

Growing Grapes in Montana



Grape culture began at least 5000 years ago making them one of the world's oldest cultivated fruits. They are easy to grow on an arbor, fence or trellis and love a sunny spot. Grapes are self-fertile and produce fruit on current season's growth. Grapes require both a relatively long, warm growing season to develop and mature a crop, and a cool winter to meet chilling and dormancy requirements.



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Soil — Grapes prefer full sun and a deep, well-drained soil with a pH between 5.5 and 6.5, although they can tolerate a wider range of pH values. If your soil is heavy clay, it may be necessary to build an 18" raised bed in order to have adequate drainage.

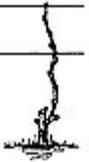
Moisture and Fertilizing — Irrigation is normally required into mid summer, but should not be continued much past mid summer in order to slow vine growth and allow the vines to acclimate for the winter. Soil should be kept moist the first year after planting, but since grapes are deeper rooted than most small fruits, they will stand short dry periods in following years. A spring application of a balanced fertilizer is recommended for established plants. Don't fertilize the first year after planting.

Planting — Bare root grapes should be planted in the spring. Containerized grapes can be planted any time during the growing season. Be sure to plant all grape plants at the same level they grew at the nursery and add mulch to reduce weeds and to help retain soil moisture.

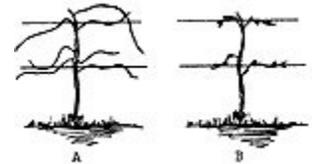
Pruning and Training — Before planting grapes make sure that you have an adequate support system in place. This can be as simple as a single sturdy post if your space is limited or a fence or arbor. To make a living fence consider a post-and-wire trellis consisting of sturdy posts with wire strung between them with the top wire about 5 feet. Grapes should be pruned during the dormant season, late November to March. Late winter or early spring pruning is preferred. If pruning is delayed until near bud swell, the cuts commonly ooze sap. Though not desirable, "bleeding" is not harmful.

- **The first summer** let the vine sprawl, developing as many leaves as possible to manufacture food for the roots.
- **The first winter** select the most vigorous cane and cut it back to two or three buds. Remove all other canes.

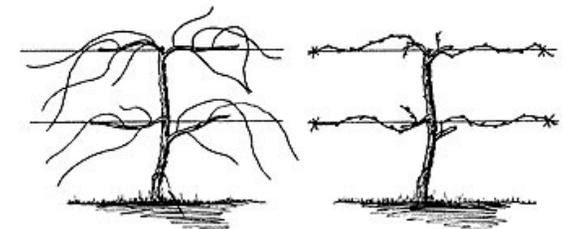
- **The second year** should produce one main trunk from the two or three buds left at planting time. Select the strongest vine for this purpose and tie at 12" intervals to a stake. Pinch the growing tip when it reaches the point where you want the horizontal arms to be.



- **The third year** should produce several lateral branches (A). Choose four of the most vigorous ones that are spaced near the support wires. Fewer or more may be utilized to meet individual requirements. On these horizontal arms, trim the tips of the canes to leave two to four buds on each. Tie these canes to their support (B). Rub or prune off all other side shoots from the trunk or canes. The buds you left on the canes during winter pruning will become fruiting canes the next growing season.



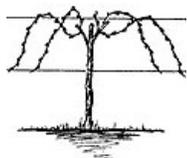
- **The fourth year** should produce two or more canes extending in both directions at each wire. Select a fruiting cane and where possible a renewal spur at each of the four arms. All other growth is removed, including any sucker growth at the base of the trunk. Shorten the selected canes leaving 6 to 10 buds. The following picture shows the grape vine before and after pruning.



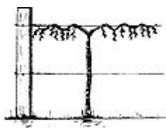
- **In the following years** the pruning will be similar to the fourth. From the renewal spurs, new fruiting canes can be selected. The old arm with numerous fruiting canes can be cut near the trunk.

Types of training methods

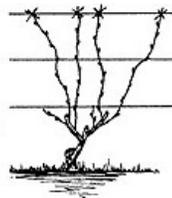
- **Four-cane Kniffin system** — Vines are trained on an ordinary two wire fence (as described earlier) with a main trunk and four horizontal arms.
- **Umbrella Kniffin system** — This system produces high quality fruit because the fruit and foliage is held well up on the trellis for good sunlight exposure and air circulation. Early training follows the procedure described previously, and the same two-wire fence is used. Develop the trunk to a point near the top trellis wire, removing canes that arise near the lower wire or below. In the next dormant season, select two canes which originate about midway between the two wires. Remove all others. The canes can be left 10-12 buds long. The length should permit bending the cane over the top wire and then down and outward from the trunk to the lower wire. Tie the cane snugly to the lower wire. Each year thereafter, select three or four of the best canes, cut back two others near the trunk for renewal spurs and remove all others. Bend each fruiting cane individually over the top wire and extend to the lower wire and tie firmly. Cut off any portion of the cane that extends below the lower wire.



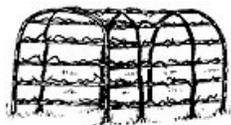
- **Cordon system** — This system allows for excellent light and spray penetration, yields high-quality fruit, is easy to prune and pick, requires little or no tying and provides some frost protection with the high wire. In this system the trunk and the cordons (arms) are permanent. The plants are treated similarly to the four-arm Kniffin in years one through three. However, in the third year, the canes you select will become the permanent cordons. Pruning in years beyond the third year involves selecting spurs that will fruit next year, spaced 6-12" apart, shortening them and removing all others.



- **Fan system** — This system is useful for training to walls and fences. A plant pruned and trained to this system has several upright canes branching from arms on a very short trunk. Select several main stems from the two or three buds left at planting time. Tie at 12" intervals to trellis or fence in a fan shape. Leave short renewal spurs (2 buds) at the base of these stems. Rub off some of the buds on each cane to leave one every 4-5". These buds will produce the fruiting canes. In the winter cut back the canes to the renewal spurs, which will produce the canes for the next season.



- **Arbors** — Growing grapes on an arbor combines the benefits of fruit production, shade and ornamental effects. Suitable arbors can be in an almost endless number of designs as long as they are sturdy. Plants are placed on both sides of an arch-like structure and trained to grow up and over to about mid-point of the top. Providing this amount of foliage cover requires a larger and taller plant than is necessary for an ordinary trellis. Training the plants to a single trunk and leaving relatively short horizontal fruiting canes is a suitable method for most situations. Develop a portion of the trunk each year by tying an uppermost vigorous cane in a vertical position. At the same time, select fruiting canes at intervals of 2-3 feet. These should be limited to five or six buds to favor development of the upper trunk and canes.



- **Single-trunk vs. two-trunk** — Commercial grape growers often will train two parallel trunks in the systems that have just been described. Each trunk makes up for half the canopy. Growers do this to reduce stress and winter damage; if one trunk is killed, production from that plant is not completely lost. Two trunks also allows for renewing a trunk without losing production from the plant.

Varieties

- **Valiant** is an attractive blue grape. The berries are round, up to 1/2" in diameter. It is a very productive annual bearer, which matures early in the season. This grape is free of astringency and the skin does not adhere to the flesh. It is hardy to zone 3 and needs to be mulched.
- **Frontenac Gris Grape** is a white form of 'Frontenac'. A coppery-peach colored grape with the aroma of peach and apricot. This muscat-like grape is desirable for white wine making, fresh eating and desserts. Excellent disease resistance. It is hardy to zone 4 and needs to be mulched.
- **St. Theresa Grape** is a vigorous vine that produces clusters of purple grapes which are mostly seedless. An early season table grape with excellent flavor that tolerates alkaline soils. Can be used for juice or jellies. Graces an arbor with added ornamental value as well as with its fruit. Its hardy to zone 4 and needs to be mulched.



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