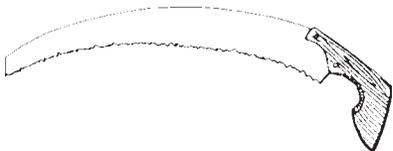
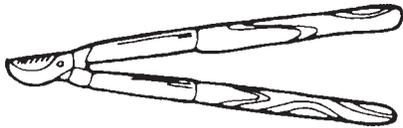
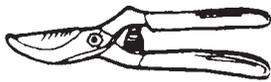


Follow-up tasks

After pruning, tie the trunk of each grapevine to the trellis wires with twine. Check young grapevines periodically to make sure the twine is not girdling the trunk. Also, tie the dormant fruiting canes to the wires near the end of each cane.

Pruning equipment

Tools required to prune grapevines include a hand shears, lopping shears, saw, a small pocket scale to weigh the pruned material, and twine. Colored fabric strips also are useful for marking fruiting canes.



For more information on selection, planting, cultural practices, and environmental quality, contact your local Iowa State University Extension office. If you want to learn more about horticulture through training and volunteer work, ask for information about the ISU Extension Master Gardener program. Horticultural information also is available from these Web sites.

ISU Extension Publications—
<http://www.extension.iastate.edu/pubs/>

ISU Horticulture—
<http://www.hort.iastate.edu/>

ISU Viticulture—
<http://viticulture.hort.iastate.edu/>

Reiman Gardens—
<http://www.reimangardens.iastate.edu>

Prepared by Richard Jauron, extension horticulturist,
and Diane Nelson, extension communication
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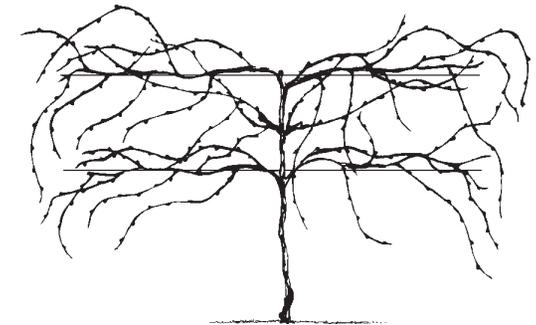
Issued in furtherance of Cooperative Extension work,
Acts of May 8 and June 30, 1914 in cooperation with
the U.S. Department of Agriculture. Stanley R.
Johnson, director, Cooperative Extension Service,
Iowa State University of Science and Technology,
Ames, Iowa.

... and justice for all

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Pruning Grapevines



IOWA STATE UNIVERSITY
University Extension

Pruning grapes is easier when you understand the growth and fruiting characteristics of the grapevine.

Reasons for pruning

Grapevines produce fruit clusters on the previous season's growth (two-year and older wood is not fruitful). Before pruning, an average grapevine may have 200 to 300 buds which are capable of producing fruit. If the vine is left unpruned, the number of grape clusters would be excessive. The vine would be unable to ripen the large crop or sustain adequate vegetative growth.

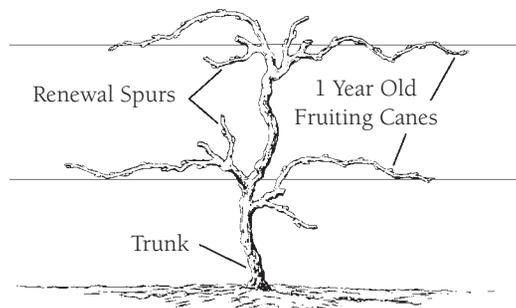
The purpose of pruning is to obtain maximum yields of high quality grapes and to allow adequate vegetative growth for the following season.

Common training systems

To maximize crop yield, grapevines are trained to a specific system. The most common training systems used by home gardeners are the four-cane Kniffin and six-cane Kniffin.

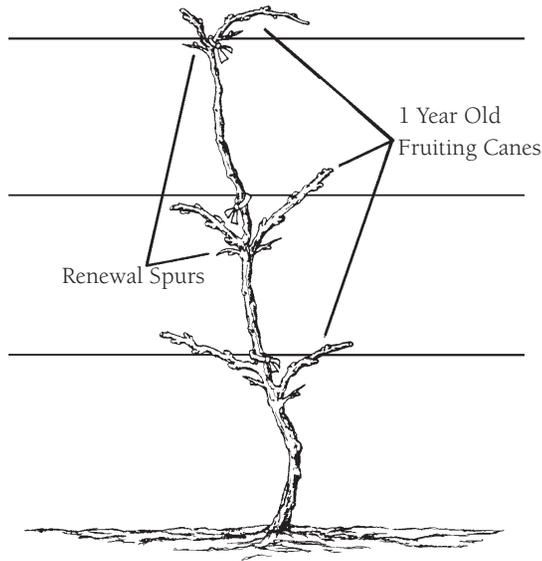
Four-cane Kniffin system

This system is popular because of its simplicity. It is characterized by four fruiting canes, two on each side of the trunk, trained onto two trellis wires. In addition, four very short canes (termed renewal spurs) are also retained. The renewal spurs contain one or two buds and are very important in the training system. The buds on the renewal spurs provide shoots and ultimately the canes for next year's crop.



Six-cane Kniffin system

This is similar except that it contains six fruiting canes on three trellis wires instead of four canes on two wires. In addition, six one- or two-bud renewal spurs are also retained.



Recommended pruning time

The most desirable time to prune grapevines is in late winter or early spring. In Iowa, pruning can begin in late February and should be completed by early April. (Grapevines pruned at this time of year will bleed heavily. However, the bleeding will not harm the vines.)

Balanced pruning

The degree or extent of pruning is dictated by vine vigor. Vine vigor is determined by estimating the amount of the previous season's growth. This concept is called "balanced pruning."

The first step in balanced pruning of grapevines is to study the vine and estimate the amount of one-year-old wood in pounds. Start by selecting and retaining the appropriate number of fruiting canes per vine. To aid

identification, some gardeners tie brightly colored strips of fabric to those canes they wish to retain.

Leave equal numbers of renewal spurs (canes pruned back to one or two buds). Remove all the other one-year-old canes. Next, weigh the pruned canes. The weight of the canes is used to determine the number of buds to retain on the grapevine.

To determine the number of buds to leave, use the following balanced pruning formula: "30 plus 10." For the first pound of canes removed, leave 30 buds. For each additional pound, leave an additional 10 buds.

When counting the number of buds to be retained, include the buds on the fruiting canes and also on the renewal spurs.

The balanced pruning concept is illustrated in the following examples.

If a grapevine had two pounds of canes removed at dormant pruning, the gardener would leave 30 buds for the first pound of canes, plus an additional 10 buds for a total of 40 buds. Using the four-cane Kniffin system, the four fruiting canes would each have eight or nine buds. Four renewal spurs containing one or two buds also would be retained. The total number of buds should equal 40.

If a vine had three pounds of canes removed, the grower should leave 30 buds for the first pound of canes, 10 for the second pound, plus a final 10 for the third pound, or a total of 50 buds.

For the training systems common in Iowa, the maximum number of retained buds on a grapevine is 60. If too many buds are present after the initial pruning and weighing, remove as many as needed to obtain the desired bud number.