

Growing Raspberries

Raspberries are very adaptable to home gardens. The flavor of these berries is treasured and the fruit has many culinary uses. By choosing a proper planting site, varieties, and following a couple of production hints, the plants are easy to grow. Berries should have a source of water and be protected from deer. Both summer and fall bearing varieties are available, but the **fall bearing varieties will bear most consistently for home gardeners**, and have no problems with winter cold or fluctuating spring temperature injury. A standard fall berry released by Cornell 35 years ago is **'Heritage', the world's predominant primocane fruiting cultivar**. All raspberries are self-fertile and may be planted alone.

Plant 3 feet apart, with 8 to 10 feet between rows. They may be grown in **any good garden soil provided it is well drained** to a depth 3 ft and has high moisture holding capacity. Although the pH of the soil is not that critical, a range of 5.8 to 6.5 is considered optimum. **Select a site where tomatoes, potatoes or eggplants have not been grown**. If the soil lacks organic matter, work 1 inch or more of organic residues such as lawn clippings, rotten leaves, or well composted manure into the top 4 to 6 inches of soil. **Before planting, mix about 3 pounds of 10-10-10 or equivalent fertilizer per 100 square feet of soil**. You may wish to construct a temporary trellis to provide raspberry canes some support for the crop. A simple method is to set stakes in the row at 15 to 20 ft intervals. Tie binder twine to the end stake and then fasten to each stake down the row. Repeat on the opposite side of the row. If canes are very heavy, tie the two lines of twine together at intervals.

Care of plants includes fertilization, watering, control of pests, and pruning. Compost or chemical fertilizers can be used. Chemical fertilizers such as **39 Plus or 10-10-10 should be applied in split applications in May and June**. Water will be applied as needed, but remember that raspberries are shallow-rooted, and **if there is no rain, they may need about an inch and one half of water every week**. Since canes grow in the same season they produce, there are less pest problems. Leafhoppers and Japanese beetles are the main insect pests, while Botrytis rot of the fruit could be the most problematic fungus pest.

Pruning is easy with fall berries because they are cut to the ground with a mower in March. Harvest and storage is not complicated. The key point is that the berries must be placed in cold storage immediately after harvest, preferably at 32 or 33 F. They can be stored at these temperatures without freezing, and are good for three days to one week.

Growing Blueberries

Blueberries have become very popular over the past few years due to their reported health benefits. The plants have colorful branches and fit nicely into a home landscape. Planting blueberries and waiting for a harvest takes a bit more patience than other berries since they take about eight to ten years to reach full production. They also tend to be a favorite food of birds, which means that the crop will have to be protected by netting. Finally, **the plants are acid-loving**, so they need to be placed with other acid-loving plants, or have their own space with a modified acidic soil. **pH should be adjusted to somewhere between 4.8 and 5.3 with ground or wettable sulfur**. Sphagnum peat moss can also lower pH. Ideally, the application of sulfur will be done the year before planting in the springtime so that the sulfur can react in the soil.

Blueberries thrive in **well-drained, but constantly moist soil**. Their roots need oxygen, so a swampy type of environment is not good. Of all the berry plants, blueberries are the most tolerant of slight spring frosts. We will generally choose highbush blueberries for our area. Suitable and favored highbush varieties in our area include 'Earliblue', 'Duke', 'Blueray', 'Bluecrop', 'Sierra', 'Toro', and 'Elliot'. **Two different varieties should be grown to get the best -sized fruit, but highbush blueberries do not absolutely require it**. Some tips for planting should be observed for blueberries in order to have success in growing them. Plant 4 feet apart, alternating varieties for best pollination. The soil should be shaken from the roots of container grown plants before planting and any amendments added to the planting hole should be well blended with the native soil: This is critical to prevent drying out of the plant during the growing season (a very common problem). Plants should be planted at the same level they were growing in the nursery. Soil should then be watered in so that it can pack around the roots avoiding air pockets. After planting, a layer of **mulch about four inches thick** can be placed around the plant. Don't fertilize during the first year. **Water frequently, 1 to 2 inches per week**.

The best time to **prune blueberry plants is in the early spring** so you can assess and remove winter-injured wood. They typically do not need to be pruned in the first two to three years after planting. The largest, oldest whole canes should be removed rather than just the branches on them. The ideal mature plant will have about 16 canes, with two canes eight years old. A rhythm should be reached with mature plants so that the oldest two canes will be removed annually leaving the other canes of various ages. Removing the blossoms the first one to two years to prevent fruiting will stimulate vigorous growth.

Diseases and insect problems are relatively few. **Deer and birds are probably the most threatening pests**, and fences and netting are the best protection. Berries hang in the bush after they have turned blue, and will sweeten up. This unfortunately makes them quite attractive to birds, so some folks choose to harvest at an earlier, more tart stage. Blueberries keep in the refrigerator easily for more than a week.

Growing Grapes

Grapes are the most widely grown fruit in the world and unlike most fruit crops, grapes are native to North America. The wild grapes found by early settlers were quickly rejected because they were high in acid, low in sugar and uniquely flavored. Grape vines brought from the emigrants' native countries failed to survive the new continent. Grapes differ greatly in their tolerance to disease and insect pests and to cold winter temperatures. With proper care, grapevines can be grown in most locations.

Grapes are grouped into American, hybrid and European types. **The American Concord variety is the most widely planted grape in Ohio.** It can be eaten fresh, made into wine, and it is the basis of the grape juice industry. In addition it is cold hardy and disease resistant. Recently developed hybrid seedless grape varieties such as 'Himrod', 'Chambourcin', and 'Cayuga' can be made into juice, wine, or raisins in addition to their intended use as table grapes.

Vines should be spaced 8 feet apart in rows 8 to 10 feet apart. They need **full sun, well-drained soil, and good air circulation**: planting next to a building is not ideal. Vines are usually planted in the spring and should be watered during the first growing season. Grapes can be trained (actually tied) to many different supports. The simplest, or really the easiest, to construct and maintain is 12.5 gauge high tensile wires (two or three) stretched between posts 16 to 24 feet apart. The top wire is usually 5 feet from the ground. An arbor is a fancier support, but it makes grape growing a little more difficult.

Young vines must grow for several years before they are strong enough to support fruit. When the vines are planted they should be cut back to 2 or 3 buds. Allow several shoots to grow. The goal is to have an abundance of leaves on the vine to permit the formation of a strong root system. The second year select two sturdy canes, remove the rest and allow three to four shoots to develop about 4 feet from the ground and make sure they stay attached to the trellis. Remove flower clusters as they form. During the third year you can start regular pruning and allow some fruit to develop.

Grapes require yearly pruning. Un-pruned grape vines get very dense, diseases get hard to control and fruit quality declines. The more buds left at pruning, the more fruit will develop. But if too many fruits are left through the season, the fruit will be small and even worse, may not ripen. Keep new growth on the vines near the center of the vine. The crop can then be controlled by fruit thinning to no more than one cluster for each rapidly growing shoot. To have large berries and large clusters, small or imperfect flower clusters can be removed as soon as they appear.

Grapes have few insect pests, but many diseases. Major diseases are powdery and downy mildews, and black rot. **Concord grapes can tolerate these diseases with minimal control** but other varieties need more frequent fungicide treatment. With many grapes, **birds and raccoons need to be controlled as the grapes ripen. Netting is an excellent way of controlling birds. Interestingly, birds do not bother Concord grapes.**

Raccoons, skunks, and opossums love grapes. It is not reasonable to assume that you could grow enough grapes to fill them. A low (6 inches from the ground) electric fence is the best control but again has additional uses.

Growing Strawberries

Strawberries are well suited for the home garden since they produce fruits very quickly, and require a relatively small amount of space. Each plant may produce up to one quart of fruit during the first fruiting year. Production usually declines during the second and third years of fruiting; a new planting should be established after plants produce fruits for more than 3 to 4 years.

Strawberry plants may be of two major types, **June-bearing or Ever-Bearing**. In Ohio, the ripening season of June-bearing strawberry cultivars ranges from late May to the end of June. June-bearing types are most popular for their flavor and quality. It is certainly **a good idea to plant both types to get fruit production in the first year from everbearing strawberries, and high yield and quality from June-bearing strawberries.**

Strawberry plants require **full sun** for the maximum yield and the best quality. Best results are obtained when the plants are grown in loose, fertile soils containing large quantities of organic matter. The soil should be slightly acidic, having **a pH of 5.8 to 6.5**. The strawberry plant is sensitive to excessive soil moisture. Strawberries should be planted in raised beds or on ridges if drainage is a problem. Also, avoid planting strawberry plants in areas where potatoes, tomatoes, or sod were grown recently. Insect and disease problems may result in serious plant damage in such areas.

Early spring is the best time to plant strawberry plants as long as soil is not too wet. When planting, make sure to **cover the roots and only half of the crown with soil**. The crown is a short stem between the roots and leaves. Make a trench **deep enough to set the roots vertically**. Do not bend roots horizontally. June-bearing plants are spaced 12 to 24 inches apart. In August, rows should be 18 to 24 inches wide with plants 6 to 8 inches apart in the row. Generally rows are 36 to 40 inches apart. For everbearing strawberries, plants are set 8 to 12 inches apart in the row with 30 to 36 inches between rows. Remove runners throughout the first season and remove flowers for the first 6 weeks after planting. Mulch the planting with 3 to 4 inches of straw or wood chips to conserve moisture. Mechanical cultivation and mulches are recommended for weed control. Additional **watering is needed during dry seasons. Plants require 1 to 1.5 inches of water per week from mid-June to mid-August**. Take care in watering so that the soil does not remain soggy for any prolonged period. Apply a **10-10-10 or 13-13-13 fertilizer** 7 to 10 days after planting, again in mid-June if rainfall has been excessive, and again in mid-August.

Remove the flower stalks of June-bearing strawberry plants as they appear throughout the first growing season. More production can be expected if the plants are allowed to attain large size before fruiting. **Remove the blossoms of everbearing types of plants as they appear until about the middle of June** (first year only). Then allow flowers to set fruit for harvest during the remainder of the season.

Strawberry plants can be fruited more than one year but probably not for more than three harvest seasons, depending on the vigor and number of plants. June-bearing strawberries should be renovated every year right after harvest if one desires excellent fruit production for more than one year. First control weeds by mechanical means or labeled herbicides. Remove all old leaves with a mower or a sickle. Make sure to set the mower as high as the blade will go to avoid injuring plant crowns. Narrow the rows to a width of about 12 inches by cultivating between them with a rotary tiller. Thin the plants within each row, leaving 4 to 6 inches between plants. Topdress beds with 0.5 to 1 inch of soil. Broadcast 2.5 pounds of 10-10-10 fertilizer per 100 square feet of planting. Apply 1 inch of water each week to promote growth if it does not rain.

In addition to weed control, **mulching is necessary to provide winter protection for the plants**. Apply straw two to three inches deep over the plants after they have been subjected to several sharp freezes in the low 30s or high 20s in fall. This is generally between November 15 and 30, but no later than December 15. Strawberry flower buds are very susceptible to spring frosts. Mulches used for winter protection **should be pulled from plants in early spring, before there is much leaf yellowing**. The mulch should be left between rows to cover blossoms in the spring when frost is predicted, especially with early cultivars.