Windbreaks for Wildlife

Windbreaks as Habitat

Historically, windbreaks have been planted for a variety of reasons. Some were planted as landscaping by settlers who missed the forests of their earlier homes. Others were planted as winter protection for homes and livestock. Windbreaks also were established to reduce wind erosion during the Dust Bowl era, when more than 3,500 miles of tree rows were planted.

An important, yet often overlooked, benefit of windbreaks is wildlife habitat. Windbreaks provide essential woody cover, especially in areas where no native woodlands exist.

Wildlife has three essential needs for survival: food, water, and cover. Cover is necessary for nesting, loafing, escape, and protection from the elements. Well-designed windbreaks provide a variety of habitats and can create travel corridors to link wooded areas together. Permanent homes for wildlife can be created when locating the planting adjacent to a water source, such as a pond.

Design for Wildlife

If the purpose is to attract a broad spectrum of wildlife, a multi-row planting consisting of evergreens, shrubs, and tall deciduous trees will provide permanent homes for many species of wildlife. Figure 1 shows the design of a farmstead windbreak providing this kind of habitat.

If upland game birds are the desired species, then do not include tall, deciduous trees in the planting design, as hawks and owls will use them as perches to look for prey. Instead, a windbreak
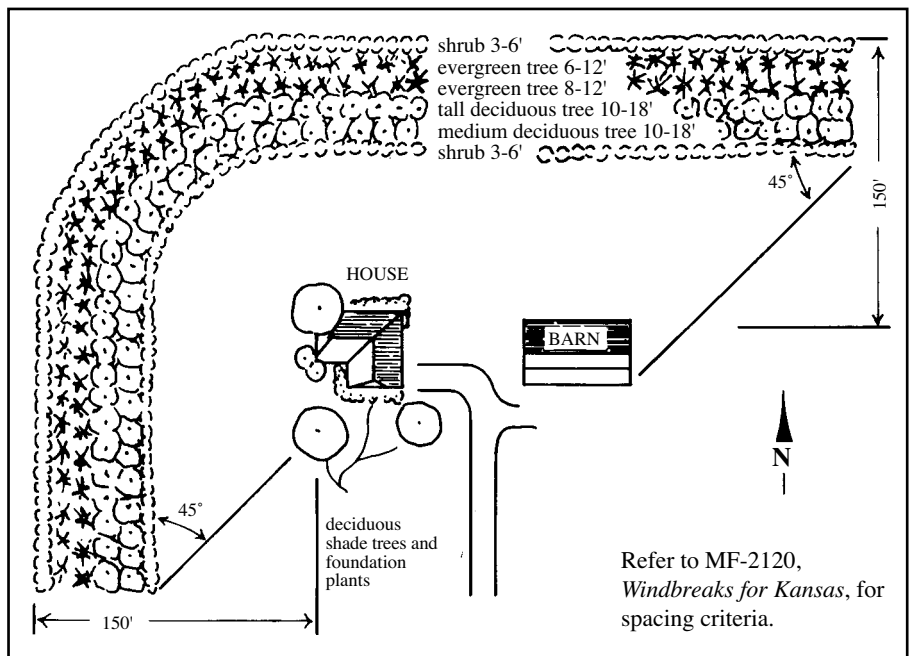

Figure 1. Farmstead windbreak designed for wildlife habitat enhancement.

consisting of three or four shrub rows will provide adequate habitat.

Snow accumulation in narrower plantings is a major concern for upland game bird survival. Severe blizzards can completely fill narrow windbreaks with snow and kill birds that have concentrated in the windbreak for protection. A row of shrubs (snow trip row) planted 50 to 100 feet on the windward side of a narrow windbreak will help prevent this. The area adjacent to the windbreak or between the windbreak and the snow trip row can be used for further wildlife enhancement (see Figure 2). This can be achieved by planting a strip of native grass, food plots, or a green strip (clover or alfalfa).

Annual food plots consisting of grain sorghum, wheat, sunflowers, or millet can also be planted between tree rows.

The best wildlife benefits are realized when windbreaks are planted in an east-west direction. During winter months, direct sunlight is available on southern rows throughout the day, where wind protection is also greatest. The opportunity to "sun" in a protected site lowers metabolic rates for birds and animals. Food-bearing shrubs along the southern rows create an excellent zone for feeding and protection.

Tree and shrub species used in a windbreak depend primarily on the soils at the planting site. Selecting the correct
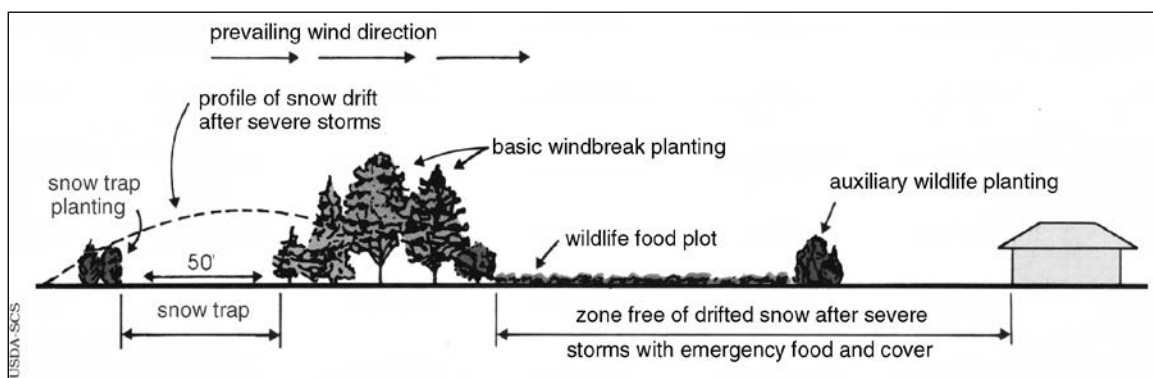
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Figure 2. Installing a snow trip row and using the extra space for a wildlife food plot.

species will increase the success of the planting. Soil information regarding tree and shrub planting is available from county USDA service centers.

Establishment

Successful establishment involves proper site preparation, good planting procedures, weed control, and supplemental watering when needed.

If the windbreak is planted on a sod site, the sod needs to be destroyed and the site summer fallowed for a year before tree planting. If soil erosion will be a problem, the entire site does not have to be broken and summer fallowed. Killing strips of sod by cultivation or herbicide treatment and planting the tree rows in the killed strips may be adequate.

Cropland sites on heavy soils should be deep chiseled in the fall and disked before tree planting. On sandy cropland sites, leave the crop residue and, if possible, plant directly into the residue in the spring. Proper site preparation will aid in weed control, build up soil moisture, and allow for proper planting of the trees.

Weed control is essential in newly planted windbreaks. Young trees cannot compete with weeds and grasses, which also attract rabbits and rodents that damage the seedlings. Mechanical cultivation or herbicides can be used for weed control. Weed barrier fabric can be used to control weeds and conserve soil moisture, but it may serve as an overhead cover for rodents that can damage the seedlings.

In the drier areas of the state, supplemental watering may be required for tree and shrub establishment. A drip irrigation system will make watering the planting much easier; however, it is no substitute for good weed control within the tree rows. If weed barrier fabric is used for weed control, and a drip irrigation system is installed, the drip irrigation system should be placed on top of the weed barrier fabric, unless a subsurface system is used.

Management

Managing established windbreaks includes protection from livestock and wildfire. Livestock should never be permitted in a windbreak. Livestock physically damage trees and shrubs and compact the soil, resulting in poor tree health. A fire break around a windbreak helps provide protection from wildfire.

Older windbreaks require maintenance to keep them healthy and functional. Removing some of the trees and/or adding new plantings may be necessary. Thinning reduces the competition between trees, providing for increased longevity.

Assistance

Several agencies can provide assistance in establishing wildlife habitat. Services provided by the Kansas Forest Service and Kansas Department of Wildlife, Parks and Tourism include technical assistance in the planning and management of windbreaks and possible cost share assistance.

Information and technical assistance on designing windbreaks for wildlife are also available through local K-State Research and Extension offices and Natural Resources Conservation Service field offices.

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