West Virginia Pasture Management
Increasing Grasses and Legumes by Seeding
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for W.Va. Grassland Limited Resource Farmer Program

Objective
To upgrade the quality and quantity of pasture production.

Introduction
Care and attention to detail must be taken when increasing grasses and legumes. Seedings fail for some of the following reasons:

1. Poor seed germination
2. Improper soil conditions to support new seedlings that have germinated
3. Undesirable pH
4. Low fertility
5. Competition
6. Winter-killing

When increasing grasses and legumes consider the following:

- Good management will increase grasses and legumes without seeding
- Soil Testing
- Seedbed preparation
- Seeding rates
- Planting techniques
- After-seeding management

Soil Testing
Soil test kits are available from your local WVU Extension Service, A.S.C.S. or SCS office. Sample each field separately. Generalizations cannot be made because of soil variances within relatively small areas. The tests will show the pH of the soil and any nutrient deficiencies.

Soil pH should be above 5.8 to establish grasses and above 6.2 to establish legumes.

Seedbed Preparation
Lime, which raises soil pH, should be added to the soil at least two to six months prior to planting if soil test shows that it is needed. The waiting period allows the lime to react with the soil rather than the fertilizer. Deficiencies of phosphate or potash can be corrected at seeding time. Do not add nitrogen during establishment because it promotes grass competition with the legumes.

Graze closely the fall prior to a spring seeding. Disturb about one-half of the sod with a disc harrow. This is to open the existing sod and weaken it so new seeds can germinate and grow. An alternative to discing is use of a herbicide to suppress vegetative growth before the seeding is done with a "no-till" drill. This option eliminates tilling and helps reduce erosion potential.
Seeding Rates

1. Red Clover 8-10 lbs./A
2. Ladino Clover 1-2 lbs./A
3. Alsike Clover 4-6 lbs./A
4. Korean Lespedeza 10-20 lbs./A
5. Red clover plus ladino clover 6-1 lbs./A
6. Red clover plus alsike clover 6-3 lbs./A
7. Red clover plus orchardgrass 8-4 lbs./A
8. Ladino clover plus orchardgrass 2-8 lbs./A

Planting Techniques

Seedbed preparation and seed placement are the two most important things to remember when seeding. Reduce existing competitive plants as much as possible. Plant shallow. Ideal planting depth is 1/4 to 1/2 inch. Many conventional grain drills will plant the seed too deep. Planting deeper than 1/2 inch will usually result in failure. Frost seeding is also an option. Simply broadcast seed in early February and allow the heaving and thawing action to cover the seed.

After-Seeding Management

This is the most critical step in renovation. The following practices will help reduce weed and grass competition for the legume seedlings:

1. When old grass plants begin to shade the seedlings, graze the field down to the new seedlings.
2. Remove animals for six weeks after following step 1.
3. For the rest of the season, rotationally graze. Stock heavily and graze down quickly. Turn off cattle and allow the pasture to recover. Sufficient recovery time is critical.

Summary

Pay attention to detail when attempting to increase legumes and grasses in pastures. Be aware of what causes failure and avoid those practices. Determine soil fertility, decide on proper seed and seeding rate, prepare the seedbed, plant properly and, last but not least, manage properly.

Where to Get Help

For more information about increasing legumes and grasses in pastures, contact your local office of the Soil Conservation Service or the West Virginia University Extension Service. They are listed in the telephone directory under "U.S. Government" and "West Virginia," respectively.