

Growing Grapes for Home Use

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Grapes can grow in almost any part of Minnesota if a suitable site and adapted varieties are used. Varieties adapted to the various fruit zones in Minnesota are listed in Table 1.

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, generally two to three inches above root level. 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 which developed from the plant to a strong stake five to six feet high. Remove any suckers growing from the base of the canes. Remove the weaker cane in the dormant season (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 at 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 (e.g., certain lawn fertilizers) in or near the grapes. Hand hoe to eliminate

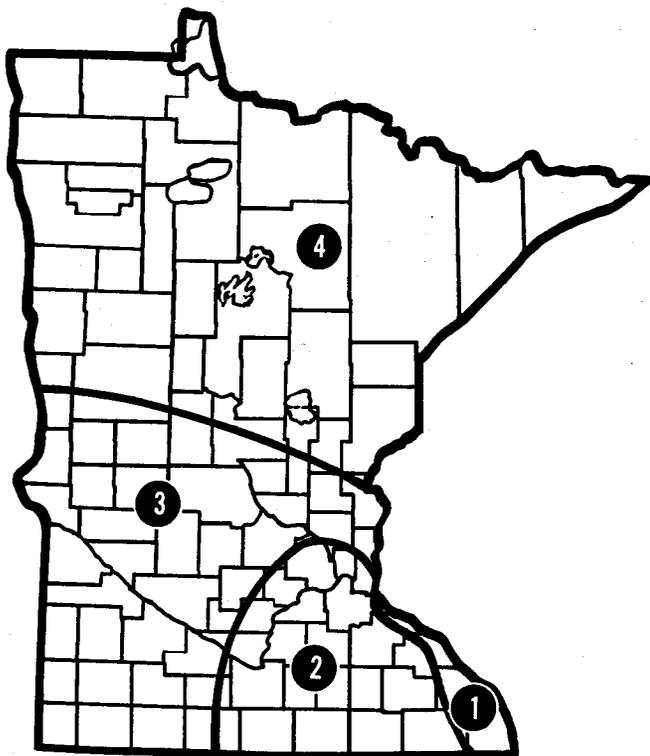


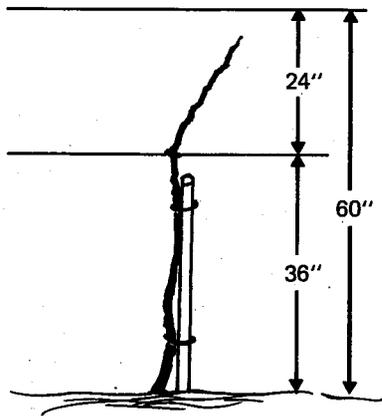
Table 1. Grape varieties suitable for Minnesota.

Variety	Principal Use ¹	Fruit Zones ²			
		1	2	3	4
<i>Table, Juice and Jelly Cultivars</i>					
SEEDED					
Beta (black)	JY	X	X	X	XP
Valiant (black)	JY, T	X	X	T	TP
Edelweiss (white)	T	X	X	XP	XP
Swenson Red (red)	T	X	XP	XP	
Concord (blue)	J, JY, T	X	XP		
Worden (blue)	J, JY, T	X	X	XP	
Fredonia (blue)	J, JY, T	X	XP	XP	
Bluebell (blue)	J, JT, T	X	X	TP	
SEEDLESS					
Himrod (white)	T	XP	XP		
Canadice (red)	T	XP	XP		
Reliance (red)	T	TP	TP		
Vanessa (red)	T	TP	TP		
<i>Wine Cultivars</i>					
Delaware (red)	W, T, J	X	XP		
Foch (black)	W	X	XP	XP	
Seyval (white)	W	XP	XP		
DeChaunace (red)	W	XP	XP		
Millot (black)	W	XP	XP		
Ventura (white)	W	TP	TP		
Aurore (white)	W	XP	XP		
Kay Gray (white)	W	X	X		TP
St. Croix (red)	W	X	X		TP

¹T = table; J = juice; JY = jelly; W = wine.

²X = suitable; P = winter protection recommended; T = trial suggested.

A.



B.

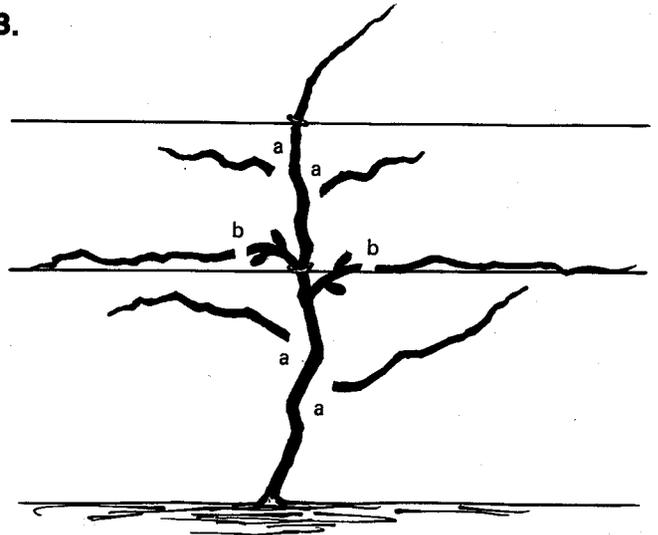


Figure 1. The four-arm Kniffen system. A. The vine is tied first to a stake and later, as it grows, to the wires. **B.** Branches should be removed (a) or cut back to two buds (b) along the lower wire. **C.** A mature vine before and after pruning. Sp = renewal spur; c = fruiting cane.

weeds. Four to six inches of mulch may be applied to help control weeds and conserve soil moisture.

PRUNING HARDY VARIETIES

Although there are several systems for pruning 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 for support of the vine. The bottom wire is 36 inches and the top wire 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).

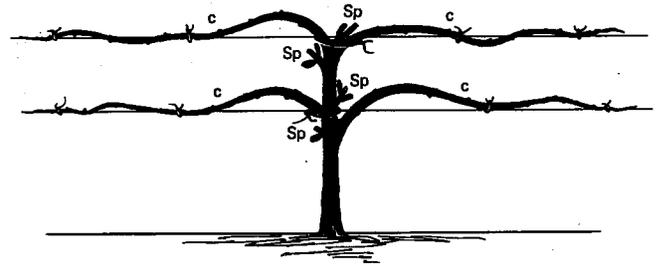
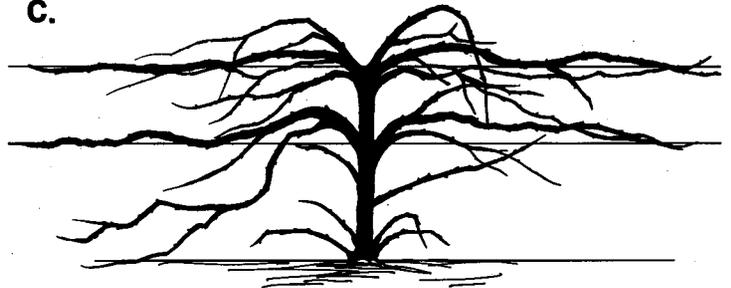
When pruning, keep in mind that fruit is produced on current season's growth that in turn grows from last season's wood. Heavy pruning provides the best fruit. Light pruning results in large yields of poor-quality fruit; very heavy pruning produces too much vegetative growth and little or no fruit. The 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.

PRUNING 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).

To 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.

C.



You can increase the trunk's length by bending down the cane near the top. In this manner, one to two feet of new trunk usually 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.

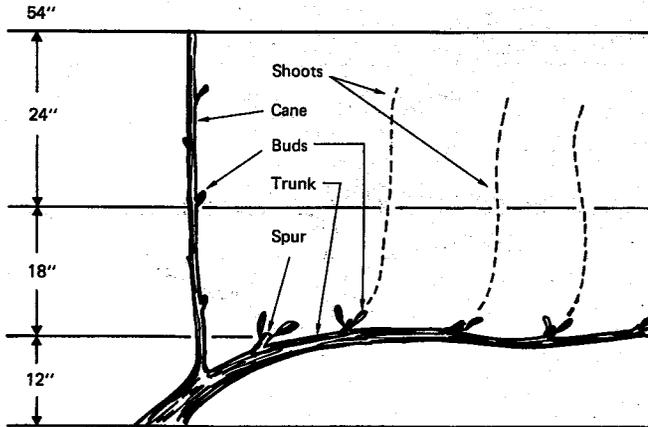


Figure 2. Training system for tender varieties.

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 quality to develop. Grapes will not improve in quality after they are harvested.

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 early spring before growth starts; early spring is preferred because once the cuttings have leafed out and formed roots they can be placed outside in the shade and then planted. Cut the sections directly from the vine or from brush that has been recently 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° $\frac{3}{4}$ to 1 inch above the bud or node (Figure 3). Plant cuttings as

soon as possible after they are made. Place the cuttings at the depth of the second bud from the top 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 the direct sun. After the cuttings have adjusted to the outside environment, they can be planted. It is important to not allow the cuttings to dry off 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 that use 2,4-D around their grape plants after they have leafed out may find it impossible to grow grapes.

There are a few pests that can be problems on grapes. A listing of them with control measures can be found in the folder *Home Fruit Spray Guide*, AG-FO-0675.

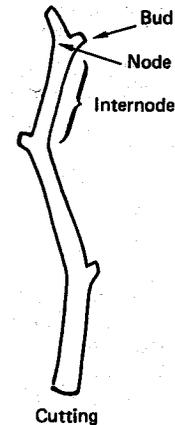


Figure 3. Grape vine cutting.