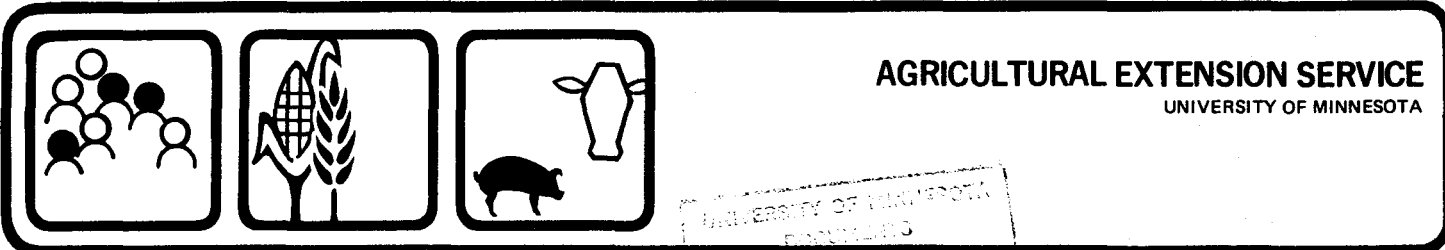
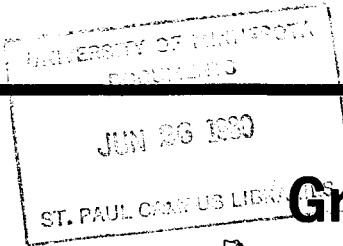


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AGRICULTURAL EXTENSION SERVICE
UNIVERSITY OF MINNESOTA



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LEONARD B. HERTZ

Growing Grapes

You can grow grapes in almost any part of Minnesota if you select a suitable site and plant adapted varieties. The table in the next column lists the varieties recommended for the fruit zones shown in the map at right.

Grapes need full sunlight and high temperatures to ripen, so a southern slope or the south side of a windbreak is best. In northern Minnesota, grapes have been grown successfully on the south side of a building. Avoid northern slopes and low ground.

Choose deep, porous, well-drained soil with an abundance of humus. Sand loams are best.

PLANT PROPERLY

You should plant in the spring as soon as the soil can be prepared properly. Use hardy plants with well-developed root systems. Space the plants 8 feet apart in the row and allow 8 to 10 feet between rows. Set plants 1 to 2 inches deeper than they were in the nursery.

Before planting the young vine, remove all but one of the most vigorous canes. Trim off any broken or excessively long roots.

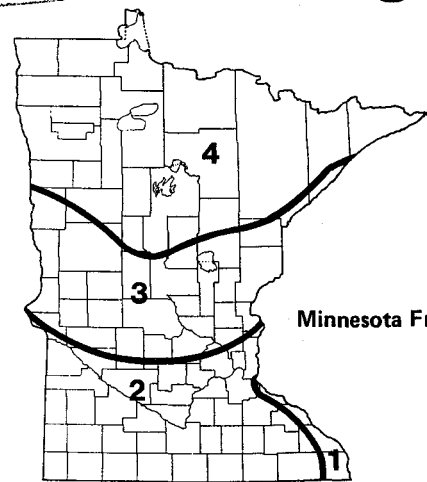
Dig a hole large enough to permit spreading the roots without twisting or bending them. Place the top soil in the bottom of the hole. Be sure to pack the soil *firmly* around the roots.

After you plant the vine, shorten the remaining cane to two strong buds. Plant them deep enough for the two buds left on the cane to be just above the soil surface.

PAY ATTENTION TO MANAGEMENT

Grapes require clean cultivation for best results. Do not cultivate after August 1. A late cultivation encourages late growth that may result in winter killing. It may be desirable to plant a fall cover crop of oats at the last cultivation. You can work this into the soil in the spring to improve fertility.

Grapes usually improve with fertilizer applications. Apply a bushel of manure, fortified with superphosphate, per plant either in late fall or early spring. Scatter this between the rows and cultivate. If manure is not available, apply ½ pound of a balanced fertilizer, such as 10-10-10, per plant in early spring. Broadcast in a circle out about 2 feet from the plant. Although vines are often allowed to grow at random, sprawling over the ground during the first season, it is desirable to train one of the most vigorous canes to a strong stake 5 or 6 feet high. Remove any suckers growing from the base of the canes to divert all growth into the main cane.



Minnesota Fruit Zones

Recommended varieties

	Principal use ¹	Fruit zones ²			
		1	2	3	4
American Grapes					
Beta (black)	J	X	X	X	XP
Edelweiss (white)	T	X	X	XP	TP
Interlaken (white)	T	XP	XP		
Van Buren (blue)	T-W	XP	XP	TP	
Fredonia (blue)	T-J	XP	XP		
Delaware (red)	W	XP	XP		
Concord (blue)	J-W-T	XP	XP	TP	
Swenson Red	T	XP	XP		
French Hybrid Grapes					
Foch (black)	W	XP	XP	TP	
Seyval (white)	W	XP	XP		
DeChaunac (red)	W	XP	XP		

¹T = table or dessert quality; W = wine; J = juice.
²X = recommended as suitable; P = winter protection desirable;
T = suggested for trial only.

PRUNE CORRECTLY

Prune hardy grapes (Beta) in early March, or as soon as weather permits, to a single upright trunk with selected lateral branches about ¼ inch in diameter (figure 1). If you use a two-wire trellis, cut back the four young branches you select for the framework so that each bears about 10 buds. In a three-wire trellis, cut back the selected branches to about seven buds. Tie canes permanently to the trellis. Cut back any short branches near the main trunk to one or two buds. These will develop strong shoots from which you can select the framework branches next year.

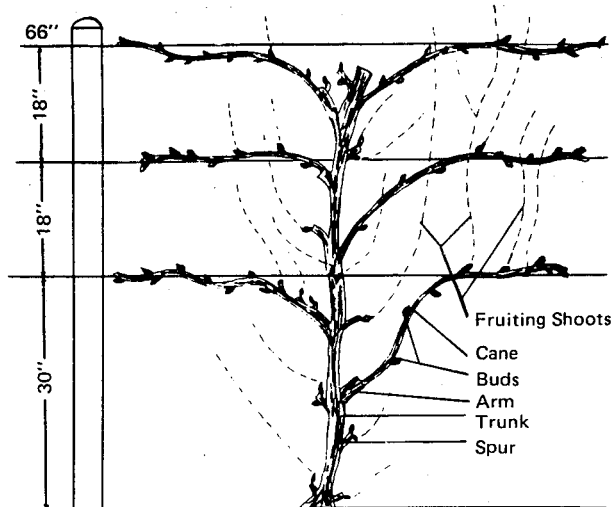


Figure 1. Training system for a hardy grape vine.

Prune tender varieties (Van Buren, Edelweiss, Fredonia, Concord, Interlaken, Swenson Red, Foch, Seyval, and DeChaunac) late in the fall, before laying them down for winter protection.

Since winter protection is necessary for the tender grape, prune the vine to a single horizontal trunk that can be removed from the trellis (figure 2). Bend the trunk down and cover it with 6 or 8 inches of soil or straw mulch each fall. You can remove the soil or straw mulch about mid-April, or as soon as frost is out of the ground. Then lift the vines and tie them in place on the trellis.

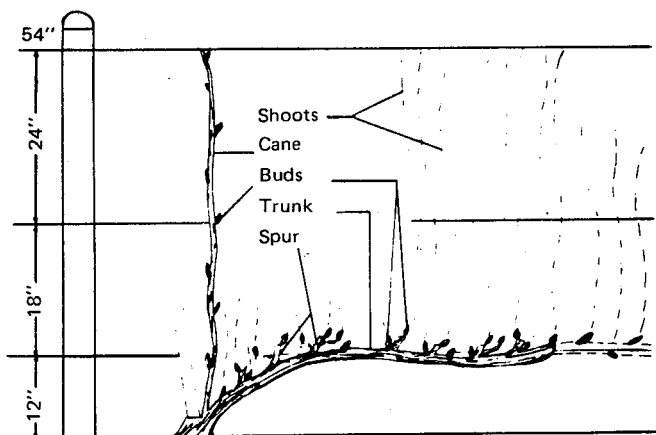


Figure 2. Training system for a tender grape vine.

As shoots grow from the trunk, tie them in an upright position to the upper wires. In the fall, when these fruiting shoots have matured into canes, cut them back until they become short spurs containing one or two buds each. You can increase the trunk's length by bending down the cane near the tip. In this manner, 1 to 2 feet of new trunk is usually added each year until the trunk reaches the desired length of 6 to 7 feet.

Pruning old and neglected vines may be necessary. After several years, the trunk may become overgrown and knotty, making complete renewal desirable. To do this, select a sturdy cane originating nearest the base of the plant. Instead of cutting it back to the usual spur, allow a 3- to 4-foot length to remain. After this cane completes its second growing season, cut off the old trunk just beyond the attachment of the renewal cane.

A young vigorous vine that has been neglected for one or more seasons may have several stems or canes rising from the base (crown) of the vine. Select one of the strongest of these and use it to establish the trunk of the new vines. Remove remaining stems and cut back any canes that can be saved for fruiting. Tie these to the wires according to previous directions.

Old, neglected, or improperly pruned vines usually carry too much old wood; most of the new wood is borne from the crown. When pruning, cut as much of the old wood as possible. This practice encourages the growth of new wood near the main body of the vine.

PROVIDE VINE SUPPORTS

For the third and following seasons, permanent support is needed. This support is usually provided as a post and wire trellis. Use sturdy posts projecting at least 6 feet above the ground. Set them close to each end of the row and in each second space between each plant. If plants are 8 feet apart, posts should be 16 feet apart. Stretch three No. 10 galvanized wires along the posts. Be sure the end post is sturdy and well-braced.

The height at which you should attach the wires to the post depends on the training system used. For the vertical trunk system (hardy varieties), place the lowest wire 30 inches above the ground, the middle wire 18 inches above the lowest wire, and the highest wire 15 to 18 inches above the middle wire. For the horizontal trunk system (nonhardy varieties requiring winter cover), place the first wire 12 to 18 inches above the ground, the middle wire 12 to 18 inches above the first wire, and the top wire 12 to 18 inches above the middle wire.

WEED CONTROL

Control weed growth to reduce competition for moisture and nutrients. Weeds also reduce grape yields.

Effective weed control in small plantings results from repeated hand hoeing of the area under the trellis. This means of control, although effective, is difficult and is often accompanied by injury to trunks and root systems of the vines. Safe and effective chemical weed control measures have been developed and can be used in vineyards that have been established for at least 3 years.

Recommended herbicides

Herbicides	Application rate	Time	Controls
Simazine	See label on container	Spring or fall after harvest	Perennial grasses and annuals
Casaron (G)			

Weed growth between the rows can be controlled best by cultivation (by hand hoeing or power equipment such as a rototiller).

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