
Care of Mature Backyard Apple Trees

Introduction

Backyard apple trees offer many benefits to the home gardener: fresh, flavorful and healthful fruit, summer shade and the beauty and aroma of spring blossoms. To produce these results, growers must pay careful attention to pruning, pest management, tree nutrition and other cultural practices. The cultural techniques described in this bulletin are adapted for use with all mature (bearing) apple trees.

Pruning

No single cultural technique is more challenging to many home gardeners than pruning. The key to pruning is to understand the basic principles of pruning and adapt them to each tree.

Pruning reduces tree size. Although pruning stimulates shoot growth, especially near the sites where pruning cuts are made the overall effect is to reduce overall tree size. Leaves are the food-manufacturing organs of the tree and elimination of a portion of them (by removing the vegetative buds that will grow come spring) will reduce the total amount of growth the tree makes.

Pruning effects are localized. Strong shoots with large leaves tend to arise at or near the site of pruning cuts.

Pruning does not alter the natural habit of the tree. Certain varieties such as Red Delicious and Macoun have a very upright growth habit that cannot be changed to a more spreading habit by pruning.

Excessive pruning has adverse effects. Severe pruning upsets the tree's balance. It will result in over-stimulating the growth of water sprouts (suckers), cause a loss of fruit color and delay fruit maturity. It is usually best to prune lightly to moderately every year.

Make clean cuts at the outer edge of the branch collars. Pruning wounds on healthy trees usually heal over in 1 to 2 years as the result of the tree's natural healing process. Eventually, living tissue (normal bark and sapwood) will completely cover the dead wood of the wound. Rapid wound healing reduces the chance of invasion by rot-causing organisms. Limb stubs may heal very slowly, if at all. Clean cuts made at the outer edge of the collar that forms where the branch joins the parent limb (Figure 1) will minimize healing time.



Figure 1. Branch is removed by making cut at outside edge of 'collar.' Photo: W. Lord

Narrow-angled crotches are weak. These narrow crotches are weak due to the inclusion of bark between them as the limbs grow. As a result, branches with narrow crotch angles will often “split out” when they become heavy with fruit. In addition, the tissues in narrow crotches mature slowly in the fall and may be more susceptible to winter injury, rot organisms and cankers.

Late, dormant season pruning is best. The ideal time to prune apple trees is any time from February through April. Avoid fall or early winter pruning which may result in severe winter injury to the trees.

Wound dressings. With proper annual pruning, no cuts of more than 2 inches in diameter should be necessary. Pruning wounds require no special treatment if the cuts were made to the outer edge of the branch collar.



Figure 2. A pruning wound fully healed just 2 years after proper cut was made. Photo: W. Lord

Pruning Bearing Apple Trees

Applying these basic pruning principles to your mature (bearing) backyard apple tree is the next step and a basic course of action or set of rules helps make the job easier.

1. First, remove all broken, dead or diseased branches.
2. In cases in which trees are too tall for spraying and harvesting, reduce the height by cutting the main upright growing branches back moderately to a well-developed horizontal lateral.
3. Remove all water sprouts (fast-growing, upright branches) and branches that cross and rub.
4. Prune to leave branches that are almost, but not quite flat, eliminating those that hang down or grow upright.
5. Eliminate branches that make narrow crotch angles to eliminate splitting or breaking out under crop load stress.
6. Prune more heavily in the upper part of the tree than the lower. Reducing the spread of the upper limbs will allow more sunlight to reach the lower limbs and help maintain lower limb fruitfulness.
7. When reducing branch length or extension, make thinning rather than heading cuts. Heading cuts (removing a portion, but not all, of the current season’s wood) generally result in vigorous unrestricted growth immediately behind the pruning cut. Thinning cuts reduce competition between limbs for available space and light, enabling better spray penetration.
8. Prune moderately and annually and do not remove a branch unless there is a very good reason for doing so.



Figure 3: Three year old Macoun tree before pruning.
Photo: W. Lord



Figure 4: Same tree in Figure 3 after pruning.
Photo: W. Lord

Bringing Back Large, Old, Abandoned Apple Trees

The same basic rules are followed as with younger, bearing apple trees.

1. Dead, diseased, and broken limbs are removed first. For old, neglected trees, this might include the bulk of the pruning cuts you make.
2. Water sprouts (shoots growing straight up off lateral branches) are removed next.
3. Whole branches are removed to allow light penetration into the canopy of the tree, focusing most of the branch removal activity in the upper half of the tree canopy.
4. Suckers that grow during the summer following this pruning should be removed about August 1st.



Figure 5: Older apple tree. Top part of tree canopy is shading out fruiting wood below. Photo: W. Lord



Figure 6: Same tree in Figure 5 after pruning. Wide top has been narrowed by removing 2 large branches. Photo: W. Lord

Fertilizing Backyard Apple Trees

First, get a soil test. Soil pH should be adjusted based on soil test recommendations to a pH of 6.2-6.5.

Bearing apple trees should be fertilized based on how much growth they made the previous season. If trees are weak, terminal growth is less than 8 inches, apply 1 lb of a general purpose fertilizer such as 10-10-10 in early May. If trees are growing more than 8 inches annually, no nitrogen is usually needed. For these trees, apply sulfate of potash. Apply 1 lb sulfate of potash for every 5 bushels of apples harvested. Apply in early spring after the growth begins. Broadcast it evenly on the soil surface under the entire branch spread of the tree

Apple trees will also likely need boron on an irregular basis. If trees are deficient in boron, brown, corky areas about the size of pencil erasers will form in the flesh of the fruit. To prevent boron deficiency in these large trees, water well during dry periods, especially if soil is droughty, and if trees are weak (terminal growth is less than 8 inches) apply borax (available at garden centers and in the laundry section of supermarkets) at the rate of 1 cup borax every 3-4 years.



Figure 7: Brown cork areas in flesh are due to low boron. Photo: W. Lord

In many cases backyard apple trees are in a lawn which will be fertilized. Reduce the amount of fertilizer you apply under the tree to prevent over-fertilization. Lawn fertilizer-weed control combinations should not be used as these products can injure apple trees.

Insect and Disease Control



Figure 8: A vole (mouse) guard made from ½ inch hardware cloth provides lower trunk protection from voles. Photo: W. Lord

Unfortunately, numerous insect and disease pests attack apples in New Hampshire. If left uncontrolled, these pests will destroy the apple crop completely in many years. Adequate control of these pests will require using certain EPA approved pesticides in a properly-timed spray program.

Orchard mice (voles) can cause severe damage to apple trees in some years. Most of the injury (girdling) occurs under the cover of snow when food is scarce. Girdling by voles can be prevented. The use of wire vole guards provides excellent protection.

Use ½ inch or finer mesh hardware cloth to construct wire cylinders which are placed around the tree trunk. The mouse guards should be 18 inches high so they will be above the snow level and should be imbedded into the soil 1 inch.

Plastic wrap-around mouse guards are also available and will provide adequate protection. Remove plastic guards each spring and reapply each fall. This will eliminate the possibility the wraps will stretch, leaving exposed wood that voles will eat. It also eliminates dark, moist conditions near the trunk during the growing season. These conditions favor certain insect and disease pests and may prevent the trunk from hardening off properly, increasing its susceptibility to winter injury.

Other measures can help reduce vole populations near trees. Keep the orchard floor mowed to eliminate the cover of tall grass. Remove all fruit drops from the orchard floor immediately after harvest as these will draw voles into the tree area.

Thinning the Crop

It is desirable in many years to reduce the crop load that results from a heavy bloom and a good “set.” Allowing too many fruits to remain on trees will reduce fruit size and tree vigor and can cause the tree to bear biennially (every other year). Thin apples to single fruits when they occur as doubles or triples. Use additional thinning to produce a final fruit spacing of 6 to 8 inches between fruits. Fruit thinning is not necessary every year and often is needed only on certain branches within a tree. Thin after the natural June drop but before July 1.

Fact sheet by William Lord, UNH Extension Fruit Specialist, 2/2010.

Visit our website: extension.unh.edu

UNH Cooperative Extension programs and policies are consistent with pertinent Federal and State laws and regulations on non-discrimination regarding age, color, handicap, national origin, race, religion, sex, sexual orientation, or veterans status.