

Rabbiteye Blueberry Production in North Florida

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Why you should plant rabbiteye blueberries instead of southern highbush in North Florida:

- More drought tolerant
- Less susceptible to Phytophthora root rot
- Less susceptible to late winter / early spring freezes because they flower later in the spring
- Require less organic matter and less mulching
- Generally more vigorous
- Rabbiteye fruit has a tougher skin and larger seed than southern highbush, and usually stores better

Rabbiteye Blueberries

- Best adapted to areas of Florida north of Ocala.
- Require cross-pollination from another Rabbiteye cultivar.
- Harvest season extends from May to July, depending on the cultivar.



Site Requirements

Full Sun

- At least 4 to 5 hours of full sun per day

Site Requirements

High level of organic matter

Good Drainage

- Well – drained soil profile of at least 18 inches in depth.
- Plant on raised beds if water drainage is poor.

Site Preparation

- One year before transplanting:
 - Land clearing and leveling
 - Design (orchard and irrigation)
 - Pre-plant weed control is important!
 - Bed preparation

Pre-Plant Soil Prep

- Submit a soil sample 4 to 6 months before planting
- Target soil pH = 4.0 to 5.5
- Most soils need to be lowered
- Lowered by thoroughly mixing a small amount of wettable sulfur into the soil.
 - 1 ton per acre will lower pH one unit
 - 50 lbs per 1,000 square feet will lower pH one unit
 - 1/3 cup per bush will lower one unit

Planting Time

- Best time to plant is from mid-December to mid-February (dormant season).
- Use container-grown.
- Best plants are 2 foot tall with well-developed root systems that are not pot-bound.
- If using bare root, keep roots moist but not soaked prior to and during planting.

Planting Instructions

- Amend planting hole with finely ground pine bark or 50% pine bark and 50% soil
- Dig hole large enough to accommodate roots and pine fines/ organic matter. (planting hole = 2' diameter and 1' deep)
- Set plants at same height as when growing in nursery.
- If planting on raised beds, flatten bed in the vicinity of the plants and set plant in a slight depression so that irrigation and rain water will not flow away from the plant.

Pine bark is often used as a growing media for blueberries.



Spacing

- A mature rabbiteye blueberry plant can reach 12–15 feet in height with canes sprouting over an area of 8–10 feet in diameter.
- Allow at least a 7' x 7' area for rabbiteyes
- Set 5 feet apart for a hedgerow effect.

Weed Control

Important to keep weeds 2 feet away from plants as they complete for:

- Water
- Nutrients
- Sunlight

Maintain several inches of acid-forming mulch such as:

- Pine bark
- Pine Straw
- Oak leaves

Other mulch options (less recommended):

- Woven nursery fabric
- Plastic ground cover

Pine Bark Mulch

- Aids in establishment of young plants
- Moderates soil temperatures
- Provides weed control
- Provides protection from mechanical injury
- Adds organic matter to the soil
- Decreases soil pH
- Maintains N in NH_4 form

Use either a layer of pine bark 3 inches deep extending about 2 feet out from plants in all directions, or pine bark strip about 4 feet wide extending down the row

Container Planting

- Good for soils with high pH or high salinity
- Use composted pine bark for potting medium
- Can top with larger pine bark mulch

Establishment

- Do not allow plants to dry out.
- Break up the root ball at the time of planting.
- Blueberries should be pruned at the time of planting.
- If plants have a well-developed root system and irrigation is used, pruning should not be severe.
 - Select the tallest, strongest cane and leave it unpruned. Remove the weak, "twiggy" growth at the base of the plant.

Water Quality

- Most deep wells in Florida have high Ca and Mg carbonates.
- Growers often inject acids into irrigation to maintain the soil pH in a range between 4.0 and 5.5.
- In areas with high salinity, special considerations must be given:
 - Long-term effects of high salinity in blueberry are unknown
 - 400 to 550 ppm TDS is OK
 - 1500 ppm TDS has caused damage in blueberry
 - Irrigation should be sufficient to move salts below the root zone

Establishment Irrigation

- Keeping the plants watered during the first couple of years until the roots are well-established is very important.
- Irrigating the root zone area is critical in areas where lateral movement is limited, such as in pine bark or sandy soils.

		Density (plants/acre)						
		600	700	800	900	1000	1100	1200
Year 1	APR	0.2	0.3	0.3	0.3	0.4	0.4	0.4
	MAY	1.0	1.2	1.3	1.5	1.7	1.8	2.0
	JUN	1.4	1.6	1.8	2.1	2.3	2.5	2.8
	JUL	1.5	1.7	1.9	2.2	2.4	2.7	2.9
	AUG	1.4	1.6	1.9	2.1	2.3	2.6	2.8
	SEP	1.3	1.5	1.7	1.9	2.2	2.4	2.6
	OCT	1.1	1.3	1.5	1.6	1.8	2.0	2.2
	NOV	0.7	0.8	0.9	1.1	1.2	1.3	1.4
	DEC	0.3	0.4	0.4	0.5	0.5	0.6	0.6
	Year 2	JAN	0.3	0.4	0.4	0.5	0.5	0.6
FEB		0.3	0.4	0.4	0.5	0.6	0.6	0.7
MAR		0.5	0.6	0.7	0.8	0.9	1.0	1.1
APR		1.1	1.3	1.5	1.7	1.9	2.1	2.3
MAY		1.3	1.9	2.1	2.4	2.6	2.9	3.2
JUN		1.6	1.9	2.2	2.4	2.7	3.0	3.2
JUL		2.0	2.2	2.5	2.9	3.2	3.5	3.8
AUG		1.9	1.7	2.0	2.2	2.5	2.7	3.0
SEP		1.2	1.3	1.5	1.7	1.9	2.1	2.3
OCT		0.9	1.1	1.2	1.4	1.5	1.7	1.8
NOV		0.6	0.6	0.7	0.8	0.9	1.0	1.1
DEC		0.3	0.4	0.5	0.5	0.6	0.6	0.7
Year 3	JAN	0.3	0.4	0.5	0.5	0.6	0.6	0.7
	FEB	0.3	0.3	0.3	0.4	0.4	0.5	0.5
	MAR	0.4	0.4	0.5	0.5	0.6	0.6	0.7
	APR	1.2	1.4	1.7	1.9	2.1	2.3	2.5
	MAY	2.6	3.0	3.4	3.9	4.3	4.7	5.2
	JUN	2.9	3.4	3.9	4.3	4.8	5.3	5.8
	JUL	3.2	3.7	4.2	4.7	5.3	5.8	6.3
	AUG	3.1	3.6	4.1	4.6	5.1	5.6	6.1
	SEP	2.6	3.0	3.5	3.9	4.3	4.8	5.2
	OCT	1.2	1.4	1.5	1.7	1.9	2.1	2.3
	NOV	0.6	0.7	0.9	1.0	1.1	1.2	1.3
	DEC	0.6	0.7	0.8	0.9	1.1	1.2	1.3

Data not available for first 3 months of the first year.

Maintenance Irrigation

- Mature blueberry = 40" water annually
- Low water requirements during winter.
- Most critical period = early fruit set until the end of harvest.
- During March, mature blueberry plants will require about 0.6 inches of water per week (rainfall plus irrigation).
- April and May = 1.0 to 1.2 inches of water per week
- Established rabbiteye blueberries in gardens will require irrigation only during prolonged dry periods.

Fertilization Challenges:

- Light, sandy soils are subject to leaching
- High amounts of soil amendments such as pine bark can tie up Nitrogen.
- Blueberries have shallow root systems
- Summer pruning removes a lot of foliage that needs to be replaced
- Heavy summer rains can reduce fertilizer through leaching and runoff.

Fertilization Tips

- Respond best to frequent, light fertilization
- Apply nitrogen only in several small applications during the peak growing seasons of spring and fall.
- Never applied in a concentrated area at the base of the plant or in the planting hole.
- Use ammoniacal nitrogen or nitrogen from urea or organic sources, rather than from nitrate sources.
- Chlorine levels should be as low as possible, preferably below 2%.
- A special formulation called "blueberry special" is available in Florida and meets these requirements.
- Another possibility is "camellia-azalea" fertilizers.

Fertilizer Application

- After planting, when the soil is well settled from irrigation or rainfall, give un-mulched plants 1 ounce per plant of 12-4-8 (N-P₂O₅-K₂O) with 2% magnesium (Mg).
- If plants are heavily mulched, use 1.5 ounces per plant per application rather than 1 ounce because some of the fertilizer will be unavailable for plant uptake.
- Spread fertilizer evenly over a circle 2 feet in diameter with the plant in the center.
- Repeat this procedure in Feb, April, June, August, and October.
- During the second year, use 2 ounces of 12-4-8 per plant per application and spread it evenly over a 3-foot diameter circle.
- In the third year and beyond, use 3 ounces of fertilizer per plant per application spread evenly over a 4-foot diameter circle, or broadcast in a continuous band 3–4 feet wide, centered on the plant row.
- Mature rabbiteyes generally only need 2 fertilizations per year.

Fine-tuning your fertilizer

Plant Tissue Test

- Collect leaf samples from mature leaves in mid-portion of the current seasons growth the first 2 weeks after harvest.

Soil Test

- Take sample 8 inches deep from various locations in the field.

Use results of both tests to adjust fertilizer.

Pruning

Prune new plants after planting

- If plants have a well-developed root system and irrigation is used, pruning should not be severe
- Leave tallest, strongest cane unpruned
- Remove weak, twiggy growth at base of plant
- If plant has large top compared to root system, remove one-third of top by pruning out least vigorous growth and cutting back tops of vigorous canes by several inches
- Remove all flowers before fruit set occurs during first year in order to promote strong vegetative growth and good plant establishment

Pruning

- 2nd, 3rd and 4th Years
 - Removing lower twiggy growth and weaker shoots during the dormant season.
- Post harvest:
 - Cut back tall shoots by one-third
 - Remove all dead or damaged shoots.

Pruning mature plants:

- Selective cane removal
 - Stimulates development of new canes
 - Remove $\frac{1}{4}$ to $\frac{1}{5}$ of oldest canes yearly
- Canopy height reduction
 - Immediately after harvest
 - Stimulates new growth that will produce next years crop
 - Prevents plants from becoming too tall

Blueberry Pollination

- Alternating rows of different varieties provide good cross-pollination.
- All blueberry varieties benefit from cross-pollination. Bumble bees are the most efficient pollinators



Early Season Rabbiteye Cultivars

- 'Beckyblue'
- 'Bonita'
- 'Climax'
- 'Austin'

- For best pollination plant 'Climax' with either 'Beckyblue' or 'Bonita'.

- Ripen late May and early June in Gainesville

Mid- to late season rabbiteye cultivars

- More productive and reliable than early-season rabbiteyes
 - Bloom later than the early-season rabbiteyes, so the flowers and young fruit are less susceptible to late winter freezes.
 - Most popular cultivars:
 - 'Brightwell',
 - 'Powderblue'
 - 'Tifblue'
 - 'Woodard'
- Others:
- 'Chaucer'
 - 'Bluegem'

References:

Blueberry Gardener's Guide:

<http://edis.ifas.ufl.edu/mg359>

Williamson, Jeff. Growing Blueberries in Northeast Florida. PowerPoint.

Burbaugh, Brad. Blueberry Production Practices in Florida, PowerPoint.

UF/IFAS Photo: Sally Lanigan.