



J&L Garden Center

The All Season Gift
and Garden Center

620 North 500 West Bountiful, Utah 292-0421

Blueberry Care

www.JLGardenCenter.com

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, can help lower cholesterol, and is a source of fiber. Blueberries contain measurable quantities of ellagic acid, which has inhibiting effects on some types of cancers. Blueberry juice also contains a compound that may help to prevent urinary tract infections. Many home gardeners have been introduced to the fruit's tangy flavor in yogurt, ice cream, preserves, and even fresh out of their garden.



Should I Grow Blueberries?

Blueberries are a good fruit crop for home gardens, since they only require a small space. However, blueberry plants are not common in Utah because the plants require highly acidic soil conditions. You must make an extra effort to acidify the soil before planting them. Then, the acidity level must be maintained for the entire life of the plant.



Blueberry plants begin to produce fruit in the second and third season; however, they do not become fully productive for about six years.

Cold hardiness is also a major factor. Some plants can survive winter temperatures as low as -20°F and -25°F. Most plants are generally not hardy when temperatures drop below -25°F, even for one or two nights.

Site and Soil Requirements for Blueberries

Blueberries grow best in full sun, but they do not like extremely hot temperatures. They will grow very well in a location that only receives partial sun, although yield may be smaller. In areas of hot summer temperatures, partial shade is actually better than full sun because it prevents soil moisture loss, leaf scorch, and it helps keep the fruit from shriveling.

Blueberries grow best where the soil is very acidic, high in organic matter, and well supplied with moisture. The soil pH should be in the range of 4.5 to 5 and have 10% to 25% organic matter.

In clay soils, plants grow much better in raised beds, 3 to 4 feet wide and 9 to 12 inches deep. Raised beds have better water drainage, and you can easily create the optimal soil conditions blueberries require.

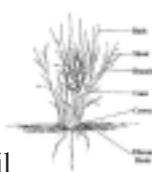
Soil Preparation

It is very important to test your soil for pH, nutrient status, and organic matter content before you start your soil preparation.



Your soil should actually be tested twice; once be-

fore soil preparation and acidification, and once after sulfur and fertilizer have been added. Further adjustments may then be necessary. Plants often become yellow and stunted due to iron deficiency where the soil pH is greater than 6.0. Remember, blueberries share the same soil and climatic preferences as rhododendrons and azaleas: the plants thrive in areas of moderate summer temperatures and acidic soils.



The USU Extension office has soil-testing forms, bags, and instructions available to help with this important step.

Suggestions for Soil Acidification

Apply granular sulfur to lower the soil pH. Refer to the chart for general guidelines of the amount of granular sulfur to apply for every 100 square feet of soil to be acidified. **This material should be 'well mixed', throughout the top 4 inches of soil, three months before planting.**

Current pH	Desired pH value for blueberries					
	4.5			5.5		
	sand	loam	clay	sand	loam	clay
5.0	0.4lb	1.2lb	1.4lb	0.0	0.0	0.0
5.5	0.8lb	2.4lb	2.6lb	0.4lb	1.2lb	1.4lb
6.0	1.2lb	3.5lb	3.7lb	0.8lb	2.4lb	2.6lb
6.5	1.5lb	4.6lb	4.8lb	1.2lb	3.5lb	3.7lb
7.0	1.9lb	5.8lb	6.0lb	1.5lb	4.6lb	4.8lb
7.5	2.3lb	6.9lb	7.1lb	1.9lb	5.8lb	6.0lb

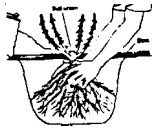
Test your soil each spring and apply granular sulfur twice a year, as needed. Apply sulfur in the early spring and again in mid-summer, to help maintain the correct soil pH. This is the single most important part of growing blueberries successfully.

Planting

When planting, dig a hole 18 inches deep and 24 inches wide. Mix 1 cubic foot of **Acid Planting Mix** with the soil. Backfill until the hole is filled to the proper depth. Set the plant in the hole so the top of the rootball will be level with the top



of the hole. Cover the roots with the remaining soil mix. (In heavy soils, mix an equal amount of **Acid Planting Mix** with an equal amount of soil.)



Plant blueberries 3 to 5 feet apart. You can plant 2 different varieties in the same hole if space is limited. Apply 4 inches of mulch, compost, or bark, in a 2 foot wide band around each plant after planting. Maintain a 2 to 4 inch depth, 2 foot band around the plant for the rest of its life.

Fertilizing

Fertilize young, newly transplanted blueberries, with an organic fertilizer, such as **Dr. Earth Starter Fertilizer** or **Dr. Earth Rhododendron Fertilizer**, to avoid burning root systems. Mix the fertilizer thoroughly in the soil within the entire dripline of the bush.



Apply fertilizer early every spring. Use a balanced fertilizer that is formulated for Rhododendrons and Azaleas. Use either **Dr. Earth Rhododendron Fertilizer** (organic) or **Master Nursery Rhododendron Fertilizer** (inorganic). Follow up with another light feeding in May, and again in June if needed.

Your fertilizer program should encourage growth of vigorous new shoots, which will produce more flower buds and larger fruit. Each individual plant's fertilizer requirements may vary a little. Give plants, without much shoot growth last year, the maximum recommended amount of fertilizer. Give plants that grew more than 1 foot last year, little or no fertilizer this year. Use the amount of fertilizer to help regulate the rate of growth.

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, consistent watering is essential to obtain good yields of high quality fruit. Drought conditions during fruit development will reduce the berry size, and drought stress in August or September may reduce flower bud development and affect yields the following year. Drought at any time during the growing season adversely affects vegetative growth. However, do not apply water after late-October, unless soil is very dry.



Pruning

Blueberries require regular pruning to produce high yields of large fruit. Unpruned bushes usually contain a disproportionately high percentage of old canes. Unpruned plants decline in vigor and fruitfulness, and they produce



Before

too few young replacement canes. Bushes pruned irregularly may produce too many small canes that must be thinned. The most fruitful canes are 4 to 6 years old and



After

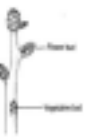
1 to 1.5 inches in diameter at their base. Bushes should contain about 15 to 20 percent young canes (less than 1-inch diameter) and 15 to 20 percent old canes (2 inches), and 50 to 70 percent canes of intermediate size.

Prune blueberry bushes when they are dormant, in either late fall, winter, or early spring. Spring pruning is preferred because canes injured during the winter can be identified and removed.

Most blueberry plants do not need to be pruned for the first three years. Remove the blossoms the first and second year of planting, to stimulate vigorous cane growth.

As the plants mature, prune out low, spreading branches near the ground, and head back long branches to a strong, upright lateral. Remove any broken or diseased branches. When the branch tips become twiggy, carefully thin them out. Flower buds form near the tips of the branches. They are fatter, and less pointed than leaf buds.

Mature bushes should be pruned annually. Pruning should be used to manage the bush's size and shape. Blueberry twigs require at least 15 percent of full sunlight for flower buds, so varieties that develop thick upright growth need to be thinned to open twigs to sunlight.



Remove dead and weak branches. Thin terminal wood with small buds. Prune interior crossing branches to admit light to the center of the plant. Thin out older branches to force new growth. Tall-growing branches can be headed back and thin branches removed. Flower buds of the blueberry bush are produced on tips and down two year old shoots. Blueberry bushes tend to produce smaller berries when they are over loaded with fruit. Hence, it is important not to have too many flower buds.

On older bushes, production often declines as canes age and produce fewer fruit buds. To renovate the plant, remove canes with a basal diameter of more than 1 inch at the ground level. This practice does not affect subsequent year's yields, but it helps ensure strong return blossoms and larger fruit size.

Mulching

Generous use of mulches, such as **Black Forest Compost**, **Soil Pep** or **Small Bark** will help control weeds, conserve moisture, and keep roots cool. Increased organic matter from the decomposing mulch will also help improve the soil structure and nutrient uptake of your blueberry bush. Replenish the mulch each year, as needed, to keep the mulch depth at 2 to 4 inches.



Insects

Blueberries have relatively few insect pests. Some potential insect problems in blueberries include blueberry tip borer, plum curculio, cranberry fruit worm, and cherry fruitworm.

Too many aphids may reduce plant vigor, and leave a buildup of sticky honeydew on the leaves and fruit. Cherry

fruitworm larvae destroy blueberries by feeding on the inside of the fruit. The 1/2-inch conspicuous pink worms are the larvae of small, dark gray moths. The larvae feed within berries, often shortly before harvest. Apply insecticides at blossom drop, and 2 weeks later, if cherry fruitworm is a problem.

A heavy infestation of scale stunts the bushes and leaves them sticky and sooty with honeydew and mold. Prune out stems encrusted with high scale populations and apply dormant oil spray to the plants before they start to grow in the spring.

Root weevil larvae can damage blueberries as well as other small fruits. The larvae are legless, having white bodies and brown heads. They feed on the root systems and on the lower portion of the crown. Adult root weevils are rarely seen during the day. They feed on leaves in the evening, leaving the bush with characteristic leaf notching. While not harmful to the plant, the presence of notching is a good indication that larvae are present in the soil. No pesticides are available to home gardeners for use on larvae; however, an insecticide can be sprayed, in the evening, to kill the adults early in the summer. Spray after the sun sets to kill the most adult root weevil.

Diseases

Disease problems include mummyberry, powdery mildew, twig blights, botrytis blossom blight, leaf spots, and cane gall.

Mummyberry is the most serious fungal disease of blueberries. It leaves affected fruit hard, white, and inedible, or 'mummylike'. Infected berries appear normal until the onset of ripening. They then turn a tan to salmon color. Mature fruit turns white and drops to the ground. Control mummyberry by raking the soil layer beneath the plants as leaf buds swell in early March. Raking destroys many of the spores. Pick off and remove infected berries from the patch before harvest. Pick up and throw away infected berries that fall to the ground. A fungicide that can be sprayed on developing blossoms, to protect them from the fungal spores, is available to home gardeners. An integrated program of spring raking, blighted shoot removal, mummy removal, and use of protective fungal sprays will contribute significantly to mummyberry control.

Botrytis blossom blight can also be a problem during a prolonged, wet spring. Gray fungal spores distinguish botrytis infection from frost injury. If rains occur before harvest, botrytis fruit rot can infect maturing berries. Reduce the incidence of gray mold by keeping the plants well pruned. This improves air circulation. Apply protective fungicide spray applications during bloom, and do not let the berries become overripe on the bushes.

Bird Control

Robins, starlings, and finches can strip ripening blueberry plants totally clean of fruit if plants are left unprotected. Drape plastic bird netting over the bushes as the

berries begin to turn blue, or string plastic streamer tape between the bushes to frighten the birds away.

Weed Control

Control perennial weeds and grasses before planting blueberries. Avoid using herbicides the first planting year—they may injure young plants. Control weeds emerging the first year by cultivating. Avoid cultivating deeper than 1 to 2 inches—deeper cultivation may injure shallow blueberry roots.

If you have controlled perennial weeds prior to planting, add 2 inches of mulch each year to control the germination of annual and broadleaf weeds. Hand cultivate carefully within the dripline of the bushes to avoid severing shallow roots. Home gardeners can sprinkle a granular preemergent herbicide on the soil surface surrounding the bushes during March and April.

Fruit Production

Though blueberries are self-fruitful, and will set fruit without cross-pollination, studies show that flowers receiving pollen from another variety will produce larger, earlier ripening fruit. Two different varieties must be planted to insure cross pollination for fruit set. Any two varieties will cross pollinate regardless of ripening time. The early varieties begin ripening in June, and the late varieties in early August. Blueberries tend to over-bear rather than under-bear. Thinning the blossoms will promote larger fruit, and a healthier bush.

Young plants, between 5 and 7 years, may bear 4 to 5 pounds of fruit per plant; mature plants can yield as many as 20 to 25 pounds.

Blueberry Descriptions

Earliblue Highbush; early season. First to ripen. Medium size, long, loose clusters of large, firm, light blue berries. Excellent sweet and mild flavor. Vigorous, erect bush with bright red wood will grow 5 to 6 feet tall at maturity. Avoid poorly drained soil.



Blueray Highbush; early midseason. This variety is an old favorite. Small, tight clusters of large, medium blue fruit. Soft, firm skin of Blueray resist cracking. Excellent quality berries with a sweet, slightly tart, aromatic flavor. Vigorous and very productive, this bush will grow 4-6 feet tall at maturity. Bright red wood in the winter.

Berkeley Highbush; midseason. Large, open loose clusters of large, firm, powder blue fruit. No cracking. Berkeley has a mild pleasing flavor with high dessert quality. Also a good variety for freezing. Vigorous and productive spreading bush with heavy yellow canes. Berkeley is one of the most popular varieties of the home garden.



Bluecrop Highbush; midseason. Bluecrop is a leading commercial variety. Medium to large, open clusters of large, firm, crack resistant, light blue fruit. High quality fruit with good subacid flavor. Bluecrop is good for fresh eating, preserves, baking and freezing. Vigorous, upright growth, will reach 4-6 feet at maturity. Slender light red canes. Tends to overbear unless properly pruned. Bluecrop will grow well in most areas.

Bluejay Early Midseason. This extremely vigorous variety will grow almost twice as fast as most other blueberries. Bluejay features ample crops of medium size, mild flavored berries that will stay on the bush for long periods without loss of fruit quality. Bluejay is a large bush, growing 6-7 feet tall with light green summer foliage, yellow-orange leaves in the fall, and bright yellow winter wood color.

Herbert Highbush; late season. Loose clusters of large, dark blue fruit. Known for its outstanding color and excellent sweet-tart blueberry flavor. Large picking scar does tend to leak. Vigorous, productive, slightly spreading bush will grow 4-6 feet tall. Fruit hangs well on the bush without dropping which makes it easy to pick.

Ivanhoe Highbush; midseason. Medium size, loose clusters of large, medium blue, firm and crisp fruit. Fruit is resistant to cracking. Very good, highly aromatic, sweet-tart flavor. High dessert quality. Vigorous, productive, erect bush.

Jersey One of the oldest and most widely grown of all varieties, Jersey is a favorite for home gardeners wanting an easy to grow, heavy producing late season variety. This bush grows quite large, often reaching 7 feet at maturity. The dark blue, small to medium sized fruit is very sweet and a favorite for baking. A reliable producer year after year.

Patriot Early. Patriot was selected at the University of Maine for home gardeners requiring a cold hardy variety that would bear consistent crops of large sized fruit. Production is high, ranging between 10 and 20 pounds at maturity. The berries are dark blue and highly flavored. Patriot is a low growing, spreading bush to about 4 feet, revealing its partial lowbush parentage. It is adaptable to many soil types and will perform better in wetter soils than many other varieties. Patriot makes an excellent landscape variety with its showy white blooms in the spring, dark green summer foliage, and fiery orange fall color.

Sunshine Blue Midseason. For gardens from San Diego to Seattle, Sunshine Blue has it all. This semi-dwarf evergreen blueberry features a highly-branched compact habit to 3 feet tall. The showy hot pink flowers in spring yield large crops of dime-sized, delicious blueberries with a unique tangy flavor for up to 9 weeks in the summer. Sunshine Blue tolerates higher pH soils better than other blueberries. It is self pollinating. The low chilling requirement of 150 hours makes it suitable for Southern California, but it is surprisingly cold hardy and a wonderful addition to our gardens.

Highbush Varieties - Cultivated varieties that produce fruit every year. Many varieties are available to choose from.

Lowbush Varieties - Wild varieties that usually produce fruit every other year. Not many of these varieties are available.

Harvesting and Storage

Blueberries become sweeter the longer they hang on the bush. One reason you might need to pick them early, (as soon as they start to turn blue), is to save them from birds. You can protect your plants from birds with netting. A large plant may have 15 to 20 pounds of fruit and is worth protecting.

Harvest fruit approximately 4 or 5 days after the first berries turn blue, so the fruit size and sugar levels are the greatest. From then on, continue harvesting at 3- to 5-day intervals because all the berries in a cluster do not ripen at the same time. Use your thumb to gently roll berries from the fruiting cluster into the palm of your hand. Fresh berries have a 2-week shelf



life if they are kept in a refrigerator. To freeze blueberries, simply rinse them in water, then place in freezer. You can also freeze-dry or dehydrate blueberries for future use.

Blueberries usually ripen over several weeks and require two to four pickings to harvest. Harvest may begin in early July and extend into September, depending on the variety, weather and location.

Alternate Method to Grow Blueberries

Growing blueberries in large pots is a great idea. It's easy to adjust and keep the soil acid. Sometimes, it is the only feasible way to obtain necessary soil conditions to grow blueberries. It is also a great way to grow blueberries on a deck or balcony.



However, growing blueberries in pots can be difficult. You will need to plant them in very large containers. The pots need to be at least 18" to 24" in diameter and 14" to 18" deep, the larger the better. You need to plant two different varieties in the same pot to make sure you get good pollination.

Blueberries require soil that drains very well, but that keeps moisture consistently. The best type of potting mix for blueberries is the same type that is made for rhododendrons and azaleas, such as **Acid Planting Mix**. Fill your container about 1/3 to 1/2 full of acid planting mix. Place the plant so the top of the root ball is about 4 inches below the top of the container, then fill the remainder of the pot with acid planting mix. Make sure that you do not bury the plant any deeper than it was in its original container. Blueberries need their roots to be right at the surface of the soil and they also need a mulch over the top of the soil. Add mulch, over the top of the roots, after you water the plant thoroughly. The top mulch could be **Black Forest Compost, Soil Pep, or Bark**.



Blueberries need consistent moisture, but should never be water-logged. Proper drainage is very important. You need to water very regularly. In hot weather, you may need to water blueberries every day.

Blueberries are very hardy, but you should protect them during the winter by wrapping the container in blankets, or moving them next to the house, or into a protected area. As long as the roots are protected, they should live through the winter just fine. The other winter consideration is moisture. The plants do not need much water during the winter, but the soil cannot dry out. Put snow on the top of the pot. When the weather warms, the snow will melt and provide the necessary moisture.

Fertilize regularly each year with a fertilizer that is made for rhododendrons and azaleas, such as **Dr. Earth Rhododendron Fertilizer** (organic) or **Master Nursery Rhododendron Fertilizer** (inorganic). They should be fed every month starting in April. Skip July, then fertilize again in August. After August, do not fertilize them any more until the next spring.

Mature blueberry bushes should be pruned lightly, but not until they are three years old. Once they have reached three years, you should begin pruning early in the spring every year. Just remove some of the oldest branches, and snip off any very weak looking twigs. Then you can trim all of the remaining stems by 1/3. Removing a third of the branches forces new growth, and new growth bears the most fruit.

You may not get as big of a crop from container grown blueberries, but you should be able to harvest enough to make it worth the extra effort.

