Blueberry Cultivar Selection
Pros and Cons

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There is no perfect variety.

For every cultivar, it may be said:
“A cultivar is released because a breeder saw something good about it under a given set of conditions.”

The critical question is whether it will perform equally well under any given growers set of conditions.
The current situation:

An ongoing period of northern highbush blueberry development where growers are faced with an array of varieties.

Fewer varieties are public domain. Most varieties are patented and available only to commercial growers. Some are both patented and proprietary, thus available only to associated growers.
Newer, widely planted cultivars

Gartner Hype Cycles
Choosing a Variety
What are your priorities?

• Flavor
• Adaptation
• Yield
• Disease resistance
• Adapted to mechanization
• Shelf life (firmness)
Early varieties
Weymouth

- Early season, moderate yields
- An old standard, since 1936
- Dark, soft, avg. size, typical blueberry flavor

Disease ratings:
- mummy blight M, mummy fruit L
- anthracnose L
Bluetta

- Early season, probably earliest ripening
- Better quality than ‘Weymouth’; average firmness, small berries
- 1000 hrs.

- Disease ratings: mummy blight L, mummy fruit M, anthracnose H, a magnet for RRSV!
**Huron**

**NHB/SHB**

**Origin:** MSU (2010), MU-6566 × G-344

**Plant:** upright, late-flowering, winter hardy

**Season:** before Draper

**Fruit quality:** very good flavor, but sl. darker & smaller

**Yield:** more consistent than Duke; high fruit loads in MI, potential to overcrop, hand and mech. harvest

**Comments:** possibly hard to manage, but worth watching

**Disease ratings:** unknown

**Downside:** may stem in hot weather, slow to sweeten, tight clusters, better performance in MI than OR, considered non-commercial in OR
Duke

- Early to 2nd early
- Relatively late flowering
- Firm, crisp, mild flavor
- Very productive!
- Stores well
- NJ standard

- Disease ratings: mummy blight L, mummy fruit M, anthracnose M, stem blight concerns, some RRSV
‘Duke’ yields were equivalent to or higher than ‘Bluecrop’ in 4 of 5 years.
Yield per plant (kg)

- Duke
- Bluecrop

* ns
Hannah’s Choice

- Flavorful
- 2.0 g berry size
- Upright bush habit
- Flowers early

- Disease ratings: mummy blight M-H, mummy fruit L-M, anthracnose L-M
Hannah’s Choice

- Second early; ‘Duke’ season
- Yield of mature plants, 75-80% of ‘Duke’
- Firmer than ‘Duke’, 180 vs. 165 g/mm
- Sweet! 3.2% more soluble solids than Duke, 13.3 vs. 10.1%
- 1000hrs.
Observation:

‘Hannah’s Choice’ yielded slightly less than ‘Duke’, but also ripened slightly earlier than ‘Duke’.
Spartan

- 2nd early season
- Good yields
- Flavorful fruit
- Large fruit
- **Does not do well on upland sites**

- Disease ratings: mummy blight M, mummy fruit H, anthracnose H
Mid-season varieties
Razz

Berries have a raspberry flavor

Medium to large fruit

Mid-season ripening
Draper® NHB/SHB


Plant: upright; canes few and thick, not many basal shoots

Season: starts after Duke, early Bluecrop

Fruit quality: Duke-like, but better flavor, firm, good scar

Yield: very good in OR, MI, stores well, expected to mech. harvest

Comments: : dreaded ‘Draper Drop’

Disease ratings: relatively susceptible to mummy berry blight?
Titanium

Origin: Oregon Blueberry Farms (2014), O.P. of Duke or Draper

Plant: very upright, **likes** well-drained, **high** org. matter soils, grows faster than Draper

Season: early-mid season (Draper seas.) conc. ripening, sl. advanced bloom time

Fruit quality: light blue, exceptional sweet-tart flavor, v. firm, crispy w/ good storage quality, mech-harv, fresh or frozen

Yield: 6-8T/acre (OR) vs 10T/acre Duke

Comments: **worth watching if yields are good**

Disease ratings: unknown
Reka

- Early midseason
- Only moderate yields so far in NJ
- Good quality
- Widely adapted
- Disease ratings: mummy blight M, mummy fruit L, anthracnose M
Blueray

- 2nd early season
- Easy to grow
- Good flavor
- Canes tend to lean

- Disease ratings: mummy blight H, mummy fruit H, anthracnose H, suscept. to RRSV, all around loser in screenings!
Ivanhoe

Introduced 1951
Bush very vigorous
Berries are med-large
High dessert quality
Early mid-season
Not readily available
Bluecrop

- Midseason
- Productive
- Widely adapted
- Average quality
- #1 variety worldwide

- Disease ratings: Mummy blight M, mummy fruit M, anthracnose H
**Blue Ribbon**

NHB/SHB

Origin: Fall Creek F&N (2011),
   Toro × G-344
Plant: weeping laterals, spreading growth
Season: mid-early
Fruit quality: excellent flavor/firmness,
   can be small, calyx splits, stores well
Yield: high yielding (in OR), can overcrop

Comments: generating high interest in OR
Disease ratings: silver leaf
Downside: too many picks, pruning costs
**Top Shelf**

**NHB/SHB**

**Origin:** Fall Creek F&N (2011), Magnolia × Draper

**Plant:** vigorous vase-shaped bushy plant, relatively early bloom time, grows sideways, moderate buds

**Season:** mid-season

**Fruit quality:** excellent firmness, good taste, large to jumbo; fresh market; hand pick

**Yield:** moderate

**Comments:** interest in OR for size/qual.; sometimes variable quality, hardiness/adaptation concerns

**Disease ratings:** Phytophthora root-rot susceptible, silver leaf

**Downside:** can hold corollas, off-color in early picks?
Calypso

Origin: MSU (2014), Draper × Elliott
Plant: beautiful bush, upright
Season: late mid-season, sl. later than Legacy, possibly done in 2 picks
Fruit quality: large, excellent quality, awesome size/color, stores well
Yield: high yields, fresh & process market

Comments: #1 selling variety in OR, needs water management
Disease ratings: unknown
Downside: softness in heat; mealiness; some shot-berry
Cara’s Choice

- The blueberry lovers choice
- ‘Bluecrop’ season
- Firmer than ‘Duke’
- Sweet! 3.2% sweeter than ‘Bluecrop’, 13.7 vs. 10.5%
- Flavorful, aromatic
- Holds quality on the plant!!
Cara’s Choice

- 1.6 g berry size
- **Yield, 35 - 40% of ‘Bluecrop’**
- **Low growing bush**
- **Flowers early**
- *V. darrowi & rabbiteye ancestry; may not be adapted in cold areas**

- **Disease ratings:** mummy blight **M**, mummy fruit **L**, anthracnose **M-H**
Mid-late to late season varieties
**Legacy SHB**

**Origin:** USDA (1994), Eliz. × US 75

**Season:** mid-season, long harvest interval

**Plant:** vigorous, brushy when young, easy to prune, tolerates heavier soils, holds leaves

**Fruit quality:** large, sweet, flavorful, sub-acid, juicy quality, may be too soft for mechanical harvesting

**Yield:** very productive, out-yields BC

**Comments:** widely adapted (400hrs.) popular, stores well

**Disease ratings:** mummy blight M, mummy fruit M, anthracnose L, stunt virus susceptible

**Downside:** long season, hardiness?
‘Legacy’ was variable in performance from year to year, but in 2002 it out-yielded both ‘Bluecrop’ and ‘Duke’ by ~50%.
Yields of ‘Bluecrop’ and ‘Legacy’ (lb./plant)

- Bar chart showing yields for 'Bluecrop' and 'Legacy' from 1998 to 2002.
- 'Bluecrop' and 'Legacy' yields are represented by green and purple bars, respectively.
- Significant differences indicated by asterisks (*) in 2000 and 2002.
- 'ns' indicates no significant difference in 1998.

Legend:
- Green: Bluecrop
- Purple: Legacy
Liberty

Origin: MSU (2004), Brigitta Blue × Elliott
Plant: semi-spreading, strong,
Season: after Jersey, but before
  Elliott, 5 days, ~ Ozarkblue.
Fruit quality: M–L size, firm, very
  good, flattish berry, spicy quality
Yield: very good in OR, 8-9K lbs.
  per acre in MI.
Comments: not being planted in OR
Disease: somewhat susceptible to mummy
  fruit
Downside: undersize fruit, may over-crop,
  can be soft, some ‘super softs’ in OR
**Last Call**

**Origin:** Fall Creek F&N (2012), Elliott × Ozarkblue

**Plant:** upright, vigorous, grows like a weed, late flowering

**Season:** late season; ~ Elliott & Aurora

**Fruit quality:** light blue, large, flat, firm, good flavor vs Elliott & Aurora, some shrivel and cracking

**Yield:** high yield

**Comments:** apparent improvement over Elliott and Aurora, can over-crop & be small

**Disease ratings:** unknown
Elizabeth
Considered the best flavored blueberry

Large berries

Upright spreading habit

Late season ripening

Moderate yielding

Gourmet variety
Sweetheart

Midseason
Productive
Small second crop
Firm very flavorful
Spreading habit
Rubel

- Late season
- Selected from the wild
- Good process type
- High in antioxidants
- Small berries

- Disease ratings: mummy blight L, mummy fruit H, anthracnose M, suscept. to stunt, resistant to RRSV
Brigitta Blue

- **Mid-late season**
- *Only moderate yields so far in NJ*
- **Good quality**
- **Slow to shut down**

- **Disease ratings:** Mummy blight L, mummy fruit L, anthracnose L, the all around winner in disease screenings! susceptible to scale
Darrow

Very large fruit
Excellent flavor
High yielding
Late mid-season
Gourmet variety
Chandler

Very large, sweet berries

Firm

Customer favorite

Long ripening season

Mid to late season

Variety of choice for DE, MD, and VA
Ozarkblue

- Univ. of Arkansas
- Mid-late season
- Very late flowering
- 'Bluecrop'-like quality
- Yield in Northern areas undetermined

- Disease ratings: mummy blight H, mummy fruit M, anthracnose M, Botrytis susceptible.
Elliott

- Latest season
- Productive
- Tart if harvested when first blue
- Very firm
- Standard in NJ

- Disease ratings: mummy blight $L$, mummy fruit $H$, anthracnose $L$
# Quality attributes, 1998-2002

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<thead>
<tr>
<th></th>
<th>Firmness</th>
<th>Brix (%)</th>
<th>Flavor</th>
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<tbody>
<tr>
<td>Weymouth</td>
<td>132</td>
<td>10.1</td>
<td>avg. - mild</td>
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<td>Chanticleer</td>
<td>135</td>
<td>11.8</td>
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<tr>
<td>Hannah’s</td>
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<td>11.8</td>
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<td>Duke</td>
<td>148</td>
<td>10.1</td>
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<tr>
<td>Bluecrop</td>
<td>127</td>
<td>11.5</td>
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<td>Cara’s</td>
<td>161</td>
<td>13.2</td>
<td>excellent</td>
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