

# It's Already Time: Improve Your Pastures By Frost Seeding Legumes



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**G**razing can reduce your yearly feed costs by up to 50 percent. Typically, pastures are composed of grasses and legumes. These plants do very well when cared for properly. A little help from you will keep your pasture healthy and produc-

tive for many years. However, it does not take long for a pasture to become overgrown, weed-infested and less productive.

Close management of the interaction between the plants, animals and soil is necessary for any successful grazing program. Start by looking at the plants. It is usual for a pasture to be composed of a mix of forage plants. The goal of the forage mix is to allow complementary plants to flourish and provide a more productive pasture than is possible with a single type of plant.

The benefits of legumes in a pasture or hayfield are numerous. Grass-legume systems have a reduced need for nitrogen fertilizer, improved forage quality, better seasonal forage distribution, increased forage yields, and reduced risks to grazing animals when compared to grass monocultures. Legumes can be mixed in with grass seed when fields are first established, or they can be broadcast or drilled into existing stands of grass in the spring or fall. The most common way that legumes are established is through a process known as frost seeding.

Frost seeding offers several potential advantages. These include the ability to establish forage in an undisturbed sod, a reduced need for labor and energy compared to conventional seeding methods, the ability to establish forages with minimum equipment investment, and a shortened "non-grazing" period. Frost seeding is also a method to maintain stands at productive levels with both grasses and legumes.

There are several key points for successful frost seeding. First, seed-to-soil contact is critical. Seed-to-soil contact can be increased by closely grazing the pastures in the fall or winter to open stands and expose the soil. Alternatively, hoof action on stands with a thick layer of thatch covering the soil will increase soil exposure.

Second, competition of seedlings with established plants should be reduced. The seedlings must be given a chance to become established.

Reducing competition can be accomplished via grazing the pastures down to 2 inches in the fall to slow spring re-growth. Graze pastures regularly in the spring to allow light penetrations but avoid consumption of the seedlings prior to adequate root development.

Third, select the correct species and apply at appropriate rates. Research has shown good results for frost seeding red clover and birdsfoot trefoil. Alfalfa, alsike clover, and white or ladino clover have also been frost-seeded with varying degrees of success. Do not frost seed alfalfa in situations where alfalfa plants already exist in the stand. Autotoxicity will prevent new seedlings from becoming established.

Fourth, frost seed at the appropriate time and use the most appropriate method to broadcast the seeds. The fundamental principle behind frost seeding is that alternating freezing and thawing, along with spring rains, will help to incorporate the broadcast seed into the soil surface. Seeding on top of snow is acceptable if the depth is not too great. The risk of seeding on top of snow is that a rapid meltdown may result in runoff of both water and seed.

Be certain to inoculate legume seeds prior to seeding. Bacterial inoculant is specific for each legume species.

Several tools exist for making broadcast frost seedings. A seeder may be mounted on an ATV or tractor. Conventional roller and grain drill seeders can also be used but will require more trips across pastures. When using spinner-type seeders, be sure to determine the effective seeding width for each seed type or mixture. This will vary between species.

Now is the time to think about pasture health to reduce your yearly feed costs. The benefits of legumes in a pasture are numerous. Frost seeding can be an effective, low-cost method to introduce new forage species into an existing sod or maintain the current forage composition of pastures. Control of competition from grasses or other weeds is critical during the first few months of legume establishment. This is accomplished primarily through mowing or grazing because most herbicides will kill legumes. It is important not to overgraze as this can kill young legume seedlings that are not yet established.

Properly manage your pasture, and it will remain productive for many years.  $\Delta$

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