

Establishing Native Warm Season Grasses in New Jersey

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Choosing the Right Seed Mix

Whether you're planting a Switchgrass monoculture for biofuel production or an herbaceous blend for wildlife, it all begins with the seed. If wildlife is a consideration, remember that habitat value increases proportionately with vegetative diversity. Native plants are ideally suited to local climate stressors such as temperature and precipitation levels, and are highly recommended over non-native species. The [Native Plant Society of New Jersey](#) has an extensive listing of native species for each county. Companies such as [Ernst Seed](#) and F.M. Browns Son's offer pre-mixed selection of Native Warm Season Grasses (NWSG) and forbs that are native to the northeastern United States. Landowners may also order a custom seed blend based on recommendations from a qualified natural resource consultant. Remember – native plants provide the best results from a wildlife perspective.



Bulk Seed vs. Pure Live Seed

Seed orders can be purchased either as “Bulk Seed” or “Pure Live Seed” (PLS). Bulk Seed contains inert materials such as leaves, stems and other fluff whereas PLS does not. Seeding rates are usually based on Bulk Seed unless otherwise indicated. Sometimes professional or contractual seed mixes (such as those used for USDA Farm Bill Programs) are expressed in PLS to create a more exact quantity. PLS refers to the amount of live seed in a lot of Bulk Seed. The cost of PLS is proportionately higher than the cost of Bulk Seed.

Use the following formula to calculate the % PLS in a lot of Bulk Seed:

$$\frac{[(\text{Purity \%}) \times (\text{Germination \%}) + \text{Dormant/Hard \%}]}{100}$$

For example – 1 Pound of Bulk Seed has a 96% purity, a germination rate of 60% and contains 20% dormant seed. Using the formula above,

$$\% \text{ PLS} = [(96\%) \times (60\%) + 20\%] / 100 = 76.8\%$$

To determine how much Bulk Seed is needed to equal 1 lbs. PLS, simply divide by % PLS:

1 lbs. PLS / 76.8% = 1.3 lbs. Bulk Seed

Therefore, a recommended seeding rate of 1 lbs. PLS / acre will require the purchase of 1.3 lbs. Bulk Seed / acre.

All information such as seed purity, germination rate and hard/dormant seed will be indicated on the federally mandated tag attached to the bag of seed.

Site Preparation

When planning site preparation, keep in mind the season and the seeding method you'll be using



afterwards. The NJ Division of Fish and Wildlife recommends planting NWSG December through February when broadcast frost seeding or from April 15th through June 15th for seeding with a No-Till Drill.

Important Note: *Seed mixes that include forbs such as*

partridge pea, purple coneflower, tick trefoil, and black-eyed susan should be planted by May 31st!

The goals of site preparation are ridding the area of unwanted vegetation and providing good soil-to-seed contact. Remember that NWSG seed will not germinate until the soil temperatures reach 50-55° Fahrenheit.

If broadcast seeding, disk existing vegetation first, then culti-pack the area to ensure a firm seed bed. Or, first apply an herbicide to existing vegetation before disking, then culti-pack the area for a firm seed bed. Culti-pack the area again after broadcasting.

Unless your area has just been disked and you're starting with a clean slate, you will probably need to control unwanted vegetation in your proposed NWSG stand. For example, a bright green field in either late February-early May or September-October may indicate a Cool season grass problem. There are several options to eradicate cool season grasses depending on the season:

Early Season Fix: Mow area in February/March and allow cool season grass regrow to 6-12" in height. Then apply the following chemical mixture per acre:

4 oz. Imazapic (*Plateau*[®] or *Panoramic 2SL*[®]) and
1.25-2 qt. of Glyphosate (*Round-Up*[®], *Rodeo*[®], *Accord*[®]) and
EITHER 1 qt. of Methylated seed oil (if forbs are not in seeding mixture)
OR 1 qt. of silicone surfactant (if forbs are in seeding mixture)

Note: After spraying Glyphosate, you must wait 14 days after spraying before planting NWSG seed!

Late Season Fix 1: Mow area in September/October and allow cool season grass regrow to 6-12” in height. Then apply the following chemical mixture per acre:

1 qt. Glyphosate (*Round-Up*[®], *Rodeo*[®], or *Accord*[®]) and
17 lbs. ammonium sulfate per 100 gallons of water

Late Season Fix 2: Conduct fall plowing and disking in September/October. Plant a cover crop such as buckwheat in November-December. Apply either chemical mixture above after haying the following spring.

Seeding Methods

All seeding methods will achieve success provided that the NWSG seed is planted no deeper than ¼” with good seed-to-soil contact and competing vegetation is under control. NWSG mixtures should be planted 3-10 lbs./ac. PLS depending on landowner objectives. If the objective includes Bobwhite Quail, a lower seed rate (3-5 lbs./ac) is recommended as well as adding forbs to the seed mixture.

No-Till Drill Seeding

Popular models of the no-till drill such as the Truax™ FLEXII have specially designed boxes with special augers and spindles capable of dispensing the light fluffy NWSG seed. Please see the “User Guide to the Truax™ Flex II No-Till Drill” page regarding more information such as calibration and tips on use. NRCS and other agencies/groups have No-Till drills available for rent. Use



seed drill for planting from April 15th through June 15th for NWSG only and by May 31st for seed mixes that include a forb component.



Broadcast Seeding

Site preparation such as disking and culti-packing are extremely important when broadcasting. A fluffy seed carrier agent such as kitty litter, saw dust or sand must be added to allow even dispersal of light fluffy NWSG seed. Following up broadcast seeding with a roller or culti-pack is recommended for higher success. Broadcast seeding conducted in December-February when the ground is frozen (frost seeding) replicates the natural seeding process. Broadcast seeding can also be done in spring or fall provided that the site is properly

prepared.



Site Maintenance

Use of an Imazapic herbicide such as Panoramic 2SL in early summer of the second year should take care of unwanted vegetation problems in your stand. Plateau is a popular Imazapic herbicide, but is only available to government agencies or their contractors.

Usually by the third growing season the NWSG stand has become established with a deep root system. Stands must be maintained through periodic natural or man-made disturbances such as prescribed burns or strip disking. These disturbances are essential to control woody debris, unwanted vegetation, and allow the stand to remain in an early successional stage.

Prescribed Burning

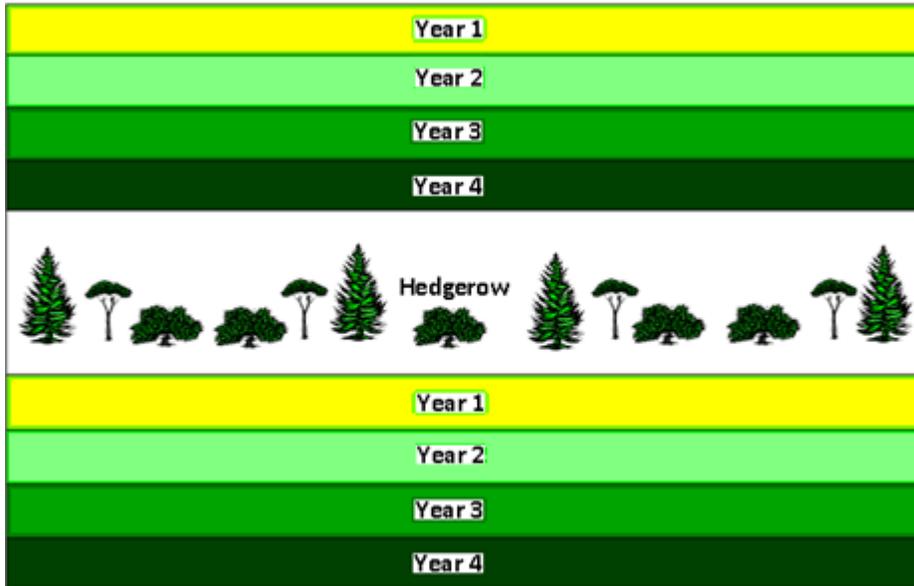
Prescribed burning is a cost-effective management tool for providing disturbance to NWSG stands. Burning increases nutrients, eliminates undesirable plants and reduces litter buildup of dead vegetation. Burning at different times of the year will achieve different results. Burns conducted in late winter, when cool season grasses start to green up, control cool season grass and density of the NWSG stand. Burns conducted in September/October increase the forb components in the NWSG stand.



Prescribed burns should only be conducted by trained professionals. *Contact your local fire warden for procedural information and to obtain a burn permit.*

Strip Disking

Strip Disking is simple and an inexpensive management tool that will maintain NWSG stands and improve wildlife habitat. Disking will set back natural succession by cutting up vegetation without allowing succession to take place, remove excess litter build up and promote annual weed growth. Strip



Disking is conducted at 3-4 inches deep to kill existing vegetation and usually is done in 20-30 yard strips in alternate years.

Results will vary depending on the time of year and site. Strip Disking to thin a stand following a prescribed burn is especially effective.

Links

[Herbicide Guide to Establishing NWSG Stands](#)

[User's Guide to the Truax™ Flex II No-Till Drill](#)