

VEGETATIVE BARRIER SPECIFICATIONS

NATURAL RESOURCES CONSERVATION SERVICE

Design Criteria

Vegetative barriers will be a minimum of 3 feet wide. Vegetative barriers may be wider than 3 feet to adjust for planter and or sprayer width. Vegetative barrier length will vary depending on topography. In concentrated flow areas, each strip will extend far enough to provide 1.5 feet of elevation from the outer edge of the flow area to the end of the vegetative barrier.

Vegetative barrier crop spacing, vegetative barrier width, and maximum slope length limits are listed in Table 1. Adjustments of 10 percent in spacing of vegetative barrier crop width will be allowed for machinery width and row spacing. Upward adjustments of the vegetative barrier width will be allowed for wildlife or maintenance.

Table 1. Vegetative barrier crop spacing and width.

Land Slope Percent	Max. Crop Strip Width	Min. Veg. Barrier Width	Max. Slope Length Limits
-----feet-----			
0-2.0	150	3	800
2.1-3.0	100	3	350
3.1-5.0	75	3	300
5.1-8.0	60	3	200

Seedbed Preparation

Seedbed preparation and seeding depth are two critical factors that must be addressed for successful vegetative barrier establishment. During the establishment year, native grasses devote most of the energy to root development. Perennial weed competition can adversely effect stand establishment by shading out native grass seedling and in many cause stand failure.

Chemical weed control should be made prior to seedbed preparation. Determine what weed species are most likely to be present throughout the growing season before you start planning your competition control. When labeled herbicides are applied a Risk Assessment (WIN-PST) should be performed following practice standard 595 Pest Management.

Switchgrass should be planted on a firm seedbed no deeper than a ¼ inch. Use a cultipacker, roller or similar implement to firm seedbed prior to planting. If rain has settled a freshly prepared seedbed, then harrow before planting. Seedbed should be cultipacked before and after planting. At this shallow planting depth, it is acceptable to have a few seed (less than 10%) visible on the surface.

Establishment Method and Planting Date

All seed and planting materials will be labeled and meet state seed quality law standards. Seeding rates will be determined based on **pure live seed (PLS)** or percent germination information found on the seed tag. Percent PLS can be computed using decimal values with the following equation.

$$\% \text{ Pure Live Seed} = [(\text{Percent germination} + \text{Percent hard seed}) \times \text{Percent purity}] / 100$$

All seeded vegetative barriers will be planted with 'Alamo' switchgrass (*Panicum virgatum*). Drill switchgrass at 15 pounds of pure live seed per acre at a depth of ¼ inch. Do not plant deeper than ¼ inch. Broadcast seed into a prepared seedbed at 20 pounds of pure live seed per acre and cultipack or roll after planting. The optimum planting dates for 'Alamo' switchgrass are February 1 to May 15. A general rule is to try and plant switchgrass within 14 days of the optimum planting date for corn if proper weed control measures have been made the previous growing season. If weed control is scheduled during the same growing season, allow perennial weeds to begin active growth, chemically treat then prepare and plant switchgrass.

Concentrated flow or low areas can be established with transplants of 'Alamo' switchgrass. Vetiver grass (*Vetiveria zizanioides*) can be transplanted south of the 31° parallel. Transplanted barriers should be planted dense enough to function within one growing season. This will require a spacing of no more than 6 inches for bare-root seedlings, cuttings, sod chunks, plugs, rhizomes, or divisions consisting of no less than 5 viable stems. Transplanted barriers will have a minimum of two rows. Transplants should be made during periods of adequate moisture in early spring (March to May) or during the dormant season (November to February).

Soil Fertility

Before planting, apply phosphorus and potassium according to soil test recommendations. In lieu of a soil test, fertilizer should be applied at a 0-1-1 ratio of N, P₂O₅, & K₂O. Apply 50 pounds of actual P₂O₅, and K₂O per acre. This can be accomplished by applying 200 lbs of 0-24-24. Nitrogen should not be applied at planting. Apply 50 pounds of actual N per acre after the switchgrass is actively growing and 8 to 12 inches tall.

Lime is recommended for all soils with a pH below 5.0. Lime applications should follow rates recommended on soil test results. If recommendations are not available, use the following general guidelines. One-ton agricultural limestone or dolomitic limestone per acre will generally raise the pH approximately one unit. Soil pH should be maintained at 5.5 or higher.

In some cases phosphorus, potassium, and lime may not be needed if the crop field has been well fertilized in the past.

NOTE: Broadcast lime and fertilizer on the soil surface. On areas requiring seedbed preparation, lime and fertilizer should be incorporated.

Weed Control

There are no labeled herbicides for establishment of 'Alamo' switchgrass. However, because switchgrass is slow to establish, glyphosate (33 percent solution) applied with a wickbar will provide control of tall weeds such as Johnsongrass and ragweed. Caution should be taken not to apply the glyphosate directly to the switchgrass. When labeled pesticides are applied a Risk Assessment (WIN-PST) should be performed following practice standard 595 Pest Management.