

Animal Enhancement Activity – ANM03 - Incorporate native grasses and/or legumes to 15% or more of herbage dry matter productivity



Enhancement Description:

Improve pasture by increasing native grasses and/or legumes to 15% of herbage dry matter (productivity by weight) using adapted species and varieties, appropriate seeding rates, and timing of seeding. Pastures containing about 15% native grasses and/or legumes by weight dry matter are approximately equal to 30% foliar cover.

Land Use Applicability:

Pastureland

Benefits

Enhancing existing pasture by incorporating native grasses and legumes can provide:

1. Improved forage quality and quantity
2. Improved soil fertility (legumes fix nitrogen in the soil), increase organic matter
3. Increased plant diversity and promote wildlife habitat
4. Additional forage during seasonal slump periods
5. Extended grazing season
6. Food source for pollinating insects

Criteria for Incorporating Native Grasses and/or Legumes to 15% or more of total herbage dry matter productivity

1. A written grazing management plan that outlines specific goals and objectives.
2. Utilize adapted species, seeding rates and seeding dates according to local NRCS practice standards.
3. Determine species composition before and after seeding. Species composition must be 15% or more of native grasses and/or legumes.
4. If legumes are incorporated, a current soil test is required. Lime and fertilizer application to facilitate establishment and persistence of legumes is required if a current soil test indicates.
5. Livestock stocking rates that will allow for proper forage utilization.

Note:

Bloat can be a risk to grazing livestock where legumes make up greater than 50% of the total forage. Legumes with the highest likelihood to cause bloat include white clover, alfalfa, annual medics and Persian clover. Red clover, crimson clover and subterranean clover would be classified as moderately likely to cause bloat, while berseem clover and arrowleaf clover are low risks for causing bloat. Legumes that don't cause bloat are birdsfoot trefoil, sainfoin and crownvetch. Livestock producers grazing alfalfa aftermath in the fall months and should be cautioned of bloat, especially following a killing frost. The recommendation for grazing frost



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killed alfalfa is to wait 5 to 7 days after the killing frost (less than 28 degrees Fahrenheit) before grazing. This will allow the live tissue to fully break down, minimizing the soluble leaf proteins, and making a much safer feed base for ruminant livestock. If bloat is a concern, there are several precautions that can be taken. (A technical reference sheet will be available to address these issues).

Documentation Requirements for Incorporating Native Grasses and/or Legumes to 15% or more of total herbage dry matter productivity

A written planting specifications plan identifying:

1. Plant species' to be seeded
2. Seeding rates and dates
3. Site preparations and planting method
4. Amounts of fertilizer and lime to be applied.
5. Map showing locations where seeding activity is applied.

ANIMAL ENHANCEMENT ACTIVITY

ANM03 – OR Incorporate Native Grasses and/or Legumes into 15% or more of the forage base

Species composition will be based on pure live seed in the specified mixture.

The native grass seeding enhancement will be done on entire pastures using only native grass species with legumes in the mix to allow for appropriate grazing management and stand maintenance.

The criteria and references listed here are to be used in Oregon and are in addition to those listed on the national activity sheet.

Criteria for Incorporating Native Grasses and/or Legumes into 15% or more of the forage base

1. Proper grazing management is critical to maintenance of native seedings in pasture settings. The grazing management plan for areas seeded to native grass species will include:
 - A deferment from spring grazing (until after seed set) at least one year out of three years.
 - Minimum stubble heights will be 4-6 inches in all years.
 - No nitrogen fertilizer applications are allowed.
2. Adapted species, seeding rates, and seeding dates for use in Oregon (see tables at end of this document). These seeding recommendations assume that the seedbed is clean, firm, and weed-free and that the seeding is performed with a drill. Broadcast seedings will require twice as much seed.
3. Native grass with legume seedings will be performed on at least 20% of the pasture acres to account for the lower productivity of native species compared with existing tame forage species.
4. Pastures that are seeded with legumes in the mix will be fertilized according to soil test results in order to maintain the legume component in the forage base.
5. Legume interseedings will be performed on all pasture acres. Additional requirements include:
 - Stressing the existing vegetation the growing season prior to seeding. This can be done using heavy grazing (1"-2" remaining stubble) with no supplemental irrigation.
 - Use a drill to maximize seed-soil contact. Seed placement will be ¼" to ½" deep.
 - Apply irrigation after seeding (when done in late summer) to promote legume establishment.
 - Do not graze interseeded areas until legumes are firmly established (not easily pulled out of the ground). This may be up to 1 – 2 growing seasons following the interseeding.

Drilled Seeding Mix

for
CSP Enhancement ANM03 - Interseeding Pasture with
legumes
Western Oregon
Eastern Oregon – Irrigated

Species (select only one species)	PLS lbs/acre	Bloat Potential
Alfalfa	4	Yes
Clover	4	Yes
Sainfoin	2	No
Birdsfoot Trefoil	2	No

Approximate cost: \$20 – \$80 per acre for seed
Seeding Dates for Irrigated : August 1 – 15
Seeding dates for non-irrigated: November 15 – December 15
(when soil is dry enough to support equipment and temperatures are cool enough (less than 40°F) for dormant seeding)

Drilled Seeding Mix

for
CSP Enhancement ANM03 - Native Pasture
seeding
Western Oregon Wet Areas

Species	PLS lbs/acre in Mix
Bentgrass, Spike	1
Bluegrass, Pine	0.5
Barley, Meadow	1
Oatgrass, California	3
Clover, White	1

Approximate cost: \$130 – \$150 per acre for seed
Seeding Dates: November 15 – December 15
(when soil is dry enough to support equipment and temperatures are cool enough (less than 40°F) for dormant seeding.)

Drilled Seeding Mix

for
CSP Enhancement ANM03 - Native Pasture
seeding
Western Oregon Upland Areas

Species	PLS lbs/acre in Mix
Wildrye, Blue	3
Wheatgrass, Slender	2
Oatgrass, California	3
Alfalfa	1

Approximate cost: \$140 – \$160 per acre for seed
Seeding Dates: March 15 – April 15

References

- Oregon – Washington Guide for Conservation Seedings and Plantings*, 2000, USDA-NRCS
Plant Fact Sheets and Guides - <http://plant-materials.nrcs.usda.gov/intranet/pfs.htm>
Brummer, J.E. 2009. Interseeding of Pastures and Hayfields, presented at Idaho Alfalfa and Forage Conference, February 2-3, 2009 http://www.idahohay.com/Brummer_Interseeding%20Idaho%202009.pdf
Barnhart, S.K. 2004. Interseeding and No-till Pasture Renovation. Iowa State University Extension PM 1097 <http://www.extension.iastate.edu/Publications/PM1097.pdf>
Johnson, K.D., et al. 2007. Improving Pastures by Renovation. Purdue University, Cooperative Extension Service. AY-251 <http://www.agry.purdue.edu/Ext/forages/publications/ay251.htm>