

Conventional Seedings of Hay and Pastureland

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Attempts to reseed a field with little or no tillage of the soil are usually only moderately successful. In general as the amount of tillage increases, prior to seeding, the greater the chance of a successful seeding using conventional seeding techniques. However, in some instances when timing has been right, frost seedings in late fall or early spring or no-tillage seedings made with special no-till seeders can be very successful. The success rate of a conventional seeding is greater because there is a reduction of troublesome pests including weeds, an opportunity to mix nutrients with the soil and the development of a desirable seed bed.

Matching Crops With Soils

Soils with good internal drainage that also have good surface drainage have the greatest potential for hay yields when seeded to an alfalfa-grass mixture. Other soils with varying depth, textures, fertility levels and degrees of drainage should be seeded to forage crops that are best adapted to the intended use and the existing soil conditions.

Forage species such as brome grass, orchard grass, reed canary grass, and red clover can only tolerate short periods of drought without significant yield losses. Alfalfa because of its deep tap root can tolerate a longer period of drought. While reed canary grass, red top and alsike clover can tolerate somewhat poorly drained soils, other forages such as timothy, ladino clover and birdsfoot trefoil are less adapted to these soil conditions. However, all grasses and legumes, including red top and alsike clover will produce best on soils not subjected to periods of standing water.

Lime, Woodash or Biosolids

Lime should be applied well in advance of seeding and in sufficient amounts to achieve a pH level of 6.0-6.5 soon after the date of seeding. On most New Hampshire soils it takes at least a year to receive the full benefit from an application of lime. If soil tests indicate that lime is needed in excess of three tons per acre, plow down the excess and mix three tons

thoroughly into the surface by repeated discing. All applications of less than three tons of lime should be disced into the surface soil rather than plowed down. Woodash applications may be substituted for lime to raise the soil pH and supply calcium. Woodash provides a relatively soluble calcium source and soil pH levels can be altered more quickly when woodash is used as a lime equivalent. Biosolids will also supply a source of calcium and magnesium as well as raise the pH of the soil.

Plant Nutrient Needs

Manure, biosolids, green manure crops and fertilizer supply some or all of the nutrient needs of a new forage seeding. While fertilizer can supply all of the first year needs of the seeding, it does not maintain the soil moisture conditions provided by biosolids, manure or a green manure crop. The best way to assure that soil pH and soil nutrient demands are met is to submit a soil sample for analysis several months in advance of a seeding.

Phosphorus (P) is the nutrient which is most critical to a successful crop establishment. Many New Hampshire fields have medium or high levels of phosphorus reflecting past fertilizer practices. Soils with high levels may not require any additional phosphorus at time of seeding. Unlike nitrogen and potassium, phosphorus does not move down through the soil therefore, phosphorus is usually applied prior to seeding and mixed into the soil to supply the needs of the crop for the first 4 or 5 years of the stand.

Potassium (K) levels in fields are often low even though manure and/or high grade K fertilizers have been used regularly in the past. This nutrient is taken up in large quantities by crops, 45-60 pounds per ton of grass or legume hay. Potassium is not as necessary as phosphorus at time of seeding because it is soluble and needs to be supplied each year to replace that which is removed by the crop. Manure or woodash can supply large amounts of K for a seeding.

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