



Purdue University Forestry and Natural Resources

Hoosier Farmland Wildlife Notes: Windbreaks for Farms and Wildlife

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A home or farmstead windbreak is a strip of vegetation, generally consisting of multiple rows of trees and/or shrubs that shelters a residence and related structures from the negative effects of wind. While windbreaks can provide excellent food and cover for a variety of wildlife species, their primary function is to reduce wind velocity on the leeward side of the windbreak. The degree of protection depends upon the density and height of the windbreak. However, windbreaks will typically protect an area on their leeward side of 10 times the height of the windbreak (Figure 1). Benefits of windbreaks may even extend to a distance of 20-30 times the height of the windbreak.

Benefits of Farmstead Windbreaks

- Reduce home heating costs
- Reduce exterior building maintenance
- Increase the beauty of the farmstead
- Control drifting snow
- Reduce soil erosion
- Provide food and cover for wildlife
- Reduce crop damage and increase yields

Windbreak Planning and Design

Early planning for planting the windbreak is important. This allows time to order trees, prepare soils prior to planting, and possibly rearrange fences. In some cases, existing trees may have to be removed; in other cases, existing trees may be utilized in the new windbreak.

Ideally, a farm or homestead windbreak should be composed of at least two rows of conifers and one row each of tall deciduous trees, tall shrubs, and short shrubs. The windbreak should be placed perpendicular to the prevailing winter wind, and at a distance of 2-5 times the height of the windbreak from the area to be protected. In addition to identifying the area to be protected, identify existing power lines, roads, potential snow drifting, adjacent areas, and underground obstructions when planning the location of your windbreak.

Windbreaks for Wildlife

Animals seek shelter from wind and weather just as people do. Frequently, the only areas providing winter cover in agricultural areas are windbreaks. A well-designed windbreak can provide many types of food and cover for a variety of wildlife species. Windbreaks can function also as travel corridors for wildlife as they move from one habitat to another, or they can serve as more permanent cover when they are planted in conjunction with other wildlife practices such as food plots.

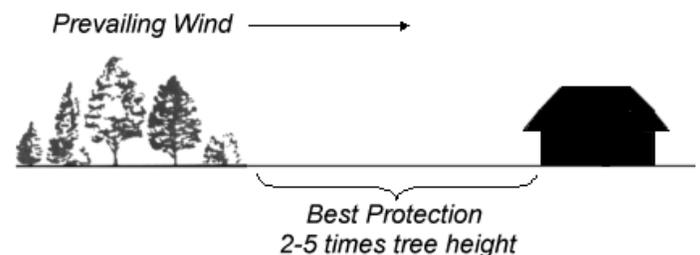


Figure 1. Area a properly placed windbreak protects.

Species Selection

You can enhance the wildlife value of your windbreak by planting trees (*white pine, eastern red cedar*), tall shrubs (*crabapple, hawthorn,*

flowering dogwood, domestic apple, nannyberry), and short shrubs (*American plum, silk and gray dogwood, arrowwood, highbush cranberry, hazelnut*) with high wildlife food and cover value.



Table 1. Windbreaks can be enhanced for wildlife by establishing one or more of the following practices.

Practice	Benefit
Plant conifers	Provides protection from wind, snow, and rain, and nesting and roosting cover for birds.
Plant combination of tall and short shrubs	Increases the density of the windbreak to enhance food, cover, and nesting habitat for many species of wildlife.
Plant shrubs and food plots on the leeward side	Provides food for wildlife adjacent to cover in the area that the windbreak provides the most protection.
Plant windbreaks at a minimum width of 100 feet	The wider, the better. Narrow windbreaks concentrate ground nesting/dwelling animals, increasing their susceptibility to predation.
Install a snow trap on windward side of windbreak	Increases the winter cover value of the windbreak. Without a snow barrier, drifts can accumulate in the windbreak and trap wildlife or make the area unusable during winter.

Table 2. Summary of programs that provide assistance for establishing windbreaks and other wildlife species (adapted from NRCS-Wildlife Habitat Management Institute - *Technical Notes*).

Program	Land Eligibility	Available Assistance	Contact
Wildlife Habitat Incentives Program (WHIP)	Potential fish & wildlife habitats; no cropping history required.	Up to 75% cost-share for establishing conservation practices under 5- to 10-year contracts	NRCS local office or IDNR District Wildlife Biologist
Conservation Reserve Program (CRP)	Highly erodible lands, wetlands, and certain other lands with cropping history. Streamside areas in pasture lands.	50% cost-share for establishing permanent cover and conservation practices, and annual rental payments for land enrolled in 10- to 15-year contracts. Additional financial incentives are available for some practices (i.e., Continuous CRP).	NRCS or FSA local office
Environmental Quality Incentives Program (EQIP)	Cropland, grazing land, and other agricultural land in need of treatment.	Up to 75% cost-share for conservation practices in accordance with 5- to 10-year contracts. Incentive payments for certain management practices.	NRCS local office
Wildlife Habitat Cost Share Program	Minimum of 10 ac. of land not part of a shooting preserve.	Up to 90% cost-share for establishing conservation practices.	IDNR District Wildlife Biologist
Game Bird Habitat Stamp Program	Minimum of 10 ac. of land not part of a shooting preserve.	Up to \$100/ac for establishing conservation practices for a minimum of 3 years on 5- to 40-ac parcels.	IDNR District Wildlife Biologist

Additional Information

For additional information on assistance with conservation planning, cost-share opportunities, and wildlife incentive programs, contact your county Extension Office; IDNR, Division of Fish & Wildlife (317) 232-4080; U.S. Fish & Wildlife Service (812) 334-4261; local USDA Service center; or visit www.agriculture.purdue.edu/fnr/.

Related Publications and Technical References

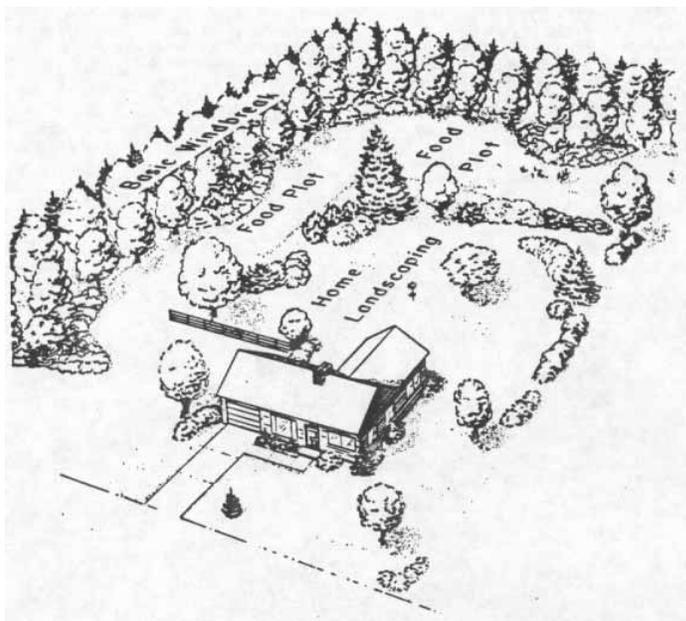
Visit www.agriculture.purdue.edu/fnr/ and click on "extension" to view or download Purdue Cooperative Extension Service publications including those listed below, or call 1-888-EXT-INFO (398-4636) for ordering information.

- FNR 36, Planting Forest Trees and Shrubs*
- FNR 38, Tree Windbreaks for Farms and Homes*
- FNR 87, Forestry and Wildlife Management Assistance Available to Indiana Landowners*
- FNR 134, Planting Hardwood Seedlings*
- FNR 135, Weed Control for Tree and Shrub Seedlings*
- FNR 175W, Assessing Your Land's Potential for Wildlife.*
- FNR 188W, Warm Season Grasses, What's All the Fuss?*
- NCR 191, Wind and Snow Control Around the Home*

Langell G., Montgomery B., and Stonebraker R. 1998. *Establishing Warm-Season Grasses in Indiana*, IDNR, Division of Fish & Wildlife. www.state.in.us/dnr/fishwild/index2.htm

USDA-NRCS. *Northern Bobwhite (Colinus virginianus)*. NRCS-Wildlife Habitat Management Institute Leaflets. www.ms.nrcs.usda.gov/whmi/technotes.htm

USDA-NRCS. 1992. *Indiana NRCS Technical Guide - Windbreak and Shelterbelt Renovation*. www.in.nrcs.usda.gov/planningandtechnology/FOTG/section4/section4.htm



(USDA-NRCS)

"Hoosier Farmland Wildlife Notes" is a joint effort of USDA Farm Service Agency, IDNR Div. of Fish and Wildlife, USDA Natural Resources Conservation Service, Purdue University Dept. of Forestry & Natural Resources, and U.S. Fish and Wildlife Service. Steering Committee: Ron Birt, Jeff Kiefer, Gary Langell, Brian MacGowan, Brian Miller, Bob Montgomery, and Dave Stratman.



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