Delmarva Blueberry Variety Trial
Emmalea Ernest, University of Delaware
Project History

Establishment Studies funded by Specialty Crop Block Grant obtained by Hail Bennett

2010-2012

**Georgetown Research Farm**
Mulch Material Study
Soil Amendment Study
Variety Trial

**Bennett Orchards**
Mulch Material Study
Peat Moss Rate Study
Pine Bark Fines Study
Irrigation Study
Variety Trial
Project History

Early Production Year Yield Studies funded by Specialty Crop Block Grant obtained by UD

2013-2015

Georgetown Research Farm
Mulch Material Study
Soil Amendment Study
Variety Trial

Bennett Orchards
Variety Trial
Blueberry Variety Trials

<table>
<thead>
<tr>
<th>Variety</th>
<th>Reported Ripening</th>
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<tbody>
<tr>
<td>1 – Reka*</td>
<td>Early-Mid</td>
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<tr>
<td>2 – Toro*</td>
<td>Mid</td>
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<tr>
<td>3 – Bluegold*</td>
<td>Mid</td>
</tr>
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<td>4 – Chandler*</td>
<td>Late-Mid</td>
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<td>5 – Darrow*</td>
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<td>7 – Aurora*</td>
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<td>8 - Draper</td>
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<td>9 – Legacy*</td>
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<td>10 - Bonus</td>
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<td>11 - Bluecrop</td>
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<td>12 - Misty</td>
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<tr>
<td>13 - Jubilee</td>
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<tr>
<td>14 - Star</td>
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<tr>
<td>15 - New Hanover</td>
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<td>16 - Pamlico</td>
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<td>17 - Beaufort</td>
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<td>18 - Reville</td>
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<td>19 – Georgiagem</td>
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<td>20 - Hannah’s Choice</td>
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<td>21 - Sweetheart</td>
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<td>22 - Arlen</td>
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<td>23 - Lenoir</td>
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<td>25 – O’Neal</td>
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<tr>
<td>26 – Bluehaven*</td>
<td>Mid</td>
</tr>
<tr>
<td>27 – Nelson*</td>
<td>Mid-Late</td>
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Georgetown Research Farm
25 varieties
RCBD with 4 replications, 3 plants/plot

Bennett Orchards
10 varieties
10 plants of each variety
Blueberry Variety Trials

USDA Oregon
- Chandler

USDA New Jersey
- Bluegold
- Darrow
- Legacy
- Hannah’s Choice
- Sweetheart
- Chanticleer
- Bluecrop

North Carolina State University
- Pamlico
- Beaufort
- Reveille
- Arlen
- Lenoir

USDA Mississippi
- Reka

University of Georgia
- Jubilee
- Georgiagem

University of Florida
- Misty
- Star
### Average 3rd Fruiting Year Yield and Freeze Damage Observations from the Blueberry Variety Trial at Georgetown, DE REC

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<th>Variety</th>
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<th>2014</th>
<th>2015</th>
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2013 Freeze Damage to Flower Buds
2013 Freeze Damage to Flower Buds
Bennett Orchards Blueberry Trial Yield

- Yield (lbs/plant)

- Varieties: Nelson, Chandler, Bluegold, Bluehaven, Reka, Darrow, Toro, Legacy, Aurora, Liberty


Legend:
- 2013
- 2014
- 2015
Georgetown Blueberry Trial

Blueberry Yields 2013-2015

Yield (lbs/plant)

Legend:
- 2013
- 2014
- 2015
- 13-15 Avg

Species:
- Legacy
- Jubilee
- Lenoir
- Reka
- Misty
- Darrow
- Bluegold
- Aurora
- Chandler
- Sweetheart
- Bluecrop
- Draper
- Toro
- Star
- Liberty
- Reville
- Hannah's Choice
- Arlen
- Bonus
Variety Trial at Georgetown Research Farm – Early Varieties

2014 Blueberry Yield by Variety and Date

- Reka
- Toro
- Bluegold
- Chandler
- Darrow
- Liberty
- Aurora
- Draper
- Legacy
- Bonus
- Bluecrop
- Misty
- Jubilee
- Star
- Arlen
- Lenoir

Percent Yield vs. Dates from 12-Jun to 1-Aug
Variety Trial at Georgetown Research Farm – Late Varieties

2014 Blueberry Yield by Variety and Date

- Reka
- Toro
- Bluegold
- Chandler
- Darrow
- Liberty
- Aurora
- Draper
- Legacy
- Bonus
- Bluecrop
- Misty
- Jubilee
- Star
- Arlen
- Lenoir

Yield over time for various blueberry varieties, with a peak yield for Liberty and Aurora.
Variety Trial at Georgetown Research Farm – Concentrated Yield

2014 Blueberry Yield by Variety and Date

Percent Yield

Axis Title


Reka  Toro  Bluegold  Chandler  Darrow  Liberty  Aurora  Draper  Legacy  Bonus  Bluecrop  Misty  Jubilee  Star  Arlen  Lenoir
2014 Taste Testing

**Most Often Chosen as Favorite**
Chandler
Star
Lenoir

**Most Often Chosen as Least Favorite**
Reka
## 2015 Taste Testing

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</tbody>
</table>
Fruit Appearance

- Toro
- Bluecrop
- Aurora
- Legacy
- Reka
Blueberry Variety Trial

Legacy
Blueberry Variety Trial

Bluecrop
Blueberry Variety Trial

Jubilee
Blueberry Variety Trial

Nelson
Blueberry Mulch Material Study

Mulch Treatment Yields

Yield (lbs/plant)

Cornstalks  Horse Bedding  Pine Bark  Waste Hay  Aged Wood Chips  Chipped Construction Waste

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<th>Year</th>
<th>Cornstalks</th>
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<th>Pine Bark</th>
<th>Waste Hay</th>
<th>Aged Wood</th>
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Mean separation by Tukey’s HSD

p-value=0.0005
Blueberry Mulch Material Study

Mulch Treatment Yields

- Cornstalks
- Horse Bedding
- Pine Bark
- Waste Hay
- Aged Wood Chips
- Chipped Construction Waste

Yield (lbs/plant)

- 2013
- 2014
- 2015
- Average

*p-value*=0.0743  Mean separation by Tukey’s HSD
Blueberry Mulch Material Study

Mulch Treatment Yields

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<th>2015</th>
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p-value=0.0002  Mean separation by Tukey’s HSD
Blueberry Mulch Material Study

Mulch Treatment Yields

Yield (lbs/plant)

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p-value=0.0002  Mean separation by Tukey’s HSD
Blueberry Mulch Material Study

Mulch Treatment Pruning Weights

Pruning Weight (g/plot)

- **Cornstalks**
- **Horse Bedding**
- **Pine Bark**
- **Waste Hay**
- **Aged Wood Chips**
- **Chipped Construction Waste**

2014 2015 Average

**p-value**=0.4139  Mean separation by Tukey’s HSD
Blueberry Mulch Material Study

pH of Soil in Mulch Treatment Plots and Mulch Materials

pH

Horse Bedding
Chipped Construction Waste
Cornstalks
Waste Hay
Pine Bark
Aged wood chips

Winter 2012/13
Spring 2015
Material

p-value=0.0014  Mean separation by Tukey’s HSD
Blueberry Mulch Material Study

pH of Soil in Mulch Treatment Plots and Mulch Materials

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<td>Aged Wood Chips</td>
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*p-value* < 0.0001  Mean separation by Tukey’s HSD
Blueberry Mulch Material Study

**pH of Soil in Mulch Treatment Plots and Mulch Materials**

- **Horse Bedding**
- **Chipped Construction Waste**
- **Cornstalks**
- **Waste Hay**
- **Pine Bark**
- **Aged Wood Chips**

- **Winter 2012/13**
- **Spring 2015**
- **Material**

*p-value* < 0.0001  
Mean separation by Tukey’s HSD
Blueberry Mulch Material Study

pH of Soil in Mulch Treatment Plots and Mulch Materials

- Horse Bedding
- Chipped Construction Waste
- Cornstalks
- Waste Hay
- Pine Bark
- Aged wood chips

pH

- Winter 2012/13
- Spring 2015
- Material
Blueberry Mulch Material Study

- Pine Bark
- Corn Stalks
- Waste Hay
- Horse Bedding
Georgetown Blueberry Trial

Blueberry Soil Amendment Study Yield

Yield (lbs/plant)

Peat Moss
Screened Chipped Construction Waste
Horse Bedding
Pine Bark Fines
Waste Silage
No Amendment

2013
2014
2015
13/15 Avg

Legend:
- 2013
- 2014
- 2015
- 13/15 Avg