



Forage

Establishing Forage Seedings

The most important considerations in establishing new forage stands are soil fertility, field preparation, seeding method, and weed management.

Your goals for the forage stand dictate what measures you will take. Before making any improvements, consider how you intend to use the land, and decide what management practices are most appropriate. Also, consider the soil and topography of your property, what species you want to grow, and what resources—equipment, money, and time—you have available to devote to the project.

Soil fertility

To be productive, a forage stand needs an environment where it can thrive. Plant nutrients become optimally available at a soil pH between 6.0 and 7.0. Grasses and clovers do well at a pH between 6.0-6.5, while other legumes such as birdsfoot trefoil or alfalfa require a soil pH of 6.5-7.0. Plant nutrients need to be present in adequate amounts in order to support plant growth, and any deficiencies will compromise the success of the stand. In particular, new seedlings require sufficient levels of available phosphorus and potassium to get established.

A soil test is the best way to determine the fertility status of your pastures or hayfields. Follow the testing laboratory's recommendations closely and make any necessary lime or fertilizer applications well in advance of any reseeding. New seedings made in areas cleared from forests demand particular attention, since pH and fertility in these soils are usually quite low. Apply lime at least six months before you plan to seed. Wherever it's practical, use a disc harrow to incorporate lime thoroughly into the plow layer, rather than leaving it on the soil surface. Be sure to note on the soil test sheet if you plan to apply manure to the field, so the recommendations will reflect nutrient contributions from any animal manures you apply.

Soil test forms and instructions on how to take soil samples are available from your county UNH Cooperative Extension office, or from the UNH Cooperative Extension website at <http://www.ceinfo.unh.edu/Agriculture/Documents/SoilTest.htm>

Field preparation

Forage seedlings need a firm seedbed with a granular structure that allows good contact between seeds and the soil. In addition, the soil surface should be free of large stones or clumps of sod, and smooth enough to allow field operations. If you are reseeding an existing forage stand, consider using a burndown (nonselective) herbicide to kill the sod and make tillage operations easier. Use a combination of plowing and discing for tillage; discing alone results in a pulverized, compacted seedbed. Rolling the field with a cultipacker after the final discing will provide a firm seedbed.

Seeding

The best times for establishing forages are late April to early May or the last two weeks of August. April to May seedings take advantage of the moisture available in late spring, providing the location has

well-drained soil that will accommodate field equipment at that time of year. Late summer seedings are better for wet sites, since the soil is usually dry enough to work in August.

There are several different methods of seeding fields:

- A seed drill cuts a thin furrow in the soil, deposits the seed, then covers it and firms the soil with press wheels. Drills are the most reliable, but they are expensive and not always available for rent.
- Cultipack seeders drop the seed from a hopper onto the soil, then toothed rollers press the seed below the surface. While these can occasionally bury some seeds too deep, they provide satisfactory results. Cultipack seeders are often available from equipment dealers.
- If you are only seeding a small area, or if you cannot obtain any of the seeding equipment mentioned above, you may broadcast the seed. Small areas can be broadcast by hand, while larger areas may be broadcast using a fertilizer spreader. It's possible to get decent results with this method, but there's also the risk of spreading seed unevenly. Should you use this method, increase the seeding rate by 20%, and roll the field with a cultipacker afterwards to improve seed/soil contact.

Weed management

Weeds compete with growing forage seedlings, and heavy infestations can cause the seeding to fail. A weed management plan will help ensure success.

If the area you plan to seed features such hard-to-control perennial weed species as bedstraw or horsenettle, you may need to kill them with a burndown herbicide in the season prior to seeding. While selective herbicides may control or suppress weeds in the seeding year, their use may not always be practical. Herbicides are not appropriate for mixed grass and legume seedings, as they will injure either the grass or the legume, depending on the product.

A number of non-chemical practices can minimize weed pressures in the seeding year. Tillage, particularly moldboard plowing, buries weed seeds deep in the soil where they will not germinate. The "stale seedbed" technique involves waiting 10-14 days before the final discing to control the initial flush of germinating weeds. Because weed flushes usually appear in spring, some producers delay planting until late summer when weed pressures are lower. Clipping newly-seeded stands once the seeding is 8-10 inches tall is an effective means of controlling annual weed species.

For further information, see these UNH Cooperative Extension factsheets:

Haymaking

Hay and Haylage Production with Selected Forage Species

Pasture Production with Selected Forage Species

Forage Seeding Mixtures for New Hampshire

Herbicide Recommendations for Specific Weed Problems in Forages

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