

HOME GROUNDS FACT SHEET



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Grapes: Culture and Pruning



Site Selection and Preparation

Grapes are grown extensively in home plantings for table fruit, jams, jellies, and making wine. A few simple steps prior to planting will ensure a long and productive life for your vines.

Choose a location that receives full sun. Avoid low spots in the landscape; both cold air and water drain to low areas, sometimes causing vine debilitation and/or winter injury. As with all types of fruit, grapes do not like "wet feet" and require good to excellent soil drainage. If the soil contains excessive sand or gravel, incorporate organic matter such as compost, peat moss or rotted manure, prior to planting.

Soil pH must be neutral for most types of grapevines, with the exception of American types such as Concord. Acidic soils cause nutrient imbalances, weakening the vine. Test the soil for pH before planting and add dolomitic limestone to bring it to 6.0 - 6.5. Test your soils pH approximately every other year. (See Home Grounds Fact Sheet A-1-0 for soil sampling instructions.) Concord and other native American varieties reportedly tolerate soils with a pH lower than 6.0.

Rototill the site to incorporate lime and organic matter, loosen soil and remove weeds. Good weed control is extremely important as weeds compete for light, water, and nutrients. Weeds also increase relative humidity around the vine and decrease air flow, both of which can make disease control difficult.

Planting and Care of Young Vines

Grapes should be planted in mid-April to mid-May. Fall planting is not recommended. Plant at the same depth used by the nursery. If you have purchased a grafted vine, the graft should be above the soil line. Space vines 5 to 8 feet apart within a row. Rows should be 6 to 9 feet apart. Vines on heavier soils should be spaced more widely, 8' x 9' for example.

Stake the vine to facilitate the interception of light and to maximize air flow. Remove all clusters the first and second season as the goal in the first two years is to develop a good root system and the framework of the vine. Fertilize lightly with 1/2 to 1 pound of 5-10-5 per vine. Thereafter, fertilize every 2nd to 3rd year, more often if vine growth or yield is poor.

Weed control in young vineyards is very important. Use mulch, a very effective weed control, to suppress weeds, or hand weed. Do not over mulch, or apply mulch to poorly drained soils, as it will lead to "wet feet," especially in rainy seasons.

Trellis should be erected in the first season. Wood posts 8 feet long and 3 to 4 inches in diameter are preferable. These should be spaced no more than 30 feet apart. Trellis wire should be strung at this time. Trellis supplies can be purchased from a number of grower supply companies.

Training and Pruning

Young vines are trained to a system of growth by pruning on posts, a trellis or other support. Mature vines are pruned to maintain the growth system and to ensure good quality fruit with consistent yield.

Anatomy of a Grapevine

Trunk: The main perennial part of the vine.

Shoots: The current season's growth. Shoots originate from the buds on the spurs and arms, and bear the leaves, flowers and fruit.

Canes: Towards the end of the growing season, the green shoots develop bark. These are the canes.

Arms: Semi-permanent extensions of the trunk. Arms bear canes and/or spurs. They are the growths that are left after pruning and that produce the fruiting shoots and canes. At the end of the growing season, they are usually removed completely and replaced by new arms the following season.

Renewal spurs: Canes pruned to two or three buds.

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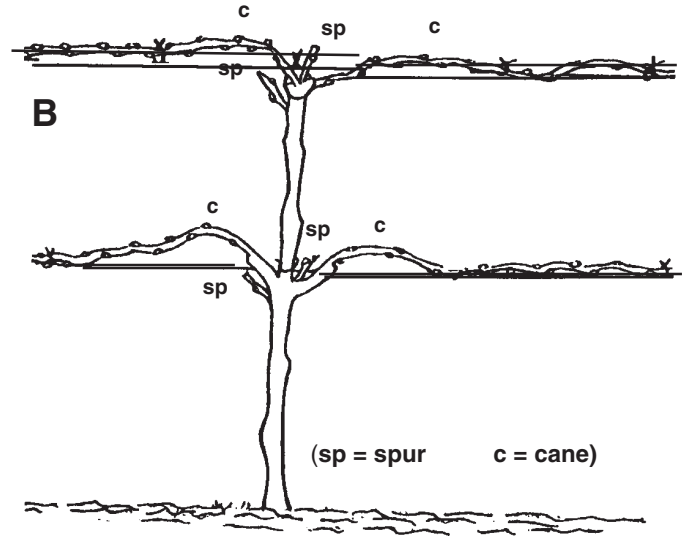
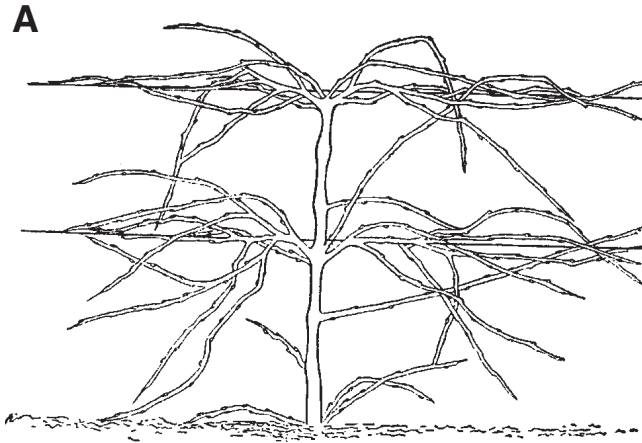
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Four-Arm Kniffin System:

The trellis consists of 2 wires, one 30 inches above the ground and the other 24 to 30 inches higher. After the first year, select the most vigorous cane (larger than pencil size diameter but smaller than thumb size) for the trunk and tie it to the top wire. Cut that cane off above the wire and remove all others. After the second year,

select 4 vigorous canes. Prune them to 10 buds in length; lay them down along the wires and tie them. Cut four other canes back to 2 or 3 buds for renewal spurs. Remove all other canes.

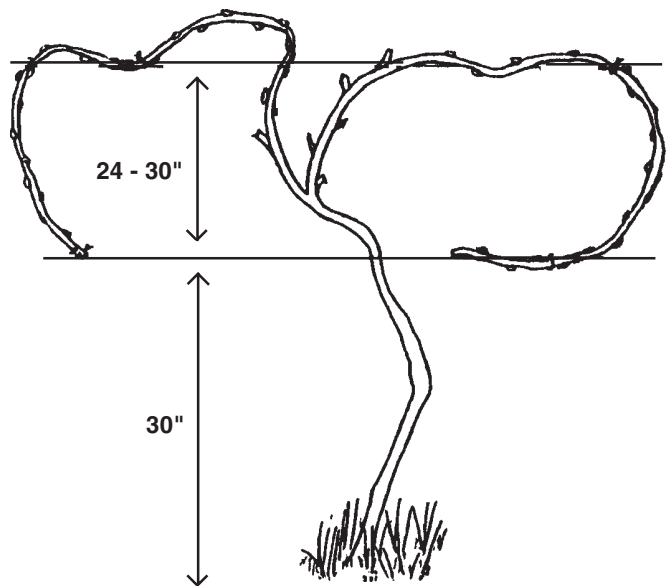
Each winter thereafter, lay out new canes from the renewal spurs and leave new renewal spurs.



A mature dormant vine (A) before pruning and (B) after pruning according to the four-cane renewal (Kniffin) system. *sp = renewal spur; c = fruiting cane*

Umbrella Kniffin:

The trellis is similar to that of the four-arm Kniffin System. Train the vine to either a single trunk or double trunk extending to the upper wire. After the second growing season, select two or four canes growing from near the top of the trunk for arms. Prune them to 10 to 20 buds. Cut back two other canes to 2 or 3 buds for renewal spurs. Loop the arms over the top wire, bring them down obliquely to the bottom wire and tie them. Each winter thereafter, replace the arms with canes from the renewal spurs.



The umbrella Kniffin training system can give good yield and excellent quality fruits.

There are other training systems besides these two that may be adapted to different types of grape crops.

Double Trunk:

A double trunk may be used with any training system. Many growers use two trunks per vine instead of one trunk to ensure the crop. This is especially important with winter-tender varieties in areas of cold winters.

Grape trunks should be replaced when they are injured or when they are unproductive. As long as the trunk is productive, it should be kept. It is preferable to utilize two trunks with any training system since vines occasionally incur winter injury or "grower blight" due to things such as lawn mower nicks.

After the first season, prune young vines to 5-15 buds. If vine growth was weak the previous season, leave fewer buds (5-8). If growth was vigorous, leave more buds (8-25). After the second season, the training system will be implemented and vines should be pruned accordingly.

Suggested Varieties:

Seeded Grapes: Alden, Buffalo, Edelweiss, Golden Muscat, Kay Gray, NY Muscat, Ontario, Price, Seneca, Sheridan, Steuben, Swenson Red, Van Buren, Yates.

Seedless Grapes: Canadice, Himrod.

Wine Grapes: The easiest for home owners are hybrids which are usually (but not always) more disease resistant and are usually (but not always) fairly productive.

- Hybrid white: Cayuga White, Chardonnay, Horizon, Seyval, Vidal, Vignoles
- Hybrid red: Baco Noir
- Vinifera white: Chardonnay, Riesling
- Vinifera red: Merlot
- American red: Concord—most widely grown variety in New York State.



Information for this Home Grounds Fact Sheet was supplied by Alice Wise, Viticulturist, Cooperative Extension of Suffolk County.