

Yard and Garden

Blueberries for home landscapes

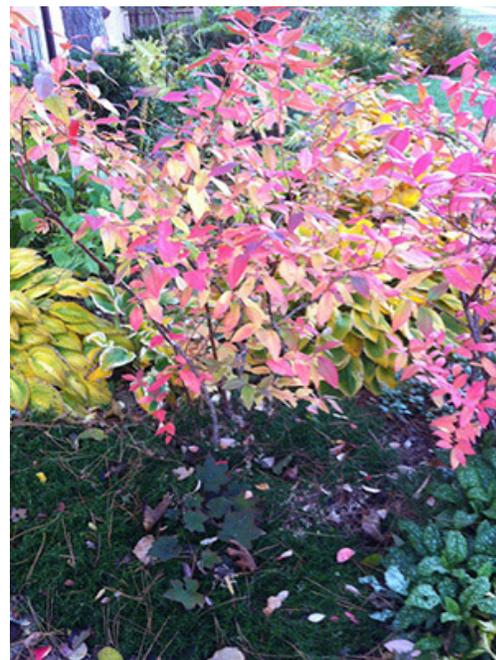
Emily S. Tepe, Dr. Emily E. Hoover, and Dr. James Luby



About blueberries

Blueberries are such an easygoing shrub, it's a wonder more people don't grow them. There are various types of blueberry bushes that grow best in different regions - from the very small wild blueberry grown in Maine, to the large rabbiteye grown in the South. Here in Minnesota we fall somewhere in between with the half-high blueberry. Many cultivars grown in the Upper Midwest were specially bred for this climate by the University of Minnesota, making them right at home in the Minnesota home garden.

Many home gardeners shy away from growing blueberries because of their need for acidic soil, which is a rarity in most gardens. This is easily overcome by building raised beds filled with an acidic growing mix, amending the soil right in the garden bed, or even growing blueberries in containers (although growing them in the ground will likely promote longer-lived plants and more berries). With soil acidity solved, blueberry plants require little more from the gardener than a bit of pruning.



Blueberries are lovely plants for the landscape. The glossy green foliage turns stunning shades of crimson and orange in fall. Photo by Emily Hoover.

Keep in mind that these plants grow slowly, so don't be surprised if they don't seem to get much bigger from year to year. It generally takes a blueberry bush about 10 years to reach mature size, but this also means they will live a long, long time. It will be 2 or 3 years before you start getting large harvests, but it is definitely worth the wait. The bushes are very attractive and will be a beautiful addition to your landscape while you wait for fruit.

Helpful hints:

- Blueberries need full sun. The plants will grow in part shade, but will not produce much fruit.
- Space plants at least 3 feet apart.
- Plant two or more cultivars to ensure successful pollination and fruit set.
- Each winter, prune out old, weak, and dead wood.
- Blueberry plants will start to bear a few berries 2 to 3 years after planting. You'll get a larger harvest after 5 years.
- Blueberry plants are slow growing, and will not reach mature size for 8 to 10 years.
- Remember, blueberries require acidic soil.

Cultivars

The University of Minnesota fruit breeding program has released several blueberry cultivars over the years that are perfectly suited to our climate. The cultivars listed have been grown at U of M research farms in USDA zones 4 and 3, and recommendations are based on trial results.

Planting at least two cultivars is best, as more berries of larger size will be produced if flowers are fertilized with pollen from another cultivar. Bumblebees and other native insects are enthusiastic pollinators of blueberries; the more insects working the plants, the more fruit you will harvest.



'St. Cloud' blueberry cultivar. Photo by Dave Hansen.



'North Country' blueberry cultivar. Photo by Dave Hansen.

Blueberry cultivars recommended for northern gardens.

*Cultivars listed in **bold** are University of Minnesota releases and include date of introduction.*

Cultivar	Plant size (h x w)	Hardiness		Average yield (lbs/plant) ¹	Description
		Zone 4	Zone 3		
Bluecrop	5 x 5 feet	Good	Fair	3 to 12	Large, mild-sweet berries ripen in mid-season.
Chippewa (1996)	4.5 x 5 feet	Excellent	Good	3 to 8	Medium-large, sky blue berries. Firm texture, sweet flavor. Ripen in mid-season.
Northblue (1983)	3 x 4 feet	Excellent	Good	3 to 9	Medium-large, sky blue berries. Firm texture, sweet flavor. Ripen in mid-season.
Northcountry (1986)	2.5 x 4 feet	Very good	Fair	3 to 5	Small-medium sky blue berries; sweet, mild, aromatic flavor. Ripen in early season.
Northland	4 x 4 feet	Excellent	Good	3 to 12	Medium sized, mild flavored berries ripen in mid-season.
Northsky (1983)	2 x 3 feet	Good	Fair	1 to 5	Medium, sky blue berries; sweet, mild and aromatic. Ripen in mid-season.
Patriot	4.5 x 4 feet	Good	Fair	3 to 12	Very large, aromatic and tart berries ripen in early season.
Pink Popcorn™ (2014)	4 x 4 feet	Very good	Good	3 to 5	Medium size, cream to pink color berries. Ripen early to mid-season. Self-pollinating.
Polaris (1996)	4 x 4 feet	Very good	Good	3 to 8	Medium sized, firm, crisp berries. Intense aromatic flavor. Ripen in early season.
St. Cloud (1990)	5 x 4 feet	Very good	Good	2 to 7	Medium, dark blue, firm berries. Sweet flavor, crisp texture. Ripen in early season.
Superior (2009)	5 x 4 feet	Very good	Good	3 to 8	Medium, sweet-tart berries ripen in late season.

¹Average yield based on data collected in east central Minnesota from mature plants, planted in full sun with other cultivars, and irrigated regularly. Region, weather and cultural practices may result in higher or lower yields.

Getting started

Buying plants

As with many other fruit plants, blueberry plants have become widely available at local and online nurseries. No matter what your source, be certain the plants you buy are winter hardy to your USDA zone. If buying plants locally, you will most likely find potted plants that are two or three years old. Keep potted plants well-watered in a sunny location until planting, and plant as soon as possible.

If buying plants online, most likely they will arrive dormant and bare root. Order early to get the best selection. Most nurseries ship bare root plants at the appropriate time for planting in early spring. Keep dormant plants in a dark, cool, moist place until you're ready to plant. Make sure the roots stay moist but not saturated, and plant as soon as possible. Soak roots in a bucket of water for a couple of hours before planting.

Preparation

Blueberries grow best in full sun. Plants will tolerate partial shade, but as shade increases, plants produce fewer blossoms and fewer fruit. Avoid areas surrounded by trees, which provide too much shade, compete with plants for water and nutrients, and interfere with air movement around plants. Poor air movement increases danger of spring frost injury to blossoms and favors disease development.

Soil acidity and blueberries

Blueberry plants require acidic soil (pH 4.0 to 5.0) that is well-drained, loose, and high in organic matter. Most garden soils in Minnesota have higher pH and must be amended. Have your soil tested to determine pH.

Soils not within the range of pH acceptability for blueberry plant growth must be amended before planting. If the pH is too high, the growth of the plant is slowed and the foliage discolors. If the pH is too high for an extended period of time, the plants will die.

If the pH of the soil is between 5.5 and 7.0, and the texture is sandy to sandy loam, simply add some sphagnum peat to the soil. Mix 4 to 6 inches of peat into the top 6 to 8 inches of soil. In addition to acidifying the soil, the peat increases the soil organic matter content. When several plants are to be grown together, it's best to prepare an entire bed rather than digging holes for individual plants.

Soils with a pH greater than 7.0 require very high rates of acidifying amendments and are not recommended for growing blueberries. However, you can still grow blueberries by creating a raised bed filled with an acidic planting mix. For example, to accommodate two plants, create a raised planting bed 15 inches deep by 24 inches wide by 48 inches long. Fill with a soil mixture of sphagnum peat and loam soil at a ratio of about 2:1 (peat:soil). As this soil settles and decomposes over the years, you will need to continue adding peat to the planting bed. Continue to have your soil's pH tested every year or two, and amend as needed.

To modify soil that is sandy and dry, there is no need to create a raised bed; instead, make a hole in the ground of the above dimensions and fill it with the acidic soil mixture.

Planting

Space blueberry plants about 3 feet apart. If the cultivar you purchase is listed as growing larger than that, then of course space them a little further apart.

Plant young blueberry bushes in late April or early May. Dig the holes large enough to accommodate all the roots and deep enough so you can cover the uppermost roots with 3 to 4 inches of soil. Pack the soil firmly around the roots, then mulch the planting with 2 to 4 inches of sawdust, peat moss, oak leaf or pine needle mulch. These types of mulch are acidic and will help maintain a low soil pH. Mulch also helps maintain soil moisture, prevents weeds, and reduces soil temperature in the summer. Replenish the mulch as needed.



This blueberry plant is exhibiting signs of iron chlorosis caused by high soil pH. In some cultivars, discoloration will be yellow to white. With iron chlorosis, the younger leaves are often the most discolored whereas other nutrient deficiencies often affect older leaves first. Photo by Emily Tepe.

Water thoroughly after planting to ensure moisture reaches the deepest roots. Thereafter, water the plant frequently and deeply, enough to keep the soil moist, but not saturated.

Staking and support

Generally no support is required. If plant seems to be weak or growing at a non-vertical angle, a stake may be driven into the ground close to the main stem, and the stem gently tied to the stake with a wide tie such as those used for trees, or with a strip of fabric. Do not use wire as it may cut into the stem.

Through the seasons

In the first two years, remove flowers in the spring to encourage vegetative growth. This is essential to ensure healthy, productive plants for years to come. Production of flowers and fruits deters growth when plants are too small or weak. A good-sized, healthy canopy is needed to support the fruit. Blueberry plants grow slowly, which is part of why they're so long-lived. The plants will put on plenty of fruit after the first few years, but don't be surprised if the plants stay small, as mature size is usually not reached until the plants are 8 to 10 years old.

Calendar of tasks for growing and managing blueberry plants.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Prune	.	.	•
Plant	.	.	.	•	•
Apply mulch	•	•
Harvest	•
Amend soil as needed	•	•	•	.	.	.
Apply winter mulch	•	•	.	.

Fertilizer and mulch

If you see light-green or red leaves in the summer or not much shoot growth, it is likely that the soil pH is no longer in the optimum range of 4.0 to 5.0, or nitrogen is needed. Choose an organic acid fertilizer, such as one recommended for azaleas and rhododendrons.

Throughout the life of the plants, maintain a few inches mulch around the plants.

Weeding

Remove weeds regularly to keep your planting neat and clean in appearance, and to prevent competition for water and nutrients. Remember, mulch helps prevent weeds.

Insects and other creatures

Insects are not likely to cause problems with most home blueberry plantings. In the winter, rabbits enjoy nibbling on the stems of blueberry bushes. Protect plants by surrounding them with chicken wire or similar fencing in the winter.

Spotted wing drosophila has recently become a problem of blueberry and other fruits in Minnesota. For more information on this and other insect pests, see **Pest Management for Home Blueberry Plantings** on the University of Minnesota Extension website.

Diseases and challenges

Diseases are unlikely to cause significant problems on home grown blueberry plants. Careful pruning will help prevent disease infection. Prune out and dispose of any part of the plant that is dead or dying.

Examine the plants for cankers that first appear as small, discolored areas on the stems. As the affected areas enlarge, the margins remain reddish and the bark in the central part turns gray and then brown. Cankers occur most frequently close to the ground but may occur higher on the stem. Stems are usually girdled in one season by cankers. Girdled stems die and their brown foliage is quite obvious. Cut out affected parts several inches below the cankered area.

If you are growing blueberries in borderline acidic soil or soil you have had to amend to make it acidic, chances are you will encounter nutrient-related challenges more than any diseases or insect problems. As stated earlier, blueberry plants in soil with a pH above 5.5 will struggle to absorb the nutrients they need. Chlorosis, or discoloring of the foliage is usually the first sign of a soil pH problem, followed by slowed growth, poor fruit production and general plant failure. Soil amendments don't work quickly enough to remedy this in one season. For a temporary solution, plants can be sprayed with a foliar chelated iron fertilizer. New leaves will need to be sprayed as they emerge. Keep the plants mulched with a few inches of oak leaf or pine needle mulch to help maintain soil acidity. Using a fertilizer that includes elemental sulfur will help maintain the proper soil pH too. Occasionally test and monitor soil pH to stay ahead of this problem. Simple and inexpensive soil pH test kits are available online and at many garden centers.

For more information on diseases and challenges, see **Pest Management for Home Blueberry Plantings** on the University of Minnesota Extension website.

Pruning

The objectives of pruning are to remove dead and diseased wood, shape the bush, maintain an adequate number of vigorous main stems to prevent overbearing, and to stimulate new shoot growth. At planting, prune only to remove any broken, dead or dying parts of branches. After the first year, prune the bushes annually in the early spring before growth starts.

Fruit is produced on one-year-old wood. The largest berries are produced on the most vigorous wood, so a good supply of strong, one-year-old wood is desirable. Keep the bush fairly open by cutting out any weak, old stems that no longer produce strong young wood. Remove these older stems at ground level. Keep four to six of the vigorous older stems and one to two strong new shoots per mature bush. The new shoots will eventually replace the older stems. Take care not to prune too aggressively, as this can greatly reduce yield.

Harvest and storage

Berries will turn from green to blue, and are ready for harvest when they're completely blue and are springy when gently squeezed. Taste a few berries you believe to be ripe to get a good idea of how ripe fruit looks and feels. Fruit will ripen on one bush over a period of a couple weeks; harvest ripe fruit regularly.

Gently pull berries off the plant. Some stems might remain attached to the berries. Place berries in a firm container in the refrigerator shortly after picking. Avoid layering berries more than a couple inches deep, to prevent the lower berries from being damaged. Do not wash berries until ready to eat. This will prevent them from molding in storage. Blueberries last longer in the refrigerator than many other berries. Generally, plan to use the berries within a week or so.

Blueberries also freeze well. For best freezing, wash berries and allow to dry. Lay dry berries in one layer on a baking sheet and place in freezer. Once the berries are frozen firm, place in an airtight container or freezer bag and return to freezer.



Blueberries don't ripen all at once. Pick the deep blue ones and leave the rest to ripen a few days longer. Photo by Julie Weisenhorn.

Additional resources

Downloadable eBook



Growing Fruit in the Northern Garden

by *Emily S. Tepe and Dr. Emily E. Hoover*

University of Minnesota Department of Horticultural Science

Interactive eBook for iPad, iPhone, and Mac

Available in the Apple iTunes Store or Apple iBooks Store.

Pest Management for Home Blueberry Plants

University of Minnesota Extension

What's Wrong with My Plant?

University of Minnesota Extension

What Insect is This?

University of Minnesota Extension

Plant Disease Clinic

University of Minnesota Extension

UNIVERSITY OF MINNESOTA
EXTENSION

WW-03463

Revised 2015

© 2016 Regents of the University of Minnesota. All rights reserved.
The University of Minnesota is an equal opportunity educator and employer.