



# Forage Management

Edward B. Rayburn  
Extension Forage Agronomist

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## Frost Seeding Pastures and Hay Meadows

Maintaining legumes in pastures and hay fields is necessary for low cost forage production and to improve forage quality. The key management used to maintain legumes are: soil fertility and pH maintenance, proper harvest management, and occasional reseeding. Reseeding can be by conventional tillage, no-till or low cost frost or walk-in seedings. Frost seedings have been used for decades, are inexpensive and when done at the correct time and managed properly very successful. Frost seedings should be made between late January and late February when there is little snow and frost action is "honey combing" the soil surface.

Frost seedings are a good means of establishing clovers in pastures and hay meadows. The preferred management is to start preparing the site the summer before. Take soil tests and apply lime, phosphorus, and potassium as needed. A good liming and fertilizer program should keep your soil test in the top two inches of the soil at a pH above 6.0, P above 50, and K above 120, based on the WVU soil test. If your soil test is lower than these values, make sure to apply the recommended fertilizer and lime.

In most cases good rotational grazing will control most weeds and minimize the need for herbicides for weed control. In the fall, graze the pasture or hay field to remove excess forage growth. Spread the seed during the winter when freezing and thawing of the ground is producing frost action with ice crystals coming out of the ground. This is usually between late January and late February when the snow is off the ground.

If you plan to over-seed every year apply 2 lb. red clover seed/a/yr. Some producers like to double this to 4 lb./a on meadows. Since red clover is a biannual,

meaning it lives for two years, you can seed every other year. In such a case you may want to increase the seeding rate up to 4 lb./a on pasture and 8 lb./a on meadows. Consider adding 1 lb. of ladino clover seed/a when seeding pastures or hayfield. Ladino clover is a perennial and longer lived than red clover when managed under proper rotational grazing. Annual lespedeza (10-15 lb/a) and birdsfoot trefoil (4-8 lb/a) can also be seeded using a frost seeding.

As with any seeding the important points are: test and adjust soil fertility and pH, identify and control competing vegetation, prepare a good seed bed, use high quality seed of a known variety, seed at an adequate seeding rate, cover seed to a proper planting depth, and ensure good seed to soil contact. In frost seedings we are using livestock and frost action to control the competing vegetation, prepare the seed bed, cover the seeds, and provide seed to soil contact. If there is not sufficient frost action after applying the seed allow your cattle to walk the pastures to tread the seed into the soil surface. Only do this when the soil is firm so that the cattle will not punch the soil and push the seed too deep into the soil.

To maintain the legume in the stand continue to properly manage soil fertility and harvest timing and intensity. The management needed to maintain legumes in your pastures and hay fields will pay off. Legumes will supply nitrogen to the grass to maintain yields. This reduces the cost per ton of forage produced. Legumes improve the quality of forage by allowing cattle to eat more forage. They then need less high priced protein and energy supplements. The net return is an increase in the dollars available per cow after paying for feeding the cow.