

Small Fruit Research at  
K-State Horticulture  
Research and Extension Center,  
Olathe:  
A Progress Report  
Ted Carey  
Kansas State University

### High tunnels for small fruit production in Kansas

#### 2005

- Blueberry – 5 cultivars
- Raspberry – 3 fall bearing cultivars
- Blackberry – 3 thornless cultivars + newer fall bearing cultivars and lines
- **Fall 2006 + 2007**
- Strawberry – day neutrals for fall production.

### Haygrove high tunnel – 3 season



### Haygrove stories


- Ed Weaver, Morgantown PA. (0.5 to 4 acres) – cherries, strawberries, raspberries, blueberries, tomatoes
- John Cooper, Simcoe Ontario. Haygrove rep. (1 to >10 acres) – raspberries, tomatoes, strawberries
- Fahrmeier Farms, Waverly, MO (2 acres) – raspberries, tomatoes, strawberries

### Blueberry Cultivar Trial

- Planted Spring 2005
- Blue Crop, Duke, Jersey, Patriot, Sierra (Hartmann's Plant Co., Lacota, MI)
- Soil acidified with sulfur applications and incorporated peat at planting (pH 4.5).
- Planted on raised bed, 3' within row x 8' between rows.
- Mulched with sawdust; wood chips.



**Blueberry - planted 2005**



**In – 1.8 lb/5- plant plot**  
**Out – 1 oz/5- plant plot**

**Patriot – 2.9 lb; Sierra – 2.4 lb; Blue Crop – 1.5 lb;**  
**Duke – 1.2 lb; Jersey – 0.8 lb**



November 3, 2007



April, 2008



Profuse flower bud set on some



Sierra  
Jersey



Blueberry yields – Olathe, 2008

(Harvest 6/25 to 7/30)

		lb/acre	@\$6/lb
Blue Crop (Mid)	In	4,368	26,443
	Out	1,852	11,211
Duke (Early)	In	5,203	31,496
	Out	2,904	17,577
Jersey (Late)	In	7,408	44,846
	Out	3,022	18,296
Patriot (Early)	In	7,927	47,984
	Out	4,118	24,925
Sierra (Mid)	In	10,200	61,745
	Out	4,207	25,467



### Thornless Blackberry Cultivar Trial

- Ouachita (Arkansas Berry and Plant Farm), Navajo, Apache (Indiana Plant and Berry Co.)
- Ouachita plugs (Cedar Valley Nursery, Centralia, WA)
- Planted on raised bed. 3' between plants within row, 8' between rows
- Mulched heavily with chopped alfalfa



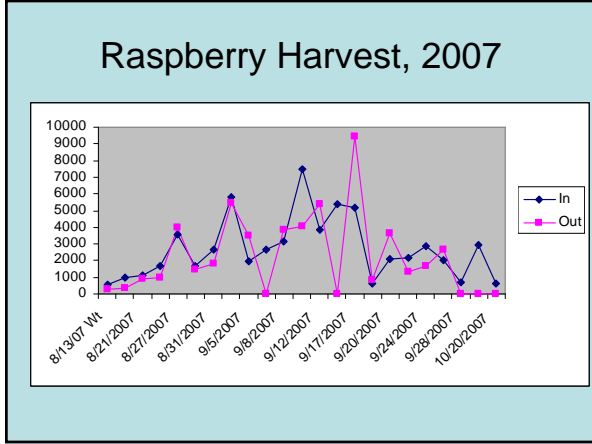
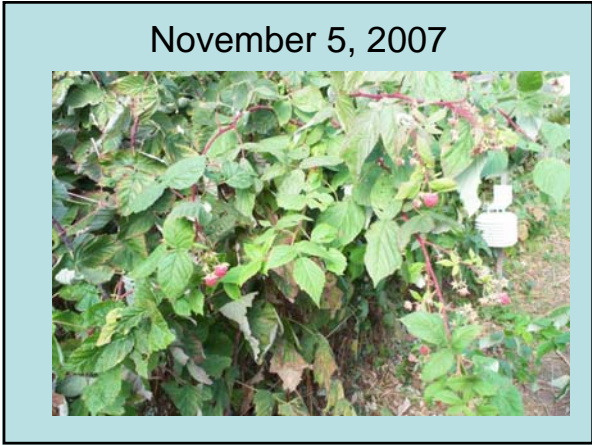
### Raspberry Cultivar Trial

- Heritage, Autumn Britten, Kiwi Gold (Nourse Farms, Deerfield, MA)
- Planted on raised bed, 2.5' within row and 8' between rows.
- Mulched heavily with chopped alfalfa
- Pruned to the ground, winter 2005-2006.

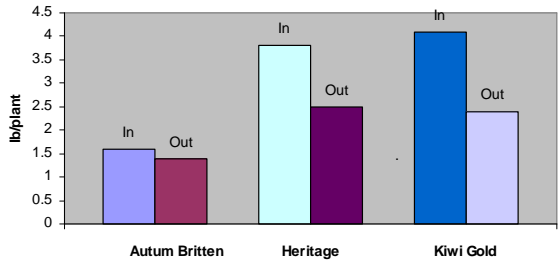


### Raspberry experiences and plans

- Mite infestation in tunnel, spring 2006 controlled with predatory mites (Hydrogardens, CO).
- Trellising necessary
- Pruning – Complete cane removal and partial cane removal can allow for crop production over an extended season.



### Fall Bearing Raspberry Marketable Yield in 2007 (lb/plant)



### Fall Bearing Raspberry – Olathe, 2007

		Frt wt (g)	lb/acre	@\$8/lb
Autumn Britten	In	1.9	3,428	27,427
	Out	1.7	3,061	24,488
Heritage	In	1.5	8,170	65,359
	Out	1.1	5,535	44,281
Kiwi Gold	In	1.4	9,015	72,116
	Out	1.1	5,532	41,056



April, 2006  
Navajo – outside  
Cold damage



April, 2006  
Navajo – inside  
No cold damage



June 18, 2006  
Navajo – inside

Yield higher in tunnel. Not measured.

Jungle in tunnel!  
Pruning and trellising challenge

July 23, 2007



### Additional blackberry trials

- Visited U. Arkansas, May, 2006.
- Obtained additional blackberry cultivars from breeder
  - Thornless
  - Fall bearing (thorny!). Prime Jim, Prime Jan (checks)

### Information Sources

- Midwest Small Fruit Pest Management Handbook – Ohio State University Extension Bulletin 861
- Bramble Production Guide – NRAES 35
- Blueberry Production Guide – NRAES 55
- Growing Blueberries in Missouri – Bul. 44
- High tunnel raspberries and blackberries <http://www.fruit.cornell.edu/berry.html>

Come and visit any time



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