

NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PRACTICE STANDARD

Pasture and Hay Planting

(Acre)

Code 512

DEFINITION

Establishing and re-establishing long-term stands of adapted species of perennial, biennial, or reseeding forage plants. (Includes pasture and hayland renovation. Does not include grassed waterways or outlets on cropland.)

PURPOSES

To reduce erosion, to produce high-quality forage, and to adjust land use.

CONDITIONS WHERE PRACTICE APPLIES

On existing pasture and hayland or on land that is converted from other uses.

CRITERIA

I. Establishment or Renovation by No-Till Methods

- A. Graze or mow close existing sod fields in the fall and early spring to weaken vegetation prior to reseeding.
- B. Test the soil and apply lime, phosphorus and potassium as recommended. (Do not use nitrogen since it increases grass competition to new legume seeding.) A recent soil test (less than two years old) shall be used if new tests cannot be done before seeding time. Apply lime preferably 9 months ahead of seeding.

- C. Select a grass-legume mixture from those listed on page 3 of this standard and specification.
- D. Inoculate legume seeds with proper inoculant.
- E. Use a no-till type seeder to sow grass-legume mixtures at rates specified.
- F. Use the seeding dates in Table 1.
- G. Control weeds and competition by mowing, grazing or with herbicides.

Table 1. Seeding Date Criteria

Species/Mix	IN seeding Dates*	Dormant seeding dates**
Cool Season grasses	3/1-5/15 or 8/1-9/15	12/1-3/1
Legumes	3/1-5/15 or 8/1-9/15	12/1-3/1
Warm season grasses	4/1-6/15	12/1-4/1
Forbs	4/1-6/15	12/1-4/1

* Seeding which includes Tall Fescue and/or Perennial Ryegrass and a mulch cover may extend to 9/30 for fall seeding due to the reduced time for germination and range of cold tolerance.

** Increase seeding rates by 25% when dormant seeding. Broadcasting of warm season grasses should only be done into a prepared seedbed with protection from erosion as a consideration

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No-till legume mixtures shall be seeded in April or early May, unless they are frost seeded. Preferred seeding time for alfalfa is mid-August to mid-September. Alfalfa may be seeded in mid-May if competition from perennial weeds is controlled.

performed before and after the seed is broadcast.

2

II. Establishment or Renovation by Frost Seeding Methods

Broadcast **clovers** with handheld, ATV or tractor mounted seeders. Seed anytime after winter freeze-up. See Table 1.

Lime and fertilizer testing and application requirements are the same as No-till Establishment and Renovation.

III. Establishing or Renovating by Conventional Tillage Methods.

- A. Test the soil and apply lime as recommended – preferably 6 months ahead of seeding.
- B. Prepare a firm seedbed containing enough fine soil particles for uniform shallow coverage of the seed. When preparing seedbed on sloping land with serious erosion potential, perform all tillage and seeding operations on the contour.
- C. Fertilizer shall be applied at rates recommended by soil tests and worked into the soil or applied through a drill at seeding time.
- D. Select seeding mixtures from those listed on page 3 of this practice standard
- E. See Table 1 for seeding dates. In some instances, for spring seeding it may be advisable to use one bushel of oats as a companion crop to help control erosion and weed growth. Clip oats in milk stage.
- F. Inoculate legume seeds with proper inoculant.
- G. Cover seed ¼ to ½ inch deep by using a grassland drill, grain drill with press wheels, cultipacker seeder or by broadcasting where cultipacking is

CONSIDERATIONS

Planning considerations for water quantity and quality.

Quantity

1. Effects on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, deep percolation, and ground water recharge.

Quality

1. Effects on erosion and the movement of sediment, pathogens, and soluble and sediment-attached substances carried by runoff.
2. Effects on the use and management of nutrients and pesticides and resulting effects on surface and ground water quality.
3. Effects on the visual quality of downstream water resources.

PLANS AND SPECIFICATIONS

Site specific plans will be developed according to this practice standard.

OPERATION AND MAINTENANCE

Management During The Seeding Year

Exclude all livestock until new seeding is well established.

If necessary to control weeds and/or residual stand competition, mow or lightly graze the unwanted vegetation when it is 8 to 10 inches in height to reduce competition with the new seeding. Mow high enough to avoid clipping the new seeding. Livestock should be removed when they begin to graze new seeding. The danger of herbicide carry over from previous row crops should be considered prior to seeding. Existing stands of alfalfa should be killed 6-9 months ahead of reseeded alfalfa as a precaution against alfalfa toxicity

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SEED MIXTURES FOR PASTURE AND HAYLAND

Seeding Rates of Pure Live Seed Per Acre^{1/}

LEGUME SEED				GRASS SEED (one only)					
Primary Legume		Secondary Legume		Orchard grass	Tall Fescue ^{2/}	Smooth Brome grass	Reed Canary grass	Timothy	Kentucky Bluegrass
Alfalfa	8-10			4-6	6-8	5-7		2-4	
Alfalfa	12-18	(hayland only)							
Alfalfa	6-8	Red Clover	2-4	4-6	6-8	5-7		2-4	
Alfalfa	6-8	White Clover	¼	4-6	6-8	5-7		2-4	
Red clover	6-8			4-6	8-10	5-7		2-4	
Red clover	4-6	White Clover	¼	4-6	8-10	5-7		2-4	
Red clover	6-8	Korean Lespedeza	8		8-10				
Red clover	6-8	Alsike Clover	2	4-6	8-10	5-7	3-5	2-4	
Alsike clover	2	White Clover	¼	4-6	8-10	5-7	3-5	2-4	
Birdsfoot trefoil	5			4-6				2-4	2-4
Annual lespedeza	15			4-6	8-10				

^{1/} For PLS determination refer to agronomy section of Field Reference for planning.

^{2/} Endophyte free varieties.

LEGUME RATES FOR BROADCAST OR FROSTSEEDING INTO ESTABLISHED GRASSES

Seeding Rates of Pure Live Seed Per Acre

Red clover	6-10
White clover	¼ -3
Alsike clover	1-2 1/2
Annual Lespedeza	4-15

USE AND SITE ADAPTATION OF LEGUMES AND GRASSES

	Pasture		Hay	Site Adaptation			Suitable pH
	Rotation Grazing	Continuous Grazing		Droughty	Well Drained	Poorly Drained	
Alfalfa	1		1	1	1		6.2-7.5
Alsike	1	2	1	2	1	1	5.5-7.5
Birdsfoot trefoil	1	2	1	2	1	2	5.5-7.0
Annual Lespedeza	1	1	2	1	1		4.5-6.5
Red clover	1	2	1	2	1	2	6.0-7.5
White clover	1	1	2		1	1	5.6-7.0
Kentucky bluegrass	1	1		2	1	2	5.5-7.0
Orchardgrass	1	1	1	2	1	2	5.5-7.5
Reed canarygrass	1	2	2	1	1	1	5.0-7.5
Smooth brome grass	1	2	1	1	1		5.5-8.0
Tall fescue	1	1	2	2	1	2	5.0-8.0
Timothy	1	2	1		1	2	4.5-8.0

Instructions for use of the above chart:

The figure 1 indicates the plant is well adapted, 2 indicates the plant can be used but is less well adapted and a blank space indicates that it is not adapted or not suggested for use.

Birdsfoot trefoil and Smooth brome grass are well adapted in the northern half of Indiana. Annual lespedeza is especially adapted in Southern Indiana.

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