MANAGING APPLE TREES FOR WILDLIFE

FOREST STEWARDSHIP MANAGEMENT NOTE #29

Keep cold, young orchard. Goodbye and keep cold.
Dread fifty above more than fifty below.

- Robert Frost

INTRODUCTION

Old apple orchards provide excellent wildlife habitat. The fruit is a preferred food of many animals, especially game species. Hollow trunks and branches provide nests and dens for many cavity-dwelling species (FSMN #28). The savannah-like vegetation structure provides suitable habitat for many species that do not inhabit closed woodlands or open fields. Even the leaves, twigs, buds, and bark of apple trees are commonly eaten by birds and mammals, although this can be a problem rather than a benefit.

This Note briefly summarizes methods for renovating old apple trees and orchards so they will be healthier and produce more fruit. Sources of further information about this and related topics are given.

1. ASSESSING TREE VIGOR - Pruning is usually the first thing people think about when they consider renovating old, neglected apple trees. Pruning is important, but to respond well to it, trees need to be healthy and vigorous. One way to judge a trees vigor is by the measuring the average length of the recent year's growth on several twigs around the outside of the crown. As a rule-of-thumb, less than four inches of new growth indicates a tree in decline; vigorous trees have 12-16 inches of new growth.

2. VEGETATION MANAGEMENT - To do well, apple trees need lots of sunlight and good air circulation. Thus, surrounding trees and shrubs should be eliminated unless they have high value in themselves. For example, some nearby conifers or brush should be left as escape and roosting cover for grouse and other wildlife (#1). Hardwood species will tend to sprout back, so they must be cut off several years in succession until the roots die or be treated with an approved herbicide that will prevent sprouting. Girdle trees that are a shade problem and that might damage the apples if felled.

3. SOIL MANAGEMENT - Before low-vigor trees are pruned, efforts should be made to strengthen them by improving soil conditions. Soil should be tested to determine pH, and lime should be applied to maintain pH between 6 and 6.5 (consult Extension agent). However, soil tests do not give an accurate picture of the nutrients available to the roots, so specific fertilization needs must be determined by leaf analysis (consult Extension agent) or by inspection for visual symptoms of mineral deficiencies and excesses (#4).

   Short of these more precise methods, the best general cure for undernourished trees is to: 1) increase the organic content of the soil, by top-dressing a 3-foot band just outside the drip-line (outermost branch tips) with well-aged manure or other compost, and 2) reduce competition by shallow cultivation (not more than 3 inches) or mowing from the trunk to 3 feet beyond the drip line. Annual mulching with old hay or straw also improves the soil, but thick mats of mulch should be avoided as they tend to harbor rodents and cause other problems, especially if applied too close to the trunk. Apple trees growing on poorly drained soils can never be expected to do well.

4. PRUNING - Apple trees are remarkably tenacious to life and if they are healthy, they respond well to even severe pruning. Experts differ, sometimes greatly, in their opinions about how pruning should be done. The publications listed below describe several approaches to pruning old apple trees, ranging from gradual to drastic (#1-6). Consult these publications and select an approach that makes sense to you realizing that pruning is an art that can only be learned by practice. It is also helpful to visit commercial and home orchards to develop an eye for pruning practices. Following renovation pruning, old trees may take a few years to become productive; some may never respond well. For best results, maintenance pruning should be done annually.

5. FRUIT THINNING - Picking off apples that are diseased, insect damaged, or crowded improves the quality of the remaining fruit and helps control pests and diseases, if the culls are burned or composted (#5). More importantly for wildlife, fruit thinning can cause trees that normally bear fruit every other year (as is true of many old varieties) to bear a crop every year. Chemicals can be used for large-scale fruit thinning (consult Extension agent).

6. DISEASE AND PEST CONTROL - Sanitation should be the first strategy used to reduce diseases and pests. Clean up fallen fruit, branches and leaves. Mow and rake around the trees. Burn or compost all debris. For additional control measures consult Extension agent.

REFERENCES

FSMN #'s refer to other Forest Stewardship Management Notes in this series.

#1 Decker, D.J. and J.W. Kelley. 1982. Enhancement of wildlife habitat on private lands. Cornell Coop. Extension Information Bulletin 181.

#2 Hall-Beyer, B. and J. Richard. 1983. Ecological fruit production in the north. Bart Hall-Beyer, R.R. 3, Box 149, Scotstown, Quebec, JOB 3JO, Canada.

#3 Kesner, C.D. and K.L. Lamkin. 1992. Renovating old, abandoned apple trees. Michigan State University Extension North Central Regional Publication No. 429.

#4 Mahalak, Bill. Undated. Taming the wild apple tree. Michigan Department of Natural Resources Forest Management Bulletin No. 10-7.

#5 Page, Steve. 1984 (March). New life for an old orchard. Country Journal.

#6 Teskey, B.J.E. 1978. Tree fruit production. AVI Publishing Co.

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