



Growing Grapes for Home Use

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Planting

Grapes need full sunlight and high temperatures to ripen, so plant on southern slopes, the south side of windbreaks, or the south sides of buildings. Avoid northern slopes and low ground since these will be cooler throughout the growing season, delaying ripening of the fruit. Choose deep, well-drained soils to avoid standing water in the spring and encourage early growth.

Plant in the spring as soon as the soil can be worked. Use healthy plants with well-developed root systems. Space the plants six to eight feet apart. Before planting the vine, remove all canes except the most vigorous one. Trim off any broken or excessively long roots.

Dig a hole large enough so you can spread the root system out without bending the roots. Plant vines at the same depth as in the nursery. Do not plant too deeply. Spread the roots and cover them completely with soil. After planting, shorten the remaining cane to two strong buds. Each bud will develop into a cane.

Caring for Grapes

Although vines often are allowed to grow at random, sprawling over the ground during the first season, it's best to train the stronger of the two canes that develop from the plant to a strong stake, five to six feet tall. Remove any suckers growing from the base of the canes. Remove the weaker cane in March. If neither cane is three feet long, cut the plant back to two buds again the second year.

Apply nitrogen two weeks after planting at a rate of 10 lb of 10-6-4/100 ft of row. Reapply the same rate annually in early spring, right before growth starts. Fertilizer can be applied to a single plant at a rate of 1 lb/plant. Have the soil tested every three to five years. Do not apply fertilizers containing herbicides

(such as some lawn fertilizers) in or near the grapes. Three to six inches of mulch may be applied to help control weeds and conserve soil moistures.

Pruning and Training Hardy Varieties

Although there are several systems for training grapes, the four-arm Kniffen system (Figure 1) is the most simple for varieties that do not require winter protection. In this system, two horizontal wires are stretched between posts to support the vine. The bottom wire is 36 inches and the top wire is 60 inches above the ground. The young vine is tied to a stake and, as it grows, to the two wires. This ensures a straight trunk for the mature vine.

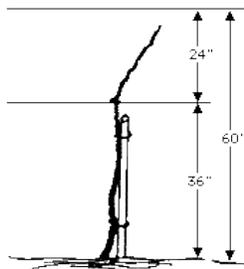
Begin training after the vine reaches the first wire. Remove all shoots between the wires and cut back shoots along the lower wire to two buds (Figure 1B).

The mature vine has four to six canes (each with five to twelve buds) and four to six renewal spurs (each with two buds).

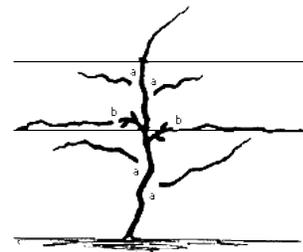
When pruning, keep in mind that fruit is produced on the current season's growth, that in turn grows from last season's wood. Heavy pruning provides the best fruit. Light pruning result in large yields of poor-quality fruit; very heavy pruning produces too much vegetative growth and very little or no fruit. Table, juice, and jelly varieties can have 40 to 60 buds per vine, but wine varieties should have only 20 to 30 buds per vine after pruning.

Figure 1. The four-arm Kniffen system. A. The vine is tied first to a stake and later, as it grows, to the wires. B. Branches should be removed (a) or cut back to two buds (b) along the lower wire. C. A mature vine before pruning. D. The same mature vine after pruning. Sp = renewal spur; c = one year old fruiting cane. Fruit clusters will form on shoots emerging from buds on these canes.

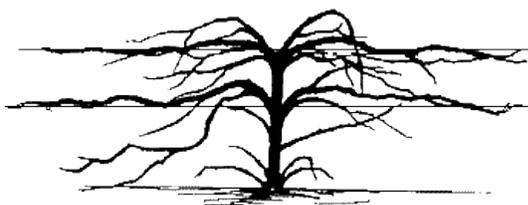
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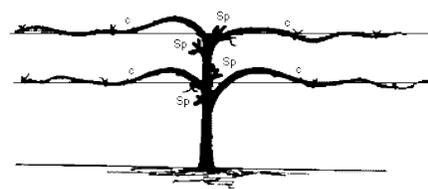
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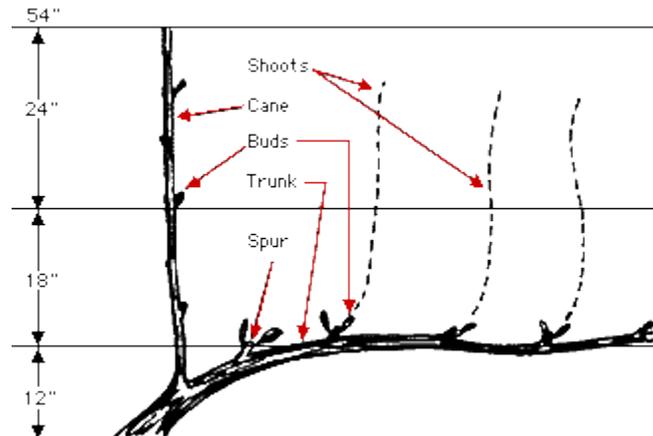
D.



Pruning and Training Tender Varieties

In varieties that require winter protection, prune the vine to a single horizontal trunk that can be removed from the trellis (Figure 2).

Figure 2. Training system for tender varieties.



To over-winter the plant, bend the trunk down and cover it with six to eight inches of soil or mulch. Uncover approximately mid-April, or as soon as frost is out of the ground. Then lift the vine and tie it in place on the trellis. As shoots grow from the trunk, tie them in an upright position to the upper wires. In the fall, when these shoots have matured into canes, cut them back to short spurs containing one or two buds each.

You can increase the trunk's length by bending down the cane farthest from the base of the plant. In this manner, one to two feet of new trunk is added each year until the trunk reaches the desired length of six to seven feet.

Pruning Neglected Vines

Prune old and neglected vines in stages. Select a sturdy cane originating near the base of the plant. Cut it back to three to four feet. After this cane completes its second growing season, cut off the old trunk just beyond the attachment of the renewal cane. Old, neglected, or improperly pruned vines usually have too much wood. When pruning, cut as much of the old wood as possible. This encourages the growth of new wood near the main body of the vine.

Harvesting

Grapes change color long before they are fully mature, so it's possible to pick the clusters before they have reached their peak in flavor, size, and sweetness, if berry color alone is used as a guide. For best fruit, taste the grapes first to see if they are ripe. If they aren't, wait for optimum sugars and flavor quality to develop. Grapes will not improve in quality once they are harvested. Sample your grapes periodically to test sugar content, or you can use a refractometer to get an exact reading.

Propagation

It's easy to propagate grapes from cuttings. Take sections of the canes from healthy, moderately vigorous vines while they are dormant. This can be either in late fall or in early spring before growth starts; early spring is preferred because once the cuttings have leafed out and formed roots they can be placed outside, first in the shade, and then planted out in the vineyard. Cut the sections directly from the vine or from brush that has recently been pruned off. Make cuttings three nodes long with the bottom cut (the portion that will form roots) just below the bud or node and the upper cut at an angle of about 45 degrees, $\frac{3}{4}$ to 1 inch above the bud or node (Figure 3).

Figure 3. Grape vine cutting.



Plant cuttings as soon as possible after they are made. Place the cuttings with the second bud from the top at soil level and cover with loose soil. Rooting will be enhanced if the cuttings are placed in a humid environment. After rooting has taken place, move the cuttings outside if the temperature remains above freezing. Protect new plants from direct sun. After the cuttings have adjusted to the outside environment, they can be planted in the vineyard. It is important to not let the cuttings dry out during this process.

Pests

Birds can be a nuisance in grapes. The only protection is to place netting over your grapes.

Grapes are extremely sensitive to the fumes of 2,4-D, which is widely used to control dandelions in the lawn. Severe exposure results in deformed leaves and destroyed flower clusters. Gardeners who use 2,4-D around their grape plants after they have leafed out may find it impossible to grow grapes.

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