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Live. And Learn.

Blackberry Experiences – RCA Trellis and Thornless Cultivars

Patrick Byers Regional Horticulture Specialist MU Extension – Webster County Marshfield, Missouri, USA





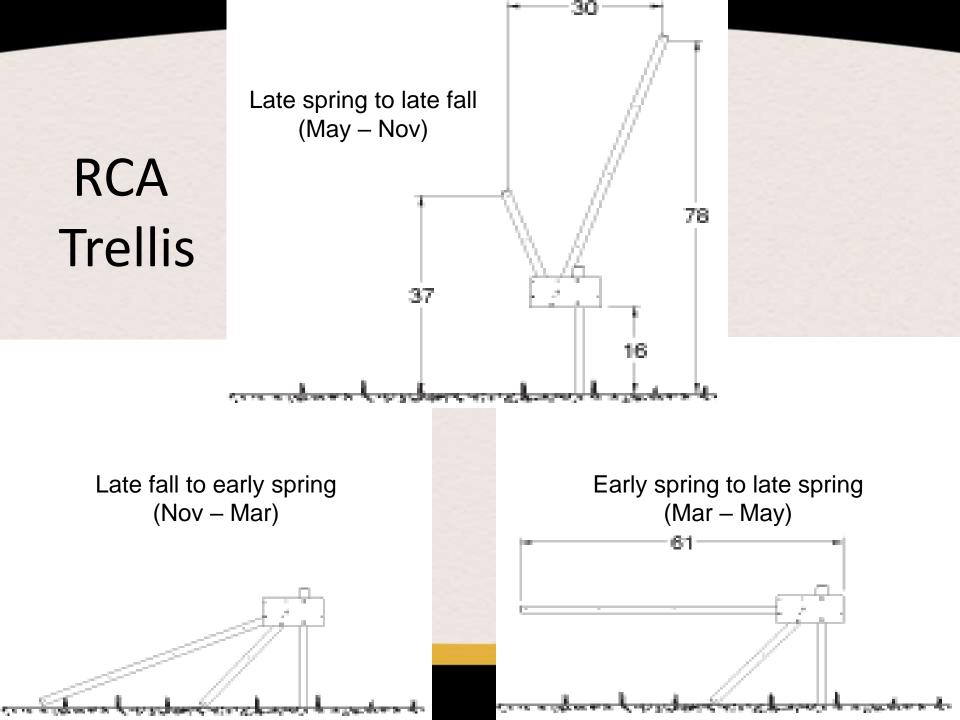
Outline

- Description of the project
- Overview fall 2016 fall 2017
- Schedule of activities in the planting
- Results of the cultivar trial
- Spotted wing drosophila and Japanese beetle
- Observations



RCA Trellis

- Advantages
 - Easier and efficient harvest, all fruit is on one side of the canopy.
 - Improved productivity
 - Enhanced control of SWD
 - Less sunscald, fruit is in the shade
 - Winter protection.
- Disadvantages
 - Expensive.
 - Harder to learn how to train and prune.
 - Management intensive







Extension The Cultivars

- Floricane fruiting cultivars
 - Natchez
 - Osage
 - Ouachita
 - Apache
 - Triple Crown
- Primocane fruiting cultivars
 - Freedom
 - Traveler

Extension The Planting

- Located at MU Southwest Research and Education Center, Mount Vernon (hardiness zone 6b)
- Funded with a MDA Specialty Crops Block Grant
- Established 2016
- 3 rows, 12 foot apart, each row 132 feet long, oriented east/west
- Plants planted 5 feet apart, in plots of 3 plants per cultivar, with 3 plots per cultivar
- Plants on raised beds, covered with landscape fabric, with a single 18 mm dripline per row with 18" emitter spacing



UNIVERSITY OF MISSOURI Extension Burning the Holes







Outreach and promotion





Overview Fall 2016 – Fall 2017

- Activities in the demonstration planting
- Workshops
- Blackberry promotional activities

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Schedule of Activities in the Planting: Fall 2016-Fall 2017

- Tipping of primocanes
- Applying the row cover
- Removing the row cover

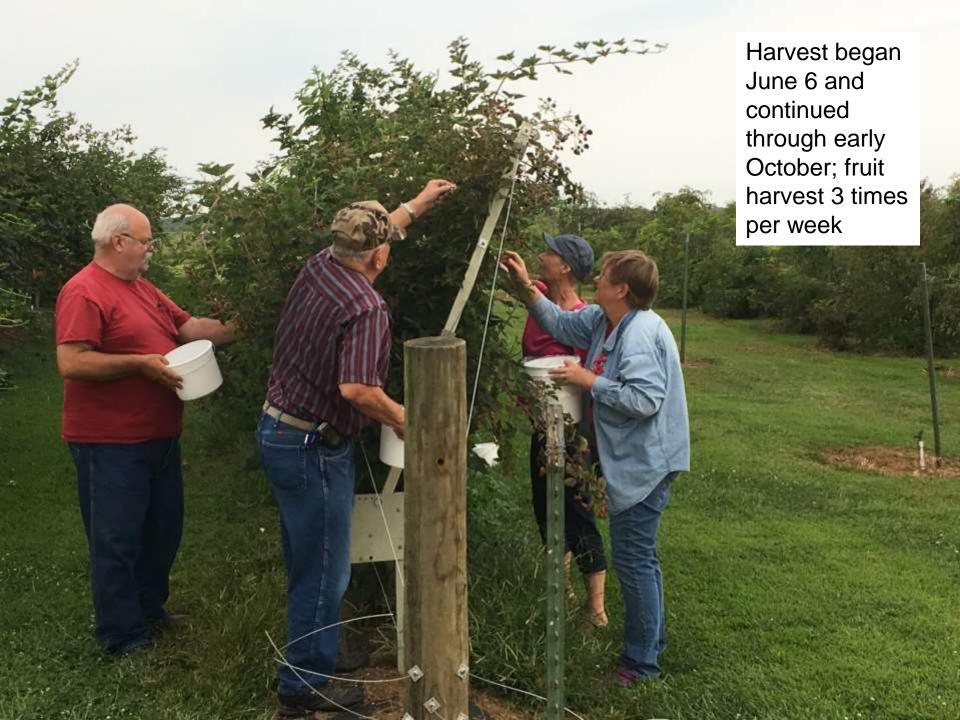
- Training primocanes
- Harvest
- Removing floricanes
- Training laterals





The rowcovers were removed March 18 2017

Primocane training started on April 15 and continued through June; primocanes were trained 2 times per week



Floricane removal began as soon as harvest concluded for each cultivar

Pruned floricanes were removed from the planting



Training laterals began as soon as the floricanes were removed and out of the way; laterals were trained once per week

Does anyone see a problem?

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Laterals were tipped, pruned and positioned for winter in late November





The trellis was lowered into the winter position

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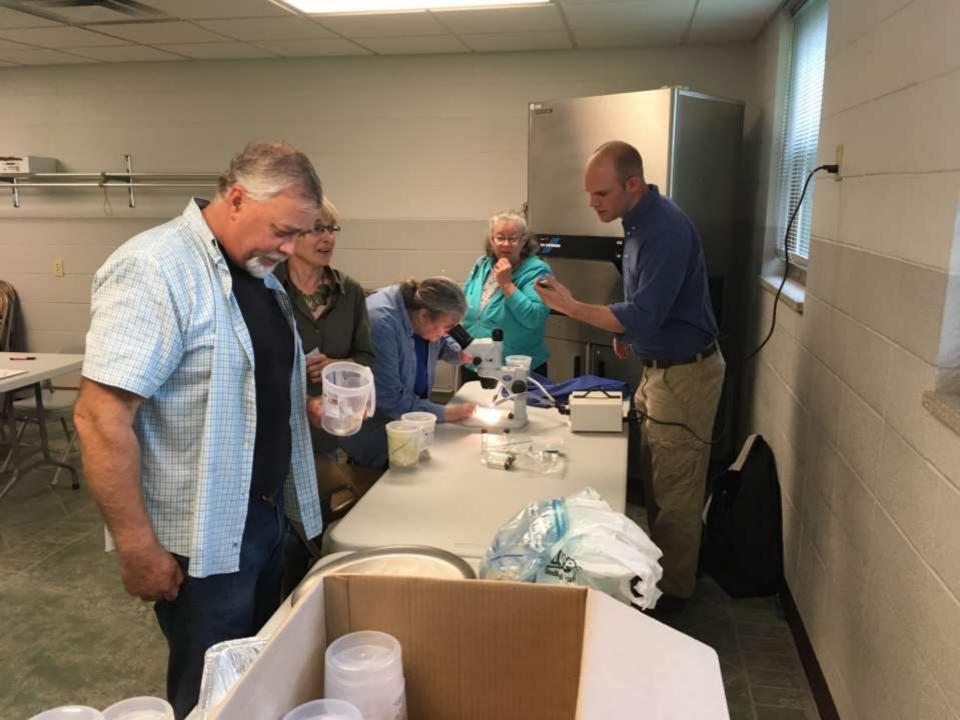
Rowcovers were placed on December 8 2017

The state



2017 Blackberry Workshops

- Spring Workshop, April 26, MU Southwest Research Center, Mt Vernon.
- Summer Workshop, June 21, MU Southwest Research Center, Mt Vernon.
- Summer Workshop, June 28, Arnold, MO and Belleville, IL
- Fall Workshop, July 26, MU Southwest Research Center, Mt Vernon.
- Winter Workshop, November 15, MU Southwest Research Center, Mt Vernon.









Chris Eckert of Eckert's Farm describes the RCA trellis

2018 Blackberry Workshops

- April 25 Mount Vernon
- April 26 Farmington
- June 27 Mount Vernon



For details, see: http://www.webbcityfarmersmarket.com/grower-training.html

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2017 Promotional Activities

- Children eating blackberries at free kids meal 600
- Families receiving blackberries at food pantries- 200
- Number of people learning at 5 blackberry food demonstrations - 250
 - blackberry dressing/marinade
 - blackberry smoothies
 - blackberry & cheese grilled sandwiches
 - a variety of other recipes







Results of the Cultivar Trial

- Floricane harvest
- Primocane harvest

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Floricane Harvest

Cultivar	First Harvest	Peak Harvest Reached	Final Harvest
Natchez	June 6	June 27	July 26
Traveler	June 6	June 20	July 24
Freedom	June 16	June 20	July 3
Osage	June 16	July 3	August 7
Ouachita	June 16	June 27	August 2
Apache	June 30	July 10	September 1
Triple Crown	July 10	July 26	August 18



Floricane Harvest

Cultivar	Total Yield/plant (g)	Total Yield /plant (lb)	Berry Size (g)
Natchez	7620	16.8	7.43
Traveler	6610	14.6	4.98
Freedom	467	1.0	8.97
Osage	4697	10.3	5.11
Ouachita	6190	13.6	6.30
Apache	4316	9.5	8.34
Triple Crown	5167	11.4	4.88



Primocane Harvest

Cultivar	First Harvest	Peak Harvest Reached	Final Harvest
Freedom	July 26	August 9	October 1
Traveler	July 26	August 11	October 1

Cultivar	Total Yield/Plant (g)	Total Yield/Plant (lb)	Berry Size (g)
Freedom	1596	3.5	11.29
Traveler	3323	7.3	4.99



Taste Test Results

- Three taste testings in 2017:
 - Webb City Farmers Market, Webb City (n=20)
 - Summer Blackberry Workshop, Mount Vernon (n=11)
 - July Master Gardeners of Greene County chapter meeting, Springfield (n=15)

(417) 859-2044 ByersPL@missoul

Rating Scale:

1 = terrible, why did I put this in my mouth

- 2 = poor, this isn't very good
- 3 = acceptable, I would eat this
- 4 = good, I like this

HELLC

5 = fantastic, the best ever!



Blackberry Taste Test Ratings – Flavor

Cultivar	Webb City	Mt Vernon	Springfield	Average
Apache	3.55 ^z	3.19	3.20	3.31
Natchez	3.90	3.55	3.27	3.57
Ouachita	3.25	3.00	2.93	3.06
Osage	4.00	3.55	4.14	3.90
Triple Crown	2.90	3.18	3.14	3.07
Freedom	3.80	3.00	3.47	3.42
Traveler	3.50	2.90	3.73	3.38



Blackberry Taste Test Ratings – Size

Cultivar	Webb City	Mt Vernon	Springfield	Average
Apache	4.25 ^z	4.09	4.40	4.25
Natchez	4.25	3.82	3.60	3.89
Ouachita	3.65	3.18	2.86	3.23
Osage	3.65	3.27	3.87	3.60
Triple Crown	3.55	3.30	3.50	3.45
Freedom	4.00	4.20	4.53	4.24
Traveler	3.60	3.00	3.60	3.40



Blackberry Taste Test Ratings – Appearance

Cultivar	Webb City	Mt Vernon	Springfield	Average
Apache	4.40 ^z	3.82	4.53	4.25
Natchez	4.15	3.90	3.93	3.99
Ouachita	3.75	3.80	2.92	3.49
Osage	3.8	3.90	4.21	3.97
Triple Crown	3.6	3.40	3.93	3.64
Freedom	4.05	4.33	4.44	4.27
Traveler	3.7	3.20	3.87	3.59



Blackberry Taste Test Ratings – Overall Acceptance

Cultivar	Webb City	Mt Vernon	Springfield	Average
Apache	3.55 ^z	3.45	3.80	3.60
Natchez	3.74	4.00	3.47	3.74
Ouachita	3.30	3.10	2.85	3.08
Osage	3.70	3.80	3.87	3.79
Triple Crown	3.22	3.00	3.50	3.24
Freedom	3.90	3.33	3.47	3.57
Traveler	3.55	2.73	3.80	3.36



Floricane Issues

Anthracnose





Primocane Issues

- Double berry on Freedom
- Cane breakage on Freedom
- Calyx issue on Traveler
- Late crop coincided with SWD pressure

Photo: Amanda McWhirt



Spotted Wing Drosophila and Japanese Beetle

- Management
- Research



Extension

Spotted Wing Drosophila

- Sprays were applied weekly on Friday, using a backpack sprayer
- Spray schedule:
 - Mustang Max
 - Delegate
 - Malathion
- We applied a total of 19 sprays from June-Oct!



Japanese Beetle

- Japanese beetles were early in 2017
- The SWD program controlled the beetles, except when Delegate was used

SWD trial, using different attractant mixtures



Observations

- The RCA trellis requires a lot of attention!
- Be careful when training primocanes
- Don't let down your guard with SWD
- Try to remove floricanes as soon as possible and train laterals as soon as possible
- Not sure if primocane crop is profitable on RCA trellis in Missouri

Any Questions?

Patrick Byers MU Extension – Webster Co 417-859-2044 byerspl@Missouri.edu

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