

BOOST FORAGE STANDS BY OVERSEEDING WITH LEGUMES THIS WINTER

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Winter has been especially tough in many areas of the Midwest, especially the last few weeks. Although it's not yet determined how this could affect forage stands, the alternating mild conditions mixed with frigid cold temperatures aren't doing pastures or hay fields any favors. Depending on the region, livestock type, and forage source, it's safe to say many farmers could be planning to augment forage stands as soon as possible.

For years, farmers have successfully broadcast-seeded clovers into damaged, poor-producing or grass-dominated pastures in late winter to improve grazing quality and increase forage production. A small percentage of legumes added to grass pasture can increase forage production up to 50-100% and reduce the amount of nitrogen (N) fertilizer needed, since legumes fix N and provide it to existing grasses.

Late summer is the other preferred time of year to seed legumes into pasture. By no-till drilling legumes such as red and white clovers and alfalfa, seed-to-soil contact is maximized and the time needed for suitable germination and establishment is shortened.

Winter overseeding, or frost seeding, should be done before frost leaves the soil. The alternating freeze-thaw action of soil in late winter to early spring, along with spring rains, incorporates broadcasted legume seed. In the Midwest, mid-February through late March to early April would be the normal time for frost seeding, whether snow is present or not.

Frost seeding offers several advantages. It keeps sod disturbance to a minimum, which is ideal for erodible areas. Cattle can be grazed on frost-seeded pastures sooner than on conventionally tilled seedbeds, and seeding labor and equipment costs are minimal. The farmer who frost seeds needs broadcasting equipment and a small ATV or UTV to get that equipment over the terrain. Overseeding carries similar risks to other seeding methods, and timely precipitation is key to establishing a good stand.

Despite the weather risk, key management practices, taken the previous fall, can greatly increase the likelihood of getting a good clover stand by overseeding in coming months. Fall soil tests should indicate whether fertilizer is needed for the planned legumes (especially phosphorus, needed for germination; potassium, to support plant health; and pH). Grazing or clipping closely the previous fall will reduce the amount of thatch present. Intentional "grazing abuse" provides openings in grass for clover to emerge; it also sets grass back the following spring, allowing clover to further establish.

Grazing the area following seeding is another key management strategy; hoof tramping action helps incorporate seed and reduces competition between grass and new legume seedlings. Just don't overgraze until the legumes have become established. Cattle should be removed from the pasture before clover seedlings emerge and can be brought back to graze down grasses (often flash-grazed) when they are 8-12" high. Some clover could be lost during this time, but far fewer seedlings than those lost to competition for light and moisture if established grasses are not grazed.

Most adapted forage legume species are suitable for frost seeding. Red clover is most commonly used because of its excellent seedling vigor, but white clover, birdsfoot trefoil, and alfalfa can also be used with success. Alfalfa should not be used if the existing pasture contains alfalfa, due to alfalfa autotoxicity. Frequency of seeding depends on how well the level of legumes is maintained in the stand; a rule of thumb is to overseed one third of your pasture acres each year.

Improved "three-year clovers," available in most every market, differ from traditional medium red clovers that usually last one to two years under normal management. These improved clovers offer stronger resistance to crown rot and other disease pressures that ultimately result in the demise of a traditional red clover stand. The extra stand health and year of production more than pays for the slightly higher cost of seed. Nonetheless, whether seeding three-year red clovers or traditional varieties, consider these reminders to ensure persistence is maximized:

- Red clover stands allowed to reach full bloom during establishment year frequently suffer lower yields and poorer stands in year two. If fertility is not limiting and hay is needed, harvest multiple times ideally at early to mid-bloom.

Nitrogen Value of Red Clover		
Dry Matter Yields of Fescue-Clover vs. Fescue-Nitrogen (Lexington, 2-year average)		
	Treatments	Yields (lbs/acre)
Fescue-Red Clover	6 lbs seed/acre	11,100 lbs
Fescue-Nitrogen	0 lb/acre	3,900 lbs
	90 lbs/acre	6,700 lbs
	180 lbs/acre	9,900 lbs

Taylor, T.H., et al., University of Kentucky

University of Kentucky research shows the value of only six lbs/acre of red clover seeded into tall fescue pasture outyielded fescue with as much as 180 lbs/acre of nitrogen added. N costs currently are lower than in previous years, but 6 lbs of red clover seed is substantially more economical than even the median application rate in this study.

- On existing stands, the first cutting of the year should be made around early bloom; however, following cuttings can be made earlier (bud or early bloom stage). Timing is crucial in spring, as clover plants, just like alfalfa, need crucial energy reserves to persist.
- When conditions turn hot and dry, consider leaving harvest equipment in the shed. A light grazing could be attempted, but only if hay is badly needed. Once cooler temperatures arrive, regular harvest schedules can return.

To summarize, adding a legume to your existing pasture is an economical way to add value to the pasture. Improved pastures result in high forage quality, higher yields, and improved animal health. For additional forage management information and product options available from Forage First® and La Crosse Seed, visit www.lacrosseseed.com.