



Guidelines for Reseeding Pasture

Quick Guidelines to a Better Pasture seeding:

1. Set goals, and make a plan.
2. Test your soils.
3. Choose appropriate mixture for animals.
4. Determine rate of planting.
5. Calculate fertilizer and lime.
6. Know your weeds and manage before planting.

Alfalfa can be pastured with careful mgt but is autotoxic, thus it can't be seeded into an existing stand of alfalfa.

Introduction:

A productive pasture is contingent upon a good plan, careful management, and clear goals. Reseeding can be necessary to increase nutritional value, eradicate weeds, fill in bare spots, and improve the stand after disease problems or poor management. It is important to determine the reason behind the need for reseeded. For example, if perennial weeds caused a significant reduction in the stand then the weeds must be controlled before reseeded. Similarly, if soil pH or nutrient status is low then these need to be corrected. Successful reseeded depends on several factors; field characteristics, soil fertility, time of seeding, plant species selection, animal species being grazed, and grazing management style. A plant's adaptation to the pasture depends on winter hardiness as well as soil type, drainage, fertility, and pH. If all of these factors are considered and managed accordingly, then your pasture forage can provide all nutritional requirements for your grazing animals. A healthy pasture means healthier animals with better nutrition and fewer diseases and parasites.

Site Selection:

The topography of the land, such as terraces or sloped and shallow areas and soil water holding capacity, greatly affects the success of seeding by limiting equipment access, and the application of amendments. Soil characteristics often differ with the contour of the land, greatly affecting the growth habits of the plant species in the pasture.

Soil Fertility:

Soil should be tested to determine pH, fertility and Soil samples may be sent to the UMass Amherst Soil Lab to be analyzed (<http://www.umass.edu/plsoils/soiltest/>).

In pastures, the optimal pH range is 6.5-7.0. Add lime according to your soil test prior to seeding. Incorporation of lime is better for the reaction of lime in soil since time is needed for a significant change. It is recommended that lime be added 6 months to a year before the desired change in soil pH. Exploration of the soil for nutrients is confined mostly to the root zone in the surface one foot of soil depth. Certain nutrients (P and Ca) do not move much in soil and correction of these nutrients with fertilizer, manure and lime is best done before tillage.

Choosing the Best Mixture:

The most productive and highest quality pastures are those that contain a mixture of grass species with one or more legume species. When selecting species for pasture, it is important to understand both grass and legume growths habits and match them to the soil characteristics and climate. Fields have differing soil types, thus planting the same mixture in each field is not advised.

The following factors will influence your choice in forage species:

- The type and age of livestock to be grazed
- The time of year desired for pasture availability
- The seasonal distribution of pasture growth
- Soil type, drainage, water holding capacity, fertility, and pH

Legumes- provide much protein and compliment grasses improving the quality of the pasture. Legumes also add nitrogen to the soil nitrogen fixing bacteria making it indirectly available to grasses. Clover can add 90-140 lbs N/ac/yr, while alfalfa is capable of adding considerably more. In order for N fixation to occur, the legume seed must be inoculated with the correct bacteria, or it must be seeded into a previously inoculated field. Legumes may cause bloat in ruminants, so they should not be seeded alone for grazing.

Grasses- provide roughage for the animals, increasing their fiber intake. Adequate fiber is needed by grazing animals, however, if grasses are permitted to grow for long periods especially in spring they may become fibrous resulting in reduced animal intake and growth. Grasses, are either sod forming or bunch types. Sod forming and those that form many tillers compete better with weeds.

Climate Considerations

There are two categories of forage species: cool season and warm season species. Cool season pasture species include, but are not limited to, tall fescue, orchardgrass, perennial ryegrass, Kentucky bluegrass, white clover, red clover, and alfalfa. Warm season species are not usually pastured in Massachusetts because of late growth and lower quality compared to cool season species. Some cool season species, such as alfalfa, red clover and reed canarygrass are active in the summer, except on hot dry days. While a good summer pasture grass, reed canarygrass, has been placed on the invasive species list and therefore, cannot be further seeded in Massachusetts.

Methods of Planting: *consider the erosion potential on every field. Different methods may be more appropriate for some fields than others.*

- **Till-** Sometimes referred to as conventional seeding, due to the specific tillage practices implemented such as plowing, disking, harrowing, etc. Tilling of soil allows for aeration, alleviation of compaction, elimination of existing vegetation and residues, incorporation of lime and fertilizer into the soil, and to provide a smooth surface for seeding and the occasional harvest. Take care not to destroy the soil structure by overworking the seedbed.
- **No-till-** Helps to reduce soil erosion, conserve soil moisture, and reduces fuel and labor requirements. A specialized planter is required to assure good seed to soil. No-till performs best on sandy or silt loam soils. Planting in both directions in a grid can increase the stand density.

- **“Frost Seeding”** can be utilized from February till late March. The alternate thawing and freezing of the soil with the addition of rain will help incorporate the seed into the soil. Red clover works well but grasses are not suited to frost seedlings.

Seeding Rate:

The rate at which you seed depends on the species being planted, method and time of planting, climate conditions, type and number of grazing animals and intent of reseeding. Check the "Recommended Pasture and Hay Species and Seeding Rates" factsheet which details recommendations for grasses and legumes.

Time of Seeding:

Seeding legume into an existing grass pasture:

- **Late winter/early spring-** is the best time to seed legumes into an existing stand of grass that is productive. Seeding should take place in mid March to mid April depending on soil conditions and method of planting. An early seeding will aid in the competition with weeds and grasses. No-till and frost seeding are options.

Seeding both legumes and grasses to eliminate existing species:

- **Late summer/early fall-** is considered the best time to seed if a blend of species will be planted. When seeding late in the summer, soil moisture tends to become an issue but weeds are less competitive. Time your seeding accordingly so that soil moisture is available.

Management During Establishment:

A strong root system must be established prior to grazing. The roots systems in perennial forages are where food reserves are stored. If the roots are not strong enough, then there are not enough reserves for the plant to survive winter. Therefore, animals should only be allowed to graze on well established plants.

- Never graze new stands during wet periods, especially on tilled seedbeds.
- Test for root development by grasping a handful of desired plant material and tugging on it. If it is easily uprooted, then the root system is not sufficient established and another cycle of mowing and regrowth should be allowed.
- Do not graze plants lower than 3-4 inches.
- Graze only when soil surface is firm and dry.

- Implement rotational or intensive grazing management practices for efficient use of pastures. After grazing, pastures should rest for a period of 24- 30 days.

Weed Control:

Controlling weeds in newly seeded pastures is one of the most important aspects of pasture establishment.

- Grow a companion crop such as oat to help prevent weed growth in spring.
- Increase seeding rate if weeds are expected.
- Apply broad spectrum herbicides, prior to no-till seeding.
- Rotationally graze and mow or clip pastures if needed to remove seedheads and ungrazed excessive growth. Never let weeds go to seed.
- Mowing- is a good weed management practice because it helps develop hardy root systems, suppress weeds, promotes uniform grazing, and removes pasture plants of low palatability. Take care not to mow too early. If performed too early, only the tops of the weeds will be eradicated, leaving the active buds, which will produce new growth. Mow pastures at a height of at least 3-4 inches.

Conclusion:

Evaluate all pastures on a consistent basis to ensure proper management. Adopting practical and environmental management techniques will ensure productive and healthy pastures for a long time.

Resources:

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For more information visit www.umass.edu/cdl
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