

## Growing Seedless Grapes in Northwestern Nevada

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**I**n northwestern Nevada, cold winters and a short growing season limit fruit production. Hardy grapes consistently produce fruit in this vicinity largely because they withstand or recover from hard spring frosts. If the first or primary buds are killed by spring frosts, grapes produce another set of flower buds several weeks later. Unfortunately, the crop from these secondary buds is much less, but usually it is sufficient for home use.

### CHOOSE THE RIGHT CULTIVARS

Select cultivars adapted to northwestern Nevada to ensure the plants will survive the winter, grow vigorously and produce ripe fruit year after year. Local and mail order nurseries sell European and American grapes. Commercial wine is made from European grapes that need milder winters and longer growing seasons than usually occur in northwestern Nevada. American varieties are more cold hardy and better suited for growing in

northwestern Nevada, even though the climate is not ideal. The seedless American grapes that have produced satisfactorily in the Truckee Meadows and vicinity are listed below. It is important to understand that growth and fruit production depend upon the individual plant, the site conditions, and the management used. In many cases, differences in growth and production among cultivars are not significant. All the varieties listed are flavorful and sweet and should be selected by individual preference in taste and desired use of the grape. These varieties are available locally or by mail order.

Fruits from homegrown seedless vines are smaller than most seeded grapes grown locally, as the seeds produce a hormone that increases berry size. Commercial vineyards apply a growth regulator to enlarge seedless berries and to elongate the fruit cluster.

### Recommended Seedless American Grapes for Northwestern Nevada

Variety	Comments	Variety	Comments
Himrod	Green, a good choice for this climate	Canadice	Light red, little history in Nevada
Reliance	Red, popular, widely advertised	Interlaken	White, little history in Nevada
Einset	Light red, equal to or better than Reliance	Remaily	Green, heavily touted by some nurseries
Glenora	Blue berries in loose scattered bunches, large individual berries	Saturn	Green, listed for use in this zone but without growing experience in Nevada
Mars	Blue, promoted for use in this zone but without growing experience in Nevada	Seedless Concord	Blue, hardy vine, good fruit texture, loose fruit cluster
Venus	Purple, large berries and bunches, top producer	Suffolk Red	Vigorous, but may have small scattered bunches
Lakemont	Yellow, large tight bunches	Thompson Seedless	Sold here, but in northern Nevada this European grape grows small, sweet fruits and dies to the ground most years
Romulus	Green, large tight bunches, easy picking		

## SITE REQUIREMENTS

Grapes produce best in full sun. Anything less than eight hours a day affects vigor, reduces yields and may affect fruit color and flavor. Vines grow satisfactorily on a wide range of soils, but prefer a deep well-drained site of average fertility. Growth is affected where the soil is drought prone or poorly drained, if it has a shallow hardpan, or if the pH exceeds 8.0. Proper soil amendments and good cultural practices can improve these conditions. For example, a high pH can be reduced with sulfur amendments; fertilizer and organic matter can be added to sandy soils, water applied more frequently to dry areas and drainage improved in wet sites.

## WHAT TO EXPECT IN NORTHWESTERN NEVADA

Expect considerable damage to the vines from harsh winters and bud damage from hard spring frosts. The tops of new plants often die back to the ground during the first winter. Most regenerate from the roots. Complete shoot dieback can occur with mature plants too, if the winter is unusually cold, dry and windy. Fruiting canes often have voids along them where buds die over winter. Whole canes may die back to the trunk. At times winter damage is so severe that gardeners wonder about an upcoming crop. However, grapevines are amazing; they recuperate and produce fruit most every year. Gardeners in northwestern Nevada must recognize and manage this winter damage when pruning. Under these limiting conditions, do not expect significant fruit production until the third or fourth year, although exceptions do occur.

## PRUNING HOMEGROWN GRAPES

Standard pruning instructions assume that the grapevine will survive the winter intact without cane or bud death. In northwestern Nevada, pruning cuts should be made based on the portions of the plant that have survived the winter and may not follow standard pruning schemes found in the popular press. However, the following pruning rules and principles give good results.

- Do not retain more than 50–60 buds on vigorous mature vines and less on young or weak vines.

- The American varieties produce best from the middle buds on the fruiting canes (last year's shoots).
- The strongest canes for next year's fruiting canes come from canes pruned to a renewal spur with only one bud. A shoot growing from this short spur has less competition for food and light.
- Train to only one trunk, two at the most. In this climate, three to five permanent branches on a trunk are best to provide enough fruiting canes to hedge against winter losses. Prune in late March to early May. Pruning after mid-April will result in sap flow (bleeding) at the cuts, which is not detrimental to the vine.

Training Grapevines A popular training form for fruit production in this climate utilizes a single trunk with two pairs of branches along wires at heights of two and a half to three feet and four and a half to six feet, Figure 1. The top wire may be higher but pruning, harvesting and applying bird netting may be more difficult. Let first year vines grow to develop a strong root system. During the following spring, after danger of frost is past and after the year-old plant has produced shoots about a foot in length, select the strongest and best-located shoot to form the trunk. Remove the other shoots, Figure 1.

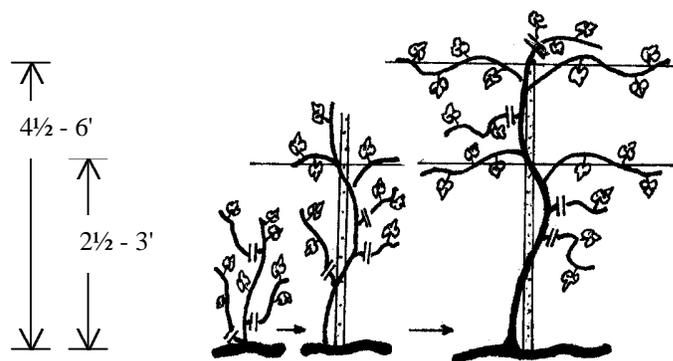


Figure 1. Training young grapes.

Train that shoot up a stake or other support. To train permanent branches, select shoots that originate in the desired locations on the developing trunk shoot and let them grow without

pruning, Figure 1. Four branches are recommended to ensure that sufficient growing points for fruiting will survive winter damage. Prune the new trunk to a height just above the top wire after it grows eighteen inches past the wire, Figure 1. Remove other shoots growing from the trunk and suckers growing from the ground during the growing season. In March, the following year, trim these new branch shoots (now called canes) to about three feet in length, Figure 2. The buds on these canes will produce new shoots during the upcoming growing season. Let these canes also grow without pruning until the following March or early April. The vine is now in a form for standard annual pruning.

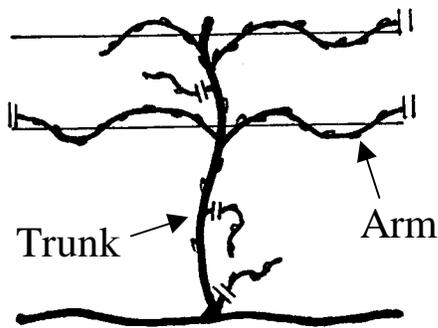


Figure 2. Training a two-year-old vine.

**Pruning Mature Vines** In northwestern Nevada, grapes are grown on fences, walls, arbors and trellises and gardeners must adapt to pruning vines that suffer winter damage. First, anytime in March, trim away all the dead wood. Dead wood is brittle, dried out and is not green beneath the bark. Prune from the tip of a branch or cane toward the trunk. Because of winter damage, the remaining vine, after the dead wood is removed, will usually not be in the ideal form for final pruning shown in Figure 3.

Look for green live tissue just beneath the bark. Stop pruning that cane or branch when you encounter it. Make a final cut just above the next bud. Second, cut out all unwanted growth that does not fit the desired form of a trunk and four permanent branches. This includes suckers, broken, diseased and damaged canes. Once completed, you can assess the vine's overall form to produce fruit. The trunk should have three or four main branches (arms). Next, cut the strongest half (plus or minus) of the canes growing from the arms to lengths with five to ten buds each. These buds will produce the

current year's fruit crop. Cut the remaining canes as renewal spurs with one bud to grow strong fruiting canes for next year's fruit, Figure 3. Never eliminate all of the buds at each node (growing point) along the arms as harsh winter conditions may leave you with too few.

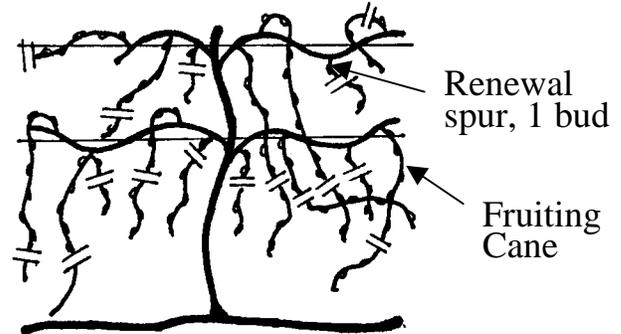


Figure 3. Pruning mature grape vines.

The tangle of canes and winter mortality make it difficult for the gardener to distinguish which canes grew specifically from the renewal spurs during the past year. It is usually the long unbranched, light brown to tan, pencil-size or slightly larger canes, that should be selected for fruit wood. If you are not sure, prune the strong, robust canes long and prune the weak, slender canes to one bud as renewal wood to produce fruiting canes in a year. The ratio of fruiting canes to renewal spurs is flexible depending on the condition of the vine, its use in the landscape and the gardener's preference. One to one is ideal, but one to two provides insurance against winter losses. Do not retain more buds than the plant can sustain. Remember, if you are hesitant to prune, by the time you have snipped the fruiting canes back to green, live wood, things will appear much simpler. A mature vine with three to four arms should have 40 to 60 total buds for good fruit production. Too many buds cause overproduction, poor quality and often shriveled fruit. Fruit clusters may be pruned out during the season to reduce overproduction, but this will not be necessary if the vine is properly pruned each spring.

## IRRIGATION

In winter, water when the soil begins to dry out. Start irrigating in spring at bud break. Increase the amount of water applied as needed to keep the soil

moist, but not saturated. The type of soil, the amount of shoot growth, temperature and wind affect how much and when to irrigate. Water requirements can nearly double after flowering, both to produce fruit and to keep up with increased transpiration caused by hot windy days of summer. Commercial growers watch the condition of the leaves and especially the tendrils for water stress. If the green succulent tips of the tendrils turn brown or yellow, or if leaves droop or berries shrivel later in the season, you may have waited too long to irrigate. These same indicators may also occur from over watering and when roots are water-logged from poorly drained soils.

Flood and drip irrigation are common irrigation methods used with grapes. Wetting the leaves with sprinkler irrigation may increase leaf diseases.

The amount of water needed varies among plants, soils, and weather conditions. Under hot dry conditions, a mature vine can use about seven gallons of water per day during the fruiting period. After flowering, apply four to five gallons per plant two or three times a week. Be sure to increase or decrease the amounts as needed after observing the tendrils, climate and soil conditions. Gardeners have a range of choices in amounts and intervals for irrigation, depending upon conditions and level of fruit production.

## PLANTING

Avoid planting vines with leaves outdoors before May 30<sup>th</sup>. Even then a late frost may cause trouble. Spade or rototill an area two to three feet in diameter and at least eight to ten inches deep to loosen the soil. If the soil is sandy, spade in three to four inches of organic matter. Pick a spot with more than eight hours of sun and sheltered from strong winds when possible. Vines should be

planted a minimum of five feet apart; six to eight feet is better. Rows running north-south allow more access to the sun. Homeowners may also grow grapes on trellises, fences and buildings. South and west exposures along walls and fences are best for sun and fruiting, but are also very hot and require extra care to irrigate to avoid water stress to the plants.

## OTHER HINTS

As yet, planting European varieties of grapes for wine production is not recommended for home hobbyists in this area. True wine varieties have not yet proved adaptable for this climate; however, home wines can be made from American varieties. Most homesites do not have suitable or sufficient area for the forty or fifty vines required for home wine making. If you do plant grapes for wine, plant the same variety, or at least grow those that have identical ripening dates. The period of ripening and optimum sugar production is relatively short and must coincide among all the varieties used to make the wine. For dessert uses, it is recommended that gardeners plant one or two plants of two to five varieties to provide various flavors and colors for use. To stretch the harvest, select varieties that ripen at different times. Fertilize only lightly before bud break and after leaf fall but not during the growing season. Over application of fertilizer, especially with nitrogen, increases vine growth, pruning time and may reduce fruit production.

Seedless grapes can be successfully grown in northwestern Nevada. Select adapted cultivars, plant them properly in a sunny area and irrigate them regularly. As a vine, grapes are easily trained along fences, walls and trellises to enhance a landscape and provide delicious fruit.