

Growing Grapes

Well-grown grapevines of cultivars such as Concord can produce up to 20 pounds or more of the fruit per vine per year. Once established, well-tended grapevines can be productive for 40 years or more. Home fruit gardeners can be successful if they select the right cultivars, maintain a good fertility and pest management program, and properly prune grapevines annually.

Cultivar Selection

Grape cultivars may be of the American, European, or French hybrid types. American and French hybrid types are best suited to Ohio growing conditions because they tend to be more winter-hardy. Recommended American cultivars include Concord, Niagara, Delaware, Reliance, and Canadice (see table 1). Several French-American hybrids, such as Seyval Blanc and Vidal Blanc, are recommended for their wine making qualities and good winter hardiness. European grapes are not recommended for home plantings since they are not winter-hardy in Ohio.



A beautiful grape arbor at Stan Hywet Garden in Akron

Depending on the cultivars selected, grapevines will produce berries that may be red, blue, white (greenish-yellow), purple, or black with a distinctive flavor. Both seeded and seedless types are now available. Some cultivars are good table grapes while others make better wine grapes (see table 1). In Ohio, the earliest cultivars ripen beginning about mid-August, while the latest cultivars ripen fruit from late September to early October. Canadice is an example of an early season cultivar. Concord is a mid-season cultivar and the most popular grape in Ohio. Reliance is one of the best tasting, red seedless grapes. Catawba is a popular late-ripening cultivar used mostly for wines.

By selecting and planting different cultivars in the home planting, the gardener can spread the harvest over several weeks. However, if interested in planting only a few vines or even an isolated single vine, the gardener may do so without worrying about the necessity of planting different cultivars. Grapevines available to gardeners are self-pollinated or self-fruitful. Bees are not required for pollination.

Disease tolerance is another important factor to consider since wet springs, and hot and humid summers tend to favor common diseases that attack grapes. Try to select grape cultivars that are least susceptible to diseases (see table 2). However, there are no grape cultivars that are disease resistant.

Planting

Early spring is the best time to plant grapevines. Fall planting is not recommended because plants are likely to be lost to heaving during the first winter. During the first year, the soil is prepared for planting, cultivars are selected, and vines are planted, mulched, fertilized, and kept free of weeds, insects, and diseases. Prune off broken or dead portions of branches and roots. At the same time, prune top growth to a single cane. During the first year, the vines are normally tied to a stake to keep them off the ground, prevent damage, and make spraying more effective. If the season of planting is dry, supplemental watering is also necessary to keep the vines growing. It is important to get as much first-year growth as possible.

Establishment

Three years are normally required to establish a grape planting. Vines planted for training on a trellis are normally placed 8 feet apart, while those planted for training on an arbor can be placed 4 feet apart. Before growth begins the second year, a support for the vines, either a trellis or an arbor, must be provided. Care of vines the second year is similar to that of the first year. However, during the second season, a system for training the vines should be selected.

Vines are trained to a particular system by pruning and tying the canes to the support system. In some methods of training grapevines, the canes are tied to wires above the trunk and arms of the vines. Such training works well where grapevines are to be grown on a fence or in an upright position. In another method of training, the canes are tied to the wires and the fruit bearing shoots are allowed to droop or hang down. A third method is the cordon type training system. Here the fruiting canes are developed from a horizontal extension of the trunk called a cordon. If canes are pruned long, they can be tied to the lower wires. If pruned short, they hang free. One of the most common training systems is called the single curtain/cordon bilateral system.



Grapevines trained to single cordon bilateral system

Pruning and Training

Annual pruning is important in maintaining a uniform yearly production of quality fruit. The best time to prune grapevines is in the dormant season after the danger of severe cold weather has past. In Ohio this is usually in March. Learning to prune grapevines requires practice and experience.

Table 1 – Common Grape Cultivars Recommended for Home Fruit Plantings

Principal Cultivar	Season	Color of Fruit	Use(s)	Remarks
American				
Canadice	Early	Red	T	Productive, flavor similar to Delaware, seedless
Steuben	Mid-season	Blue	T-W	Concord type and very vigorous
Delaware	Mid-season	Red	W	Excellent for wine, high sugar, good keeping quality
Concord	Mid-season	Blue	J-W	Most widely grown grape in Ohio, large bunches and berries, a favorite of many
Reliance	Mid-season	Red	T	Excellent quality, productive, seedless, very hardy
Niagara	Late season	White	J-W	Excellent for wine, standard white grape of Ohio
Cayuga White	Late season	White	W	New wine cultivar for Ohio, productive, moderately hardy
Catawba	Late season	Red	W	Principal wine grape of Ohio
French-American Hybrid				
DeChaunac	Mid-season	Red	W	Good wine grape, productive and hardy
Seyval Blanc	Early season	White	W	Excellent wine grape
Vidal Blanc	Late season	White	W	Excellent wine grape, vigorous, hardy, and productive
Key: T = table grape / W = wine / J = juice				

Table 2 – Relative Disease Susceptibility of Common Grape Cultivars

Principal Cultivar	Black Rot	Downy Mildew	Powdery Mildew	Botrytis
American				
Canadice	***	**	*	**
Steuben	**	*	*	*
Delaware	**	*** (1)	**	*
Concord	***	*	**	*
Reliance	***	***	**	*
Niagara	***	***	**	*
Cayuga White	*	**	*	*
Catawba	***	***	**	*
French-American Hybrid				
DeChaunac	*	**	**	*
Seyval Blanc	**	**	***	***
Vidal Blanc	*	**	***	*
Key to ratings: * = Slightly susceptible or sensitive / ** = Moderately susceptible or sensitive / *** = Highly susceptible or sensitive / (1) = Berries not susceptible				

Fertilizer and Lime

Grapes perform best where the soil pH is between 5.0 and 6.0. Apply lime only when soil analysis indicates a need. Apply 8 ounces of 10-10-10 fertilizer per plant seven days after planting. Increase the amount of fertilizer to 1 pound of 10-10-10 in the second year and 1 ½ pounds per vine in the third and later years, about 30 days before new growth begins in the spring. Do not concentrate fertilizer at the base of the trunk. Keep fertilizer 6 to 12 inches from the trunk and spread evenly under the spread of the vine. During the third season, some harvest may be expected from the vines. The first full crop, however, will not be produced until about the fourth or fifth year. It is important that cultural practices of maintaining soil fertility, weed control, soil moisture conservation, and insect and disease control be continued not only during the third year, but in subsequent years as well. Control weeds by hand hoeing or with plastic or organic mulch. A clean area 1 ½ to 2 feet on each side of the vine is necessary. Do not damage trunks with a hoe or chemicals.

Pest Management

Grapes certainly have their share of insects, mites, and diseases. Selecting disease tolerant cultivars, good sanitation practices, managing vine canopies for good air movement, pest scouting, and an effective spray program are all part of a successful pest management program. Common grape diseases are black rot, downy mildew, powdery mildew, phomopsis cane and leaf spot, and botrytis bunch rot or gray rot. Major insects and mites on grapes are grape berry moth, Japanese beetle, grape flea beetle, European red mite, grape root borer, and grape phylloxera. Refer to OSU Extension Bulletin 780, *Controlling Disease and Insects in Home Fruit Plantings*, Bulletin 506 B2, *Ohio Commercial Small Fruit and Grape Spray Guide*, and Bulletin 861, *Midwest Small Fruit Pest Management Handbook*, for more information. There are also fact sheets available on the control of selected grape diseases and insects.

Source: OSU Ext. Gary Gao