

Blueberry Cultivars for Georgia

* =Most promising for South Georgia at this time
T=Suggested for small scale trial in South Georgia at this time

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Types or Species of Blueberries Grown in Georgia

Three types of blueberries are grown in Georgia: rabbiteye, southern highbush, and northern highbush. Rabbiteyes are adapted statewide, but low chilling (early blooming) rabbiteyes should not be planted in the mountains because they bloom too early. Southern highbush are best adapted to south Georgia, except for a few higher-chilling (late blooming) cultivars such as 'Ozark Blue' and 'Reveille'. Northern highbush are best adapted to the mountain highlands.

The rabbiteye blueberry is native to south Georgia, north Florida, and southeast Alabama. A breeding program initiated in Tifton in the 1940's by Dr. Tom Brightwell, in cooperation with the USDA, has produced many high quality rabbiteye blueberry cultivars. Cultivars from the Georgia-USDA breeding program form the backbone of the Georgia blueberry industry. Some cultivars from the North Carolina-USDA breeding program have also performed well in Georgia and are recommended for planting. Rabbiteye cultivars ripen from late May through late July in south Georgia. Ripening in middle and north Georgia is about two weeks and one month later, respectively. In general, the rabbiteye blueberry is the most productive and easiest to grow in Georgia. They grow well on many types of acidic, fairly low organic matter (1-2%) soils from sands to loams to sandy clay loams. Southern highbush and northern highbush need a soil that is higher in organic matter (3% plus) and are much less forgiving plants in general than rabbiteyes. As a general rule, production of southern and northern highbush is limited to sites naturally high in organic matter (such as the black sands of the Okefenokee basin) and soils amended with pine bark.

Some disadvantages of rabbiteye blueberries are: 1) some cultivars bloom relatively early in the spring, so spring freeze damage can be a problem; 2) many cultivars are self-unfruitful, so they are more susceptible to pollination problems than the partial self-fertile southern or northern highbush; 3) most cultivars ripen later than southern highbush in south Georgia or northern highbush in north Georgia.

Rabbiteye blueberry plantings are relatively expensive to establish, but once established, plantings generally remain productive for a long period of time. Some commercial plantings established in Georgia in 1958 are still producing. Well-managed, mature fields typically yield five to seven thousand pounds of harvested berries per acre and can be higher in some years. Rabbiteye blueberry orchards which are poorly managed may yield only two to three thousand pounds of fruit per acre.

Southern highbush blueberries are crosses between the highbush blueberry (northern type) and native southern blueberries such as Darrow's evergreen blueberry. Some southern highbush blueberries are very early ripening and have commercial potential for the April and May market window in south Georgia. Southern highbush cultivars with a low winter chilling requirement (400 hours or less) bloom early, so they are best adapted to south Georgia. They are generally more difficult to grow than rabbiteyes, but their fruit ripens very early and brings a good price. They have specific site requirements covered later in the bulletin. Since they have only been grown commercially for about 15 years in Georgia, it is not known how long each cultivar will remain profitable before they decline from pest problems and depletion of soil organic matter. An orchard life of 10-20 years may be a realistic goal. In North Carolina, old highbush sites are often replanted with rabbiteye blueberries.

The northern highbush blueberry is native to the eastern coast of the United States and is the type grown commercially in New Jersey and Michigan. The highbush blueberry has potential as a source of later blooming, but early ripening fruit for the Georgia mountains. However, since they have not been extensively planted in Georgia information is limited at this time. Plantings of highbush blueberries should only be considered on a trial basis. They have specific site requirements covered later in the bulletin. They are poorly adapted to the hotter parts of the state due to insufficient winter chilling and heat stress.

Getting Started in the Blueberry Business

The two most important rules in starting blueberry production are: 1) Site selection, and 2) Cultivar selection. Good cultivar selection will determine to a large extent the potential profitability of your blueberry operation. If you are a new grower in the Coastal Plain or Piedmont, start with rabbiteyes and experiment with southern highbush if you have suitable soil or are willing to extensively amend the soil. Pay close attention to the chilling requirement of cultivars, and do not plant low chilling ones in the Piedmont, since they will bloom too early. If you are a new grower in the Mountains, start with the higher chilling rabbiteyes and experiment with northern highbush and the higher chilling southern highbush cultivars.

Chilling Requirement Plus Heat Units After Chilling Determines the Bloom Date

In Georgia, average bloom dates of various blueberry cultivars is largely due to the chilling requirement of the flower buds. Chilling requirement is defined (in peaches) as the number of hours (chill hours) of winter temperatures 45 degrees F and below that plants must be

exposed to for 90% of the buds or blooms to open and develop "normally" following a two week period of exposure to "warm" weather. For blueberries, the heat unit requirement (period of exposure to warm temperatures) after chilling is much higher than in peach, and may vary depending on cultivar. Therefore, slight variations in bloom dates occur from year to year more often in blueberries than in peaches.

If a blueberry cultivar fails to receive adequate chilling, bloom and leaf development can be very late and erratic. This results in a reduced crop of later-than-normal ripening fruit. For instance, 'Reveille' performed very poorly in south Georgia following the winter of 1998-99. 'Reveille' is thought to require 700-800 chill hours and only about 450 chill hours were received, and as a result, the crop was light and missed the market window. However, many 650 hours rabbiteyes have performed satisfactorily following a recent 500 chill hour winter in South Georgia. A few exceptional blueberry cultivars can set fruit with far less winter chilling than their reported chilling requirement. An example is 'Powderblue', which has a supposed chilling requirement of 650 hours, but sets good crops of fruit as far south as Gainesville, Fla. (a 400 chill hour zone).

Chilling requirement information can be used to project relative bloom dates. As a general rule in south Georgia, 200-300 hour cultivars will bloom heavily in mid to late February, 400-500 hour cultivars in early to mid March, and 600-800 hour cultivars in mid to late March. Cultivars with a chilling requirement of 400 hours or less may need overhead irrigation for frost protection for reliable cropping in south Georgia. It is recommended that cultivars with a chilling requirement of 400 hours or less not be planted in middle or north Georgia.

The relative risk of growing various blueberry cultivars can be evaluated by looking at the chilling requirement of a cultivar and finding your county on the maps in Figures 2 and 3.

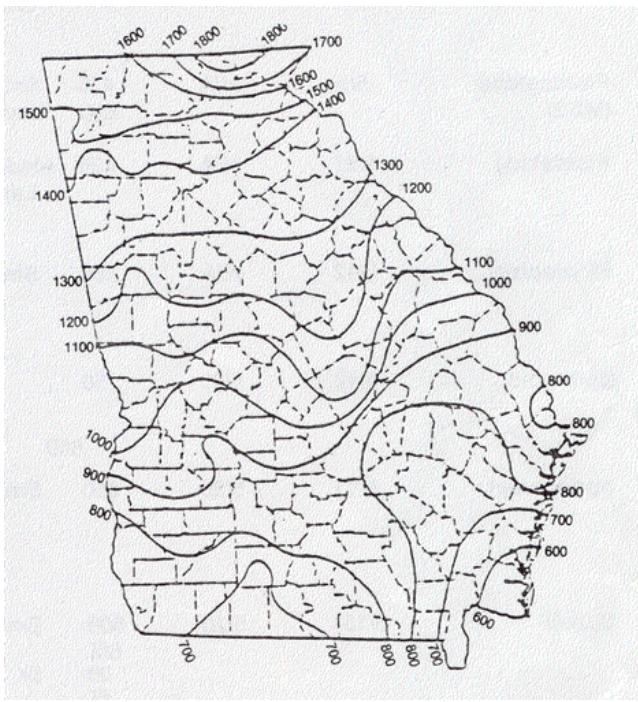


Figure 1: Mean or average winter chilling in Georgia based on weather records from 1948-1972. 45 degrees F and below from October to 15 February. In many recent years, winter chilling has averaged about 50 to 100 hours less, probably due to global warming (Sanders, 1972).

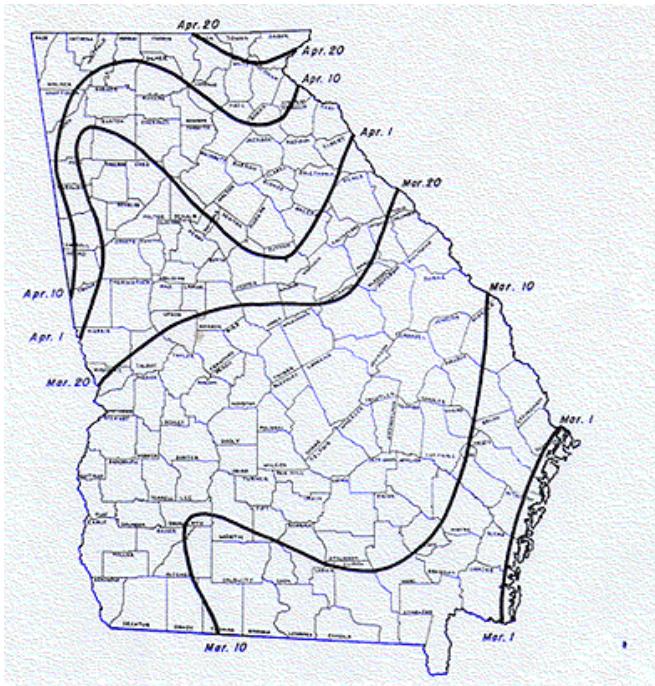


Figure 2: Dates in the spring with a 10 percent chance of a moderate freeze (28 degrees F or below) remaining (Carter, 1957).

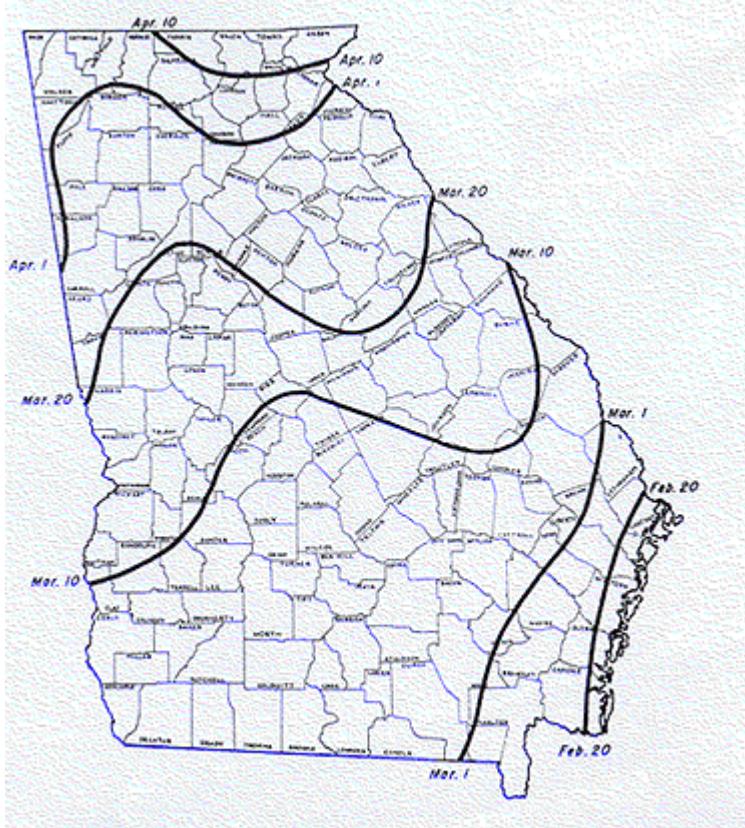


Figure 3: Dates in the spring with a 20 percent chance of a moderate freeze (28 degrees F or below) remaining (Carter, 1957).

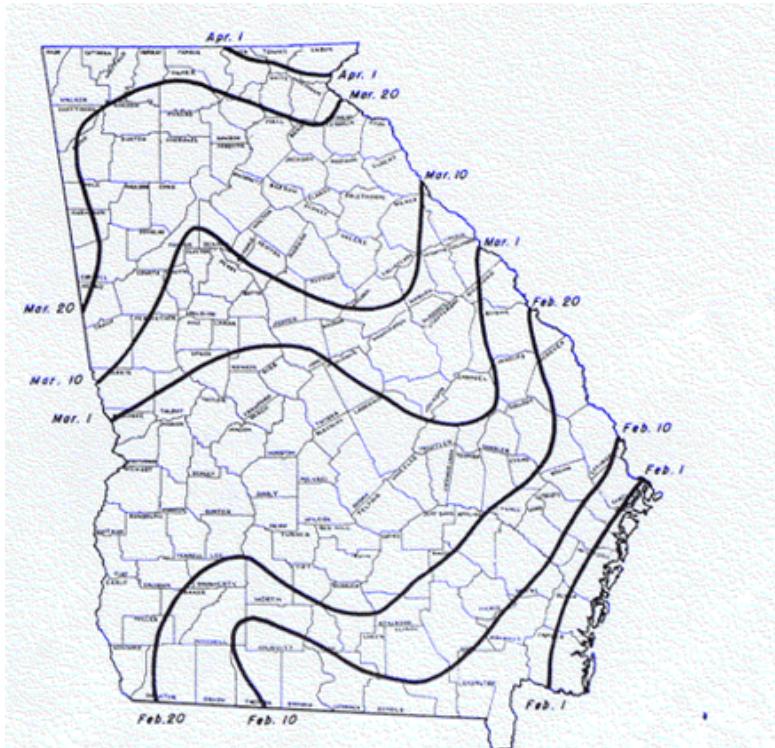


Figure 4: Dates in the spring with a 50 percent chance of a moderate freeze (28 degrees F or below) remaining (Carter, 1957).

RABBITEYE BLUEBERRIES

General Information on Rabbiteye Blueberries

Select rabbiteye cultivars based on your intended method of harvest, sale and location. Certain cultivars are not adaptable to machine-harvest, fresh market sales; however, these same cultivars may be excellent choices for pick-your-own operations. Rabbiteye blueberries are mostly self-unfruitful and require cross pollination for acceptable fruit set.

Spring frost and freezes can be a major problem in rabbiteye blueberry production. Do not plant cultivars with very low chilling requirements in areas of the state or in fields likely to have spring freeze problems. These areas include frost pockets in low areas of south Georgia, and most of middle Georgia and north Georgia. In these areas only plant the highest chilling, latest blooming rabbiteyes. Do not plant rabbiteyes with a chilling requirement of less than 400 hours anywhere in north Georgia.

Rabbiteye Cultivars

Rabbiteye cultivars are listed in approximate ripening order. Ripening dates in middle Georgia will be about ten days to two weeks later than south Georgia. Ripening dates in north Georgia will be about three to four weeks later than south Georgia. Because most rabbiteye blueberries require cross-pollination for maximum fruit set, plant a minimum of two cultivars with a similar chilling requirement in an alternating row pattern in each field (A-B-A-B or A-A-B-A-A-B or A-A-B-B). The most promising cultivars for the commercial blueberry belt in south Georgia are marked with an asterisk (*). Cultivars suggested for small scale trial (a few plants or short row) are marked (T).

(Pat.) **Windy** has a chilling requirement of about 300 hours and blooms with Aliceblue and Beckyblue. Approximate ripening date in south Georgia is mid May to early June. Fruit of Windy appear to be sufficiently firm for the fresh market shipping with good weather conditions. Berry size is small and the flavor is good. Bushes are moderately vigorous and upright. Windy may have root rot problems so do not plant it on sites with poor drainage. Not recommended due to small fruit size. Overhead irrigation for freeze protection may be needed for consistent cropping. Suggested pollinizers are Aliceblue and Beckyblue. Released by Florida in 1991.

(Pat.) **Snowflake** has a chilling requirement of about 400-500 hours and blooms with Climax and Woodard. Approximate ripening date in south Georgia is mid to late May. The fruit must be hand picked for the fresh market and is too soft for long distant shipping. The picking scar on Snowflake is satisfactory, but not excellent. The flavor is good to excellent, the fruit are medium in size and have good color. Bushes have a spreading growth habit and produce more sprouts from the base than most rabbiteye cultivars. These sprouts continually renew the bush, but more pruning than normal will be necessary if a narrow plant row is desired. Snowflake plants have shown poor resistance in the field to *Phytophthora* root rot, but have good resistance to stem blight. Good soil drainage and the use of root rot control chemicals may be necessary to grow

Snowflake successfully. It has not been planted in Georgia because the fruit are so soft. Suggested pollinizers are Brightwell, Climax, and Bluebelle. Released by Florida in 1991.

(T)(Pat.) **Savory** has a chilling requirement of about 400 hours and blooms with Climax. Season of ripening is late May to early June or about 3 – 7 days before Climax at Homerville. Savory is reported to produce a large berry with light-blue color and good scar, firmness, and flavor. Savory is more susceptible to *Gleosporium* leaf spot and powdery mildew than most rabbiteye blueberry cultivars, but this can be controlled by fungicides used to control other rabbiteye diseases. Winter pruning may be necessary to prevent overcropping. Savory is susceptible to gall midge and may need applications of insecticide to control this pest on the spring growth. Savory is reported to respond well to Dormex. Suggested pollinizers are Climax, Beckyblue, Bonita, Austin and Alapaha. Recommended for limited trial. Released from Florida in 2003.

Beckyblue has a chilling requirement of 300-400 hours. This cultivar blooms early most years, and as a result frequently suffers freeze damage if grown without frost protection. Approximate ripening date in south Georgia is late May to early June. The fruit have good color, size, firmness and a dry picking scar. Beckyblue can be mechanically harvested for the fresh market during good weather conditions. The bush is moderately vigorous. Suggested pollinizers are Windy and Climax. Beckyblue is rarely grown in Georgia due to spring freeze problems. Released by Florida in 1978.

Aliceblue has a chilling requirement is 300-400 chill hours. This cultivar blooms early most years, resulting in frequent freeze damage. Approximate ripening date in south Georgia is late May to early June. Bushes are vigorous and upright. Fruit are fairly firm, have good color and size, and have a fairly dry picking scar. Aliceblue is no longer recommended in Florida because of fruit set problems due to diseases and cross-incompatibility with Beckyblue. Information from Georgia is very limited. Suggested pollinizers are Climax and Windy. Released by Florida in 1978.

*limited plantings (Pat.) **Alapaha** has a chilling requirement of 450 to 550 hours. Plants of Alapaha are vigorous, upright with quite narrow crowns, flower 7 to 10 days after Climax, and produce high yields most years. Berries are medium size and have good firmness, color, flavor and small dry scars which contribute to good shelf life. Fruit of Alapaha ripens quickly beginning about the same time as Climax. Alapaha is recommended for trial where rabbiteye blueberries are grown successfully as an early ripening cultivar to replace Climax. It is recommended that Alapaha be planted with other rabbiteye blueberry cultivars with similar time of bloom, such as Austin and Premier. The outstanding characteristics of Alapaha are later flowering and similar ripening time to Climax. Fruit size has been smaller than expected on some farms in 2005 and 2006. Released by Georgia in 2001.

*(Pat.) **Vernon** has a chilling requirement of 500 to 550 hours. It is an early season rabbiteye blueberry, having favorable fruit attributes, large berry size, good yields and excellent plant vigor. Plants of Vernon flower relatively late (7 to 10 days after Climax in south Georgia), yet ripen early (same time as Climax and Premier). Berries of Vernon are large in size and have excellent firmness, color, flavor and dry scars which contribute to good shelf life. Vernon is

recommended for trial where rabbiteye blueberries are grown successfully as an early ripening cultivar to replace Climax and/or Premier. It is recommended that Vernon be planted with other rabbiteye blueberry cultivars with a similar time of bloom, such as Alapaha and Brightwell. Released by Georgia in 2004.

***Premier** has a chilling requirement of about 550 hours. Approximate ripening date in south Georgia is late May to mid June. The fruit are medium-large to large with good color, stem scar, and flavor. This cultivar can be harvested mechanically for the fresh market in some years, especially if harvested on a frequent basis. It is recommended for planting for the fresh market on farms that can be picked by hand or very regularly with mechanical harvesters. If the fruit is not picked frequently it may be too soft for the fresh market. The fruit detaches from the bush easily and is excellent for hand picking. The bushes are upright in growth habit and vigorous. In North Carolina Premier is reported to grow better than many other cultivars on sites with marginally high soil pH. Canes on young plants can be too limber to support the fruit load, and may require some pruning. Premier flowers are often malformed and open prematurely on the side of the bloom. This may allow thrips to enter the blooms earlier than normal. Thrips can be controlled by night applications of insecticide (see SE Regional Blueberry IPM Guide at www.smallfruits.org) Fruit set on Premier has often been less than desired, but it is being widely planted since the fruit start ripening with or ahead of Climax. Susceptible to gall midge damage to flower buds and terminal vegetative buds in spring. Suggested pollinizers are Alapaha, Austin and Brightwell. Released by North Carolina in 1978.

Climax has a chilling requirement of about 400 to 450 hours, blooms early most years, and frequently suffers freeze damage. Cropping history following the freezes of 1993, 1996, 1998 and 2002 was poor, so this cultivar has been declining in favor with many growers. Approximate time of ripening in south Georgia is early to mid June, lasting about 20 days. About 80% of Climax's crop can be harvested in the first two pickings. Berries are small to medium size with good color, small scar and good flavor. Fruit firmness is excellent, making this cultivar very suitable for mechanical harvesting for the fresh market. Plants habit is upright and open. Climax does not produce many canes from ground level, so be careful not to remove too many canes during cane renewal pruning. Suggested pollinizers are Austin and Premier. Responds well to fall applications of ethephon (cleared for use in Georgia) for bloom delay, which can improve cropping. Susceptible to gall midge damage to terminal vegetative buds in spring. Released by Georgia in 1974.

(T)**Montgomery** has a chilling requirement of about 550 hours and blooms with Premier. Cropping in N.C. has been better than Premier. Approximate season of ripening in south Georgia is very late May to mid June, over lapping with and slightly later than Premier. Fruit size is medium-large. The fruit have good color, picking scar, and flavor. Fruit firmness is average. Montgomery is probably mechanically harvestable for the fresh market if picked on a frequent basis during good weather conditions. The bushes are moderately vigorous and semi-upright in habit. Recommended for very limited trial. Suggested pollinizers are Alapaha, Austin, Brightwell and Premier. Release by North Carolina in 1997.

* limited plantings. **Austin** has a chilling requirement of about 450-500 hours. Peak time of flowering is about 5-7 days after Climax. Approximate time of ripening in south Georgia is

early to mid June. The fruit ripen with Climax in some years and start just after Climax in other years. The fruit are medium-large in size with good color, stem scar, and flavor. Austin is moderately vigorous, productive, has an upright growth habit and adequate renewal cane production. The fruit are slightly softer than Climax, but can be mechanically harvested for the fresh market with good weather conditions. The seeds are large and can be abundant in some years. So far, this has not been a significant problem in commercial fields but in some small plantings with excellent pollination the size and number of seeds have been objectionable. For this reason it is recommended only for limited planting at this time. It may be possible to treat Austin with gibberellic acid during bloom to reduce the amount of seed set. Suggested pollinizers are Alapaha, Premier, and Brightwell. Released from Georgia in 1996.

Bonita has a chilling requirement of 350-400 chill hours, blooms very early most years, and frequently suffers freeze damage. Approximate time of ripening in south Georgia is early to late June. The fruit are large in size, with good firmness, color and a dry picking scar. The fruit can be mechanically harvested for the fresh market with good weather conditions. Bush habit is medium in spread and fairly vigorous. Bonita appears to be too susceptible to root rot for general planting. It should be tested only on sites with excellent drainage. Suggested pollinizers are Climax or Beckyblue. Released by Florida in 1985.

Bluegem has a chilling requirement of 350-400 hours, blooms early most years, and frequently suffers freeze damage. Approximate date of ripening in south Georgia is mid June to early July. Harvest starts just after Climax most years. The berries are medium in size, are very firm, have a small, dry picking scar and have good color. Bluegem can be mechanically harvested for the fresh market with good weather conditions. Bush habit is moderately spreading and moderately vigorous. Bluegem is very sensitive to wet soils and must be grown only at sites with excellent drainage. No longer recommended for planting in Georgia. Released by Florida in 1970.

(T)**Ira** has a chilling requirement of about 700-800 hours and blooms about two days after Tifblue in North Carolina. It fruits very well in the Piedmont of North Carolina (even during 1996 and 1998 when many rabbiteye cultivars failed due to freeze damage). Approximate date of ripening in south Georgia is probably mid June to late July. The berries are medium in size with average or better firmness and picking scar. Berry color is medium to dark blue. Ira can probably be mechanically harvested for the fresh market with good weather conditions. Stems are usually not a problem, but in one year when the bushes were overcropped, 70% of the berries had stems. Currently recommended for limited trial as a pick-your-own berry for the Piedmont and mountain regions. Suggested pollinizers are Powderblue, Tifblue and Ockolockonee. Released by North Carolina in 1997.

* **Brightwell** has a reported chilling requirement of 350-400 hours but bloom date occurs with most 500-550 hour cultivars. Brightwell has been one of the most reliable cropping cultivars after the freezes of 1993, 1996, 1998 and 2002 in Georgia. Approximate date of ripening in south Georgia is early-mid June to mid July. The harvest period is about 35 days. The berries are medium-large in size, have small, dry stem scars, and have good flavor and color. Plants are vigorous and upright and can be mechanically harvested for the fresh market with good weather conditions. The berries are very firm and round, so they roll nicely on most packing lines. Frozen berries are reported to have a reddish cast in some years, but color sorters have largely

eliminated this problem. Brightwell is subject to overcropping and return bloom can be poor if the bushes are not pruned and given good post harvest care. *Septoria* and *Gleosporium* leaf spots have been a problem on some sites and Brightwell may need postharvest fungicide treatment to help with leaf retention. Fruit are susceptible to severe cracking under wet conditions during maturity. Brightwell is partially self-fertile. Suggested pollinizers are Alapaha, Austin, Powderblue, and Premier. Released by Georgia in 1983.

Woodard has a chilling requirement of 350-400 hours, blooms early, and frequently suffers freeze damage. Approximate date of ripening in south Georgia is early-mid June to late July. Berries are light blue, large (early in the season) and somewhat soft. The quality of the berries is good when they are fully ripe, but are very tart until ripe. Woodard is a poor choice for fresh market shipping because it is too soft and is not recommended for the process market because the skin toughens when frozen. The plants are shorter and more spreading in habit than most rabbiteyes. Survival on marginally wet sites has been good. No longer recommended in Georgia. Released by Georgia in 1960.

Chaucer has a chilling requirement of 350-400 hours. It is not recommended for mechanical harvesting or for fresh fruit shipments to distant markets due to a wet picking scar. Berries are medium in size. It was released from Florida for pick -your-own purposes but is rather low chilling for planting in Georgia for this purpose. Plants are vigorous and spreading. Released by Florida in 1985.

Bluebelle has a chilling requirement of 450-500 chill hours, and early blooming often results in freeze damage and partial crop loss. Approximate date of ripening in south Georgia is mid June to late July. Berries are medium to very large, round, light blue and have excellent flavor. In years without spring freezes, the berries size well throughout the season and production is high. Fruit tend to tear when harvested, and ripe fruit float with green berries on a "wet line" used in processing berries for the frozen market. Therefore, this cultivar is not recommended for shipping or processing in Georgia. Plants are upright in growth habit and are moderately vigorous. Suggested pollinizers are Austin and Brightwell. Released by Georgia in 1974.

Briteblue has a chilling requirement of 600 hours. Approximate date of ripening in south Georgia is late June to Aug 1. Harvest lasts about 25 days. Berries are light blue, large, very firm with good flavor when fully ripe and can be mechanically harvested for the fresh market with good weather conditions. A problem with stems has been reported in some years. Berries are easily hand picked because they grow in clusters. Mature berries have a long retention time on the plant making it an excellent choice for pick-your-own operations. Briteblue is moderately vigorous and grows upright and open. Plants often grow slowly the first few years. Suggested pollinizers are Tifblue, Brightwell, and Powderblue. Released by Georgia in 1969.

Choice has a chilling requirement of 550 hours. Approximate season of ripening in south Georgia is late June to late July. The fruit are medium in size with good color, fair firmness, fair picking scar, and good flavor. Choice is vigorous, but is less upright than Tifblue. Although Choice flowers with Tifblue, it suffers less from fruit drop after mild winters in north central Florida. Choice can probably be mechanically harvested for the fresh market in years with good weather conditions and is recommended for some areas of Florida where Tifblue does not

perform well. Information about its performance in Georgia is limited. Suggested pollinizers are Brightwell and Powderblue. Released by Florida in 1985.

(T)**Columbus** has an estimated chilling requirement of 600-700 hours. Time of ripening is from mid-late June through July, starting slightly ahead of Tifblue. Columbus has very large fruit size, excellent fruit color, very good quality and shelf-life. However, the fruit are somewhat soft (similar to Premier) and not recommended for mechanical harvest for the fresh market. It may have potential for speciality markets and local sales where hand harvest is utilized. Columbus is less susceptible to rain splitting than many other cultivars. Suggested pollinizers are Ira, Tifblue and Powderblue. Released by North Carolina in 2002?

Tifblue has a chilling requirement of 600-700 hours and normally blooms in mid to late March in south Georgia. Approximate date of ripening in south Georgia is late June to August 1. The fruit are small to medium size with average color and picking scar, and good firmness and flavor. The first picking of Tifblue can be mechanically harvested for the fresh market during good weather conditions. However, most years the fruit ripens too late to receive high fresh market prices. It also has a very serious problem with fruit cracking during wet weather. No longer recommended for commercial planting if Powderblue can be obtained, due to the fruit cracking problem. Plants have vigorous, upright growth. Cane numbers can be excessive and pruning costs for mechanical harvest are significant. It is common for a few of the bushes to die each year in mature plantings. The cause is unknown but might be stem blight. Suggested pollinizers are Alapaha, Brightwell, Briteblue, and Powderblue. Released by Georgia in 1955.

Yadkin has a chilling requirement of about 650-750 hours. Approximate date of ripening in south Georgia should be late June to early August. The fruit are medium in size with a medium to dark blue color, and have an average picking scar and firmness. Yadkin has good aromatic flavor. It can be mechanically harvested for the fresh market in years with good weather and should be popular with pick-your-own operations, because it bears most of its fruit on the tips. Bush size is smaller than Tifblue. Overcropping may result in poor return bloom the following year. Suggested pollinizers are Brightwell and Powderblue. Released from North Carolina in 1997.

* **Powderblue** has a chilling requirement of 550-650 hours. Approximate date of ripening in south Georgia is late June to early August. Berries are medium in size, are very light blue in color, have a small, dry stem scar, and have average firmness and flavor. Powderblue cracks less in wet weather and hangs on the bush better than Tifblue. It can be mechanically harvested for the fresh market in years with good weather. Powderblue is similar enough to Tifblue in appearance, quality, season and mechanical harvesting characteristics that the two can be harvested together and used as pollinizers for each other. It is an excellent choice to plant in established Tifblue fields to increase pollination. Bush habit is upright and spreading. Suggested pollinizers are Alapaha, Brightwell, Tifblue and Ocklockonee. Released by North Carolina in 1978.

Delite has a chilling requirement of 500 hours. Approximate date of ripening in south Georgia is early July to late July. The fruit are medium to large, with good color, firmness, picking scar, and flavor. Delite is moderately vigorous, producing an upright plant. Due to leaf disease

problems (blueberry rust) and inconsistent bearing, Delite is no longer considered for commercial production in Georgia. Released by Georgia in 1969.

Baldwin has a chilling requirement of 550-650 hours. Approximate date of ripening in south Georgia is late June to early August. The fruit are medium to large, dark blue, and have a good picking scar, firmness, and flavor. Bush habit is fairly vigorous and upright. Baldwin is a good choice for pick-your-own operations in south Georgia where later season fruit is desired. It is not recommended for the fresh shipping market because it is too dark. Suggested pollinizers are Brightwell, Powderblue, and Centurion. Released by Georgia in 1985.

***(Pat.) Ochlockonee** has a chilling requirement of 650-700 hours. The approximate date of ripening in south Georgia is late June through mid August (about 5 to 7 days later than Tifblue). Berries are larger than Tifblue, and have good color, scar, flavor, and firmness. This is a new release from UGA, that has shown high productivity when compared to Tifblue. Fruit cracking in response to rain is low, similar to Columbus and Powderblue. The bush habit is vigorous and upright . Fruit should be suitable for mechanical harvest, similar to Tifblue. Flowering time is similar to Tifblue, or 2 to 3 days later, so spring frost is seldom a problem. Suggested pollinizers are Powderblue and Brightwell. Released by Georgia in 2002.

Centurion has a chilling requirement of 550-650 hours or more. It blooms late and is self-fertile to some degree. Approximate date of ripening in south Georgia is late June to mid August. Fruit are medium sized, medium to dark blue in color, have an average picking scar, and have good flavor. Fruit occasionally cracks following very heavy rains. Bushes are very vigorous, narrowly upright, and have limited suckering. Young plants may be poorly anchored (one-sided root systems) and can fall over in high winds. Recommended for pick-your-own operations where late season fruit is desired. Suggested pollinizers are Brightwell, Ochlockonee and Powderblue. Released by North Carolina in 1978.

SOUTHERN Highbush Blueberries

General Information on Southern Highbush Blueberries

Southern highbush blueberries have been a welcome addition to the cultivar options for Georgia. Many southern highbush blueberries ripen during the months of April and May in south Georgia, compared to ripening in June and July for most rabbiteye cultivars. In the last 10 years, many new early ripening Southern highbush blueberries have been released. These cultivars have a lower winter chilling requirement and more heat tolerance than northern highbush blueberries. Most southern highbush are currently harvested by hand, therefore, fruit size is an important consideration. Cultivars with medium size fruit generally take longer to pick than cultivars with large or very large fruit. Since workers are usually paid by the bucket they may not want to pick medium size fruit if large fruit are available.

Southern highbush blueberries are generally more difficult to grow compared to rabbiteyes. Low vigor and high mortality are serious problems when plants are grown on less

than ideal sites. The following culture guidelines can greatly improve the chances of success with southern highbush.

Some guidelines for southern highbush culture

- * Plant in 1). Pine bark beds 2). In raised beds amended with pine bark or pine pole peelings or 3). In spodic series sand soils high in organic matter (minimum 3%). Contact your county agent for a copy of "Blueberry Establishment in Georgia" for additional information.
- * Provide very good internal soil drainage. This can be facilitated by bedding and ditching around the field.
- * Provide permanent irrigation (overhead or micro-sprinklers are best).
- * Maintain excellent weed control.
- * Apply fertilizer regularly (use smaller, more frequent amounts for young plants).
- * Employ control tactics for birds, deer, insects, and diseases.
- * Prune established plants annually. After harvest and during the winter.
- * Since most southern highbush blueberries are only partially self-fertile, they benefit greatly from cross pollination with other cultivars.

Southern Highbush Cultivars

Currently, we can only make an educated guess about which of the southern highbush cultivars will be ideal for your region. The following is a list of Southern highbush blueberries and some information currently known about them. The most promising cultivars for the commercial blueberry belt in south Georgia (Baxley south to Nahunta and Homerville) are marked with an asterisk (*). Cultivars suggested for small scale trial (a few plants or short row) are marked (T). Cultivars are listed in relative ripening order for south Georgia.

(T)(Pat.) **Snowchaser** has a chilling requirement of about 150 hours so it blooms extremely early. Subject to some Fall flowering. Season of ripening is about 15 days before Star in California. Berries are medium to large, with good scar, flavor, firmness and medium blue color. The bush has a rounded form with medium to high vigor. Possible pollinator for Emerald. Released from Florida in 2006.

(T)(Pat.) **Primadonna** (formerly know as Princess) has a chilling requirement of about 200 hours so it blooms early, similar to Springhigh and Emerald. Ripening date has been about 12 days before Star in the Gainesville, Florida area. The berries are large and have excellent scar, firmness, color and flavor. The berries pick and pack well. Primadonna bushes are vigorous and upright. It produces a medium to high number of flower buds. Primadonna tends to flower before leafing and may experience problems with spring leaf development. However, the flower buds are sensitive to Dormex, so caution must be used with this chemical. Good winter pruning is needed in the production of Primadonna. Released from Florida in 2006.

(T)(Pat.) **Springhigh** has a chilling requirement of about 200 hours. At Windsor, near Gainesville, Fla. 50% bloom date is about five days before Emerald, which suggests a strong need for frost protection in south Georgia most years. Harvest season is very early, about 9 days

before Star. Berries are large with only medium firmness and some harvest problems have been encountered. Springhigh has a good fruit scar and flavor with a medium blue color. Bush habit is vigorous and upright with limited suckering at the base. Leaf development is good, but improved with Dormex. Springhigh may be useful as a pollinator for Emerald. Released from Florida in 2005.

(T)(Pat.) **Jewel** has a chilling requirement of about 250 hours so it blooms extremely early in the spring. The harvest season in Gainesville, Florida has been mid April to early May. Fruit size is medium-large with excellent stem scar and firmness. Flavor is good, but slightly tart. The berry is medium blue in color. Jewel is moderately vigorous with a spreading bush habit. It produces a large number of flower buds, but still develops leaves well in the spring. It has performed well in Gainesville, FL, and may have potential in Georgia as a pollinizer for Emerald. If you are trying it in south Georgia, plant it in an area with a good overhead irrigation system for freeze protection since the full bloom date will probably be in early to mid February and beginning of bloom in late January. Cross pollination with Sapphire and Emerald is suggested. Released by Florida in 1998.

*(Pat.) **Rebel** has a chill requirement of 400 to 450 hours. It is a new, very early season southern highbush with large fruit. Berries are medium to light blue in color, and have a small, dry picking scar, and good firmness. Flavor is bland to average. Some problems with attached stems were noted in 2006, but not in previous years. Berries ripen 6 to 9 days before Star in south and middle Georgia. Plants are highly vigorous, very precocious and have a spreading bush habit with a medium crown. Rebel flowers 3 to 4 days before Star in south and middle Georgia. Yield has been similar to or greater than 'Star' in south Georgia. Leafing has been excellent, even following mild winters. Propagation is very easily accomplished using softwood cuttings. Plants are self-fertile to a degree, but should be planted with other southern highbush blueberry cultivars with a similar time of bloom for cross-pollination (Emerald and Star recommended). Rebel is new, so planting on a trial basis is recommended. Released by Georgia in 2006.

(Pat.) **Sapphire** has a chilling requirement of about 150 hours so it blooms extremely early in the spring. The harvest season in Gainesville, Florida has been mid April to mid May. Fruit size is medium-large with a dry stem scar and good berry firmness. Fruit color is medium blue. Sapphire has good flavor (the berry is sweet with a pleasant amount of tartness). The plant of Sapphire is slightly less vigorous than Sharpblue and requires very good blueberry soil or pine bark bed culture. It sets a large number of flower buds, and especially for the first two years, some or all of the flower buds should be removed in winter to promote more vegetative growth in the spring. Spring leaf development can be poor. Like Jewel, its main use is expected to be in areas south of Gainesville, Fla. where cultivars such as Star and Santa Fe do not get enough chilling for good production. If you want to try Sapphire in south Georgia, plant it in an area with a good overhead irrigation system for freeze protection since the full bloom date will probably be in early to mid February and the beginning of bloom in late January. Cross pollination with Jewel is suggested. Released by Florida in 1998.

(Pat.) **Millennia** has a chilling requirement of about 300 hours, so it blooms early in the spring. However, flowers on vigorous shoots may bloom much later in the spring. Approximate ripening

date in lower south Georgia should be late April and early May. Millennia berry size is large to very large on well-leaved bushes that are not overloaded. The berries are grey-blue in color, but may lack firmness. Picking scar is good to excellent. Flavor is good, although it can be somewhat bland on overloaded bushes. Bush vigor is medium to high with a spreading bush habit. Millennia often sets an excessive number of flower buds so winter pruning may be needed for good leaf development in the spring. Leaf spot resistance is above average for southern highbush, but stem blight and root rot resistance is to poor. Because of fruit softness problems and disease problems it is **not recommended** for Georgia. Millennia is not self-fertile, so at least two other southern highbush cultivars with a similar chilling requirement should be planted in alternate rows with Millennia. Good choices might be Jewel and Emerald. Released from Florida in 2000.

*(Pat.) **Star** has a chilling requirement of about 400-500 hours so it blooms late enough to avoid some freezes. However, overhead irrigation is recommended for consistent production. Approximate ripening date in south Georgia is late April to mid May. Fruit are large to very large, and are fairly firm. Flavor is very good. Fruit may exhibit some cracking in wet weather. Bushes are fairly vigorous and upright-spreading in habit. Star usually has good spring leaf development. It requires cross pollination from other southern highbush cultivars for best production. O'Neal, Santa Fe, and Emerald should serve as good pollinizers. Star does not shed pollen well under high humidity conditions, so it should not be the sole pollinizer for other southern highbush cultivars. Star is susceptible to *Septoria* leaf spot. Recommended for south Georgia. Released by Florida in 1996.

(T)(Pat.) **Abundance** has a chilling requirement of about 300 hours. Fruit has a medium blue color with good firmness and flavor. Fruit size is very large and the bushes are very productive. Harvest starts in late April about three days after Star. The picking scar is good, but some tears will occur when over-ripe berries are picked. Abundance has good spring leaf development and productivity can be very high. Abundance is a very vigorous bush with an upright growth habit. Cane diseases have caused some plant loss. Susceptible to bud mite. May have potential as a pollinizer for Emerald. Released from Florida in 2006.

*???(Pat.)**Windsor** is a relatively new southern highbush with a chilling requirement of about 400 hours, so it blooms early. It is recommended for very limited trial in south Georgia with overhead irrigation for freeze protection. Approximate ripening time in lower south Georgia should be the last week in April to mid May. Berry size is very large. Berry color is a medium blue. It has good firmness and flavor, but a variable picking scar. On young plants, this can be problematic, since the skin can tear during picking. On older plants, the scar is medium, with only an occasional berry that tears. Picking in the morning also appears to reduce the degree of tearing. Spring leaf development is very good. Windsor is vigorous, with stout stems, and is semi-spreading in growth habit. Windsor appears to have above average leaf spot resistance, but only moderate root rot resistance. Stem blight resistance is only fair. Windsor is not self-fertile, so at least two other southern highbush cultivars with a similar chilling requirement should be planted in alternate rows with Windsor. Good choices may be Star, Santa Fe, O'Neal. Currently there is a shortage of good pollinizers for Star and Windsor may have potential for this use.
Check with your marketing organization before planting. Released from Florida in 2000.

(Pat.) **Southern Belle** has a chilling requirement of about 400-500 hours, so it blooms late enough to avoid some freezes. However, overhead irrigation is recommended for consistent production. Southern Belle has been extensively tested in South Georgia. Berries are large to very large with excellent scar and firmness. Berry color is medium blue and flavor is normally good. Southern Belle is intermediate in growth habit, between upright and spreading. It produces numerous canes and lateral fruiting branches and forms a dense, wide bush. It has high flower bud numbers and very good yield potential if the bushes are healthy. Spring leaf development is fair and improved with the use of Dormex. Southern Belle is very susceptible to Phytophthora root rot and has not performed well on many sites. Recommended only for very limited trial on extremely well drained sites. Treatment for root rot may be advised in excessively wet periods. Released from Florida in 2002.

* (Pat.) **Emerald** has a chilling requirement of about 200-300 hours, so it blooms early. Subject to some Fall flowering. It is recommended for trial in lower south Georgia with overhead irrigation for freeze protection. Berries size is large to very large and moderately firm. Emerald berries maintain good size throughout the harvest season if the bushes are well cross-pollinated and the crop is not excessive. Berry color is medium to dark blue, similar to O'Neal. Berry shape is wider than tall. Emerald is a vigorous bush with a growth habit that is more spreading than upright. Spring leaf development is good. Flower bud production is medium to heavy, but fall blooming may occur. These blooms or fruit normally freeze during the winter and the tip should be pruned off to reduce the problem with fruit diseases in the spring. Emerald appears to be average or above average in resistance to most diseases, but is susceptible to rust. Ripening can be protracted and usually begins with or after Star. Emerald needs cross pollination with another cultivar with similar chilling requirement. Good choices may be Misty, O'Neal and Star. Released from Florida in 1999.

(T)(Pat.) **Palmetto** has a chilling requirement of 400 to 450 hours. It is an early season southern highbush blueberry, having concentrated ripening and good plant vigor cultivar. Fruit ripens early with Star in south Georgia, and 8 days before Georgiagem. More than 75% of the berries ripen in the first two weeks of May in south Georgia. Berry stem scar, firmness, and flavor are excellent. Berry size is small to medium and color is medium blue. Plants are vigorous, with an open, spreading bush habit and narrow crowns. Plants bloom in early March in south Georgia and will likely benefit from frost protection (similar to 'Star'). Leafing can be slow in mild winters, so Dormex would likely be beneficial. Should be planted with other southern highbush blueberry cultivars with a similar time of bloom to provide optimum pollination (Star and O'Neal recommended). Palmetto is only recommended on a trial basis at this time. Released by Georgia in 2003.

***O'Neal** has an approximate chilling requirement of 400-500 hours for the flowers, and slightly more for leaves. The approximate ripening date in south Georgia is late April to mid May. The bulk of the crop ripens later than Star. O'Neal blooms over an extended period of time, starting very early in the spring. Often one or two flowers per cluster will emerge before the rest of the flowers. O'Neal is only moderately productive with medium to large, medium-blue fruit having good firmness, picking scar and flavor. O'Neal is fairly vigorous and semi-upright. Spring leaf development is only fair. Recommended for trial in south Georgia. Released by North Carolina in 1987.

(T)(Pat.) **Camellia** has a chill requirement of 450 to 500 hours. It is a new early to mid-season southern highbush blueberry cultivar. Berries are large, have very light blue color, and have a small, dry picking scar. Firmness is good and flavor is excellent. Camellia ripens a few days after Star, but before O'Neal. Plants are highly vigorous, with strong cane growth and an open, upright bush habit and a narrow crown. Camellia flowers 5 to 8 days after Star and O'Neal in south Georgia. Yields have been similar to Star and greater than O'Neal. Should be planted with other southern highbush blueberry cultivars with a similar time of bloom for cross-pollination (Star and O'Neal recommended). Camellia is only recommended on a trial basis at this time. Released by Georgia in 2005.

Sharpblue has a chilling requirement of about 150 hours. Approximate ripening date in south Georgia is early to late May. It is resistant to stem canker, but leaf diseases can be a problem. Sharpblue is no longer recommended for Georgia because it blooms too early, the scar is wetter than desired, and the old blooms often stick to the fruit. Bushes are moderately vigorous, semi-upright, and moderately productive. Fruit are medium to large in size, light blue in color, are fairly firm, have a wet scar, and have good flavor. Released by Florida in 1976.

(Pat.) **Santa Fe** has a chilling requirement of about 350 hours, and its approximate ripening date in south Georgia is early to late May. The berries of Santa Fe are medium to large in size, and have an excellent scar and firmness. Fruit color is blue to blue-black and flavor is good. Plants of Santa Fe are vigorous and upright. Spring leaf development is usually good, but is not as good as Sharpblue and Star. Santa Fe appears to have good potential for south Georgia on sites with overhead irrigation for freeze protection and is recommended for limited trial. However, the cultivar is difficult to propagate from softwood cuttings, because cuttings tend to defoliate quickly when placed under mist. Best propagation results have been obtained by using very soft, softwood cuttings. Interplant Santa Fe with Star or O'Neal for cross pollination. Released by Florida in 1999.

Misty has a chilling requirement of about 200 hours, and its approximate ripening date in south Georgia is early to mid May. Fruit quality is good and fruit size is medium to large. Bushes are moderately vigorous and upright with dark green foliage. Misty can have a serious problem with stem blight (*Botryosphaeria dothidea*) when young plants are fruited too heavily. Also, Misty tends to leaf poorly if overloaded with fruit. Unless spring frost removes part of the crop load, pruning is required to thin heavy crop loads and alleviate plant stress, especially on young plants. Growers in Florida often have to thin the crop by clipping off one-half the tip of the small fruiting branches in late winter. Do not make pruning cuts near the soil surface when the plants are young, because disease can enter the pruning cut. Strip flower buds by hand on the lower twigs. Misty responds well to Dormex to improve leaf development. Released by Florida in 1989.

Bladen has a chilling requirement of about 600 hours, and its approximate ripening date in south Georgia is early to mid May. Fruit ripens about five days ahead of O'Neal. The fruit is small to medium size, and has good quality, color, firmness, and picking scar. Bladen has better fruit color and less wet weather cracking than Reveille. This cultivar is probably adapted to mechanical harvest for the fresh market. Fruit size is a major limitation for hand picking speed.

Bushes are upright and fairly vigorous with a slightly wider canopy than Reveille. Recommended for limited trial, especially in upper South Georgia. Plant with Reveille or O'Neal to insure adequate pollination. Released by North Carolina in 1992.

(T)(Pat.) **Bluecrisp** has a chilling requirement of about 400 hours and an approximate date of ripening of early to late May. The fruit are medium to large, light blue, and unusually firm. The fruit scar is dry but medium deep, and the skin tears on some berries when they are picked. Bluecrisp produces a moderately vigorous plant that is more spreading than upright. Flower bud failure during the winter reduces the crop potential of this cultivar some years in the Gainesville, Florida area. There was also a problem with shoot die back experienced several years ago in South Georgia, but this has not been a serious problem recently. Subject to fruit set problems in some years. Suggested pollinators are O'Neal or Star. Released by Florida in 1997.

Reveille has an approximate chilling requirement of about 700-800 hours and ripens in south Georgia in early to mid May during years with sufficient winter chilling. The fruit are small to medium sized, light blue in color, have an excellent picking scar and firmness, and have good flavor. Reveille is adapted to mechanical harvest for the fresh market, but hand harvest is slow because of small fruit size. Plants are fairly vigorous and productive with a very narrowly-upright bush habit. Fruit cracking has been a problem for Reveille in rainy years. Plant with Bladen for pollination. Released by North Carolina in 1990.

Pamlico has an estimated chill requirement of 600 to 700 hours. Fruit are medium size, have a good scar and very good color, firmness, and flavor. Ripening is late May to early June in Griffin, Ga. Plants are moderately vigorous and upright. Only limited information has been gathered for Pamlico in Georgia. Planting with other southern highbush with a similar bloom time is recommended for optimum cross-pollination. Released by North Carolina in 2003.

Lenoir has an estimated chill requirement of 600 to 700 hours. Fruit are medium size, have a very good scar and average color, firmness, and flavor. Ripening is late May to early June in Griffin, Ga. Plants are upright with average vigor. Only limited information has been gathered for Lenoir in Georgia. Planting with other southern highbush with a similar bloom time is recommended for optimum cross-pollination. Released by North Carolina in 2003.

Craven has an estimated chill requirement of 600 to 700 hours. Fruit are small to medium size, have a very good scar and color. Berry firmness and flavor are average. Ripening is late May to early June in Griffin, Ga. Plants are upright and vigor has been poor in Griffin, Ga. Only limited information has been gathered for Craven in Georgia. Planting with other southern highbush with a similar bloom time is recommended for optimum cross-pollination. Released by North Carolina in 2003.

(Pat.) **Marimba** has a chilling requirement of about 400 hours, but blooms over a protracted period of time. Its approximate ripening date in south Georgia, is early to mid-May. Fruit are firm and have a good scar; however, serious problems with over-cropping and fruit with stems occur in some years. Fruit are small to medium and difficult to pick compared to other Florida cultivars such as Star. Plants are fairly vigorous and bushy, but spring leaf development may be poor. Marimba is not recommended for planting in south Georgia. Released by Florida in 1991.

(Pat.) **Southmoon** has a chilling requirement of about 400 hours and its approximate ripening date in south Georgia is early to late May. Berries are large, firm, and have a good picking scar. Southmoon requires cross pollination with other southern highbush cultivar for best results. O'Neal and Star are suggested companions for cross pollination. Plants in the nursery are vigorous, but plant survival in some fields in south Georgia has been extremely poor. Southmoon is not recommended for planting in south Georgia. Released by Florida in 1996.

Avonblue has a chilling requirement of 400 chilling hours and its approximate ripening date in south Georgia is early to mid May. This cultivar is semi-upright, but is not very vigorous and is only moderately productive. Fruit are medium to large in size and are light blue in color. Berries have good firmness, a dry stem scar and good flavor. Released by Florida in 1977.

Gulf Coast has a chilling requirement of about 200-300 hours and blooms too early in many years in south Georgia. Approximate ripening date in south Georgia is mid to late May. The fruit are medium in size, are firm, have a small stem scar and exhibit good flavor. Plant vigor and health are excellent, but Gulf Coast is not popular in Georgia because an excessive number of fruit stems remain attached to the fruit after harvest. Released by Poplarville, MS (USDA Station) in 1987.

Georgiagem has an approximate chilling requirement of only 350 chilling hours, but it blooms in the 500 chilling hour time frame. Approximate ripening date in south Georgia is mid to late May. Georgiagem is only moderately vigorous, is upright in bush habit, and develops a poor root system on most soils. Overall, productivity is low to medium. Fruit are small to medium in size with good color, picking scar and flavor. Berry firmness is only average. Georgiagem is probably susceptible to stem bight and canker. This cultivar can be planted with early blooming rabbiteyes for cross pollination. Released by Georgia in 1986.

Cooper has a chilling requirement of 400-500 chilling hours, but blooms in the 700 hour range based on observations. Approximate ripening date in south Georgia is mid May to early June. Bushes are vigorous, semi-upright and moderately productive. Fruit are medium in size, and have good firmness, stem scar, and flavor. Stem canker has been a serious problem at the Gainesville, Florida Experiment Station. Released by Poplarville, MS (USDA Station) in 1987.

Sampson has a chilling requirement of 700 to 800 hours. It is probably too high chilling for south Georgia, but may have potential for middle and north Georgia. It should ripen starting in late May in upper middle Georgia. Fruit size is large to very large with good color, picking scar, firmness, and flavor. Plants are semi-upright to upright with moderate vigor. Released by North Carolina in 1998.

Biloxi has an approximate chilling requirement of 200 to 300 hours. Season of ripening is mid May in south Georgia. Fruit of Biloxi are medium in size with good color, flavor and firmness. Biloxi should be planted with other southern highbush for cross pollination. Released by USDA Mississippi in 1998.

Cape Fear has an approximate chilling requirement of 500-600 chilling hours, and its approximate ripening date in south Georgia is mid to late May. The fruit are large, light blue, and have a small picking scar and good flavor. However, the fruit is too soft to handle well for distant shipping. Bushes are vigorous, semi-upright, very productive and precocious. Plants are susceptible to stem canker, but are tolerant to stem blight. Released by North Carolina in 1987.

Flordablue has an approximate chilling requirement of 300 hours and a ripening date in south Georgia of mid to late May. Flordablue is difficult to propagate and grow, and is not recommended for planting in Georgia. Released by Florida in 1976.

(T) Magnolia has a chilling requirement of about 500 hours and an approximate ripening date of mid to late May in south Georgia. Fruit of Magnolia are medium to large in size, with good flavor, color, firmness, and picking scar. Plants have a spreading growth habit, are medium in height, and are productive and vigorous after field establishment. Small plants require good management during establishment to ensure a stand. Magnolia appears to grow well with pine bark mulch in average, virgin flatwoods soil, and has potential for much of south Georgia with "ordinary" and not spodic soils. Winter flower bud failure has been a problem in Gainesville, Florida and Magnolia has not produced good crops most years on that site. A small degree of flower bud failure (ca. 20%) was observed in Tifton, GA after the mild winter of 1998-99, but Magnolia still produced a good crop. Recommended for limited trial in upper and middle south Georgia. Released by Poplarville, MS (USDA Station) in 1995.

Jubilee has a chilling requirement of about 500 hours and its approximate ripening date in south Georgia is mid to late May. Fruit of Jubilee are small to medium in size, and have good color, flavor, firmness, and small picking scar. Plants are upright, vigorous and productive. This cultivar appears to grow well with pine bark mulch on average, virgin flatwoods soil. Plants have even done well in Griffin, GA with pine bark mulch on a red Piedmont soil. Jubilee is recommended for limited trial in south and middle Georgia, and will likely benefit from cross pollination. Suggested pollinizers are Magnolia and O'Neal. Released by Poplarville, MS (USDA Station) in 1995.

Blue Ridge has an approximate chilling requirement of 500-600 hours. Approximate ripening date in South Georgia is mid to late May. Blue Ridge is vigorous, upright and productive. Fruit are large to very large, very light blue with excellent firmness but a wet picking scar. Plants are susceptible to stem canker, but are tolerant to stem blight. This cultivar may have potential in the Coastal Plain, Piedmont and lower mountains in the Southeast, but only for pick-your-own plantings because of a wet picking scar. Released by North Carolina in 1987.

Pearl River has a chilling requirement of about 500 hours and its approximate ripening date in south Georgia is late May to early June. The fruit is medium in size with good flavor and a small picking scar. The fruit color is dark blue and may not be commercially acceptable on some markets. Bushes are vigorous and upright, and production is only fair. Because of the potential problem with fruit color it is recommended for only very limited trial until more is known about its marketability. Pearl River is a highbush x rabbiteye hybrid. Suggested pollinators are Jubilee, Magnolia and Star. Released by Poplarville, MS (USDA Station) in 1995.

Summit has an approximate chilling requirement of 800 hours. Summit is a mid to late season southern highbush and should ripen starting about June 5 in upper middle Georgia. Fruit are large, with excellent color and flavor. Berries have a good picking scar and firmness. The bush is semi-upright and moderately vigorous. Information on Summit in Georgia is very limited at this time. Released in 1998 by North Carolina, Arkansas, and USDA.

(Pat.) **Ozarkblue** has an approximate chilling requirement of 800-1000 hours. It usually blooms several days after Tifblue and several days before Bluecrop in Arkansas. It fruited well in Arkansas following the March 1996 freeze. It is probably too high chilling for south Georgia, but may have potential in middle and north Georgia. The fruit starts ripening about seven days before Climax in Arkansas. Fruit quality ratings including stem scar, color, firmness, and flavor are high, and fruit size is large. Ozarkblue plants are semi-upright and fairly vigorous, but heavy crop loads can cause canes to have a willow-like growth habit during the fruiting season. Plant survival has been a problem in Georgia. For this reason it is recommended only for very limited trial in Georgia. Released by Arkansas in 1996.

*?**Legacy** has an approximate chilling requirement of 500-600 hours. Time of ripening is late May to mid-June in south Georgia. The fruit are medium to large, are moderately firm, and have a good stem scar and flavor. The bush is upright and productive, and plants are reported to grow well even on "red clay" in North Carolina. Legacy may have potential for the Piedmont and upper south Georgia. Released by New Jersey (USDA) in 1993.

NORTHERN Highbush Blueberries

General Information on Northern Highbush Blueberries

Northern highbush blueberries are generally self-fertile. However, larger and earlier ripening berries result if several cultivars are interplanted for cross-pollination. The chilling requirement for the northern highbush cultivars listed below is at least 1000 hours, unless otherwise noted. Sufficient winter chilling for northern highbush is received in the piedmont of Georgia in most years. However, since they do not tolerate high temperatures well they are generally not recommended for the Piedmont area of Georgia. Since information on northern highbush blueberries in Georgia is limited, proceed with caution. These blueberries generally require soil highly amended with pine saw dust or milled pine bark plus a pine bark nugget mulch for best results. Overhead irrigation or micro-sprinklers are also recommended. Deer and bird protection may be necessary. Deer eat the developing flower buds in late winter. Most northern highbush ripen ahead of rabbiteye blueberries in the mountains. Early ripening northern highbush blueberries can offer a source of high quality dessert fruit which ripens ahead of the earliest rabbiteyes. Early season means the harvest starts is early to mid June, mid season means late June, and late season means July. Vigor is also relative. A "vigorous" northern highbush is not as vigorous as a vigorous rabbiteye blueberry in Georgia. The cultivars with the best track record in the mountains of Georgia or North Carolina at this time are marked with an #. Other cultivars are recommended only for very limited trial at this time.

Northern Highbush Cultivars

#Earliblue ripens in the early season. Plants are vigorous and upright. The fruit are medium/large in size, are medium blue in color, are firm, and have a medium picking scar. Released in 1952.

Sunrise ripens in the early season. Plants are moderately vigorous, upright and moderately productive. The fruit are medium in size, are moderately firm, are light blue in color, and have a fairly small picking scar. Sunrise is susceptible to stem blight in North Carolina. Released in 1989.

#Duke ripens in the early season. Plants are vigorous and upright. The fruit are large in size, are firm, have mild flavor, and generally have a small picking scar. Duke is susceptible to stem canker in North Carolina. Duke has preformed fairly well at Georgia Mountain Station in Blairsville. Released in 1985.

Collins ripens in the early to mid season. Plants are vigorous, semi-upright, and productive. The fruit are large, light blue, good flavored, and have a good picking scar. Released in 1959.

Spartan ripens in the early to mid season. Plants are moderately vigorous, upright, and productive. The fruit are large and light blue, with excellent flavor and a good picking scar. Spartan is very susceptible to stem canker in the Coastal Plain of North Carolina. Released in 1978.

#Patriot ripens in the early to mid season. Plants are vigorous, semi-upright, and productive. Fruit are large and light blue, with good flavor and a poor picking scar. Patriot is susceptible to stem canker in the Coastal Plain of North Carolina. Recommended for trial in the mountains but mainly for pick-your-own due to poor picking scar. Has performed fairly well at the Georgia Mountain Station in Blairsville. Released in 1976.

Blueray ripens in early to mid season. Plants are vigorous, upright, and productive. The fruit are large and light blue, with good firmness, excellent flavor and a poor picking scar. Blueray has some tolerance to stem canker in eastern North Carolina, but is susceptible to stem blight. Recommended for trial. Has performed well at the Georgia Mountain Station in Blairsville. Released in 1955.

#Bluehaven ripens in mid season. Plants are moderately vigorous. Berry size is medium with good color and picking scar. Has performed well at the Georgia Mountain Station in Blairsville.

#Nelson ripens in mid season. Plants are vigorous, upright, and productive. Fruit are large, with good color, firmness, flavor, and fair picking scar. Has performed well at the Georgia Mountain Station in Blairsville. Released in 1988.

Blucrop ripens in mid season. Plants are vigorous, upright, and productive. The fruit are very large and light blue, with good firmness, flavor, and picking scar. Bluecrop is susceptible to

stem canker, and is subject to overcropping without detailed pruning. Has performed fair at the Georgia Mountain Station in Blairsville. Released in 1952.

#**Toro** ripens in mid season. Plants are vigorous, upright, and productive. Fruit are large, with good color, firmness, flavor, and picking scar. Toro is susceptible to stem canker in North Carolina. Has performed fairly well at the Georgia Mountain Station in Blairsville. Released in 1987.

#**Bluegold** ripens in mid season. Plants are vigorous and spreading.

Fruit are medium to large size, with good color, firmness, flavor and picking scar. Has performed well at the Georgia Mountain Station in Blairsville. Released in 1990.

#**Sierra** is a high chilling requirement southern highbush that ripens in the mid to late season. Plants are vigorous, upright, and productive. The fruit are medium size, with good firmness, flavor and picking scar. Released in 1988.

Berkeley ripens in the mid to late season. Plants are vigorous, spreading, and very productive. The fruit are large and light blue, with a mild flavor, good firmness and a good picking scar. Berkeley is very susceptible to stem canker in the Coastal Plain of North Carolina. Released in 1949.

Jersey ripens in the late season. Plants are vigorous, upright, and productive. The fruit are medium size and light blue in color, with good firmness, mild flavor and a good picking scar. Jersey plants are widely adapted, are reliably productive, and show some tolerance to stem canker in eastern North Carolina. Released in 1928.

Darrow ripens in the late season. Plants are vigorous and productive. The fruit are large, light blue in color, with a large scar and slightly tart flavor. Good for local sales, but not suitable for machine harvest.

Coville ripens in the late season. Plants are vigorous, spreading, and productive. The fruit are large and light blue, with high acid flavor, a good scar and good firmness. Coville is very susceptible to stem canker in the Coastal Plain of North Carolina. Released in 1949.

#**Elliott** ripens in the very late season. Plants are vigorous, upright, and very productive. The fruit are medium and dark blue, with good firmness, a good picking scar and tart flavor. Elliott is very late ripening, and overlaps with early ripening rabbiteye cultivars. Has performed fairly well at Georgia Mountain Station in Blairsville. Released in 1973.

Additional Information

(Pat.) = Patented or patent pending. All future Georgia, Florida, and Arkansas cultivars will be patented to help support the blueberry breeding programs.

Information on propagation of patented Georgia cultivars can be obtained from the Georgia Seed Development Commission, 2420 S. Milledge Avenue, Athens, GA 30606. Phone: 706-542-5640. www.gsdc.com

Information on propagation of patented Florida cultivars can be obtained by contacting the Florida Foundation Seed Producers, Inc. P.O. Box 309, Greenwood, Fla., or you may call the Foundation office at 850-594-4721 or e-mail: seed@digitalex.com

Information on patented Ozarkblue can be obtained by contacting Dr. James Clark, Dept. of Hort., U. of Ark., Fayetteville, Ark. 72701. Phone: 501-575-2810.

Information on new North Carolina cultivars can be obtained by contacting Dr. Daryl Bowman. North Carolina Foundation Seed, 8220 Riley Hill Rd., Zebulon, NC 27597. Phone: 919-515-2851.

Information on new USDA Mississippi cultivars can be obtained by contacting Dr. Jim Spiers at the USDA Southeast Small Fruit Research Station, Box 287, Poplarville, MS 39470. Phone 601-795-8751