

# BLUEBERRIES

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# We shall cover...

- Introduction
- Why Blueberries?
- Varieties
- Quick Facts
- Planting Tips
- Care & Maintenance
- Conclusion



# DEFINITION

**BERRY:** True berries are simple fruits stemming from one flower with one ovary and typically have several seeds.

BLUEBERRIES ARE TRUE BERRIES

STRAWBERRIES ARE NOT

OUR TASTE BUDS DO NOT ASK FOR DEFINITIONS

# WHY BLUEBERRIES?

HEALTHY



# WHY BLUEBERRIES?

- They are the KING of antioxidants (fights free radicals)
- High concentration of vitamins and minerals (A,, B complex, C and E for example)
- Immune builder and anti-bacterial (Copper)
- Promotes immunity raising hemoglobin and oxygen in blood
- Helps prevent infections
- Heart healthy

# WHY BLUEBERRIES?

DELICIOUS



# WHY BLUEBERRIES?

## GOOD FOR PLANTING

- Easy to grow (depends on cultivar)
- Ornamental – beautiful flowers & pretty fall foliage
- Can be grown with other acid-loving plants (azaleas, rhododendrons and camellias)
- Can be planted individually or in a group
- Long-lived, bearing fruit for 40-50 years



# VARIETIES

- **LOW BUSH**
- **NORTHERN HIGH BUSH**
- **SOUTHERN HIGH BUSH**
- **RABBITEYE**
- **HALF HIGH**



# BLUEBERRY VARIETIES

## **LOWBUSH**

Lowbush are the smallest variety of blueberry bushes. They may stay very small and reach no higher than 1 foot tall, or they may grow up to 1.5 to 2 feet tall. These plants are best adapted to cooler climates, USDA Hardiness Zones 3 to 7.

## **NORTHERN Highbush**

The Northern Highbush Blueberry tends to be a medium to large sized shrub, reaching from 6 to 12 feet tall. These do best in cooler to mild climates, USDA Hardiness Zones 4 to 7.

# BLUEBERRY VARIETIES

## **SOUTHERN Highbush**

The Southern Highbush Blueberry is a small to medium sized shrub. They typically stay between 2 and 4 feet tall. These plants are best adapted to the warmer climates of the central and southeastern United States, USDA Hardiness Zones 7 to 10.

## **Rabbiteye**

Rabbiteye Blueberries are fairly tall plants, growing to between 6 and 10 feet tall. They do well in warmer climates, USDA Hardiness Zones 7 to 9, which includes the central and southeastern United States.

## **Hybrid Half-High**

These plants are well-adapted to colder climates. They can be grown in USDA Hardiness Zones 3 to 5, from the northern United States into Canada. These plants stay small to medium sized, growing from 3 to 4 feet tall.

# Blueberry Cultivars in Pacific NW

Many cultivars with differences in flavor:

- Spartan – large size, very good flavor, early crop
- Blue crop, medium size good flavor, easy to grow; good for colder climates
- Mini blues very small but excellent flavor, sweetest flavor
- Chandler – very large, very good flavor but more difficult to grow and to prune, not as vigorous
- Legacy well adapted to Willamette valley; almost double the yield of many other cultivars



Spartan



Duke



Bluecrop



Elliot



Jersey



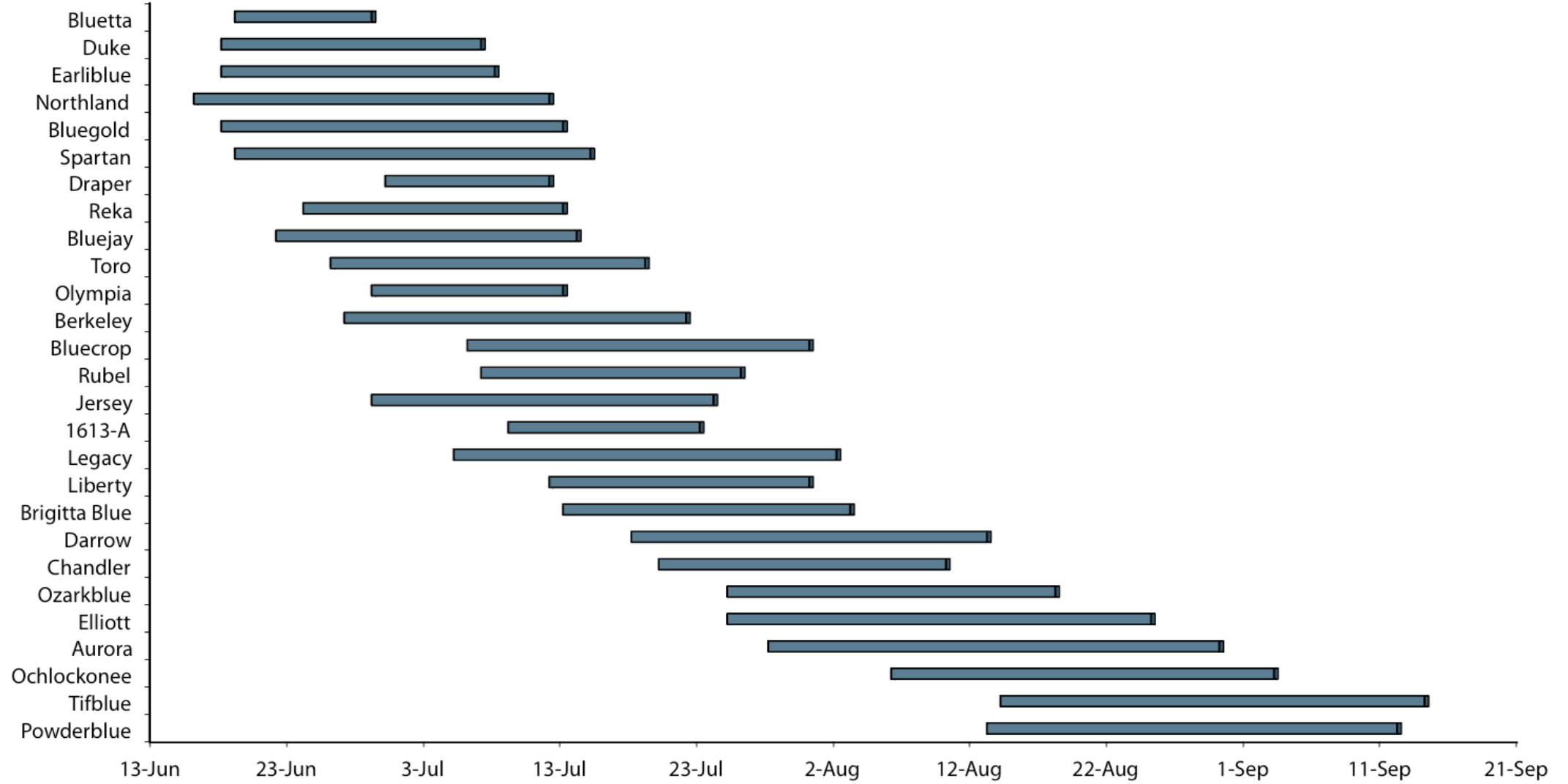
Ozark Blue



Legacy

# BEST SUITED FOR OUR LOCALITY

- The northern highbush is most common type grown worldwide and in the Pacific Northwest.
  - Winter hardy
  - Not drought tolerant
  - Productive
  - Does well in home gardens
- Harvest dates vary tremendously among cultivars, but cultivars bloom within about a week of one another.
- The early-season cultivars,
  - 'Duke' and 'Spartan' tend to bloom later than average.
  - Late-season cultivars 'Elliott', 'Jersey', and 'Ozarkblue' tend to bloom later than early and midseason cultivars. 'Legacy' has a particularly long bloom period.
- Fruiting season varies by production region.



# QUICK FACTS

- Need full sun.
- Require acidic soil.
- Two or more varieties for best pollination.
- Not much fruit the first 2 to 3 years.
- Harvest is bigger after 5 years.
- Reach full size in 8 to 10 years.
- Each winter, prune out old, weak and dead wood.

# PLANTING TIPS

- Soil
- Sun exposure
- Timing
- Depth
- Spacing
- Water
- Mulch



# SOIL

- Needs Acid soil pH 4.5 to 5.5
- Good organic matter in soil
  - improves drainage (Very sensitive to wet soil)
- Test soil 6 months prior to planting (previous fall typically)
  - Typically too high in pH
- In the fall incorporate elemental sulfur to achieve target pH to get to 5.5 prior to planting
- In spring, incorporate **appropriate** organic matter prior to planting
  - use woody materials (chips), woody sawdust, bark – not too big of chunks
  - Not animal manures or animal waste or plant-based compost (pH too high)

# SOIL

Recommended soil nutrient ranges for blueberries:

- Phosphorus (P) - Bray 1 testing: Deficient at < 25-45 ppm
- Phosphorus (P) – Olsen testing: Deficient at < 10 ppm
- Potassium (K): Deficient at < 100-150 ppm
- Calcium (Ca): Deficient at < 1,000 ppm
- Magnesium (MG): Deficient at < 60 ppm
- Organic matter: Deficient at > 4%

## SUN EXPOSURE

Choose a location that receives full sun. Blueberries require full sun (6 hours or more of direct sunlight per day)

## TIMING

Ideal planting times for blueberry plants are Fall and early Spring. Growing season June through August (Oregon); Late June or Early July through September (Washington)

## DEPTH & SPACING

Do not plant deeply. The rootball should be just below surface. Dig holes about 20 inches deep and 18 inches wide (twice as wide and deep as roots).

Blueberries can be planted as close as 2 - 2½ feet apart to form solid hedgerows or spaced up to 6 feet apart and grown individually. If planted in rows, allow 8 to 10 feet between the rows depending on equipment used for mowing or cultivating

# WATER

- Blueberries easily suffer from water-logging. Unlike crops that require prolonged irrigation periods, the roots of blueberries should be kept damp, not wet. Make sure your soil has good drainage
- Give them at least 1" per week during growing season and up to 4" per week during fruit ripening.
- Slow growth and yellowing leaves is a sign of overwatering

# MULCH

- Mulch should be loose enough for water percolation
  - Pine needles, wood chips or bark mulch
- Avoid dyed or synthetic mulches
- Spread 4-6 inches thick around the plant
- Don't pile up against the stem of the plant
- Freshen the mulch each year

# CARE AND MAINTENANCE

- Maintain soil ph
- Consistent moisture
- Control weeds
- Plant along side like-minded plants (acid)
- Fertilization
- Pruning
- Harvesting

# FERTILIZATION

## The Primary Nutrients:

- Nitrogen : Greens up plants
- Phosphorus: Reaches down to roots & helps produce blooms
- Potassium : Promotes all around wellbeing

pH: 4.5-5.5

- Organic fertilizers are natural and breakdown to feed the micro-organisms in the soil and finally feed the plants. Examples of organic fertilizers include manure(poultry, cow or horse), bone meal, cottonseed, or other naturally occurring materials.
- Inorganic fertilizers are man made products and feed the plant directly. They usually have a higher nutrient content.



# FERTILIZATION

Age of Plants from transplant	Ammonium sulfate in late April	Ammonium sulfate in late May	Ammonium sulfate in late June
Newly Set	1.0 ounce	1.0 ounce	1.0 ounce
Year 2	1.2 ounces	1.2 ounces	1.2 ounces
Year 3	1.2 ounces	1.2 ounces	1.2 ounces
Year 4	3.0 ounces	3.0 ounces	3.0 ounces
Year 5 and Older	4.0 ounces	4.0 ounces	4.0 ounces

As plants age they should exhibit healthy green leaves, with 12" of new lateral growth per year. Plants yielding more than 15 lbs of fruit per year require little supplemental fertilizer. If urea is used, reduce rates by half.

<http://wwpubs.cahnrs.wsu.edu/wp-content/uploads/sites/2/2016/04/em103e.pdf>

# HARVESTING

- Fruit will increase in size by 20% after they first turn blue
- Pick fruit about every 5 days
- Protect business from predators (birds, deer)
- Fruit stores well in the fridge
- Expect 10 to 20 lb fruit per bush on mature highbush blueberry plants, depending on cultivar and site where it's planted

# CONCLUSION

- The Blueberry is a true berry
- Northern Highbush grows best for the PNW
- Blueberries are healthy and delicious
- Blueberries plants are attractive
- Blueberry plants are easy to grow, but
- Blueberry plants do need care
- Care includes proper watering, fertilization and pruning
- The harvest is worth the work

# SOURCES

Blueberry Cultivars for the Pacific Northwest

Everything You Need to Know: Is that a Berry?

Growing Blueberries in Your Home Garden

10 Best Blueberries to Grow in Washington

11 Reasons you should be Landscaping with Blueberry Shrubs

Small Fruit Horticulture – WSU Extension

Planting Blueberries

Growing Small Fruits & Berries in the PNW