Blueberries are increasing popular with home gardeners. Highbush blueberries, sometimes called northern highbush blueberries are the type adapted to Missouri. Ozarkblue and Legacy are cutlivars that have both highbush and southern highbush parentage, so they are only winter hardy to USDA hardiness zone 6 . The overall size of a mature plant depends on the cultivar.

## Recommended cultivars:

Early: Duke, Patriot
Mid season: Bluecrop, Bluegold, Blueray,
Late: Chandler, Jersey, Nelson, Ozarkblue*
Very Late: Elliott, Legacy*
*Hardy only to USDA zone 6
Planting and spacing: Blueberries need an acidic soil with a pH of about 5. Because they are shallow rooted, they require perfect internal water drainage, even moisture and high organic matter content and mulch in mineral soils. To lower the pH of the soil, sulfur can be added, preferably several months before planting according to soil test recommendations. Internal water drainage can be improved by planting on mounds or raised beds. Plant in spring or fall, spacing plants 4-6 feet apart in rows at least 6 feet apart, the wider spacing is recommended for spreading cultivars (Jersey).

Fertilization: The best way to determine fertilizer needs of the plants is by following recommendations based on soil sample results. The recommendations given here are general and should be fine-tuned to the fertility and nutrient holding ability of your particular soil, and the observations of the growth of your plants.

During the first season, fertilize with 2 tbsp of 13-13-13 or equivalent around the base of each plant. Apply 1 tbsp ammonium sulfate (21-0-0), or other high nitrogen, acidifying fertilizer (azalea or holly fertilizers) about 6 weeks later. Double the fertilizer amounts in the second year, and use $1 / 2$ cup 13-1313 and $1 / 4$ cup ammonium sulfate per year after year three.

Flowering and Pollination: Blueberries bloom in April, and are not generally affected by spring frosts. Their main pollinator is the bumblebee, and planting two or more different cultivars that bloom at about the same time increases fruit set. Planting early and late ripening cultivars can stretch the harvest season to nearly two months.

Weeding and Watering: Weeds close to the base of the plants, especially in young plants, can slow growth or even stunt the plants. Blueberries need an even water supply, both flooding or total drying of the soil leads to root loss. 1-2 inches of water per week are required for good berry ripening and the formation of fruit buds for the following year.

Container Growing: Blueberries can be grown in containers. Tophat is one dwarf cultivar recommended for container culture. However, keeping soil in a container evenly moist and the pH in the recommended range can be challenging.

Pruning: Plants less than 3-4 years old you need only to remove any shoots that are dead, broken or diseased with discoloration. On plants older than 5 years, remove $20 \%$ or less of the oldest shoots as
close to the base as possible to thin out the plant and allow new shoots to fill in. Remove weak shoots at the base and leave enough strong new shoots to replace the older canes you removed. Prune out side shoots that are close to the ground, or those that are getting too tall if you wish. A mature blueberry bush, at least 6 years old, should have a mix of 10 to 15 different aged canes in total, leaving no canes over 7 years old.


Blueberry plant before and after pruning

Source: http://www.caes.uga.edu/publications/pubDetail.cfm?pk id=6793

Harvest: Blueberries are evenly deep blue, with no remaining pink, when ripe. Berries are blue 3-4 days before they are ripe. The berry clusters will contain berries at different stages of ripening, and only fully ripe berries detach easily. A ripe berry can stay on the bush for about a week without loss of quality. Cool berries as soon as possible after picking, they will maintain good condition for a week, longer than most other berries.

Pests, Diseases, other Problems: Spotted wing drosophila, a new (2013) pest in Missouri that damages ripening blueberry fruit. The biggest challenge in growing blueberries is maintaining the acidic pH level of around 5 . Monitor your pH and use acidifying fertilizers if needed. Watering with neutral or basic well water will raise the pH . Rain barrels can be used to irrigation of blueberries to at least partially offset this problem. Blueberries growing in high pH will show symptoms of iron chlorosis: the leaves will be yellow with darker green veins and if the pH is not brought back down, these plants will decline and eventually die. Foliar application of iron can help temporarily while waiting for sulfur amendments to lower the pH , but they will not "cure" the plant.

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