

**NATURAL RESOURCES CONSERVATION
SERVICE CONSERVATION PRACTICE
STANDARD
Specification Guide**

**HEDGEROW PLANTING
(Ft)
Code 422**

A hedgerow is a linear planting of vegetation. Plantings usually consist of trees and shrubs but may include grasses. Hedgerows can perform many biological functions and purposes on your farm and landscape.

This practice applies wherever it will accomplish at least one of the following purposes

- 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

Specifications

Practice specifications will be developed individually for each site with the landowner. Specifications will comply with Standard 422, and the decisions concerning location, plant materials and other specific technical decisions will be documented.

Use woody plants or perennial bunch grasses producing erect stems attaining average heights of at least 3 feet.

No plant listed by the state as a noxious weed shall be established.

Species shall not host pests or diseases that could pose a risk to nearby crops.

Plantings consisting of two or more species, especially locally native plant species, shall be encouraged

No minimum width beyond a single row is required except where wildlife food and cover is an objective.

The method of planting shall include hand or machine planting techniques, suited to achieving proper depths and placement for the selected species.

Use of bare root and containerized seedlings will accelerate hedgerow development.

Consider the amount of shading a hedgerow will provide at maturity. Shading may impact growth of adjacent plants, microclimate and aesthetics.

Consider avoiding the use of plants that spread by root suckers as hedgerow may expand beyond the desired treatment area.

Hedgerows containing a mixture of native shrubs and small trees provide greatest environmental benefits.

Limiting renovation events to one-third of a hedgerow's length or width will prevent sudden elimination of the practice's wildlife habitat function.

All planned work shall comply with federal, state and local laws, and regulations.

Plant Species

Plant species shall be selected based on: the proposed uses of hedgerows, preferences of land user, conditions of the soils, plant growth rate and shade tolerance. The table on page 6 includes several plant species recommended for hedge-rows.

Wildlife Food, Cover and Corridors

Establish at least two compatible species of native vegetation.

Selected plants shall provide cover and/or food to support the landowner's wildlife objectives.

Minimum hedgerow width, at maturity, shall be 15 feet. This may require the establishment of more than one row of plants.

Generally, wider corridors accommodate more wildlife use.

In grassland ecosystems, hedgerows may adversely affect area-sensitive nesting birds by fragmenting habitat patches and increasing the risk of predation.

Dense or thorny shrub thickets provide songbirds with important nesting sites and a refuge to escape predators.

Establishment of herbaceous vegetation along the edges of a hedgerow can further enhance the habitat functions of a hedgerow.

Pollinator Habitat

Plants must provide abundant pollen and nectar resources.

Planting multiple species with different blooming periods.

Pollinator hedgerows will be protected from pesticides that may harm pollinators.

Living Fences

Planting vegetation that have a suitable size and density to create a barrier to contain livestock or humans.

Plants shall not be poisonous or hazardous to the animals. However thorny shrubs and trees can improve a living fence's barrier effect.

Refer to NRCS Conservation Practice Standard and Specification guide 382- Fence.

Boundary Delineation

They can be used to differentiate land management units.

Contour Guidelines

Hedgerows following land contours create meandering lines on the landscape, produce a natural appearance and increase the availability of "edge" wildlife habitats.

Hedges planted on the contour, or parallel to cultivated cropland should not exceed 6 or 8 feet in height because shade produced may interfere with crop growth.

Screens and Noise Barriers

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

Combination of shrubs and/or trees can create more effective screens than single species plantings.

Evergreens provide foliage that can maintain a screen's year-round effectiveness.

Improvement of Landscape Appearance

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

Consider plants' seasonal display of colors on bark, twigs, foliage, flowers and fruit.

Consider plants' growth habits (outline, height and width).

Reducing Particulate Matter Movement

The hedgerow will be oriented as close to perpendicular to the prevailing wind direction as possible. Hedgerow density

- at least 50% at maturity on the upwind side
- at least 65% at maturity adjacent to the particulate source

Reduce Odor Movement and/or Chemical Drift

Tree and shrub species used shall have foliar and structural characteristics that optimize interception, adsorption and absorption of airborne chemicals or odors.

Plant species shall be selected that are tolerant of anticipated chemical use.

Orientation of the hedgerow shall be as close to perpendicular to the prevailing wind direction during the period of concern as possible, and between the source of the odor or chemical drift and the sensitive areas.

Hedgerows shall be located upwind of the odor producing area and the chemical application area.

Operation and Maintenance

Periodic root pruning can reduce nutrient and water robbing from adjacent cropland.

Limiting renovation events to one-third of a hedgerow's length or width will prevent sudden elimination of the practice's wildlife habitat function.

Competing vegetation shall be controlled until the hedgerow becomes established.

Control shall continue beyond the establishment period, if necessary.

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

Vegetation shall be protected from unwanted fire and grazing throughout its life span.

Pollinator hedgerows will be protected from pesticides that may harm pollinators.

Replanting will be required when survival is inadequate to provide enough woody plants to form a continuous hedge.

Existing hedgerows may be improved by removing or topping selected less desirable trees or shrubs, thus improving growing conditions for the remaining species. Most desirable species can also be interplanted in the hedgerow.

About the first four years pruning is desirable when plants reach 2-3 ft. high in order to strengthen the effectiveness of the hedge at the bottom. Climate and soils conditions affect the pruning frequency. At maturity pruning purpose is limiting the extension of the hedge in both width and height.

Livestock shall be excluded as necessary so that the vegetative cover can be established and maintained to meet its intended purpose.

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

Documentation

The following is a list of the minimum data and documentation to be recorded in the case file:

- Field location,
- Extent of the hedgerow in length and width,
- Conservation plan map or sketch showing the location of the practice
- Assistance notes.
- Species selected for establishment, number of each, spacing and planting dates
- Land preparation to be performed
- Liming and fertilization requirements.
- Control of competition needed for establishment.

Plant Guide for Hedgerow Establishment

Type		Common Name		Technical Name
S			Areca palm	<i>Areca L.</i>
S		Astromelia	Crapemyrtle	<i>Lagerstroemia indica</i>
S		Croton de jardín	Garden croton	<i>Codiaeum variegatum</i>
S		Cruz de Malta	Jungleflame Ixora	<i>Ixora coccinea</i>
S		Hibiscos	Hibiscus	<i>Hibiscus spp.</i>
S		Macaco	Fragrant dracaena	<i>Dracaena fragrans</i>
S		Mirtos, Café de la India	Chinese box	<i>Murraya panicula</i>

Type		Common Name		Technical Name
S		Sauco amarillo	Yellow trumpetbush	<i>Tecoma stans</i>
S		Trinitaria	Bougainvillea	<i>Bougainvillea ssp.</i>
T		Doncella		<i>Byrsonima ssp.</i>
T		Emajaguilla	Portia tree	<i>Thespesia populnea</i>
T		Ficus		<i>Ficus spp</i>
T		Madre de cacao	Quik stik or quickstick	<i>Gliricidia sepium</i>
T		Roble blanco	White cedar	<i>Tabebuia heterophylla</i>

Type		Common Name		Technical Name
T		Tachuelo	Fustic	<i>Pictetia aculeata</i>
T		Ucar	Black Olive	<i>Bucida buceras</i>
		Uva playera	seagrape	<i>Coccoloba uvifera</i>
		Vomitel		<i>Cordia spp.</i>
G		Caña de azúcar	Wild sugarcane	<i>Saccharum spontaneum</i>
G		Pacholí	Vetiver, khus-khus	<i>Vetiveria zizanioides</i>

S_Shrub
T_Tree
G_Grass

References:

Flora of Puerto Rico and Adjacent Islands: A Systematic Synopsis, Henri Alain Liogier-Luis F. Martorell.

National Biology Handbook, Part 614.4, "Conservation Corridor Planning at the Landscape Level." Natural Resources Conservation Service, August 1999.

Virtual Research and Development Centre (Livestock, Environment and Development Initiative).

<http://www.virtualcentre.org/en/frame.htm> <http://www.gardendepot.org/prod02.htm>

http://www.infojardin.com/arbustos/Lista_setos_bajos.htm

<http://www.gardendepot.org/prod02.htm>

http://www.infojardin.com/arbustos/Lista_setos_bajos.htm

<http://www.en123inmuebles.com.ve/cosas-de-casa/decoracion-y-jardineria/de-esta-manera-se-cultivan-las-trinitarias.3335>

<http://www.gardendepot.org/prod02.htm>