

# 2011 Missouri Blueberry School

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<http://mtngrv/missouristate.edu>

Commercial Horticulture

# Blueberry Variety Reports

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2009 – 30 Years of Blueberries in Missouri

Dr. Ben Fuqua

Long term trial on Bluetta, Collins, Blueray, Bluecrop, Jersey, Berkeley, Coville, and Lateblue

2008 – Michigan Blueberry Update: Varieties, Weeds and Water Management

Dr. Eric Hanson

Chandler susceptible to stem blight

Legacy not susceptible to stem blight,  
possibly resistant

# Blueberry Variety Reports

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2006 – Illinois Blueberry Industry –  
What works for Us  
Dr. Elizabeth Wahle

Cultural recommendations, but no varietal

2005 – Update on Blueberry Cultivar  
Performance at Mountain Grove  
Dr. Martin Kaps

Will report on this today

# Blueberry Variety Reports

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2004 - Blueberry Variety Trial Results and  
Production in Kentucky  
Dr. John Strang

Best yielding varieties were Brigitta and Bluegold in one trial and Toro, Reka, Bluegold, Bluecrop, Brigitta, Patriot, Nelson, and Sierra in a second trial

# Blueberry Variety Reports

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2003 – Blueberry Varieties for the Ozarks –  
Standards and Anything New to Consider?

Dr. John Clark

Suggested that Duke, Bluecrop, Blueray, Jersey and Coville are proven performers; Legacy, Ozarkblue, Summit, Chandler, Nelson, Toro, Reka, and Brigitta should be trialed

# Blueberry Variety Reports

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1997 – New Blueberry Cultivars –  
What You Should Be Trying  
Dr. Chad Finn

Suggested that Reka, Nui, Nelson, Legacy,  
Chandler, Brigitta Blue, Duke, Toro, Ozarkblue  
should be trialed

# Blueberry Variety Reports

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1993 – Productivity of Blueberry Varieties

Dr. Ben Fuqua, Dr. Martin Kaps,

Ms. Marilyn Odneal

Will report on this today

1988 – Blueberry Varieties and Variety

Selection Criteria

Dr. Forrest Lane

Discussed the attributes of many varieties commonly grown at the time

# Blueberry Variety Reports

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1985 – SMSU Blueberry Cultivar Evaluations:  
An Update

Dr. Ben Fuqua

Ten year report on Springfield and Mountain  
Grove plantings



# Evaluation at Mountain Grove

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Planted 1998

Produced from 2000 to 2008

Fourteen highbush cultivars

Harvest season, yield, berry weight, plant height and spread, cane number

# Cultural Practices

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Site cover cropped and amended with sulfur two years before planting

Saw dust mixed into plant rows

Peat moss mixed into soil before setting plants

Initial soil pH 5.2

Plant spacing 4' X 10'

# Cultural Practices

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Wood chip mulch applied along rows

Grass sod row middle

Drip irrigation with acidified water

Nitrogen applied at 110 lb actual N/A

Annual dormant pruning

Pesticide application as needed

Bird netting used

# Highbush Varieties

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Bluecrop\*

Brigitta (Australia)

Chandler\*

Collins\*

Darrow\*

Duke\*

Legacy\*#

Nelson\*

Nui (New Zealand)

Ozarkblue (Arkansas)#

Reka (New Zealand)

Sierra\*

Summit (North Carolina)#

Toro\*

(\*NJ-USDA) (#southern  
highbush)

# Harvest Season

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Bluecrop	mid	Nelson	mid late
Brigitta	late	Nui	early mid
Chandler	mid late	Ozarkblue <sup>1</sup>	mid late
Collins	early	Reka	early mid
Darrow	late	Sierra	early mid
Duke	early	Summit <sup>1</sup>	mid late
Legacy <sup>1</sup>	late	Toro	early mid

season early June through  
late July

<sup>1</sup>southern highbush

# Yield (lb/bush)

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	Season	2005	2006	2008	2000-08
<b>Collins</b>	early	<b>3.5</b>	<b>4.2</b>	<b>6.2</b>	<b>4.2</b>
<b>Duke</b>	early	<b>8.1</b>	<b>5.5</b>	<b>5.9</b>	<b>6.4</b>
<b>Nui</b>	early mid	<b>8.1</b>	<b>6.6</b>	<b>12.3</b>	<b>7.5</b>
<b>Reka</b>	early mid	<b>11.4</b>	<b>8.8</b>	<b>14.3</b>	<b>9.5</b>
<b>Sierra</b>	early mid	<b>2.9</b>	<b>4.8</b>	<b>5.1</b>	<b>5.5</b>
<b>Toro</b>	early mid	<b>3.3</b>	<b>5.3</b>	<b>8.4</b>	<b>5.1</b>

# Yield (lb/bush)

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	Season	2005	2006	2008	2000-08
<b>Bluecrop</b>	mid	<b>5.9</b>	<b>8.8</b>	<b>3.5</b>	<b>7.3</b>
<b>Chandler</b>	mid late	<b>8.8</b>	<b>11.2</b>	<b>7.7</b>	<b>8.4</b>
<b>Nelson</b>	mid late	<b>10.8</b>	<b>13.9</b>	<b>16.1</b>	<b>10.8</b>
<b>Ozark blue</b>	mid late	<b>8.8</b>	<b>9.0</b>	<b>9.2</b>	<b>7.7</b>
<b>Summit</b>	mid late	<b>5.9</b>	<b>7.3</b>	<b>6.8</b>	<b>5.5</b>

# Yield (lb/bush)

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	<b>Season</b>	<b>2005</b>	<b>2006</b>	<b>2008</b>	<b>2000-08</b>
<b>Brigitta</b>	late	<b>5.9</b>	<b>10.3</b>	<b>21.3</b>	<b>10.3</b>
<b>Darrow</b>	late	<b>7.9</b>	<b>12.5</b>	<b>13.9</b>	<b>9.0</b>
<b>Legacy</b>	late	<b>7.0</b>	<b>7.7</b>	<b>18.3</b>	<b>9.7</b>



# Blueberry Varieties

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Blueberry variety talks have been presented ten times over the last 25 years at the Missouri Small Fruit and Vegetable Conference

Still a favorite among meeting attendees!

# Berry Weight (g)

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	<b>Season</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2000-06</b>
<b>Collins</b>	early	<b>1.5</b>	<b>1.4</b>	<b>1.2</b>	<b>1.5</b>
<b>Duke</b>	early	<b>1.6</b>	<b>1.5</b>	<b>1.4</b>	<b>1.6</b>
<b>Nui</b>	early mid	<b>2.2</b>	<b>2.1</b>	<b>1.8</b>	<b>2.3</b>
<b>Reka</b>	early mid	<b>1.3</b>	<b>1.3</b>	<b>1.1</b>	<b>1.3</b>
<b>Sierra</b>	early mid	<b>1.8</b>	<b>1.5</b>	<b>1.2</b>	<b>1.7</b>
<b>Toro</b>	early mid	<b>1.8</b>	<b>1.3</b>	<b>1.7</b>	<b>1.8</b>

# Berry Weight (g)

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	<b>Season</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2000-06</b>
<b>Bluecrop</b>	mid	<b>1.7</b>	<b>1.4</b>	<b>1.2</b>	<b>1.6</b>
<b>Chandler</b>	mid late	<b>2.9</b>	<b>3.0</b>	<b>2.1</b>	<b>3.0</b>
<b>Nelson</b>	mid late	<b>1.8</b>	<b>1.7</b>	<b>1.7</b>	<b>2.0</b>
<b>Ozark blue</b>	mid late	<b>1.6</b>	<b>1.9</b>	<b>1.5</b>	<b>1.9</b>
<b>Summit</b>	mid late	<b>1.7</b>	<b>1.5</b>	<b>1.3</b>	<b>1.9</b>

# Berry Weight (g)

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	<b>Season</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2000-06</b>
<b>Brigitta</b>	late	<b>1.8</b>	<b>2.1</b>	<b>1.7</b>	<b>2.1</b>
<b>Darrow</b>	late	<b>1.6</b>	<b>1.6</b>	<b>1.5</b>	<b>1.7</b>
<b>Legacy</b>	late	<b>1.8</b>	<b>1.8</b>	<b>1.7</b>	<b>1.9</b>

# Plant Height (ft)

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	<b>Season</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
<b>Collins</b>	early	<b>4.6</b>	<b>4.3</b>	<b>4.3</b>	<b>4.3</b>
<b>Duke</b>	early	<b>4.3</b>	<b>4.6</b>	<b>4.6</b>	<b>4.6</b>
<b>Nui</b>	early mid	<b>3.9</b>	<b>3.9</b>	<b>3.9</b>	<b>4.6</b>
<b>Reka</b>	early mid	<b>4.9</b>	<b>5.2</b>	<b>5.2</b>	<b>5.2</b>
<b>Sierra</b>	early mid	<b>4.6</b>	<b>4.6</b>	<b>4.6</b>	<b>3.9</b>
<b>Toro</b>	early mid	<b>4.9</b>	<b>3.3</b>	<b>3.3</b>	<b>3.9</b>

# Plant Height (ft)

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	<b>Season</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
<b>Bluecrop</b>	mid	<b>5.6</b>	<b>5.2</b>	<b>5.2</b>	<b>4.9</b>
<b>Chandler</b>	mid late	<b>4.9</b>	<b>4.3</b>	<b>4.3</b>	<b>4.6</b>
<b>Nelson</b>	mid late	<b>6.2</b>	<b>5.9</b>	<b>5.9</b>	<b>6.6</b>
<b>Ozark blue</b>	mid late	<b>4.9</b>	<b>4.6</b>	<b>4.6</b>	<b>4.9</b>
<b>Summit</b>	mid late	<b>5.2</b>	<b>4.6</b>	<b>4.6</b>	<b>3.3</b>

# Plant Height (ft)

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	<b>Season</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
<b>Brigitta</b>	late	<b>5.6</b>	<b>5.6</b>	<b>5.6</b>	<b>6.6</b>
<b>Darrow</b>	late	<b>5.2</b>	<b>4.9</b>	<b>4.9</b>	<b>5.2</b>
<b>Legacy</b>	late	<b>6.2</b>	<b>5.6</b>	<b>5.6</b>	<b>6.2</b>

# New Cane Number

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	<b>Season</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
<b>Collins</b>	early	<b>0.8</b>	<b>2.8</b>	<b>3.5</b>	<b>2.3</b>
<b>Duke</b>	early	<b>0.8</b>	<b>2.0</b>	<b>2.3</b>	<b>2.3</b>
<b>Nui</b>	early mid	<b>4.8</b>	<b>16.3</b>	<b>16.5</b>	<b>9.3</b>
<b>Reka</b>	early mid	<b>14.0</b>	<b>28.0</b>	<b>28.0</b>	<b>19.0</b>
<b>Sierra</b>	early mid	<b>2.5</b>	<b>4.8</b>	<b>5.0</b>	<b>3.5</b>
<b>Toro</b>	early mid	<b>3.5</b>	<b>2.0</b>	<b>3.3</b>	<b>2.3</b>



# New Cane Number

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	<b>Season</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
<b>Bluecrop</b>	mid	<b>2.5</b>	<b>5.0</b>	<b>5.8</b>	<b>3.3</b>
<b>Chandler</b>	mid late	<b>1.3</b>	<b>1.0</b>	<b>1.5</b>	<b>1.3</b>
<b>Nelson</b>	mid late	<b>1.3</b>	<b>3.3</b>	<b>3.3</b>	<b>1.8</b>
<b>Ozark blue</b>	mid late	<b>6.8</b>	<b>14.5</b>	<b>14.5</b>	<b>9.3</b>
<b>Summit</b>	mid late	<b>3.8</b>	<b>4.5</b>	<b>4.3</b>	<b>2.3</b>

# New Cane Number

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	<b>Season</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
<b>Brigitta</b>	late	<b>3.5</b>	<b>6.8</b>	<b>8.5</b>	<b>6.5</b>
<b>Darrow</b>	late	<b>5.3</b>	<b>13.8</b>	<b>14.5</b>	<b>7.5</b>
<b>Legacy</b>	late	<b>2.5</b>	<b>6.0</b>	<b>6.5</b>	<b>4.3</b>

# Observations

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Collins – upright and open, picks easily, colors well, medium fruit, fair flavor, low yield, susceptible to stem blight

Duke – upright and open, picks easily, colors well, occasional unevenness, medium fruit, fair flavor, moderate yield

Nui – low and spreading, picks harder because of height and foliage density, occasional uneven fruit ripening, large fruit, fair flavor, moderate yield

# Observations

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Reka – upright and open, picks harder because of uneven fruit ripening, small fruit, good flavor, high yield

Sierra – upright and open, picks easily, colors well, medium fruit, good flavor, low yield

Toro – upright and open, picks easily, colors well, medium fruit, fair flavor, low yield

# Observations

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Bluecrop – upright and open, picks easily, colors well, medium fruit, fair flavor, moderate yield

Chandler – upright and open, picks easily, colors well, large fruit, good flavor, moderate yield

Nelson – upright and open, picks easily, colors well, medium fruit, fair flavor, high yield

Ozarkblue – upright and open, picks easily, colors well, medium fruit, fair flavor, moderate yield

Summit – upright and open, picks easily, colors well, medium fruit, fair flavor, low yield

# Observations

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Brigitta – upright and dense, picks harder because of foliage density, colors well, medium fruit, good flavor, high yield

Darrow – upright and open, picks easily, medium fruit, colors well, fair flavor, high yield

Legacy – upright and open, picks easily, colors well, medium fruit, good flavor, high yield

# Recommendations based on Yield (\*\*higher, \*lower)

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Bluecrop\*\*

Brigitta\*\*\*

Chandler\*\*

Collins\*

Darrow\*\*\*

Duke\*\*

Legacy\*\*\*

Nelson\*\*\*

Nui\*\*

Ozarkblue\*\*

Reka\*\*\*

Sierra\*

Summit\*

Toro\*

# Evaluation on high pH<sup>1</sup> site

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		<b>1990-94</b>	<b>1990-94</b>	<b>1994</b>
	<b>Season</b>	<b>Yield</b>	<b>Berry Wt</b>	<b>Height</b>
		<b>(lb/bush)</b>	<b>(g)</b>	<b>(ft)</b>
<b>Collins</b>	early	<b>4.4</b>	<b>1.5</b>	<b>4.9</b>
<b>Earliblue</b>	early	<b>5.0</b>	<b>1.3</b>	<b>4.8</b>
<b>Patriot</b>	early	<b>3.9</b>	<b>1.8</b>	<b>5.0</b>
<b>Spartan</b>	early	<b>3.2</b>	<b>2.0</b>	<b>4.3</b>

<sup>1</sup>Soil pH 5.6 initial, 7.0 final



# Evaluation on high pH site

		<b>1990-94</b>	<b>1990-94</b>	<b>1994</b>
	<b>Season</b>	<b>Yield</b>	<b>Berry Wt</b>	<b>Height</b>
		<b>(lb/bush)</b>	<b>(g)</b>	<b>(ft)</b>
<b>Berkeley</b>	mid	<b>6.9</b>	<b>1.6</b>	<b>5.4</b>
<b>Bluecrop</b>	mid	<b>5.8</b>	<b>1.8</b>	<b>5.2</b>
<b>Bluejay</b>	mid	<b>3.5</b>	<b>1.3</b>	<b>3.6</b>
<b>Blueray</b>	mid	<b>4.2</b>	<b>1.9</b>	<b>4.7</b>
<b>Northblue</b>	mid	<b>2.8</b>	<b>1.7</b>	<b>2.9</b>
<b>Northland</b>	mid	<b>5.3</b>	<b>1.1</b>	<b>4.8</b>
<b>Pertic Blu</b>	mid	<b>4.3</b>	<b>1.6</b>	<b>4.4</b>

# Evaluation on high pH site

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		<b>1990-94</b>	<b>1990-94</b>	<b>1994</b>
	<b>Season</b>	<b>Yield</b>	<b>Berry Wt</b>	<b>Height</b>
		<b>(lb/bush)</b>	<b>(g)</b>	<b>(ft)</b>
<b>Coville</b>	late	<b>7.3</b>	<b>1.6</b>	<b>4.8</b>
<b>Elliott</b>	late	<b>3.7</b>	<b>1.5</b>	<b>4.3</b>
<b>Lateblue</b>	late	<b>5.1</b>	<b>1.6</b>	<b>4.2</b>

# Best Adapted to high pH

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Earliblue	early	moderate yield and small berry size
Berkeley	mid	high yield and moderate berry size
Bluecrop	mid	moderate yield and berry size
Northland	mid	moderate yield and small berry size
Coville	late	high yield and moderate berry size
Lateblue	late	moderate yield and berry size

# Evaluation in Springfield

## by Dr. Ben Fuqua

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	<b>10th Season</b>	<b>Yield (lb)</b>	<b>Berry Wt (g)</b>
<b>Bluetta</b>	early	<b>20.5</b>	<b>1.7</b>
<b>Collins</b>	early	<b>23.3</b>	<b>1.5</b>
<b>Berkeley</b>	mid	<b>31.4</b>	<b>1.6</b>
<b>Bluecrop</b>	mid	<b>28.1</b>	<b>1.5</b>
<b>Blueray</b>	mid	<b>21.6</b>	<b>1.8</b>
<b>Jersey</b>	mid	<b>26.0</b>	<b>1.2</b>
<b>Coville</b>	late	<b>31.8</b>	<b>1.7</b>
<b>Lateblue</b>	late	<b>29.8</b>	<b>1.5</b>

# Soil Type

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## Mountain Grove Plantings

### Viraton series

Silt loam topsoil, silty clay loam subsoil, 5 to 20% chert (stoniness), low permeability due to fragipan, acidic

## Springfield Planting

### Newtonia series

Silt loam topsoil, silty clay loam subsoil, deep and well drained, acidic

# Nursery Availability

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Berkeley<sup>3</sup>

Bluejay<sup>3,4</sup>

Blueray<sup>1,2,3</sup>

Bluetta

Bluecrop<sup>1,2,3,4</sup>

Brigitta

Chandler<sup>1,2,4</sup>

Collins

Coville<sup>1</sup>

Darrow<sup>2</sup>

Duke<sup>1,2,3,4</sup>

Earliblue<sup>4</sup>

<sup>1</sup>Hartmann's

<sup>2</sup>Nourse Farms

Elliott<sup>1,2,3,4</sup>

Jersey<sup>1,2,3</sup>

Lateblue

Legacy<sup>1,3,4</sup>

Nelson<sup>1,2,3</sup>

Northland<sup>1,2,3,4</sup>

Nui

Ozarkblue

Patriot<sup>2,3,4</sup>

Reka<sup>2,4</sup>

Sierra<sup>1,3</sup>

Summit

Toro<sup>1,3,4</sup>

<sup>3</sup>DeGrandchamp Farms

<sup>4</sup>Fall Creek Nursery

# Highbush Varieties 2009- Present

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Arlen - late

Aurora - late

Bluecrop - mid

Bluegold - mid

Chandler – mid late

Draper – early mid

Duke - early

Elliott - late

Hannah's Choice  
early mid

Jersey - late

Legacy – mid late

Liberty - late

Rubel – mid late

Nelson – mid late

# Highbush Varieties 2009- Present

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Arlen (North Carolina)<sup>1</sup>

Aurora (Michigan)<sup>1,3,4</sup>

Bluecrop<sup>1,2,3,4</sup>

Bluegold<sup>1,2,3,4</sup>

Chandler<sup>1,2,4</sup>

Draper (Michigan)<sup>1,3,4</sup>

Duke<sup>1,2,3,4</sup>

<sup>1</sup>Hartmann's

<sup>2</sup>Nourse Farms

Elliott<sup>1,2,3,4</sup>

Hannah's Choice<sup>1</sup>

Jersey<sup>1,2,3</sup>

Legacy<sup>1,3,4</sup>

Liberty (Michigan)<sup>1,3,4</sup>

Rubel<sup>1,4</sup>

Nelson<sup>1,2,3</sup>

<sup>3</sup>DeGrandchamp Farms

<sup>4</sup>Fall Creek Nursery