Benefits of Timber Stand Improvement on Kansas Farmsteads

Many producers and landowners in Kansas have part of their land in wooded areas. Wildlife is an integral part of the wooded areas of Kansas and a resource that is favored with little or no loss to timber production. Forests offer wildlife protection from wind and snow, refuge from predators, and a variety of foods not found in other landscapes.

Properly managed forests provide habitat for wildlife such as squirrels, deer, turkey, and songbirds. Other wildlife species such as rabbits, quail, and raptors use the forest edge (border where two different cover types come together) and benefit from the management of these areas. For the landowner, wooded areas offer aesthetic beauty, improve water and air quality, provide valuable wildlife habitat, and offer income opportunities.

If producers and landowners would like to improve the quality of their wooded areas, there are several management steps that can take. Timber stand improvement removes inferior trees to improve the growth rate and/or quality of the best, high-valued trees or crop trees. Use this practice to thin a forest by removing trees that are restricting the growth of higher quality or more valuable trees.

By incorporating some of the following suggestions, both wood production and wildlife benefit from timber stand improvement.

Various game and non-game species benefit from a wooded habitat.
(Photos from: Forest Management for Wildlife, K-State publication MF-2899.)

1. Leave around seven den trees (trees with a cavity or hollow pocket) of various sizes per acre.

2. Do not remove standing dead trees.

3. Kill poor quality, low-valued trees that inhibit the growth of crop trees or those that are suppressing natural regeneration of favorable species. Deadening the undesirables and allowing them to remain standing can accomplish this. Application of an approved herbicide prevents resprouting. Girdling is a process that allows for trees to remain standing dead. To do this, make a continuous encircling cut 1 to 2 inches deep with a chain saw.

4. When deadening undesirable trees, chemically treat stumps of undesirable species such as honeylocust and Osage-orange. Sprouts from untreated stumps (such as mulberry, elm, oak, and walnut) provide beneficial browse and low-level cover.

5. Thin around food trees such as mulberry, oaks, persimmon, walnut, hickories, dogwood, and pawpaw.

Food value of 20 common forest trees, shrubs, and vines for wildlife

Species	Songbirds	Upland game birds	Big game	Small game	Furbearers
Blackberry	Excellent	Excellent	Good	Excellent	Excellent
Coralberry	Fair	Fair	Fair	Poor	Poor
Dogwood	Excellent	Excellent	Excellent	Fair	Fair
Elderberry	Excellent	Excellent	Excellent	Excellent	Excellent
Elm	Poor	Fair	Good	Fair	Poor
Grape	Excellent	Excellent	Excellent	Excellent	Excellent
Green ash	Fair	Fair	Fair	Fair	Poor
Greenbriar	Excellent	Excellent	Excellent	Excellent	Excellent
Hackberry	Excellent	Fair	Good	Good	Good
Haw	Excellent	Excellent	Fair	Excellent	Excellent
Mulberry	Excellent	Good	Excellent	Excellent	Excellent
Oaks	Excellent	Excellent	Excellent	Excellent	Excellent
Osage-orange	Poor	Poor	Poor	Good	Poor
Pecan, Hickory	Fair	Fair	Fair	Good	Fair
Persimmon	Excellent	Good	Fair	Excellent	Excellent
Plum	Excellent	Excellent	Excellent	Excellent	Excellent
Redcedar	Good	Fair	Poor	Poor	Poor
Sumac	Fair	Fair	Fair	Poor	Poor
Virginia creeper	Excellent	Excellent	Excellent	Excellent	Excellent
Walnut	Poor	Poor	Fair	Good	Poor

6. Kill vines that are growing into future crop trees, but leave vines that are growing in low-value trees. Wildlife benefits from vines left in poor quality or low-valued trees, as well as those along forest edges.

7. Place thinning material into brush piles near the woodland edge or in the woods to decompose and provide habitat for invertebrates, which may be important food for other wildlife species.

8. Remember to retain wooded buffer strips along creek channels. The Kansas Forest Service recommends leaving a strip of trees and shrubs at least 66 feet wide to protect the stream bank from erosion, enhance fisheries, and to reduce sediment and chemicals from entering the creek. Generally, wider buffers are necessary to maximize wildlife benefits. When performing timber stand improvement work, do not aim for a park-like setting where all of the understory vegetation is removed. These ground-level plants are an important source of food and cover to wildlife.

For complete information, see Forest Management for Wildlife, K-State publication MF-2899, at: http://www.ksre.ksu.edu/library/forst2/mf2899.pdf

-- Thad Rhodes, Kansas Forest Service, North Central District Forester
trhodes@ksu.edu
-- Mike Mitchener, Kansas Department of Wildlife and Parks
mike.mitchener@ksoutdoors.com