



# Pruning Grapes to the Four-Arm Kniffin System

Guide H-303

**Reviewed by Ron Byford**

Department Head, Extension Plant Sciences

Cooperative Extension Service • College of Agriculture and Home Economics



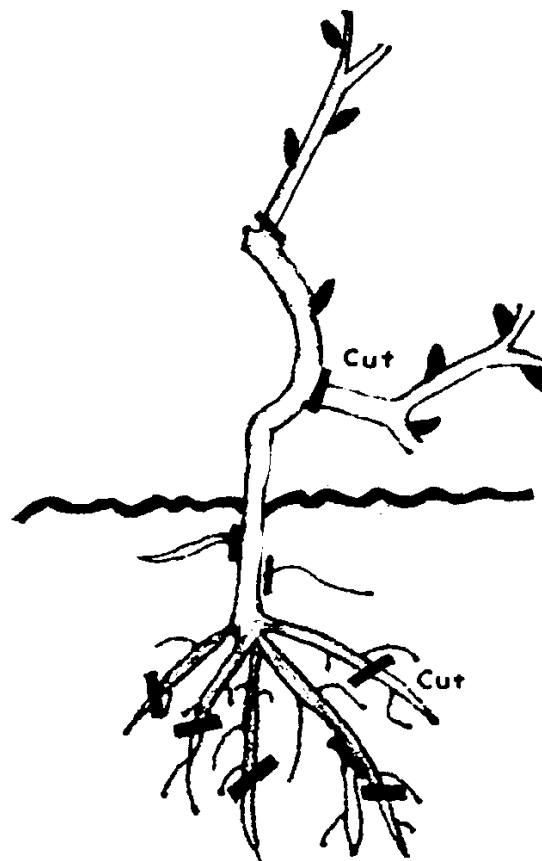
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Pruning is the systematic removal of wood in a manner that will result in a strong vine of convenient shape and good crops of large clusters. No operation influences grape production more than pruning. Excessive pruning produces vigorous vegetative growth and low yield, however clusters and berries will be large. Too little pruning produces weak growth and an excessive set of fruit resulting in small clusters, small berries, and poor quality. The grower must maintain his vine between an under-vegetative and over-vegetative condition so as to obtain the maximum in both yield and quality.

To prune grapes properly, you must know certain facts about their fruiting habits. Grape clusters are borne on shoots that arise from one-year-old canes. These fruiting shoots are developed from the first four to ten buds on the basal section of last year's canes. Remove all canes that produced last year. Select four to six strong, well located one-year-old fruiting branches. Cut these back so as to leave a total of 30 to 50 buds, depending upon the vigor of the plant. Leave three or four two-bud spurs near the trunk to produce branches that will become next year's fruiting wood. Remove all other branches. All pruning should be done during the dormant season, preferably in late winter, but before the buds begin to swell. Canes pruned in late winter or early spring may "bleed" some, but this is not harmful.

At the time of planting, cut the vine back to two buds (Fig. 1). Immediately prior to the second growing season, tie the best cane to a stake. This cane will become the trunk; remove all others at the crown. The four-arm Kniffin system of training is most generally used in French-hybrid varieties

planted in northern New Mexico. Tie the central cane to the wire with cloth strips or "plant ties" (Fig. 2). During the second and third dormant seasons, select four branch canes to serve as arms, one each direction on both wires (Fig. 3 and 4). You have completed the development of the framework and future pruning will be solely to control plant size, production, and quality (Fig. 5).



**Figure 1. Prune newly planted year-old nursery plant to two buds.**

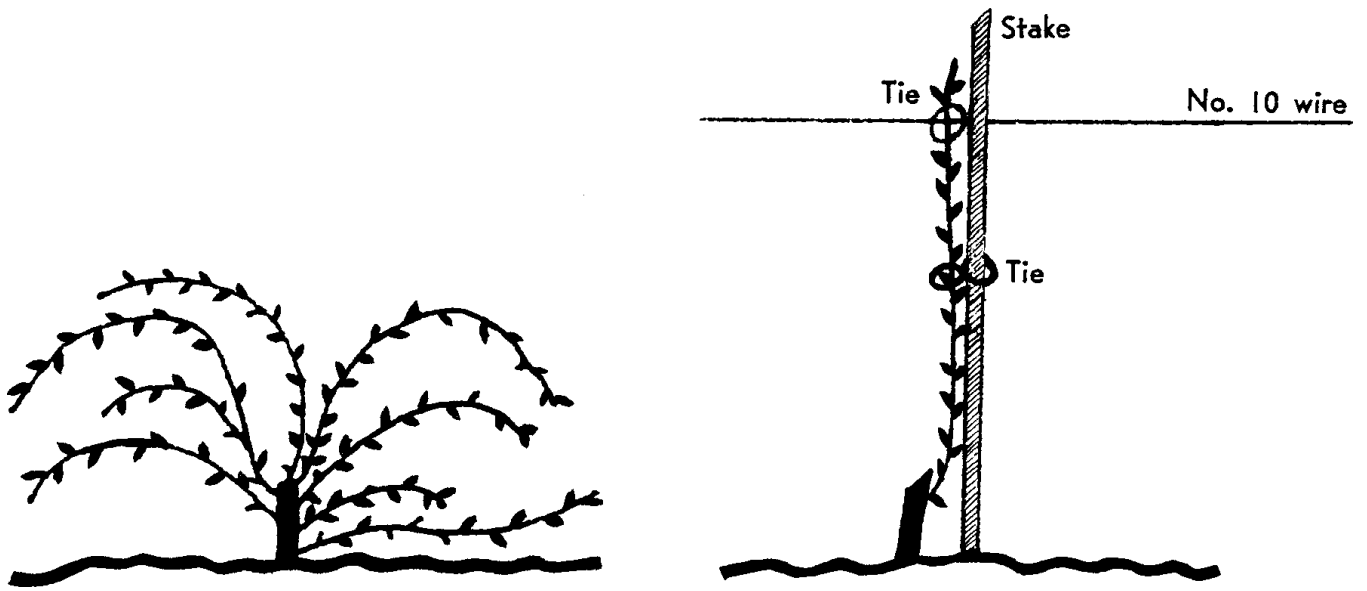


Figure 2. First dormant pruning: Left—before, right—after.

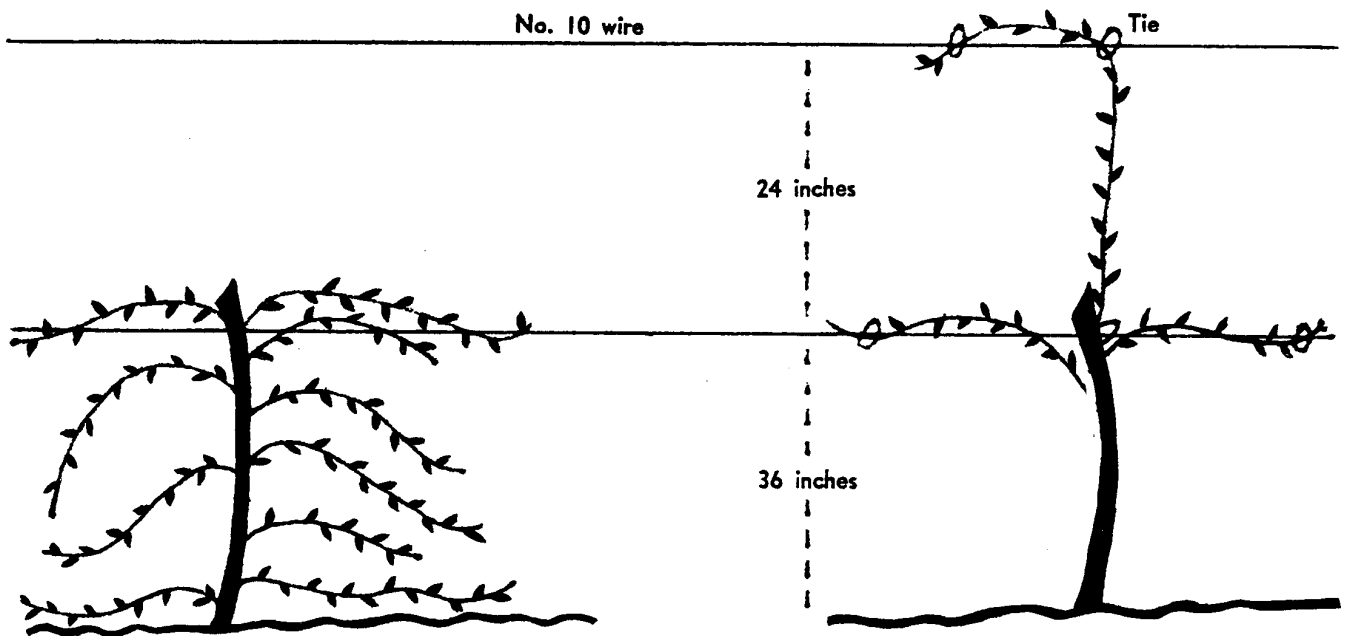


Figure 3. Second dormant pruning: Left—before, right—after.

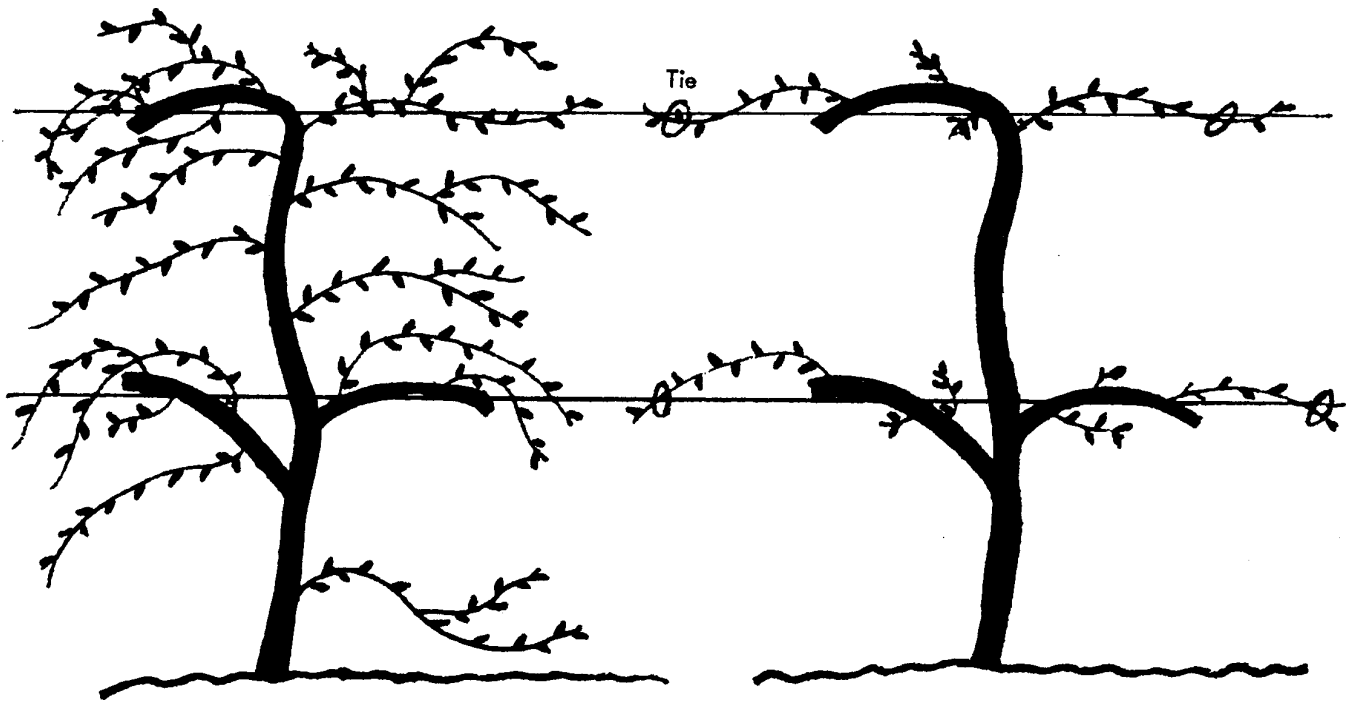


Figure 4. Third dormant pruning: Left—before, right—after.

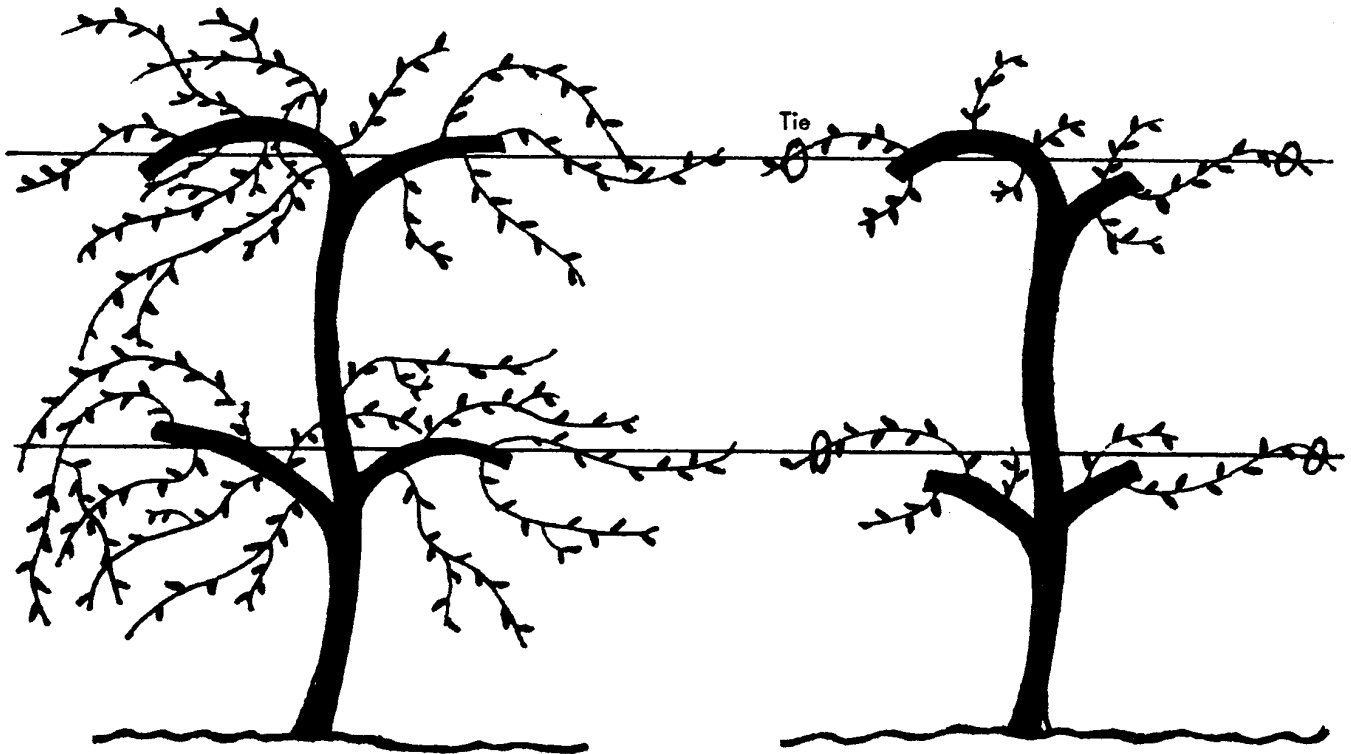


Figure 5. Fourth dormant pruning: Left—before, right—after.

*Previously reviewed by Esteban Herrera, Extension Horticulturist.*

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