

Field Borders & Filter Strips

Field borders are strips of trees, shrubs, and/or grasses established around the edges of cropland, hayfields, and/or pastures to reduce erosion, improve water quality, provide turning areas for farm equipment, and create wildlife habitat. They can be quite beneficial by providing a protective screen against high winds and a deterrent to poaching. They also provide valuable travel corridors for wildlife, connecting otherwise isolated patches of habitat.

Filter strips are strips of grasses that lay at the edges of crop fields next to water bodies such as rivers, creeks, streams, drainage ditches, ponds, and lakes. They are designed to intercept sediment and chemicals before they enter the water supply, thereby reducing erosion and protecting water quality.

Another related practice is grassed waterways. Like filter strips, these grass strips are designed to reduce erosion and protect water quality. However, whereas filter strips are located at the edges of crop fields, grassed waterways lay within crop fields along both sides of shallow drainages. They are particularly good at preventing gully erosion.

Filter strips and grassed waterways are very effective at preventing erosion and improving water quality in several ways. First, they soften raindrop impact and minimize the breakup of soil. Second, they slow runoff water and filter sediments from it. Finally, they remove nutrients and chemicals from runoff water through their uptake by actively growing vegetation.



Figure 1. Native warm season grasses make excellent cover for filter strips such as this one, which lays between a crop field and a wooded stream drainage.



Figure 2. Grassed waterways save soil from eroding, filter pollutants from runoff water, and provide important food and cover for wildlife.



Field borders are strips of trees, shrubs, and/or grasses established around the edges of cropland, hayfields, and/or pastures.



Figure 3. Borders of clover should be established around native warm season grass fields that will be managed with prescribed burning; the clover border (the bright green cover above) serves as a firebreak as well as a wildlife feeding area.

The width of these buffer strips can vary, but in general they should probably be at least 15-25 feet wide and preferably wide enough so as to accommodate the turning of farm equipment. In fact, if wide enough, it may be possible to use such strips as sources of hay, thereby complementing crop operations on the farm.

A variety of trees and shrubs* can be used in developing field borders. On well-drained sites, white pine is often a good choice due to its long needles and natural tendency to keep its lower branches. In fact, 2-3 offset rows make an excellent screen. Pines should be planted on a spacing of 10 feet by 10 feet (436 trees/acre). Shrubs such as Chinese chestnut, wild plum, redbud, crabapples, and dogwoods are also good choices for developing field borders. They should generally be planted on a spacing of 6 feet by 6 feet (1210 shrubs/acre). Spring (March-April) is usually the best time to plant trees and shrubs, although fall (October-November) planting may also be feasible. Refer to the corresponding *Habitat How-To* for details regarding species suitability on various sites as well as general planting guidelines.

Bicolor lespedeza is another shrub that is suitable for use in field borders. It can be planted either as seed or seedlings. Seed should be broadcast at a rate of 5-10 pounds per acre onto a well-tilled seedbed in spring (February-May). Seedlings should also be planted in spring, at a spacing of 3 feet between rows and 18 inches between plants within rows. Bicolor lespedeza needs to be mowed every 5 years or so to keep it vigorously producing seed.

A variety of grasses and legumes can be planted in field borders, filter strips, and grassed waterways. Native warm season grasses* such as switchgrass, big bluestem, and Indiangrass provide the best nesting cover for small game such as rabbits and quail. Switchgrass is particularly suited for such uses due to its thick growth form and deep, extensive root system. In fact, its thick growth form makes it an excellent choice as habitat for rabbits. However, only Kanlow or Blackwell varieties should be used on wet sites. Big bluestem and Indiangrass, which tend to remain more open, are better for quail. Although generally upland in nature, they can tolerate short periods of moderate wetness. Warm season grasses are usually planted in spring (May-June).

Wildlife-friendly cool season grasses* such as orchardgrass, timothy, and redtop are also an option for revegetating buffer strips and provide very good wildlife habitat.

In fact, redtop is an excellent soil binder and is quite tolerant of wetness. These grasses can be planted in spring (March-April) or fall (September).

Usually the two types of grasses are not intermixed within the same stand. Since soil conservation and water quality are main objectives for these types of plantings, relatively high seeding rates should be used. Consult the respective *Habitat How-To's* for details on establishing these grasses. Some legumes, such as clover, Korean/Kobe lespedeza, or partridge pea, should be included with each type of grass as appropriate.

If desired, pure stands of legumes* could be planted in these buffer strips instead of grass/legume mixtures. Such plantings may not provide the filtering capacity or nesting cover of grass/legume mixtures. However, they would furnish excellent foraging and brood-rearing habitat for wildlife. In fact, for fields planted to native warm season grasses, establishing a buffer strip of clover around the perimeter is a good idea. It will serve not only as a food plot for wildlife, but also as a built-in fire lane for periodic burning of the native grasses.

Field borders, filter strips, and grassed waterways should be protected from livestock by using adequate fencing*. In the absence of haying, the strips of grasses should be maintained simply by mowing* them annually to encourage dense vegetative growth. Mowing should be done outside of the primary nesting season for wildlife, which generally runs from about mid-May through mid-July. The best times to mow are during March or late August. Do not mow the grasses below 6-8 inches so as to leave some cover for wildlife. If protected and managed properly, these narrow buffer strips can produce significant results in terms of wildlife populations on farms.

Filter strips are strips of grasses established at the edges of crop fields to intercept sediment and chemicals before they enter adjacent water bodies.



Grassed waterways are strips of grasses established within crop fields along both sides of shallow drainages to prevent erosion and protect water quality.



Figures 4. Shrub rows (left) or native season grasses (right) make excellent cover for field borders adjacent to croplands, pastures, or hay fields.

SUMMARY OF OPTIONS:

Type of Planting:

- Field Border
- Filter Strip
- Grassed Waterway

Species of Trees and/or

Shrubs (if applicable):

Varies depending on site

Type of Grasses:

- Native Warm Season
Grasses
- Cool Season Grasses

Time of Planting:

- Spring
- Fall

Location of Planting:

- Around Edges of Field
- Within Field

Management of Planting:

- Fencing
- Mowing

*Related *Habitat How-To* references:

- Streamside Management
- Wildlife Corridors
- Edge Feathering
- Natural Revegetation
- Trees and Shrubs
- Fescue Eradication
- Soil Amendments
- Native Warm Season Grasses
- Cool Season Grasses
- Legumes
- Mowing
- Cropland Management
- Fencing

Planning for My Property



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