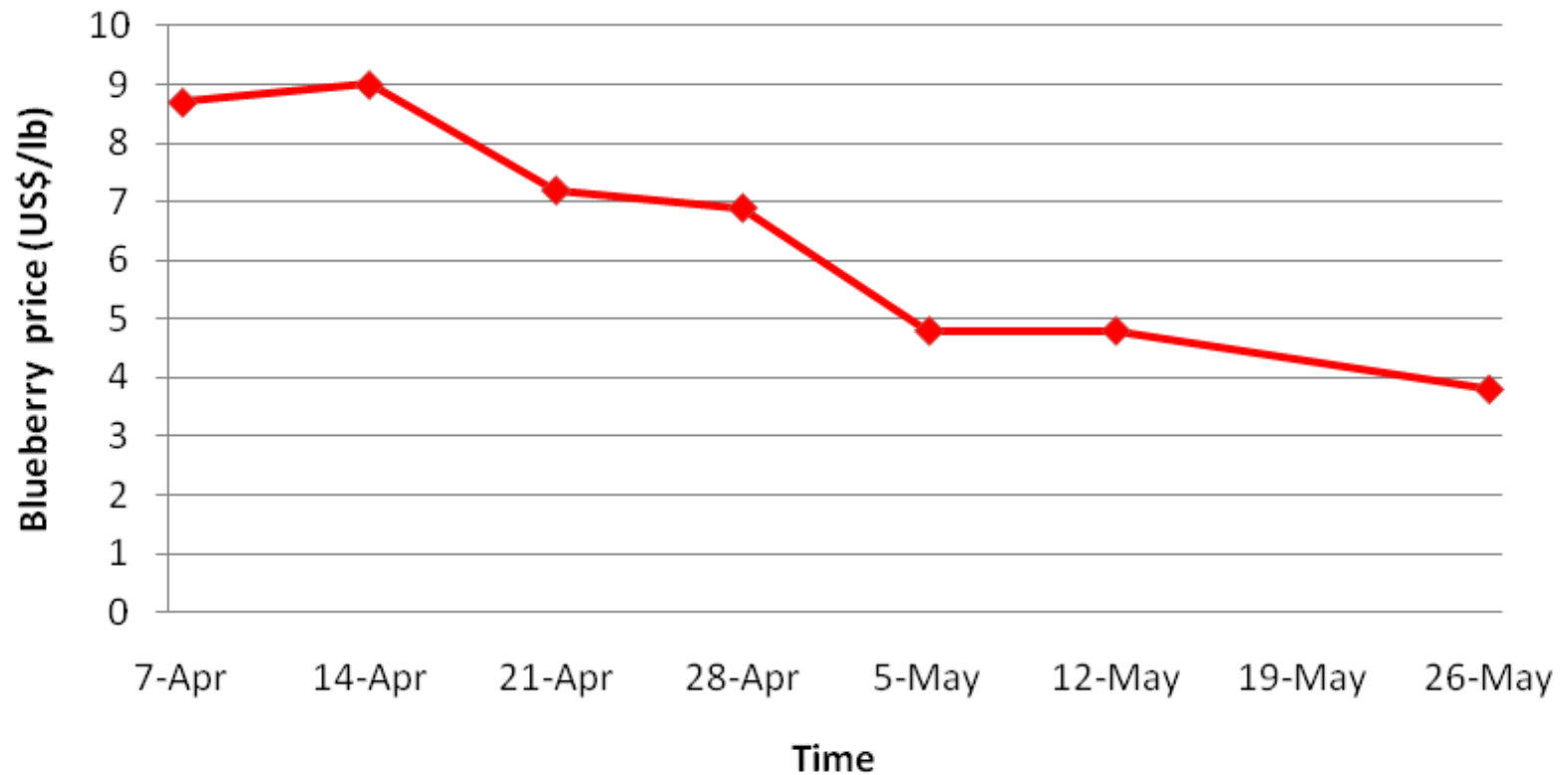


Why Blueberries in High Tunnels?

- Freeze protection (water savings)
- High early yields
- Increased revenues



Blueberry Prices



Harvest season north Fla.: April 1 to May 15

Objective

To compare early yield of two blueberry cultivars grown under high tunnels and in open fields.



Materials and Methods

- Experimental Site
- Commercial Farm, Waldo, Florida.
- 2010 & 2011 seasons.
- Fine sand soil.
- Pinebark beds.
- Black row covers.



Materials and Methods

- Production systems: Open fields and high tunnels.
- Tunnels: 16-17 ft high.
- Two blueberry cultivars
 - 'Snow Chaser'
 - 'Springhigh'



Materials and Methods

- Freeze protection:
 - Open field
(sprinklers: 120 gal/min/acre)
 - High tunnels
(nozzles: 60 gal/min/acre)
- Turn on water for freeze protection at 34-33°F.



Materials and Methods

- Ventilation of high tunnels.



Materials and Methods

- Summer management.



Temperatures

| 2010 | Days under 33F | Min. Temp. (F) | Max. Temp. (F) |
|----------------------|----------------|----------------|----------------|
| Open field | 27 | 19.3 | 93.6 |
| Open field | 25 | 19.8 | 93.2 |
| High tunnel entrance | 8 | 29.3 | 97.0 |
| High tunnel center | 2 | 31.7 | 97.0 |

| 2011 | Days under 33F | Min. Temp. (F) | Max. Temp. (F) |
|----------------------|----------------|----------------|----------------|
| Open field | 34 | 20.6 | 115.5 |
| Open field | 32 | 20.6 | 114.6 |
| High tunnel entrance | 5 | 31.7 | 129.4 |
| High tunnel center | 1 | 32.5 | 115.5 |

Water Savings

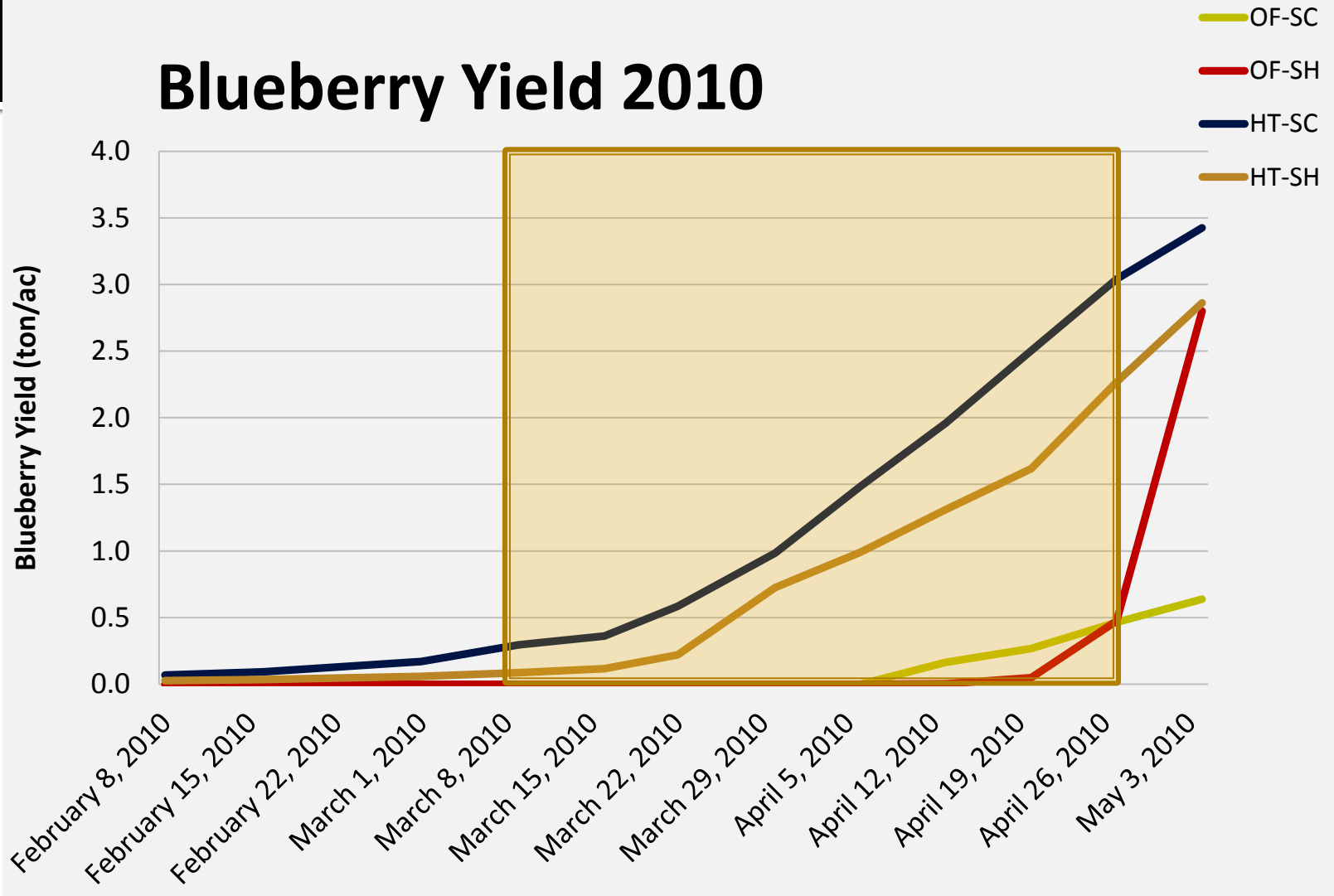
Open Fields:

- $60,000 \times 25 \text{ days} = 1,500,000 \text{ gal/acre}$

High Tunnels:

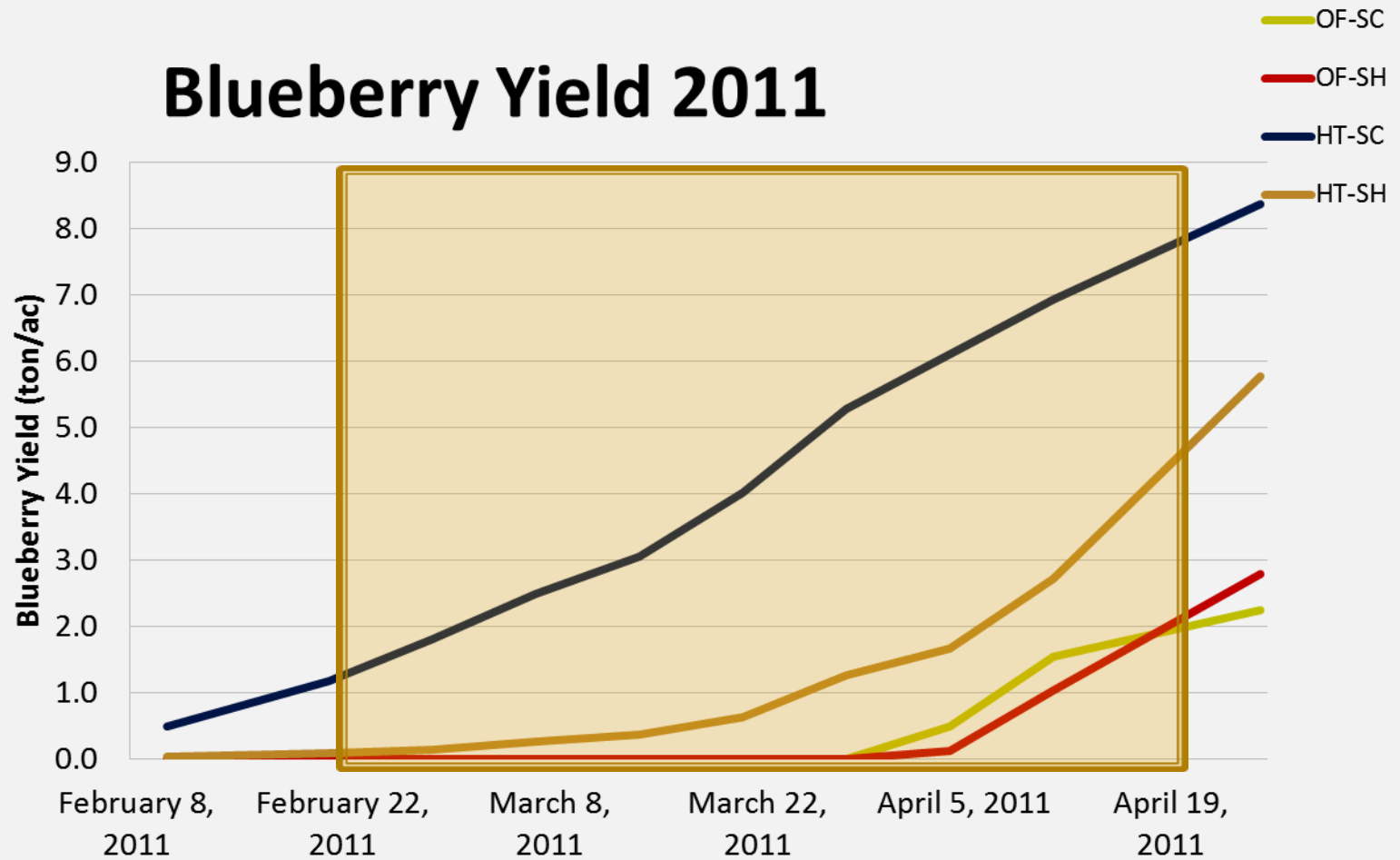
- $30,000 \times 8 \text{ days} = 240,000 \text{ gal/acre}$

Blueberry Yield 2010



11 Harvests from Feb 8 to May 4

Blueberry Yield 2011



11 Harvests from Feb 8 to April 25

Summary

- Blueberry production under high tunnels started earlier than open field production.
- 'Snow Chaser' was earlier than 'Springhigh'.
- Higher revenues due to high early yields.
- Identify appropriate areas for tunnels.
- Water savings.





Thanks!
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