



# FactSheet

**Extension**

## Ohio State University Extension Fact Sheet

### Horticulture and Crop Science

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## Growing Blueberries in the Home Garden

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Blueberries are a very popular fruit in the United States because of their unique flavor, small edible seeds, and ease of preparation. Blueberries can be eaten fresh or used for jelly, jam, pies, pastries, or juice. Blueberry fruit is also low in calories and sodium, contains no cholesterol, and is a source of fiber. A major constituent of the fiber is pectin, known for its ability to lower blood cholesterol. Blueberries contain measurable quantities of ellagic acid, which has inhibiting effects on chemically induced cancer in laboratory studies. Blueberry juice also contains a compound that prevents bacteria from anchoring themselves to the bladder, thereby helping to prevent urinary tract infections.

### Should I Grow Blueberries at Home?

Blueberries could make a good fruit crop for home gardens since they require small space. At present, blueberry plants are not common in home plantings because the plants require highly acidic soil conditions for best results. Few backyard soils in Ohio are naturally acidic enough to grow quality blueberries. The grower of blueberries must, therefore, make extra effort to acidify the soil before plant establishment. Then, the acidity level must be maintained over the life of the planting. Due to the special concerns associated with the rather demanding soil requirements of growing the crop, the soil must be amended with organic matter and the pH must be corrected before proceeding to establish the planting.

Blueberry plants begin to produce fruit in the third season; however, they do not become fully productive for about six years (Figure 1). Once in production, it is necessary to protect the fruit from loss to birds.



**Figure 1. A mature blueberry bush with attractive fruits.**

## Blueberry Types and Cultivars

There are three main types of blueberries: highbush, rabbiteye, and southern highbush. Only highbush blueberry is recommended for Ohio. Rabbiteye and southern highbush blueberries are recommended for the southern United States. There are many good blueberry cultivars available. Refer to Table 1 for recommended blueberry cultivars in Ohio. Highbush blueberries do not absolutely require two different cultivars for cross pollination purposes. However, bigger berries and higher yield will result from cross pollination, and thus it is desirable to plant at least two different cultivars.

**Table 1. Highbush cultivars of blueberries for Ohio plantings.**

Cultivar	Ripening Season	Yield	Fruit Size	Fruit Quality	Remarks
Bluetta	Early	Good	Medium	Fair	Vigorous, upright plant.
Collins	Early	Fair	Large	Good	Hardy, vigorous, upright plant.
Bluejay	Mid-Season	Moderate	Large	Good	Mummy berry resistant.
Bluecrop	Mid-Season	Good	Large	Medium	Productive, vigorous, hardy plant. Drought resistant.
Berkeley	Mid-Season	Good	Large	Medium	Hardy, vigorous, productive plant.
Herbert	Late Season	Good	Large	Excellent	Vigorous, productive hardy plant.
Elliott	Late Season	Good	Very Large	Good	Vigorous, hardy plant. Mummy berry resistant.

## Climatic Requirements

In general, the climate throughout Ohio is suited to the production of blueberries. Plants are generally not hardy when temperatures drop below -20F.

## Site and Soil Requirements for Blueberry Production

The highbush blueberry requires full sun for optimum yield and quality, and grows best where the soil is very acidic and well supplied with moisture. Soil pH should be in the range of 4 to 4.5 and have 4 to 7% organic matter or more.

On loam or clay loam soils, it is suggested that plants be grown on raised beds, 4 feet wide and 9 inches high for better water drainage. Such beds are not needed for production on sandy soils.

## Soil Preparation

It is very important to test soil for pH, lime index, nutrient status, and organic matter content before conducting soil preparation. Your soil should be tested twice; once before soil preparation and acidification, and once after sulfur and fertilizer have been added. Further adjustments may then be necessary. Your local Extension offices have soil-testing forms, bags, and instructions available. Increase soil organic matter by adding grass clippings, manure, or leaves (not red maple or beech) according to soil test recommendations. Incorporate the materials into the top 4 to 6 inches at least one year before planting.

## Suggestions for Soil Acidification

If soil pH is above 4.5, apply granular sulfur to lower soil pH. Refer to Table 2 for general guidelines for the amount of granular sulfur to apply to 100 square feet of soil to be acidified. The material should be well mixed throughout the top 4 inches of soil, three months before planting.

<b>Table 2. Amount of sulfur in pounds per 100 square feet required to lower soil pH for blueberries.</b>						
<b>Desired pH value for blueberries</b>						
<b>Present soil pH</b>	<b>4.5</b>			<b>5.5</b>		
	<b>sand</b>	<b>loam</b>	<b>clay</b>	<b>sand</b>	<b>loam</b>	<b>clay</b>
4.5	0.0	0.0	0.0	0.0	0.0	0.0
5.0	0.4	1.2	1.4	0.0	0.0	0.0
5.5	0.8	2.4	2.6	0.4	1.2	1.4
6.0	1.2	3.5	3.7	0.8	2.4	2.6
6.5	1.5	4.6	4.8	1.2	3.5	3.7
7.0	1.9	5.8	6.0	1.5	4.6	4.8
7.5	2.3	6.9	7.1	1.9	5.8	6.0

Source: Midwest Small Fruit Pest Management Handbook, Bulletin 680

## Planting

At planting, dig a hole 18 inches deep and 18 inches wide and mix 1 cubic foot of peat moss with top soil until the hole is filled 4 inches from the top. Set the plant and cover the roots with the remaining peat-soil mix. In heavy soils, an equal amount of peat can be mixed with an equal amount of soil. Set plants 5 feet apart with rows 10 feet apart. Apply 4 inches of sawdust or wood-chip mulch in a 2 feet wide band after planting, and maintain a 4 inch depth and 4 feet band over the life of the planting.

## Fertilizers

Fertilizers for blueberry production are best applied using soil test results as a guide. At planting, apply 1/2 to 2/3 pound of ammonium sulfate (or 10 to 16 ounces of 10-10-10) per 100 feet of row 4 weeks after planting. Keep fertilizer at least 6 inches away from plant.

In the second through twelfth years, apply 1 to 1.5 pounds of ammonium sulfate (2 to 3 pounds of 10-10-10) per 100 feet of row each year for fertility and acidity maintenance. Apply 0.5 pound of the ammonium sulfate at bloom, and the remaining 0.5 pound 4 to 6 weeks later. If plant leaves become chlorotic, apply 2 to 3 ounces of ferrous sulfate or iron chelate around the base of the plants each year.

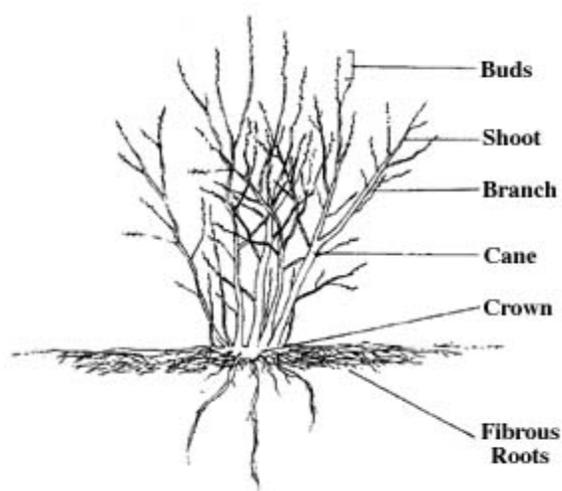
## Watering

Blueberry bushes have very shallow root systems and are very sensitive to water fluctuations. They need at least 1 to 2 inches of water per week. In dry seasons, supplemental watering is essential to obtain good yields of high quality products. However, do not apply water after early September unless soil is very dry.

## Pruning

Blueberry plants normally do not need to be pruned for the first three years. Remove blossoms that appear in the year of planting and second year after planting to stimulate vigorous growth.

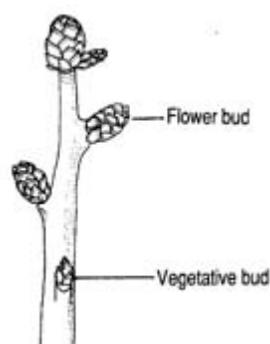
It is important to know the anatomy of a blueberry bush before attempting to prune blueberries (Figure 2). During the fourth year, the dormant plants should be pruned in mid-March. At this time, remove dead and weak branches and thin, terminal wood with small buds. Prune interior crossing branches to admit light to the center of the plant.



**Figure 2. Diagram of a blueberry bush.**

**Used with permission from *Highbush Blueberry Production Guide*, NRAES-55, by NRAES, Cooperative Extension, 152 Riley-Robb Hall, Ithaca, New York 14853-5701. Phone: (607) 255-7654.**

In subsequent years, thin out older branches to force new growth. Tall-growing branches can be headed back and thin branches removed. Flower buds of blueberry bush are produced on tips and down the second year old shoots (Figure 3.) Blueberry bushes tend to produce smaller berries when they are over loaded with fruits. Hence, it is important not to have too many flower buds.



### Figure 3. Diagram of blueberry buds.

Used with permission from **Highbush Blueberry Production Guide, NRAES-55**, by NRAES, Cooperative Extension, 152 Riley-Robb Hall, Ithaca, New York 14853-5701. Phone: (607) 255-7654.

## Mulching

Generous use of mulches like sawdust or peat moss will help control weeds, conserve moisture, and keep roots cool. Increased organic matter from decomposing mulch will help improve soil structure and nutrient uptake of blueberry bush. Replenish mulch as needed to keep the mulch depth at 2 to 4 inches.

## Insects and Diseases

Some potential insect problems in blueberries include blueberry tip borer, plum curculio, cranberry fruit worm, and cherry fruitworm. Disease problems include mummy berry, powdery mildew, twig blights, botrytis blossom blight, leaf spots, and cane gall. For more information about growing blueberries, obtain a copy from your Extension office of Bulletin 591, "*Growing and Using Fruit at Home*" and Bulletin 780, "*Controlling Disease and Insects in Home Fruit Planting*."

## Useful References

Ellis, M, and C. Welty. OSU Extension Bulletin 506 B2 "Ohio Commercial Small Fruit and Grape Spray Guide."

Utzinger, J. D., R. C. Funt, M. Ellis, R. L. Miller. OSU Extension Bulletin 591, "Growing and Using Fruit at Home."

Welty, C., R. C. Funt, R. N. Williams. T. Wall, M. Ellis. OSU Extension Bulletin 780 "Controlling Disease and Insects in Home Fruit Plantings."

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