

NATIVE WARM SEASON GRASSES

PRACTICE IMPLEMENTATION AND MAINTENANCE



Natural
Resources
Conservation
Service

Maryland



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Native warm season grasses (WSG) may be established to reduce soil erosion and sedimentation, improve water quality, or to provide wildlife habitat. "Warm season" grasses are plants which produce most of their growth during the hot summer months (July - September). They are well adapted to survive under conditions of low moisture and high temperatures. Big bluestem, little bluestem, indiagrass, and switchgrass are native warm season grasses which are commonly planted in this area.

PRE-PLANTING

Regardless of the planting method to be used, it is essential to control weeds prior to seeding native warm season grasses. A herbicide application is preferred to tillage immediately prior to planting. If tillage is used for weed control, the field should be reworked at least two weeks prior to planting to prepare a firm seedbed. Refer to the Establishment Schedule for specific information on weed control. Maryland state laws require the control of noxious weeds on your property. Contact the Maryland Department of Agriculture Weed Control Section at 410-841-5871 for more information.

Herbicide carryover can pose a threat to new plantings. Herbicides such as Basagran, Blazer, Classic, Poast, Plateau and Roundup have low persistence and generally do not pose a risk for carryover. Herbicides such as Atrazine, Preview, Canopy, Lorox Plus, Command, Scepter and Treflan have medium to high persistence and can pose a risk of carryover. The persistence of herbicides is directly affected by factors such as soil pH and moisture and should be assessed prior to planting. Contact the herbicide manufacturer for specific information on persistence.

PLANTING METHODS

No-tilling warm season grasses into a cover crop is the best method for establishment because it greatly reduces weed competition and prevents erosion. No-till establishment is recommended where erosion is a concern and on all sites where slopes are over 6%. In the fall, plow, disk and drag the field and plant a cover crop such as 20 lb/ac of oats or barley. In the spring, no-till into the stubble.

No-tilling into existing vegetation is effective on fallow fields and on existing sod if it is treated with a herbicide. In fallow fields, where weeds are over 2 feet tall, mow or brush hog prior to herbicide application. Evaluate the site again in early spring and if necessary control weeds with a herbicide prior to no-tilling.

Conventional tillage can be used on all sites that were tilled during the pre-planting year. As with all planting methods, weeds should be controlled the fall prior to planting and again in early spring. Plant the seed in a firm seedbed. After planting, cultipack the field to cover at least 50% of the seed 1/4" deep. It is not necessary to cover all of the seed.

Broadcast seeding can be used when tillage equipment is not available or on very small areas where it is not feasible to operate equipment. Seed should only be broadcast onto a well prepared, firm, weed free seedbed. After broadcasting, the area should be packed down so that at least 50% of the seed is covered. Broadcast seeding is usually not very successful because it is difficult to get good seed to soil contact. Do not broadcast Eastern Gamagrass seed.

SEED - WSG seed is sold in Pounds of Pure Live Seed (PLS). $PLS = (Purity) (Germination) / 100$. Seeding rates are usually in pounds of PLS in order to ensure that the proper amount of seed is planted. Eastern Gamagrass seed must go through a stratification process prior to planting in order to germinate. Seed that has gone through this process is sold as “treated” seed and is available from most seed companies.

FERTILITY REQUIREMENTS

WSG are roughly twice as efficient at utilizing nitrogen, phosphorus and potassium as cool season grasses. For this reason, they are very tolerant of infertile sites. Phosphorus and potassium should be applied **ONLY** if soil test results indicate they are in the VERY LOW range. Nitrogen **SHOULD NOT** be applied at planting because it only encourages weed growth.

POST ESTABLISHMENT MANAGEMENT

While established stands require very little maintenance, periodic management is necessary to rejuvenate stands and suppress woody growth. In the Northeast, some type of management will usually be required every three to four years. Management practices include controlled burning, mowing and grazing.

For optimum wild life habitat, avoid disturbance of the grasses during the primary nesting season (April 15 to August 15). In addition, to ensure that some food and cover is always available, management practices should only be applied to one third of the stand at a time.

CONTROLLED BURNING is the most effective management technique. The stand should be burned every three to four years. Controlled burning requires a permit and is prohibited in some areas. Contact the

Maryland Department of Natural Resources (DNR) State Forest Service Office at 410-260-8531 for current information, permits and assistance concerning this practice.

If controlled burning will be used as the primary management practice, firebreaks must be planted. Firebreaks will consist of noncompetitive cool season grasses and legumes. Refer to Table 2 in the Conservation Cover Practice Standard for recommended species.

MOWING can provide similar benefits to burning. One third of the total stand should be mowed to a minimum height of 6 inches every three to four years. Plant litter can smother new growth and should be removed. Mowing is not an effective management practice unless the litter is removed. You can also scarify the soil surface with a harrow or similar equipment to enhance the effects of mowing.

In order to allow a sufficient recovery period prior to dormancy, mowing should be done no later than four weeks prior to the last average killing frost for your area. Mowing can also be done after the first killing frost when plants are dormant.

GRAZING can also be an effective management practice. Warm season grasses are very palatable and nutritious. WSG are best grazed from July through August. Initial grazing of WSG should not begin until the plants are 15-24 inches tall. Graze down to 6 inches, and allow to regrow to 12 inches before the next grazing. The final grazing height should be around 9 inches to allow sufficient recovery prior to dormancy. For more information on grazing heights, refer to the Prescribed Grazing Practice Standard.

PLANTING INFORMATION				
Species	Seed Type	Drill Required	Planting Depth in Inches by Soil Textures	
			Fine	Coarse Sandy
Big Bluestem	fluffy	native seed	1/4 to 1/2	3/4 to 1
Coastal Panicgrass	small, hard	regular grass	1/4 to 1/2	3/4 to 1
Eastern Gamagrass	corn-like	corn	3/4 to 1	1 to 1 1/2
Little Bluestem	fluffy	native seed	1/4 to 1/2	3/4 to 1
Switchgrass	small, hard	regular grass	1/4 to 1/2	3/4 to 1

ESTABLISHMENT SCHEDULE FOR WARM SEASON GRASSES

PRE-PLANTING

fall

Take a soil test. If the pH is below 5.0, apply lime to adjust the pH to 5.0-6.0.

No-till into cover crop: Plant 20-40 lb/ac of barley or oats.

No-till into existing vegetation: Treat the field with Plateau, Round-up or 2,4-D. Mow first if weeds are over 2 ft.

Conventional tillage: Treat the field with Plateau, Round-up or 2,4-D. Mow first if weeds are over 2 ft.

spring

All planting methods: Treat the field with Plateau, Round-up, Banvel or 2,4-D. Do not use Banvel or 2,4-D if you will be planting legumes or wildflowers with the WSG.

PLANTING YEAR

mid-late spring

Apply P and K ONLY if soil test results indicate they are at the VERY LOW level. DO NOT APPLY NITROGEN.

late spring-fall

Mow to control weeds. Do not let weeds get above 12 inches tall. Mow to 4-6 inches or just above seedling height. Do not mow seedlings.

SECOND YEAR

early spring

If cool season grasses persist and comprise more than 25% of the field, do one of the following until new growth appears on the WSG: treat with an herbicide such as Round-up or Plateau OR mow or graze severely (as close to the ground as possible).

mid-spring

If cool season grass weeds comprise less than 25% of the field, you can apply 40-60 lb/ac of nitrogen to optimize growth.

late spring-mid

Continue mowing to control weeds. Mow to a height of about 8 inches.

summer

fall

If perennial weeds comprise 25% or more of the field, do one of the following after the WSG are dormant: treat with an herbicide OR mow or graze severely.

THIRD YEAR

early spring

If cool season grasses persist and comprise more than 25% of the field, do one of the following until new growth appears on the WSG: treat with an herbicide such as Round-up or Plateau OR mow or graze severely (as close to the ground as possible).

late spring-mid

Continue mowing to control weeds. Mow to a height of about 8 inches.

summer

fall

If perennial weeds comprise 25% or more of the field, do one of the following after the WSG are dormant: treat with an herbicide OR mow or graze severely.

FOURTH YEAR AND BEYOND

The stand should be well established. Controlled burning, mowing, or grazing may be needed every 3 - 4 years to rejuvenate the stand and suppress woody growth. For optimum wildlife habitat, do not burn or mow during the nesting season (April 15 - August 15). Control noxious weeds as required by state law.

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