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Sustainable Gardening for School and Home Gardens

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### Sustainable Gardening for School and Home Gardens: Blueberries

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# **SUSTAINABLE GARDENING**

### FOR SCHOOL AND HOME GARDENS





### **QUICK FACTS**

- Plant family: Ericaceae (Heath)
- Planting Season: Fall
- Harvest Season: Spring
- Life cycle: Perennial
- Transplant to first harvest: 2-3 years



Create a Sustainable Garden by improving soil health, relying on locally available materials and resources, and practicing environmentally sound horticultural practices

## History

Blueberries are a member of the *Ericaceae* family, also known as the Heath family, which also includes cranberries and huckleberries along with thousands of other flowering plants like rhododendron, azaleas and heather (see Figure 1). Characteristics of this plant family often include tolerance to acidic soils and flowers that produce a berry.

The blueberry shrub is a deciduous shrub and one of the few fruit crops native to North America, existing in the wild for thousands of years. Blueberries were commonly harvested, dried and stored by Native Americans, and the entire plant was said to be used for medicinal purposes. European colonists learned how to grow and care for blueberry plants from the Native Americans, but domesticated blueberries have only been grown since the early 1900s. Frank Coville, a botanist for the U.S. Department of Agriculture, researched and experimented with native blueberry species and developed gardening recommendations and modern varieties.

In the late 1990s, blueberries gained national attention, leading to greatly increased production, after being



## Figure 1. Blueberries belong to the Ericaceae plant family, along with cranberries, rhododendron and azaleas, and many more.

identified as a "superfood." Blueberries received this label because they offer many health benefits and contain vitamins along with anthocyanins — which give the blue color — and other phytochemicals. If the right planting site and variety are selected, blueberries grow very well in the South and are a popular summer berry.

## Growing

#### Varieties

There are primarily three types of blueberries grown in the U.S.: (1) rabbiteye, (2) southern highbush and (3) northern highbush. Blueberry varieties are grouped by the timing of fruit production: (1) early season, (2) midseason, or (3) late season. Blueberries require at least two different varieties of the same type (rabbiteye, southern highbush or northern highbush) for adequate pollination to occur and fruit to set. Bloom times of the two or more varieties should occur during the same season (early, mid or late) or must overlap for proper pollination. Early and midseason varieties will overlap, as will mid- and late-season varieties. Cross-pollination also improves fruit-set, size and earliness of ripening. For a longer harvest season, it is recommended to plant varieties that bloom in each season (early, mid and late).

Rabbiteye blueberries, named because their berries ripen from pink to blue — resembling a rabbit's eye — are grown throughout the southeastern U.S. and southern California. Rabbiteyes are recommended for Louisiana as they are well suited to the climate of Gulf Coast states, have little to no insect pest pressure and have the lowest chilling requirement for flowering and fruit production (300-700 hours).

Southern highbush blueberries are increasing production in Louisiana. This type of blueberry requires more exact growing conditions than rabbiteyes and is considered higher maintenance, less vigorous and more susceptible to pests. The advantage with southern highbush blueberries is that the earliest varieties ripen at least 2 weeks earlier than early season rabbiteye varieties but with the same average chilling requirements. With extra care and following recommended growing practices, southern highbush blueberries are also recommended for Gulf Coast production.

Northern highbush blueberries are grown in Michigan, eastward to Maine and as far south as North Carolina, as well as in Washington and Oregon. Northern highbush varieties require a longer winter chilling period and cannot tolerate hot summer temperatures; therefore, this type is not recommended for Louisiana.

Chilling requirement, as measured in chill hours, is the number of hours below 45 degrees Fahrenheit that the blueberry plant must receive each winter to bloom and produce fruit. This is an essential period of dormancy, or rest, for the plant before resuming fruit production. Select varieties with annual chill hours that match what the growing area typically receives. Varieties with similar chill hour requirements will have the most bloom overlap for adequate pollination.

See the recommended rabbiteye and southern highbush blueberry varieties for Louisiana in Table 1.

#### Table 1. Recommended Blueberry Varieties for Louisiana

| Variety Name | Description  | Mature Plant Size         | Harvest Time        | Chilling<br>Requirement |
|--------------|--|---------------------------|---------------------|-------------------------|
| Rabbiteye    |  |                           |                     |                         |
|              |  | Early Season              |                     |                         |
| Austin       | Large-sized blueberry;<br>firm and flavorful; easy to<br>pick clusters; productive;<br>moderately vigorous plants;<br>good shelf life                | 10-15' tall<br>8-10' wide | Early June          | 450-550 hours           |
| Alapaha      | Medium-sized, dark blue<br>berry; firm and flavorful;<br>good shelf life; productive<br>and vigorous plants; frost<br>resistant                      | 6-10' tall<br>6-8' wide   | Late May-early June | 450-500 hours           |
| Brightwell   | Medium-sized, deep blue<br>berry; flavorful; vigorous and<br>upright plants  | 6-10' tall<br>6-8' wide   | Early June          | 350-400 hours           |
| Climax       | Medium-sized, dark blue<br>berry; flavorful; upright open<br>plants; concentrated ripening;<br>heat tolerant   | 6-8' tall<br>5-6' wide    | Early June          | 400-450 hours           |
| Premier      | Large-sized, light blue berry;<br>firm and flavorful; good shelf<br>life; very productive and<br>vigorous plants; disease<br>resistant; upright form | 6-8' tall<br>6-8' wide    | Late May-early June | 500-550 hours           |
| Titan        | Giant-sized, dark blue berry;<br>firm and flavorful; very sweet  | 6-8' tall<br>4-8' wide    | May-June            | 440-500 hours           |
| Vernon       | Large-sized, medium blue<br>berry; firm and sweet;<br>vigorous and very productive<br>plants; resistant to freeze<br>damage                          | 6-8' tall<br>5-10' wide   | Мау                 | 450-550 hours           |
| Woodard      | Large-sized, medium-dark<br>blue berry; flavorful; softer<br>fruit; upright form   | 5-6' tall<br>5-6' wide    | Late May-early June | 300-350 hours           |
|              |  | Midseason                 |                     |                         |
| Bluebelle    | Medium-sized, medium blue berry; very flavorful  | 6-8' tall<br>6-10' wide   | June                | 450-500 hours           |

| Variety Name      | Description  | Mature Plant Size       | Harvest Time              | Chilling<br>Requirement |
|-------------------|--|-------------------------|---------------------------|-------------------------|
| Chaucer           | Medium-sized, light blue<br>berry; vigorous and spreading<br>habit; very productive;<br>susceptible to late frosts;<br>shorter shelf life  | 6-8' tall<br>5-10' wide | June                      | 350-450 hours           |
| Columbus          | Large blueberry; very sweet<br>and flavorful; productive and<br>vigorous plants; resists rain-<br>related fruit cracking   | 6-7' tall<br>3-4' wide  | Late June-July            | 600 hours               |
| Powder Blue       | Medium-sized, powder blue<br>berry; firm and flavorful;<br>productive and vigorous plant<br>with heavy foliage; disease<br>resistant; resists rain-related<br>fruit cracking             | 6-8' tall<br>6-10' wide | Late June- July           | 550-650 hours           |
| Tifblue           | Large-sized, light blue berry;<br>sweet and firm; vigorous<br>and adapted plant; ripe fruit<br>stores for several days on<br>plant; most productive variety;<br>cold hardy; self-fertile | 6-8' tall<br>6-10' wide | Late June-July            | 550-650 hours           |
|                   |  | Late Season             |                           | ·                       |
| Baldwin           | Medium-large-sized, dark<br>blue berry; firm and flavorful;<br>vigorous and upright habit;<br>productive   | 5-8' tall<br>5-10' wide | June-July                 | 450-500 hours           |
| Centurion         | Medium-sized, medium-dark<br>blue berry; flavorful; vigorous<br>and upright habit; frost<br>resistant  | 6-8' tall<br>6-8' wide  | June-July                 | 550-650 hours           |
| Delite            | Medium-large-sized, light blue berry; firm and flavorful   | 6-8' tall<br>6-10' wide | June-July                 | 500 hours               |
| DeSoto            | Large-sized, deep blue berry;<br>sweet and flavorful; compact<br>habit   | 5' tall<br>4' wide      | Late June-early<br>August | 600-650 hours           |
| Ochlockonee       | Medium-large blueberries;<br>firm and flavorful; productive<br>and vigorous plants; resistant<br>to frost and fruit cracking;<br>upright growth habit                                    | 6-8' tall<br>6-10' wide | July                      | 550-650 hours           |
| Southern Highbush |  |                         |                           |                         |
|                   | Medium-sized, light blue   | Early Season            | 1                         | ]                       |
| Biloxi            | berry; very flavorful and firm;<br>productive and vigorous;<br>upright and spreading growth<br>habit; Misty is recommended<br>as pollinator  | 5-6' tall<br>3-4' wide  | Late April                | 100-200 hours           |

| Variety Name | Description   | Mature Plant Size      | Harvest Time         | Chilling<br>Requirement |
|--------------|---|------------------------|----------------------|-------------------------|
| Misty        | Large-sized, sky blue<br>berry; sweet and firm; very<br>productive; vigorous and<br>upright growth habit; tolerates<br>humidity and aridity; Biloxi is<br>recommended as pollinator                           | 6-8' tall<br>6-8' wide | Late April           | 200-300 hours           |
| O'Neal       | Large-sized, medium blue<br>berry; high quality, sweet<br>and flavorful; upright and<br>spreading growth habit; self-<br>pollinating  | 6-8' tall<br>6-8' wide | Late April-early May | 400-500 hours           |
| Rebel        | Large-sized, light blue berry;<br>neutral flavor and firm;<br>productive and vigorous;<br>susceptible to frost  | 5-6' tall<br>3-4' wide | Late April           | 400-450 hours           |
| Southmoon    | Large-sized, sky blue berry;<br>flavorful and adaptable; very<br>productive and vigorous;<br>Misty is recommended as<br>pollinator  | 4-6' tall<br>4-6' wide | Early May            | 400-500 hours           |
| Star         | Large-sized, dark blue berry;<br>flavorful and firm; good<br>shelf life; concentrated<br>ripening period; resistant to<br>Phytophthora root rot and<br>stem blight; Southmoon is<br>recommended as pollinator | 6-8' tall<br>4-8' wide | Late April-early May | 300-500 hours           |
| Midseason    |   |                        |                      |                         |
| Camellia     | Large-sized, sky blue berry;<br>very flavorful and tropical-<br>tasting; very productive; self-<br>pollinating  | 5-6' tall<br>3-4' wide | Мау                  | 500 hours               |
| Jubilee      | Medium-sized blueberry;<br>flavorful and firm; productive<br>and vigorous; upright growth<br>habit  | 6-8' tall<br>6-8' wide | Мау                  | 500-600 hours           |

Notes: Table varieties selected from recommendations from LSU AgCenter, Mississippi State University Extension and University of Georgia Extension. Variety descriptions compiled from Plant Me Green, Wilson Bros Gardens, Backyard Berry Plants and Just Fruits and Exotics.

Other recommended blueberry varieties for Louisiana include:

Rabbiteye: Briteblue, Choice, Montgomery, Onslow, Prince.

Southern Highbush: Magnolia, Ozarkblue, Palmetto, Santa Fe, Summit, Suziblue.

#### When and How to Plant

Blueberry plants are perennial shrubs that produce fruit during the warm season. It is recommended to start with a containerized blueberry plant that's 12-36 inches tall or about 2 years old in 1 gallon or larger containers. Obtain healthy plants from a reputable nursery. Water the plants when you get them and keep them moist until planting; do not let them dry out. When transplanting containerized plants, make sure the plants are not root-bound. If the roots have reached the edge of the pot and are starting to circle around the edge, they may continue to grow in a circular pattern around the root ball in this pattern after planting. To encourage root growth into the surrounding soil, slightly break up the rootball with your fingers, or use a knife to make a few vertical slashes when planting. This will reorient the roots and encourage growth out into the soil from the planting hole.

Bare-root plants may also be used with good success in the dormant season. It is recommended to plant bare root plants immediately. Water the plants when you get them and keep them moist until planting; do not let them dry out. Bare-root plants should be handled with care as the roots are more vulnerable and have less volume than containerized plants.

Refer to the Blueberry Planting Guide (Table 2) for the recommended dates to transplant these young blueberry plants outside. Planting blueberry plants during the dormant fall and winter seasons gives the plant more time to establish roots before spring arrives and new growth resumes.

#### Table 2. Blueberry Planting Guide

| Transplant Outside Dates                                | Plant Spacing | Row Spacing | Bed Spacing | Years to  | Annual Yield |
|---|---------------|-------------|-------------|-----------|--------------|
|   | (feet)        | (feet)      | (feet)      | Harvest*  | Per Bush     |
| <u>Bare root</u> : NovFeb.<br><u>Container</u> : NovMay | 6-8           | 10-12       | 3-4 wide    | 2-3 years | 10-25 lbs.   |

\*Transplant to first harvest.

Note: Table adapted from LSU AgCenter and Mississippi State Extension planting guides.

At the recommended spacing, dig a hole that is deep enough so blueberry plants can be set into the soil at the same depth they were growing in the container (avoid planting too deep), with the roots positioned straight down into the soil (not bent) and wide enough that the roots are not crowded (see Figure 2). Fill in around the plant with the native soil from the hole, firm the soil around the plant and thoroughly water. Prune some of the low, small stem growth and remove any flower buds so the plant will focus on root growth rather than fruit production. Here is a helpful <u>video</u>.

After transplanting, it is recommended to cover the bed with a thick layer (3-6 inches) of organic mulch extending 3-5 feet around each bush. Avoid piling mulch around plant stems. Blueberry plants generally flower from February to March with the berries ripening from green to red to blue in April through August (depending on variety). Blueberry plants will live for at least 10-15 years with good management.



Figure 2. Plant a containerized blueberry plant at same depth as it was growing in the container and wide enough that the roots aren't crowded.

#### Where to Plant

Blueberries prefer moist, well-drained, sandy soils and full sun (minimum 6 hours per day). They don't tolerate excessive moisture, but some varieties will tolerate partial shade. Site selection is critical to the success of blueberry planting. Blueberry plants prefer an acidic soil with a pH between 4.2 and 5.5. Soils with a pH above 5.5 should be avoided for blueberry plants as they will not adapt well.

It is recommended to plant blueberries in 3-4-foot wide traditional raised garden rows that are 8-12 inches tall to ensure good drainage for the shallow root system and prevent disease. An alternative is to plant in a large container (20 gallons or greater). For initial soil preparation, it is recommended to add a 3-4-inch layer of compost, peat moss, rotted hay or other organic matter and mix into the soil to optimize plant health.

Southern highbush types require soils with high organic matter or soils with high volumes of pine bark added and replenished annually to avoid root exposure. Peat moss is also commonly used to increase organic matter in blueberry plantings. Southern highbush blueberries are heavier nutrient feeders and may also require a balanced slow release fertilizer with minor elements.

Bird netting is recommended to protect blueberries if birds are pests.

#### **Plant Care**

It is recommended to follow <u>sustainable gardening</u> principles.

**Watering:** Blueberries have a shallow, fibrous root system that develops near the soil surface, so frequent watering is required to develop a healthy plant. The critical periods for watering are when plants are young and during flower bud formation in the fall. Drip irrigation is very helpful to ensure consistent, adequate water for the long production season. On average, plants that are 1 year old require about 3.5 gallons of water per week. Each year of growth doubles the weekly water demand (i.e., plants 2 years old require about 7 gallons of water per week) up to a maximum of 35 gallons of water per week. Deep weekly watering is recommended over daily watering.

**Fertilization:** Blueberries require only light fertilization and are highly sensitive to over-fertilization. Begin fertilizing the year after planting.

Organic fertilizers, such as compost, fish emulsion, composted poultry litter or manure, worm castings, and blood or bone meal, originate from living organisms. They are safer and far more environmentally sustainable than traditional synthetic fertilizers. They naturally release nutrients more slowly and over a longer period of time. When applying organic fertilizer, it is important to use in unison with compost, cover crops and crop rotation, which all work together to build soil health. Learn how to convert inorganic fertilizer recommendations to organic fertilizers <u>here</u>.

Cottonseed meal (6-2-2) is an excellent source of organic nitrogen for blueberries. Sprinkle a single handful over young plant root systems the first year, and add a little more every year until you reach 1 cup for mature blueberry bushes (5-6 years old).

Alternatively, use a specialty fertilizer designed for acidloving plants, such as azalea/camellia fertilizer (10-8-6). Broadcast the fertilizer over the bed on top of the mulch in early spring before plants begin actively growing. Apply 2 ounces ( $\frac{1}{4}$  cup) the year after planting. Every year add another ounce per bush (i.e., 3 ounces at 3 years, 4 ounces at 4 years). When plants reach 6 years of age and 6 feet tall, they should top out at 7 ounces per plant and receive 7 ounces every year thereafter. Always water well after a fertilizer application.

**Weeds:** Organic mulch will control most of the weeds; hand pull weeds close to the plant and reapply mulch as need. It is important to keep a 3-foot weed-free area around each bush to prevent competition for nutrients and moisture, as blueberry roots only extend 8-10 inches from the base of the bush.

**Pruning:** The general purpose of pruning is to maintain and control plant size and to encourage wood renewal. After the initial pruning during the transplanting process, rabbiteye blueberry plants don't need another round of

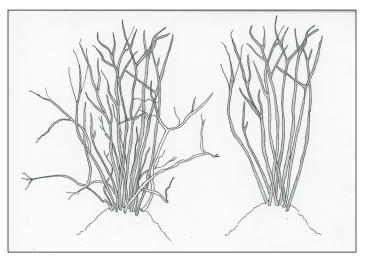


Figure 3. Before (left) and after (right) pruning a rabbiteye blueberry shrub and removing old canes or main branches.

pruning until they reach about 6 feet tall, although low, spreading branches near the ground should be removed as the plant grows. As rabbiteye blueberry plants reach the fifth or sixth year, older wood in the center is pruned out to encourage new growth and redirect energy to more vigorous canes (or main branches). As a general recommendation, remove 10-20% of the canes, cutting back to just above the soil level and leaving a maximum of 8-10 strong canes per plant (see Figure 3). This allows for regeneration of the plant in 5-7 years. The removal of old canes will improve productivity and fruit size and decrease disease risk. Any canes that are much longer than the others can also be trimmed back a little. Here is a helpful video showing the annual pruning process. Rabbiteve blueberry plants should be pruned immediately after harvest and no later than early August. This allows the plant time after pruning to produce mature wood and develop flower buds for berries next spring.

Southern highbush blueberries are pruned differently than rabbiteyes. They are similar in that the plants require little pruning the first few years, but after 3 years, bushes need to be heavily pruned after fruiting in the spring. Removing canes 12-18 inches above the soil is recommended. The remaining plant will produce multiple short branches that will regenerate new shoots that will be the fruiting wood for next season. This also reduces potential damage from high winds. In following years, trim back the canes less severely to force additional new growth. Like the rabbiteyes, southern highbush blueberries also require renewal pruning — the removal of old canes — beginning around the fifth or sixth year.

**Insect pests and diseases:** Blueberry plants are generally low maintenance and are not vulnerable to many pests and diseases. The key blueberry pests are birds, but insect pests include blueberry gall midges, fruitworms, beetles, stink bugs, stem borers and flower thrips. Blueberry plants are susceptible to some foliar (leaf) and fungal diseases (e.g., anthracnose, fruit and leaf spot and mummy berry). Prevention and regular monitoring can help identify symptoms of these problems to allow for early diagnosis and management. Generally, recommended tools for disease prevention are using mulch, avoiding overhead irrigation, adequate plant spacing and weed control. See Table 3 to aid in diagnosis and management of some common blueberry insect pests and diseases.

## Table 3. Organic and Natural Management for Common Blueberry Insect Pests and Diseases

| Symptoms   | Diagnosis                         | Organic and Natural Management  |
|--|-----------------------------------|---|
| <ul> <li>Wet, humid conditions</li> <li>Fruit rot with salmon-colored spores</li> <li>Lesions on stems and leaves</li> </ul>                                     | Anthracnose                       | <ul> <li>Avoid working in fields when plants<br/>are wet</li> <li>Mulch; avoid overhead watering</li> <li>Regular harvest; remove diseased<br/>fruit</li> <li>Improve air circulation by pruning</li> <li>Organic/natural fungicides at full<br/>bloom every 7-10 days</li> </ul> |
| <ul> <li>Tiny flies, white or orange larvae<br/>(maggots)</li> <li>Feed inside flower and leaf buds<br/>which shrivel and die</li> <li>Reduced yield</li> </ul>  | Blueberry gall midge              | <ul> <li>Bud sampling and emergence traps<br/>to identify infestations</li> <li>Gall midge sprays (spinosad) before<br/>blooming</li> </ul>   |
| <ul> <li>Brown-black cankers girdle stems,<br/>cause dieback</li> <li>Brown discoloration inside stem</li> <li>Plant death</li> </ul>                            | Botryosphaeria stem blight        | <ul> <li>Clean pruners</li> <li>Limit pruning to cold weather</li> <li>Reduce plant stress (site selection, irrigation, mulch, weeds)</li> </ul>  |
| <ul> <li>Larvae feed on ripening fruit</li> <li>Reduced yield</li> <li>Eggs in calyx end of green fruit</li> <li>Premature ripening of infested fruit</li> </ul> | Cherry and cranberry<br>fruitworm | <ul> <li>Pheromone traps</li> <li>Weed control around plants and<br/>between rows</li> <li>Hand pick and destroy infested fruit</li> <li>Organic/natural insecticides</li> </ul>  |

| Symptoms   | Diagnosis             | Organic and Natural Management   |
|--|-----------------------|--|
| <ul> <li>Tiny orange-yellow insects with<br/>fringed wings</li> <li>Flower bud and bloom damage</li> <li>Stunted plants, curled and<br/>discolored leaves</li> </ul>   | Flower thrips         | <ul> <li>Pre-bloom organic/natural sprays<br/>(spinosad)</li> </ul>  |
| <ul> <li><i>Exobasidium</i>: white spots on the underside of leaves, green spots on upper sides, both turning brown over time; spots on fruit; reduced yield</li> <li><i>Septoria</i>: small, round lesions with purple border on leaves; sunken lesions on stems</li> </ul> | Fruit and leaf spots  | <ul> <li>Increase air circulation by pruning</li> <li>Plant in an open, well-drained site</li> <li>Lime sulfur spray during dormancy</li> </ul>  |
| <ul> <li>Cool, rainy weather</li> <li>Fuzzy white-gray mold on fruit;<br/>shriveled</li> <li>Infected blossoms, especially those<br/>with past frost injury, turn brown</li> </ul>   | Gray mold             | <ul> <li>Improve air circulation with adequate plant spacing and pruning</li> <li>Weed control; mulch</li> <li>Drip irrigation to avoid wet foliage</li> <li>Harvest in dry weather</li> <li>Organic/natural fungicide at midbloom and 7-10-day intervals</li> </ul> |
| <ul> <li>Cool, rainy weather</li> <li>Blighted leaf and flower shoots</li> <li>Fungus on leaves; small stems, flowers and fruits</li> <li>Fruit shrivel and harden. Reduced yield</li> </ul>   | Mummy berry           | <ul> <li>Proper planting</li> <li>Regular pruning to improve air circulation</li> <li>Drip irrigation</li> <li>Sanitation: discard or bury fallen mummified fruit</li> <li>Organic/natural fungicide</li> </ul>  |
| <ul><li>Cold or drought injury</li><li>Stem cankers</li><li>Fruit rot</li></ul>  | Phomopsis twig blight | <ul> <li>Avoid plant injury with proper<br/>pruning and irrigation</li> <li>Lime sulfur treatment during<br/>dormancy</li> </ul>   |
| <ul> <li>Poorly draining soil</li> <li>Yellowed leaves</li> <li>Stunted plant growth</li> <li>Discolored roots and crowns</li> <li>Defoliation; plant death</li> </ul>   | Phytophthora root rot | <ul> <li>Plant in well-drained soil, raised beds</li> <li>Improve drainage</li> </ul>  |
| <ul> <li>Small, round white spots with fungal growth on older leaves with dark mottled underside</li> <li>Leaves covered with talc-like powder; leaf yellows and dies</li> <li>Hot, dry conditions</li> </ul>  | Powdery mildew        | <ul> <li>Good soil health and air circulation</li> <li>Adequate plant spacing</li> <li>Eliminate weeds</li> <li>Fungicides containing sulfur</li> </ul>  |
| <ul> <li>Irregular brown-black, elongated<br/>cankers or lesions on new growth</li> <li>Occurs before fruit set</li> <li>Stem girdling and collapse</li> </ul>   | Stem cankers          | <ul> <li>Avoid injury to stems</li> <li>Remove diseased canes</li> <li>Improve airflow by pruning</li> <li>Organic/natural fungicides</li> </ul>   |

Note: Adapted from LSU AgCenter, Texas A&M AgriLife Extension, UMass Extension, Alabama A&M and Auburn Universities Extension, University of Minnesota Extension and University of Connecticut. The Louisiana Pesticide Law regulates the use of pesticides in schools to protect children and staff from harmful exposure to chemicals and is enforced by LDAF. The recommended alternative to routine pesticide use is integrated pest management (IPM), which combines pest control, disease management techniques and organic/natural alternatives, many of which are found in this table.

## **Harvest and Storage**

In general, rabbiteye blueberries are ready for harvest between mid-May to July, and southern highbush blueberries begin ripening in April and continue into June. Harvest when the fruit has turned a uniform blue color; maximum flavor and size are achieved 5-7 days after the fruits begin to turn blue. To harvest blueberries without damaging the plant, gently pull the fruit off the stems by hand or roll the ripe fruit into your hand. During fruit production, blueberries may be harvested every 5-7 days for 3-6 weeks per variety. Take extra care when harvesting and storing as the fruits are very tender and bruise easily. Handling removes the bloom or surface wax that gives blueberries their characteristic frosty blue color. Do not wash fruit until ready to eat as this will initiate molding.

Blueberries are highly perishable, and fruit should be cooled as soon as possible. Fruit should be placed in pint-sized plastic mesh baskets or clamshell containers and stored at 32-34 F and 95% humidity. They should be consumed within 10-14 days.

Preserve blueberries by freezing whole or canning into jellies and jams.

## **Nutrition**

### **Blueberries Are Nutritious and Good for You**

Rich in vitamin C Important for bones, skin and blood vessels.

### Good source of dietary fiber

Important for bowel health, lowering cholesterol, controlling blood sugar and maintaining a healthy weight.

### Excellent source of vitamin K

Helps your body heal and is important for bone health.

## **Recipes**

**Basics of cooking with blueberries:** <u>https://extension.purdue.edu/foodlink/food.php?food=blueberry</u> General information on selecting, pairing, preparing and storing. Also includes a list of recipes.

**Guide to preserving blueberries:** <u>http://extension.purdue.edu/extmedia/HHS/HHS-807-W.pdf</u> Enjoy blueberries all year by freezing or canning fresh blueberries.

#### **Taste Test Ideas**



**Blueberry Muffins** 

**Blueberry Smoothie** 

**Blueberry Parfait** 

#### Other websites with many blueberry recipes:

| Oregon State University's<br>Food Hero  | foodhero.org/recipes/categories/908<br>Recipes include barley summer salad, fruit pizza, berry sauce and more.  |
|---|---|
| USDA MyPlate Kitchen                    | Visit <u>www.myplate.gov/myplate-kitchen/recipes</u> and search for blueberry recipes.  |
| California's Eat Fresh                  | Visit eatfresh.org/find-a-recipe and search for blueberry recipes.  |
| Produce for Better<br>Health Foundation | fruitsandveggies.org/fruits-and-veggies/blueberries/?view=recipes<br>Recipes include blueberry stuffed French toast, blueberry baked oatmeal,<br>patriotic frozen ice pop and more. |

#### Louisiana Harvest of the Month Program recipe: Blueberry Sauce

The Louisiana Harvest of the Month program is designed to bring fresh local agricultural products into participating schools and communities. Each month, one Louisiana agricultural product is highlighted throughout the school. All Louisiana Farm to School recipes are developed, tasted and rated by the LSU College of Agriculture School of Nutrition and Food Sciences. In addition to being tested for overall flavor, color and texture, we strive for recipes that have low-cost and easy-to-find ingredients, easy-to-follow instructions and a reasonable preparation time.



## **Blueberry Sauce**

### **Home Recipe**

Serves: 8 **Prep Time: 5 minutes** Cook Time: 15 minutes

#### Ingredients

- 2 cups blueberries
- <sup>1</sup>/<sub>2</sub> cup water, divided
- 1 cup orange juice
- <sup>3</sup>/<sub>4</sub> cup sugar
- 2 Tbsp cornstarch
- $\frac{1}{2}$  tsp almond extract
- 1/8 tsp ground cinnamon

#### Nutrients Per <sup>1</sup>/<sub>4</sub> Cup Serving

117

0.5 g

0.19 mg 82.1 IU

- Calories
- Total Fat 0.19 g
- Saturated Fat 0.02 g
- Cholesterol 0 mg
- Sodium
- 1.65 mg Carbohydrates 29.34 g
- **Dietary Fiber** 0.99 g
- Protein
- Calcium 6.71 mg
- Iron
- Vitamin A
- Vitamin C 19.09 mg

### **Cooking Instructions**

- 1. In a saucepan over medium heat, combine the blueberries, <sup>1</sup>/<sub>4</sub> cup water, orange juice and sugar. Stir gently and bring to a boil.
- 2. In a cup or small bowl, mix together the cornstarch and <sup>1</sup>/<sub>4</sub> cup cold water. Gently stir the cornstarch mixture into the blueberries so as not to mash the berries. Simmer gently until thick enough to coat the back of a metal spoon, 3 to 4 minutes.
- 3. Remove from heat and stir in the almond extract and cinnamon. Thin sauce with water if it is too thick.





#### For More Information

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