

GRAPES

Not all grape cultivars are suitable for growing in our area but some cultivars can thrive given ideal growing conditions. Grapes require a minimum of 150 frost-free days to develop and mature the fruit. The Spokane area averages about 120 to 150 frost-free days. You might be able to extend the frost-free growing period by planting on a south-facing slope where air drainage is good and the soil contains enough gravel or stone to retain the sun's heat.

There are three types of grapes: North American, European wine and French Hybrid.

- North American grapes (such as Concord) have skins that slip easily from the pulp, which makes them well suited to juicing and processing. This group is quite cold hardy. There are seeded and seedless cultivars.
- European wine grapes (*Vitus vinifera*) are the wine grapes and are much less hardy than the American grapes. There are some seedless types. Given a warm site, home gardeners may be successful with some of the wine grape cultivars.
- French hybrids are a cross between the American and European grapes. These hybrids are of intermediate hardiness, used primarily for wines and tend to have small berries.

GRAPE CULTURE

Planting

Plant grapes in early spring as soon as you can work the soil. Plant where they will get full sun. If you purchase bareroot plants, do not let the roots dry out before planting. If you buy grapes growing in a container, water them well until planting. At planting, prune off any broken roots and trim very long roots to 6 - 8 inches so they fit in the planting hole without bending. Set the plant in the hole and spread roots out, firming soil and watering well.

Mulching

Mulches are not necessary. In fact, they can retard warming of the soil in the spring and delay growth of the grape vines. Mulching with white rocks will pick up heat.

Water

Keep soil moist the first year to insure good root development. Then, water less often but deeply. Grape vines are deep rooted, sometimes penetrating 8 feet into the ground.

Stop watering the end of August or first of September to harden off grape vines for winter. Keep foliage dry - don't overhead water.

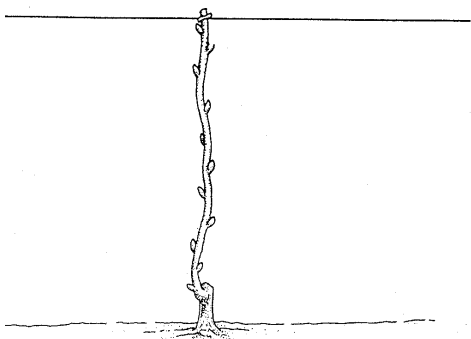
Fertilizer

Grapes are light nitrogen feeders. Use a little less than 1/4 cup of 21-0-0 in the spring. Water it in well. Keep fertilizer away from the trunk. Well-rotted manure laid about an inch thick in the spring is another good source of nitrogen. During the first season, the feeder roots will extend in a circle no more than 3 feet in diameter. Each succeeding year, the circle will increase until it reaches a diameter of 8 feet. Spread fertilizer over the entire root area.

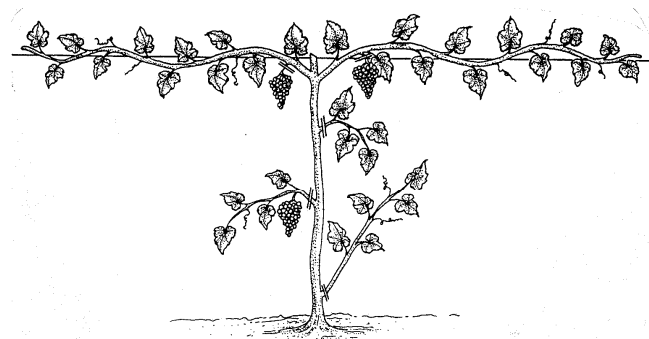
PRUNING

There are many ways to prune and train grapes. For a detailed description of each method, refer to WSU Extension Bulletin EB 0637 "Training and Trellising Grapes for Production in Washington". For most of the systems, a trellis support is required. Grape plants become very heavy with wood and fruit, so a trellis must be strong and well braced. Most trellises are made with treated wood or metal posts and use 12-gauge (or heavier) wire.

First Year: The objective of training vines the first year is to get vigorous top growth and a well-established root system. Unless you are using a multiple trunk system (discussed below), select the strongest shoot that grows from the newly planted vine and cut all others back to the ground. Train the single shoot along a temporary wire or string until it reaches the first wire of the trellis.

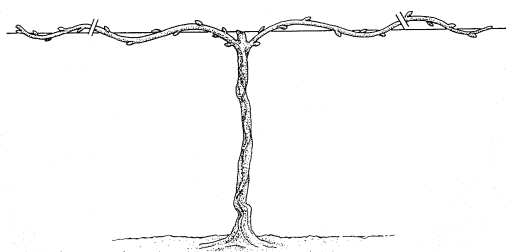


Cane pruning, first winter



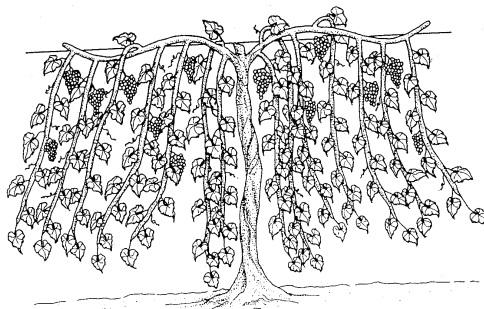
Cane pruning, second growing season

In the second winter, prune these two shoots back to 7 or 8 buds each.



Cane pruning, second winter

Third Year: In the third growing season, shoots grow from the buds left on the one-year-old canes and grapes are produced on these shoots.

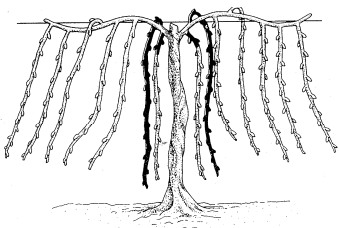


Cane pruning, third growing season

In the third winter, select new fruiting wood and remove all others.

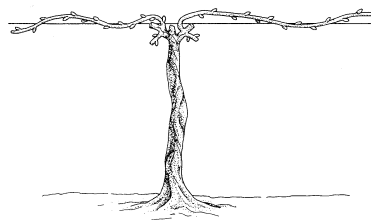
The two selected canes will be cut back to about 15 buds that have been exposed to good light and are at least as thick as a pencil. Wrap the canes around the

trellis wire. Leave a one- or two-bud spur near the base of each cane. These renewal spurs will supply the new fruiting canes the following year.



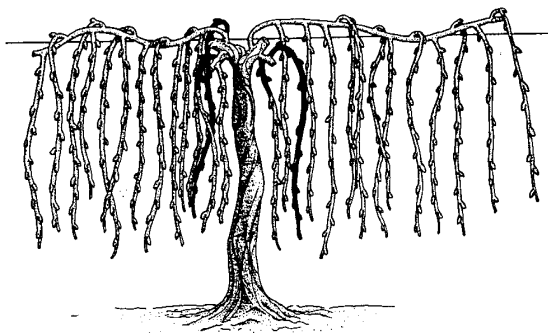
(solid color canes will be retained)

**Cane pruning, third winter before pruning
pruning, third winter after pruning**

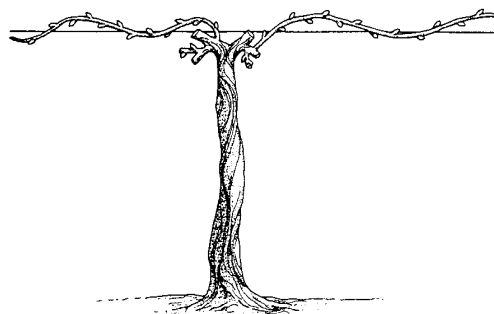


Cane

Fourth Year (and succeeding years): Prune yearly to remove all growth except new fruiting canes and renewal spurs. If grape vines are not pruned severely, a number of small, scraggly brunches will be produced. Usually 3 to 4 feet of growth per shoot is enough to ripen the crop. If plants become too vigorous, trim the shoots. Laterals will grow but trim these as well.



Cane pruning, fourth winter before pruning

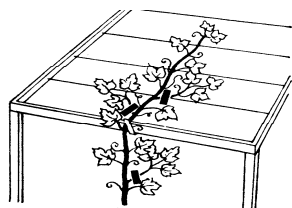


Cane pruning, fourth winter after pruning

Multiple Trunk System

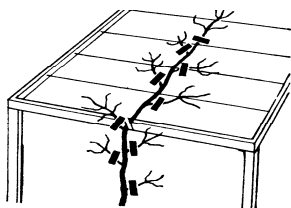
This system is used for vinifera grapes in cold areas where severe winter damage is possible. Instead of a single trunk, multiple trunks are allowed to develop. In this kind of training five canes serve as flexible trunks. The trunks and canes are removed from the trellis each fall and covered with soil for winter protection. The trunks are tied up to the wire for support.

Training Grapes on a Trellis



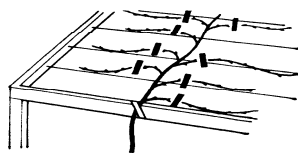
Second summer

Unlike above methods, don't stop stem. When tip of it reaches top of support, tie down over corner. Encourage stem to grow long by pinching back side shoots.



**Second winter ...
and following spring**

Cut back main stem to pencil-sized wood. Cut off side branches. In spring, when new shoots are 6 inches long, thin to foot apart. When 18 inches, tie down at midpoint.



Third winter ... and after

Spur-pruned varieties: Cut back shoots to two buds. Next year, prune as in drawing at top right of this page. Long-cane pruning: Alternate spurs with fruiting canes (8 to 12 buds). Next year, cut off canes; prune spurs as in middle right. With both methods, you can leave strong canes about 4 feet long every 3 feet to become part of the permanent framework.

PROPAGATION

Layering

Bend down growing canes until they touch the ground. Make a slice through one or two buds on the underside of the stem but don't cut all the way through. Bury cut nodes 3 to 4 inches, leaving two buds exposed above ground. The following spring, after roots have formed from nodes, sever the new plant from the buried cane and replant.

Cuttings can be taken either in the fall or in the spring.

Fall Cuttings: Take cuttings in the fall after leaf drop. They should be 1/4 inch thick, 12 to 16 inches long, with 3 to 5 buds preferably 4 to 5 inches apart. The basal cut (a straight cut) should be made just below a node; the top cut (made at an angle) should be made an inch above the third or fifth node. (Making the top cut slanted and the bottom cut straight will remind you which end is the bottom.)

Place the bundle of canes upside down (basal end up) in the ground over the winter. A callus will form on the basal end, which the plant needs before rooting. Separate the individual cuttings and plant in the spring. Apply a hormone powder to the basal cut before planting.

Spring Cuttings in Water: In February or March, make cuttings and root them in water. When roots are 1 inch long (which takes about 6 weeks), pot them. Keep in a kitchen window. Keep the container covered as light inhibits root growth. Plant in June.

Spring Cuttings in Sand: In February or March, make cuttings and root them in damp sand. Use a root hormone powder on basal ends. Place in a bright window (not direct sun). Cover pot with a plastic bag. When rooted, plant.

Place cuttings 6 inches apart in a row, with the top bud just above the soil surface. Allow them to grow vigorously throughout the summer. By the following year, these one-year plants will be ready to be set out in a permanent position.

GLOSSARY OF TERMS

Trunk:	Permanent above-ground stem of the vine.
Arms:	Major short branches of the trunk from which canes develop.
Cordon:	A long arm, usually trained along a wire, from which canes develop.
Cane:	A matured shoot after leaf fall.
Spur:	A cane pruned back to one, two, three or five nodes.
Shoot:	New green growth with leaves, developing from a bud of a cane or spur.
Lateral:	A branch of a shoot.
Node:	The thickened portion of the shoot or cane where the leaf and its compound bud are located.
Internode:	The portion of the shoot or cane between two nodes.
Bud:	A compound bud or eye containing the primary, secondary and tertiary buds located in the axil of each leaf.
Tendrils:	A long, slender, curled structure borne at some of the nodes of a shoot that can firmly attach the shoot to other shoots and the trellis system.

Varieties that grow successfully in this area

	Color	Hardiness	Ripens
Seedless Table Grapes			
Candice	Red	5	2
Concord	White	6	4
Interlaken	White	6	1
Lakemont	White	6	2
Himrod	White	6	2
American Grapes			
Campbell Early	Blue	5	3
Concord	Blue	5	4
Niagra	White	5	4
Wine Grapes			
Chardonnay	White	7	4
Gewürztraminer	White	7	2
Pinot Noir	Blue	7	2
White Riesling	White	7	4

Key to Table

Hardiness: Temperature at which you can expect injury

4	-30 to -20°F
5	-20 to -10°F
6	-10 to 0°F
7	0 to 10°F

Ripening:

1	Very early	1 st week of September
2	Early	Mid September
3	Mid-season	End of September
4	Late	October

Compiled by Sydney McCrea. For more information, contact Master Gardeners at (509) 477-2181.
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