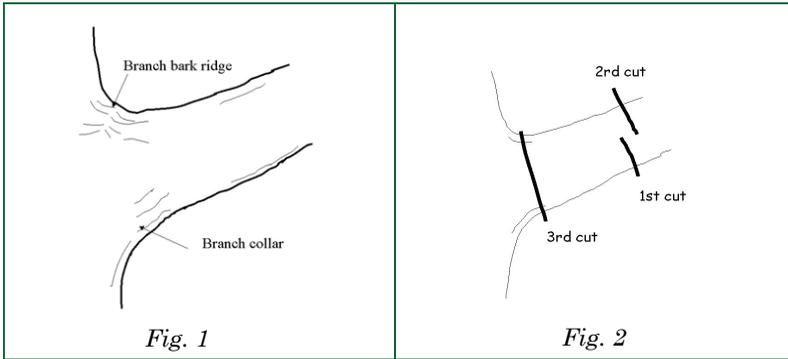


## How to Remove a Branch

Proper pruning involves removing the branch at the collar that forms at the junction of the branch and trunk. Leaving branch stubs or cutting into the trunk while pruning may lead to cracks or decay. Pruning at the collar mimics natural branch shedding and allows plant to retard decay.



*A proper pruning cut.*



- Start your pruning cut at the branch bark ridge and follow the collar (*Figure 1*)
- Cut just outside of the branch collar, do not cut into it.
- To avoid tearing bark, use three sequential cuts for heavier limbs (*Figure 2*)
- Wound dressings or pruning paint are not necessary and may even increase decay.



*Callus of a properly pruned branch appears as a "donut" or full ring.*

## When to Prune

### March-Early April

- Ideal time for pruning live branches.
- Few pests present at this time.
- Pruning wounds close quickly.
- Birch, maples and walnut may "bleed" but this sap flow will not harm the tree.

### Spring

- Avoid pruning at leaf expansion.

### Summer

- Remove suckers and watersprouts in early summer to limit their re-growth.
- Prune birch, maples and walnuts in late summer (August) to avoid "bleeding" or sap flow, if desired.

### Fall

- Avoid pruning at leaf drop.
- Avoid removing large branches in the fall as this can increase the potential for decay.

### Anytime

- Dead and dying branches can be removed anytime.
- A light pruning (less than 15 percent of the canopy) of small branches (smaller than 2 inches in diameter) can be done at any time.

### Times to Avoid

- Do not prune elms from April through October, oaks during May and June or birch during June to avoid attracting harmful insects or diseases.

Information for this publication and all photographs and illustrations provided by John Ball, Extension Forestry Specialist, South Dakota State University.

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# Pruning Deciduous Trees



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## Training Young Trees

Do not ignore the pruning needs of young trees, those less than 10 years in the landscape. This is the best time for training; establishing the proper spacing and arrangement of the scaffold branches.

- Remove any dead or dying branches.
- Maintain a single leader.
- Establish the height of the lowest scaffold branch, but allow temporary branches below this to exist for awhile.
- Space scaffold branches radially and vertically on the trunk.

After removing any dead or dying branches start training by focusing on the scaffold branches

## Scaffold Branches

**1<sup>st</sup>** Prune to one central leader on the trunk

- Eliminate one of the two upright stems as soon as noticed. This is a common problem with green ash, linden and silver maples.
- Double leaders are prone to splitting and breaking later in life.

**2<sup>nd</sup>** Properly space scaffolds

- Tree that will have a mature height of less than 30 feet should have them spaced 6-12 inches apart.
- Trees that become more than 30 feet tall should have them spaced 12-18 inches apart
- Closer spacing may result in branches breaking later in life.



*A double leader formation.*

In addition to properly spacing the scaffold branches, other branches that require annual attention are suckers and watersprouts.

## Suckers

- Sprouts from the roots or root flares that appear around the base of the tree.
- These originate from the rootstock and do not have the same characteristics as the cultivar that forms the canopy.



*Suckers at the base of crabapple.*

## Watersprouts

- Rapidly growing upright shoots that form along the trunk or scaffold branches
- Do not confuse with fruiting spurs.

## Pruning Vocabulary

- Collar:** the swelled area that appears at the junction of the trunk and the branch.
- Heading Cuts:** pruning a branch back to a stub.
- Scaffold Branches:** branches usually between 5 to 10 feet from the ground that become the permanent branches in the canopy
- Spurs:** slow-growing shoots that form along the trunk and branches that produce flowers and fruits.
- Temporary Branches:** located along the lower 5-6 feet of trunk. These are often retained until they become 1/2 inch in diameter as they improve trunk development.
- Thinning cuts:** the pruning of any branch back to its point of origin to the trunk or supporting branch.

## Pruning Mature Trees

The number of live branches removed should decrease as tree ages. Properly trained young trees will have little need for pruning later in life. Excessive pruning to increase sunlight is not needed since interior leaves have adapted to the shaded environment.

- Focus mature tree pruning on 'cleaning', the removal of dead, dying or diseased branches
- Annual removal of suckers and watersprouts may still be required for crabapples and fruit trees.
- Unless the branches are structurally unsound or clearance is required, avoid pruning off the lower branches.
- Excessive branch removal makes the remaining branches more susceptible to breakage.

The pruning cuts used for mature tree pruning should be thinning rather than heading cuts.

- Thinning cuts remove a branch at its point of origin.
- Heading cuts involve cutting to a stub, which results in extensive decay in mature trees.

## Do not top a tree!

Topping is the process of pruning back the top of a tree using heading cuts. This practice results in rapid formation of weak branches, branch decay and a declined root system. Topped trees often decline and die over time.



*Topping of a mature tree.*