

## NATURAL RESOURCES CONSERVATION SERVICE

### CONSERVATION PRACTICE STANDARD

#### Hedgerow Planting

(Feet)

Code 422

#### DEFINITION

Establishment of dense vegetation in a linear design to achieve a natural resource conservation purpose.

#### PURPOSES

Providing at least one of the following conservation functions:

- Habitat, including food, cover, and corridors for terrestrial wildlife.
- To enhance pollen, nectar, and nesting habitat for pollinators.
- Food, cover, and shade for aquatic organisms that live in adjacent streams or watercourses.
- To provide substrate for predaceous and beneficial invertebrates as a component of integrated pest management.
- To intercept airborne particulate matter.
- To reduce chemical drift and odor movement.
- Screens and barriers to noise and dust.
- To increase carbon storage in biomass and soils.
- Living fences.
- Boundary delineation and contour guidelines.

#### CONDITIONS WHERE PRACTICE APPLIES

This practice applies wherever it will accomplish at least one of the purposes stated above.

#### CRITERIA

##### General Criteria Applicable to All Purposes

Hedgerow planting will comply with all applicable federal, state, and local laws and regulations.

Hedgerows will be established using woody plants, and/or perennial bunch grasses producing erect stems attaining average heights of at least three (3) feet persisting over winter.

**Woody Plants.** Refer to Indiana (IN) Field Office Technical Guide (FOTG) Standard (612) Tree & Shrub Establishment and IN FOTG Forestry Technical Note: Tree & Shrub Establishment for further guidance on planting trees and shrubs.

Native plant species will be used whenever possible. Known non-native invasive species will not be used.

The practice will be protected from livestock grazing and trampling to the extent necessary to ensure performance for the intended purposes.

All grazing by livestock will be part of an approved grazing management plan.

**Herbaceous Plants.** Refer to IN FOTG Standard (327) Conservation Cover for guidance on herbaceous plants.

##### Additional Criteria to provide habitat, including food, cover, and corridors for terrestrial wildlife

Selected plant species will provide cover and/or food to support the targeted wildlife species.

Cover will not be disturbed during the primary grassland nesting period April 1 – August 1, unless used to improve habitat quality.

**Wildlife Food and Cover.** The minimum established width will be 15 feet using at least two (2) species of grass from Table 1 (Note: if Switchgrass is used it will not comprise more than 10% of the seed mix) or

**Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service State Office, or download it from the electronic Field Office Technical Guide for your State.**

shrub species selected from the IN Biology Technical Note: Upland Wildlife Habitat. Use Table 2 for shrub spacing.

**Wildlife Corridors.** The minimum established width will be 50 feet. Species will be planted according to the plant spacing in Table 2.

Wildlife corridors will be composed of one of the following:

1. Except where shrubland or thermal cover is a limiting factor, the corridor will consist of at least three (3) rows of shrubs, one row of a soft mast tree species, and one (1) row of a hard mast tree species.
2. When shrubland is a limiting habitat factor for the targeted species, a shrub-only corridor will be created consisting of a minimum of five (5) rows of shrubs. The tallest species will be placed in the center rows.
3. When thermal cover is a limiting habitat factor, a corridor will be created consisting of at least one (1) row of a non-deciduous conifer species, one (1) row of hard mast tree species, and two (2) rows of shrubs.

Suitable species are found in the IN Biology Technical Note: Upland Wildlife Habitat.

**Table 1. Stiff Stemmed Grasses**

Species	Soil Drainage <sup>1</sup>	Mature Height (ft)
Big Bluestem <i>Andropogon gerardii</i>	SPD-ED	3-9
Indiangrass <i>Sorghastrum nutans</i>	PD-ED	3-5
Switchgrass <i>Panicum virgatum</i>	VPD-WD	3-6
The following species may be added not to exceed 50% (alone or combined) of the seed mix		
Little Bluestem <i>Schizachyrium scoparium</i>	MWD-ED	2-3
Canada Wild Rye <i>Elymus canadensis</i>	MWD-ED	3-4
Virginia Wild Rye <i>Elymus virginicus</i>	PD-WD	2-3

<sup>1</sup>VPD = Very Poorly Drained, PD = Poorly Drained  
SPD = Somewhat Poorly Drained, MWD = Moderately  
WD = Well Drained, ED = Excessively Drained

**Table 2. Tree and Shrub Spacing**

Within Rows	Spacing (ft.)
Shrubs	3-8
Narrow Crowned Trees (Cedar and columnar varieties)	6-10
Normal Crowned Trees	12-16
Between Rows	Spacing (ft.)
Shrub Rows	6-8
Tree Rows	12-16
Tree/Shrub Rows	8-16
Twin Row High Density	4-12

**Additional Criteria to provide food, cover, and shade for aquatic organisms that live in adjacent streams or watercourses**

Establish permanent woody vegetation with a minimum width of 15 feet.

The species selected for plantings adjacent to small watercourses will achieve sufficient height at maturity to shade the watercourse. For larger watercourses, e.g. streams and rivers consult IN NRCS FOTG Standard (391) Riparian Forest Buffer.

**Additional Criteria for boundary delineation**

Plant one row of trees or shrubs or establish a 5-foot wide strip of stiff stemmed grasses (see Table 1.) to delineate field or property boundaries. Trees and shrubs will be planted using plant spacing from Table 2.

**Additional Criteria for contour guidelines**

Hedgerows will be aligned so they provide permanent contour markers supporting implementation of IN NRCS FOTG Standards (330) Contour Farming and (585) Stripcropping. Refer to those conservation practices standards for alignment criteria.

**Additional Criteria for screens and barriers to noise and dust**

Screening hedgerows provide privacy, hide unsightly areas from view or reduce noise.

Hedgerows will be located where they most completely obstruct a line of sight, offensive sound, or dust.

Selected plants will attain a height and fullness sufficient to break the line of sight, or baffle sound and dust.

If only one (1) row is planted, use evergreen species to provide year round benefits.

**Additional Criteria for improvement of landscape appearance**

The hedgerow design will meet the aesthetic objectives of the landowner.

Plants will be selected based upon the landowner's preferences for color, texture, and growth habit.

**CONSIDERATIONS**

Consider obtaining technical assistance from a professional forester when the plantings include woody vegetation.

When wildlife is a primary concern, consider developing a management plan with assistance from a professional wildlife biologist.

Consider adding native wildflowers to hedgerows for aesthetics and wildlife diversity. For species and seeding rates refer to the IN Biology Technical Note - Upland Wildlife Habitat.

Consider using dense and/or thorny plant materials to form thickets for songbirds to nest and as a refuge to escape predators.

Consider adding nest boxes for cavity nesting birds.

Consider planting plugs and/or container stock for herbaceous plants for potentially quicker establishment.

Consider leaving a maintenance strip (greater than eight (8) feet) on the hedgerows adjacent to cropland.

Consider using a support stake when planting either container trees or balled and burlapped stock.

Consider using plant species tolerant of salt spray near roads and highways that are

deiced in the winter with salt. See the NRCS Plant Data Center web site for appropriate species.

Consider the effect of drifting snow when planning hedgerows around roads, farmsteads, and other areas where snow deposition could create a problem.

When planting woody vegetation, consider using locally adapted species from no more than 200 miles north or south of the planting site.

**PLANS AND SPECIFICATIONS**

Plans and specifications for this practice will be prepared for each site in accordance with the criteria for this practice.

The plan will include:

- Planting dates
- Site preparation and weed control methods
- Designed plant spacing and/or seeding rates by species, and type of plant materials
- Planting methods

**OPERATION AND MAINTENANCE**

Supplemental planting may be required when survival is too low to produce a continuous hedgerow.

Vegetation will be protected from unwanted fire and grazing.

Pests will be monitored and controlled.

Periodic applications of nutrients may be needed to maintain plant vigor.

Renovation activities will be scheduled to prevent disturbance during the wildlife-nesting season.

Where food and cover for wildlife is one of the purposes, management practices and activities are not to disturb cover during the primary grassland nesting period April 1 – August 1. Exceptions may be made to maintain the health of the plant community. Mowing may be needed during the establishment period.

To establish woody vegetation, control weed competition during establishment (three (3) years). Competing weeds, brush, and vines can adversely affect survival, form and rate of woody plant growth. Additional years of weed control may be needed in some instances e.g. to control johnsongrass, quackgrass, or other hard to control weed species.

## REFERENCES

- National Biology Handbook*, Part 614.4, "Conservation Corridor Planning at the Landscape Level". Natural Resources Conservation Service, August 1999.
- Benefits Associated with Feedlots and Livestock Windbreaks*. MNTC Technical Note Series No. 190-LI-1. June 1983, USDA-NRCS.
- Enhancing the Wildlife Values Associated with Windbreaks*. MNTC Technical Note: Series No. 190-LI-4 arch 1984, USDA-NRCS.
- American Standard for Nursery Stock*. ANSI Z60.1-1973, American Association of Nurserymen,
- Right Tree-Right Place, White Pine and Salt Tolerance*, Purdue University, Forestry and Natural Resources, FNR-FAQ-10-W
- Roadside De-Icing Salts and Ornamental Plants*, Purdue University, Department of Horticulture, HO-142-W
- Urban and Community Forestry, A Guide for the Northeast and Midwest United States*, U.S. Forest Service, Northeastern Area, State and Private Forestry
- Forestry Handbook*, Society of American Foresters, 2<sup>nd</sup> Edition, 1984
- How Windbreaks Work*, University of Nebraska, Extension 91-1763-B, 1991