
TECHNOLOGY FOR GROWING GRAPES IN THE WORLD

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Annotatsion.

*One of the most popular in the United States is the *Vitis rotundifolia*. Grapevines do not like wet land, but it is best to soak the roots in water for several hours before planting. Grapevines are tough plants, and your tasks mostly are about keeping them tidy on the trellis.*

Key words.

grape, growing, technology, fruit, plant.

Introduction

Although it is not uncommon to see someone growing grapes in a backyard garden, these fruits are among the most widely produced in the world. Grapevines are versatile and stubborn growers that they can live for many years with minimum caring on the gardener's part, albeit with small production of fruits. If grown with a little bit more serious approach to gardening, however, these plants can give you a good supply of edible sweet nutrient-dense berries for several decades (maybe more) before you need to renew, if ever. In fact, life expectancy of grapevine can reach more than 100 years, according to SfGate. Having some in your garden brings some additional ornamental elements indeed, but there is nothing wrong about taking things to one level further and trying to harvest the commercial potential of the plants. While it would be a lie to say that the entire process from the get go all the way to harvesting is going to be like a walk in the park, anybody can learn how to do it.

If you already have some grape vines in your garden or are thinking of growing a grape garden anytime soon, there are some things you should be aware of to increase your chances of harvesting good quality sustainable produces for the foreseeable future. First of all, grapes are divided into some major categories based on the regions of origin including:

- Europe (*Vitis vinifera*)
- North America (*Vitis rotundifolia*)

- Northeastern North America (*Vitis vulpina*)
- Asia, mostly China and Siberia (*Vitis amurensis*)
- Southern parts of the United States (*Vitis rotundifolia* or the muscadines)
- Northeastern North America (*Vitis labrusca*)

Many of the American types do well in cold environments, while their European counterpart thrives in warm climate. Also, the European grapes are harvested mostly for winemaking process rather than the fruits. There are also hybrids with different characteristics and tolerance to various diseases. One of the most popular in the United States is the *Vitis rotundifolia*. Unlike a number of other American types, the muscadine grape vine grows well in warm and humid environment. This variety requires fewer chilling hours compared to other popular types, and it actually thrives in summer heat. Regardless of the variety, make sure you purchase the grape vines only from reputable nurseries. If you want to ease the hassle of growing grape in your backyard, use only virus-free stock to begin with. The 1-year old plants are often the best options you can get; some nurseries keep the lower-quality a year-old plant for longer period and sell it at later date as 2-years old stock. Starting with high-quality stock is only the first of many things to consider. In addition to that, you need to take the following points into account as well:

Sunlight: even if you go with a variety that is well adapted to cold environment, plant the vines in a location where there is good amount of direct sunlight. They cannot grow to their full potential when planted in place covered by shade for most parts of the day. The need for intense sunlight therefore rules out all potential locations surrounded by trees and tall structures. While grapes require good amount of water, you should not choose wet location too. Grapes can reach deep enough into the ground to look for a good supply of water.

Nitrogen: use nitrogen-rich fertilizers. According to Marlborough Research Center in New Zealand, grapes require good amount of nitrogen to produce necessary proteins for growth. However, a report published in the University of Maryland Extension suggests that excessive nitrogen may lead to unbalanced vines. Every grower needs to determine the rate of Nitrogen in the grape variety through a leaf analysis rather than soil test for more accurate results.

The post and wires, also commonly referred to as grape trellis, are not exactly required to make sure proper growth. Their purpose is to give you easier time harvesting the fruits. Think of the wires as keeper canes on which the buds will grow. You should be looking to spread several dozens of buds during the first year

and maybe a dozen more at later years, especially if you plan to commercialize the produce. It is worth mentioning that the vines located furthest from the trunk have the least flavor, too. Although many (if not most) people may not be able to tell the difference, you should not let any vine to grow too far from its trunk. Posts and wires in your grape garden are simply for practical harvesting purposes, and they are not crucial to ensure proper healthy growth. That being said, those are essential parts of the garden to maintain standards on flavor previously mentioned. And because it has everything to do with flavor, you cannot just put the posts and stretch some wires in random manner. Here are some useful grape vine trellis ideas to try and implement:

Strength: within just the first year of growth, the wires will carry considerable weight of the vines. When most of the weight is on the wires, your posts are consistently pulled away from their original locations. You need to construct some sort of mechanical advantage to support the posts for examples bracing system or simply planting them at an angle. Longer trellises require stronger support.

Spacing: a horizontal space between 6 and 8-feet should be adequate for the every vine. If you want to have 3 or 4 vines between posts, you need to place them accordingly to provide the required space. It is not recommended to exceed 30 feet of distance between posts. One thing to remember is that grape trellis really is a simple structure; you don't need a degree in engineering to build one. Even a casual backyard gardener can make a sturdy grape trellis using materials from the garage.

If you're looking for guidance on how to grow grapes, some of the suggestions you get will sound similar to those of growing a bonsai. There will be some cutting and pruning involved, and all are done to help the grapevines grow towards the sun. In addition to the post and wires, you may want to build some sort of training-stakes so that newly-developed shoots can sprout properly. The whole grape vine cuttings approach must be based on the purpose of eliminating weaker shoots and forcing the new ones to grow faster. Apart from making sure that the posts and wires will support the weight of the vines, there isn't anything else to focus on. It is straightforward tasks, and you have some options in terms of style such as:

Cordon Trellis: most commonly used in commercial applications, the Cordon system is a rather tricky trellis structure. While the posts are built similar to those of four-cane systems (heavy-duty and braced), this style requires more wires to help spread the vines and separate the foliage. No matter what kind of trellis system used, be sure to build it in an open environment so your grapevines can absorb a

lot of sunlight. It is also recommended that you do it all on a flat terrain, because pruning and harvesting will be much more difficult on an uneven surface. Assuming your garden is not that wide that you don't plan to dominate the production of grape in local market, a simple wired-fence system will do. Now that you understand the basic of grape varieties, sunlight, and trellis, it is time to plant the vines. Treat the following practical guides as some sort of to-do list:

- To get the most of summer heat, plant dormant grapevines during early spring. As the plants reach crucial growth period in the coming months, they will get the much-needed help from sunlight.

- Don't forget to construct the trellis system before planting.

Most grape varieties self-pollinate, so you don't have to worry whether or not the pollen will be transferred. Just to be sure, ask the nursery if the variety you purchase requires one more plant for pollination process.

- Grapevines do not like wet land, but it is best to soak the roots in water for several hours before planting.

- A small shade in the afternoon is not really a problem. As long as the plants get the most of morning sunlight and air circulation, don't lose sleep over the shades.

- If you opt for muscadines, space the vines 16 feet apart; for other varieties, 10 feet is adequate.

- The planting hole for every vine is 12-inch wide and 12-inch deep. Before you plant the vine, fill the hole with topsoil material to 4-inch. Plant the vine and cover the roots with the removed soil; tamp it down. Fill the hole with the remaining soil, but this time do not tamp down so hard.

- Trim the vines and leave three buds at planting time.

- Water the plants immediately.

Many steps mentioned above may sound daunting, especially for complete beginners who have never seen a grape garden or been in one before. A lot of people look for more detailed advices from online references or books in the libraries, but the available information is too scattered to the point where they get confused with contradictory suggestions and recommendations. Grapevines are tough plants, and your tasks mostly are about keeping them tidy on the trellis. Some important things to remember:

- During the first couple of years, you should not allow the vines to produce any fruit. It does seem counterproductive but a crucial process to make sure the roots are strong enough to support additional weight of fruits.

- Without pruning, your grapevines will grow out of control on the wires. The best time to prune is before winter when sunlight will be scarce in the coming months. Instead of waiting for winter damage, use the opportunity to keep everything organized.

- More pruning means more grapes, so don't hesitate to remove up to 90% of last season's growth.

- Unless there is a serious problem with the soil, try using as little amount of fertilizer as possible.

- Use mulch to maintain moisture around the vines

- You may need a mesh net to prevent birds from invading your garden.

Some of the most common diseases or pests that attack grapevines include Japanese Beetles, Powdery Mildew, Black Rot, and Aphids. Make sure you read about those problems to understand how to control and manage potential issues in your garden. A combination of chemical and natural controls is often required. Unlike a lot of other fruits, grapes will not continue ripening after they are picked from the vines; however, they can stay fresh for up to 6 weeks if stored in a cellar. Do not store them with other fruits and vegetables, as grapes are known to absorb their odors. Do some grape-tasting in the late summer or early fall, then write down the result to remind you of the time that you get the best flavor for future reference.

Conclusion

In addition to written information, you may need instructional videos filled with all practical lessons on growing grapes. Videos are more easily understood, and therefore you can immediately try and implement the tips and tricks right away without issues. Unfortunately comprehensive videos on how to take care of grapevines are hard to come by; they are available, but not that easy to find. Some of the most elaborate guidance can be found at My Grape Vine site, which also offers growers diary and 12-months online coaching program to keep track of your progress. There is even a stand-alone instructional package designed specifically for starters.

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