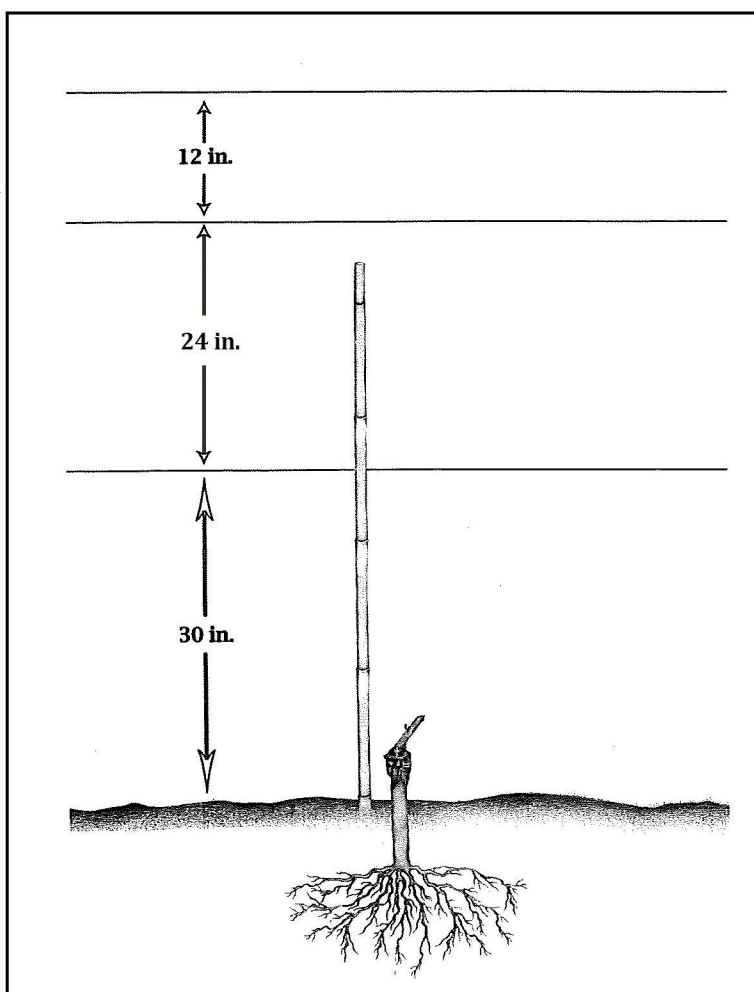
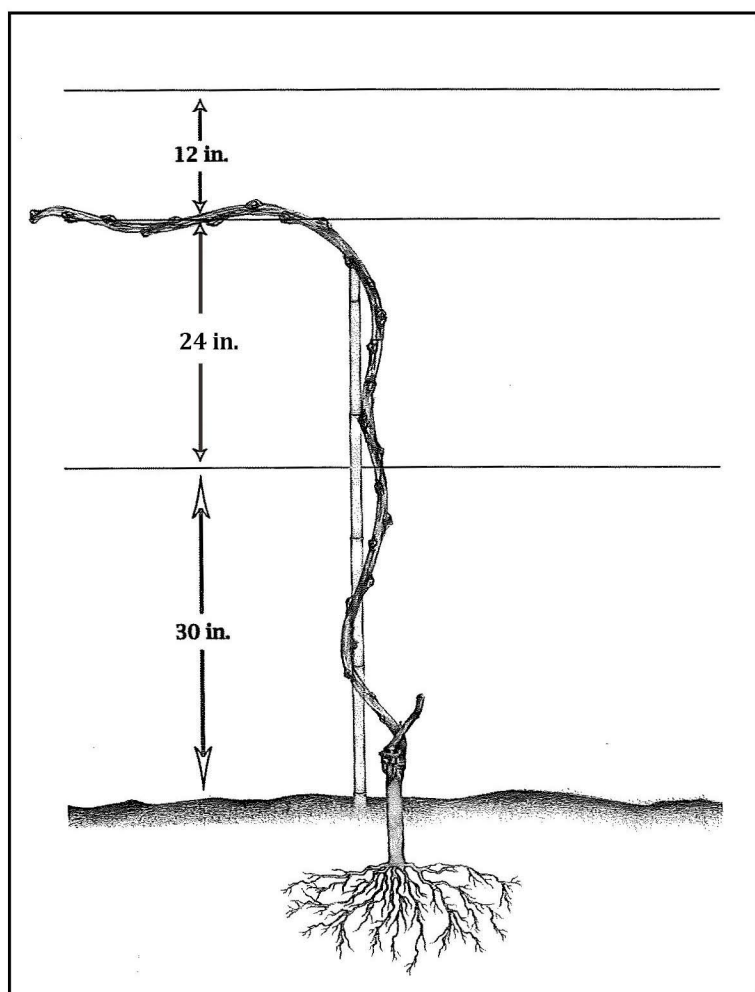


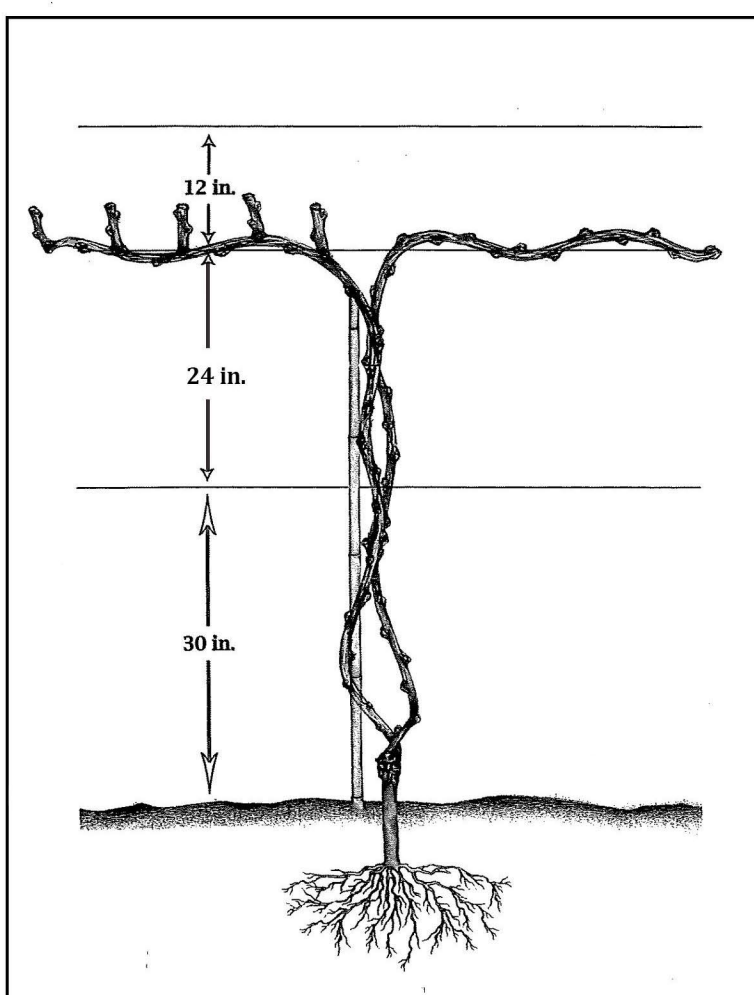
Mid-Wire Cordon (MWC)



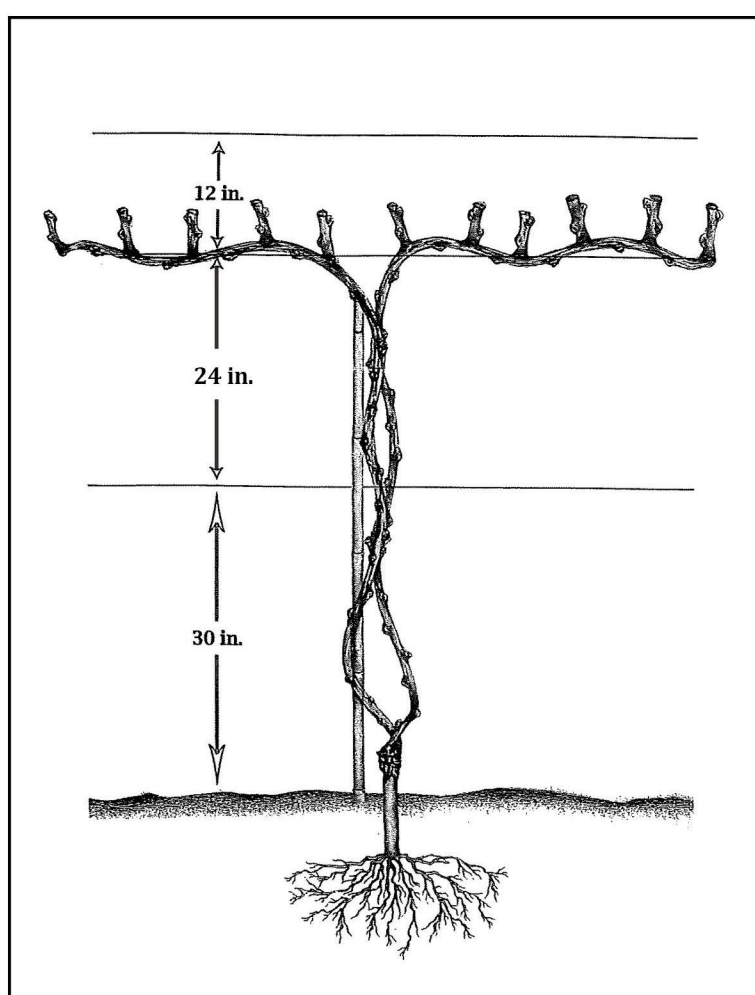
Year 1



Year 2



Year 3



Year 4

Mid-wire cordon (MWC) training is used where neither Top Wire Cordon (TWC) nor Vertical Shoot Positioned (VSP) training is appropriate for the cultivar being grown. Examples include cultivars with upright shoot growth that do not require maximum sunlight exposure of the fruiting zone (i.e., cultivars that have relatively disease-resistant fruit that does not benefit from increased exposure to sunlight), and also cultivars with weak trunk growth due to inherent lack of vigor or susceptibility to winter injury. MWC training may be appropriate where training to TWC is difficult due to the difficulty in establishing permanent trunks, and where economics do not justify the increased labor inputs associated with VSP training. MWC training employs a fruiting wire at 36-48", with (generally) one set of catch wires at least 10" above the fruiting wire.

Year One. At planting, one or two buds are retained near the graft union on grafted vines, or near the crown of the vine on own-rooted vines. Support is provided with a bamboo stake or other support. For grafted vines, the graft union should be planted above the ground so the scion variety does not produce roots. Where winter graft union protection is needed in order to prevent winter injury, it is critical that the graft union be planted close to the ground (1-2" above final ground level), with graft unions covered with soil or other insulating material during the winter months.

Year Two. One cane is retained from the previous year's growth. This cane can be pruned and tied to the bottom wire, or a longer cane can be trained on the fruiting wire. A second trunk can be started by leaving a short spur at the base of the vine, just above the graft union on grafted vines, or just above ground level on own-rooted vines. In Year Two, crop should be limited by cluster thinning or defruiting in order to encourage vegetative growth.

Year Three. A single cane or cordon can be pruned and trained in each direction from the head of the vine. Spurs on cordons should be located about six inches apart. Highly fruitful cultivars such as French-American hybrids can be pruned to two to three bud spurs, while less fruitful cultivars can be pruned to three to five bud spurs. Where possible, shoots emerging from cane growth below the fruiting wire should be removed to avoid overcrowding and shading at the head of the vine. During the growing season, shoots are allowed to grow through the sets of catch wires, and additional shoot positioning can be attained by manually tucking shoots between the sets of catch wires. Shoots that emerge through the top set of catch wires are allowed to grow downward, generally without using any summer pruning. Third year vines should yield between one-half and a full crop, depending on the amount of trellis fill achieved. Vines that achieve full trellis fill can be fully cropped (as appropriate for the variety and desired wine quality attributes), while weaker vines may require some fruit removal by cluster thinning so that vines are not over-cropped.

Year Four (and Beyond). Cordons should be fully established and annual growth should fill the available trellis space. Depending on the variety, wine quality may be improved by reducing crop load, usually by removing second and/or third clusters on developing shoots. In regions where winter injury to trunks is anticipated, new trunks can be trained by retaining one or more suckers annually, and used to replace older, winter-injured trunks.