

Early Successional Habitat Management (647)

Conservation Practice Job Sheet

Establishment of Cool Season Grasses and Legumes



USDA Natural Resources Conservation Service
New Jersey

Client Name:

Date:

County:

Date:

Tract #:

Assisted by:

NRCS Service Center:

Phone:

Introduction

Cool season grasses and legumes have been used for many years to provide important wildlife habitat for farm wildlife such as grassland birds, cottontail rabbits, bobwhite quail, ringneck pheasants, wild turkeys and more. These plants can provide important food, cover and nesting areas for many species of wildlife. Cool season grasses put on most of their growth during April, May and early June. A second growth period occurs in late August and September. Many legumes are high in protein and are sought out by wildlife over other plants. Legumes also fix nitrogen and help maintain soil fertility. These plants are usually easier to establish than warm season grasses and with proper site preparation and establishment you can have a successful stand in one season.

Site Conditions and Site Prep

Table 1. includes some popular cool season grasses and legumes that are commonly established for wildlife. Their soil and site conditions, wildlife values and seeding rates are displayed. Site preparation for these plants usually includes plowing and disking but successful establishment can be done by no-till planting. Provide a firm, weed-free seedbed that will assure good soil to seed contact.

Soil Amendments

All fields to be seeded should have a soil test to determine lime and fertilizer needs. Lime, if needed, should be applied at least 6 months prior to seeding. Apply any fertilizer needed prior to or at planting time. Cool season and legume seedings are usually more sensitive than warm season seedings to soil pH and N,P,K levels. Adequate soil fertility is a must for a successful seeding to occur.



Seeding

Seeding rates for cool season grasses and legumes are presented in Table 1. There are two preferred seeding dates for cool season grasses and legumes. Spring seedings can be done from March 1st through about May 15th and fall seedings can be done from August 15th to about October 1st. Adequate soil moisture should be available at seeding time to assure good germination.

Seed drills usually provide the best success but seed can be broadcast after plowing, disking and cultipacking before seeding to assure a firm seedbed. A light, fluffy seedbed may result in very uneven planting depths and an uneven stand. The fields should be cultipacked again after broadcast seeding to ensure good soil to seed contact. Seeding rates should be increased by about 50% for broadcast seedings.

No-till is a good alternative on steeply sloping sites where soil erosion may be a hazard if plowing and disking were done. As with any no-till planting, adequate control of the existing stand must be achieved for the new seeding to be successful. This will usually require herbicides to control the existing vegetation.



Frost seedings can be a successful way to establish some cool season grasses and legumes. Seed is broadcast on frozen ground in January or February when soil surface is frozen and

honeycombed with ice crystals. Alternate freezing and thawing will work seed into soil surface for spring germination. An early spring mowing of any competing vegetation will release the new seeding. Seeding rates should be doubled for frost seedings.

Seeding rates depend upon the purpose of the seeding (filter strip, forage use, wildlife, aesthetics), site conditions and seeding methods used. Seeding rates in Table 1. assume a seeding for wildlife purposes, the seed is drilled and seed amounts are "pure live seed". Only purchase seed from a reputable seed dealer and seed that is certified. A seed analysis tag should appear on any certified seed purchased. The tag will show the percent purity and the germination rate. From these percentages one can calculate the weight of seed needed to provide a pound of pure live seed. For example, a seed lot which has an 80% germination rate and is 90% pure has a PLS percentage of 72% ($.90 \times .80 = .72$). If you need to plant 5 pounds per acre of PLS you would need about 7 pounds of this seed (5 divided by $.72 = 6.9$). Grass and legume species should be purchased separately and mixed in the field at planting time.

Weed Control After Seeding

Cool season grasses and legumes usually have good seedling vigor and are fast to establish if good conditions exist at seeding time. If weed problems occur control by mowing and/or herbicide use. Remember seedings for wildlife can be successful with some weeds. Many weed seeds are valuable wildlife foods. Weeds should be kept at a level where they will not interfere with the new grass/legume establishment. All weeds need not be eradicated.

Table 1. Some Cool Season Grasses and Legumes – Characteristics, Site Requirements and Seeding Rates

Plant Species	Height at Maturity	Wildlife Value	Soil pH Preference	Soil Moisture Regime	Seeding Rate(PLS)/Ac. Alone / In a Mix
Grasses					
Redtop	1'-2'	Medium Value Food, nesting cover	Slightly acidic to slightly basic	Moist sites to dry sites	5 lbs. / 1 lb.
Orchardgrass	3'-4'	High Value Food, nesting cover, winter cover	Slightly acidic to slightly basic	Moist sites to dry sites	10 lbs. / 4 lbs.
Timothy	2'-3'	Medium Value Food, nesting cover	Slightly acidic to slightly basic	Moist sites to dry sites, poor drought tolerance	10 lbs. / 4 lbs.
Legumes					
Birdsfoot Trefoil	1'-2'	High Value Food, nesting cover	Acidic to slightly basic	Wet sites to dry sites, best on moist sites	10 lbs. / 6 lbs.
Alfalfa	1'-2'	Medium Value Food, nesting cover, short lived	Basic	Well drained sites	15 lbs. / 10 lbs.
White Clover	6"-12"	High Value Food, nesting cover	Slightly acidic to slightly basic	Moist sites to dry sites, poor drought tolerance	6 lbs. / 3 lbs.
Red Clover	1'-2'	Medium Value Food, nesting cover, short lived	Slightly acidic to slightly basic	Moist sites	10 lbs. / 4 lbs.
Serecia Lespedeza *	3'-4'	High Value Food, nesting cover, winter cover	Acidic to slightly basic	Well drained sites	10 lbs. / 5 lbs.

* Serecia lespedeza is a warm season perennial legume

Practice Checkout:

Amount completed: _____ units

Mark as-built location on plan map and attach photos.

Remarks _____

This practice meets NRCS standards and specifications

Yes

No

Check out completed by: _____ Date: _____

Certified by: _____ Date: _____