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Seeding Rates for Forages and Grain Crops

Steve Turaj, Extension Field Specialist, Food & Agriculture

A New Hampshire meadow in mid-summer: Red Clover and grasses.

Although improving soil fertility by additions of fertilizer, lime, or wood-ash based on a soil test can do much to increase a field's productivity, at times more is necessary. These general recommendations of seeding rates along with other associated fact-sheets will help you in the decision–making process. Remember that conditions vary between farms and between fields, and you may want to adjust these rates to better suit your needs. Be sure to connect with a member of the Dairy Livestock, Forage Crop Team for more specific advice.

Successful establishment of most forage crops require a soil pH in the 6.2 to 6.5 range. The desired pH for alfalfa and soybeans is 7.0.

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"Although improving soil fertility can do much to increase a field's productivity, sometimes reseeding is necessary."

New forage seeding in North Country, NH.

Timothy, a popular NH forage grass.

Perennial Crops	Lbs per Acre	Common Use
Alfalfa*	14	Haylage/Hay
Alfalfa* with	8-10	
Bromegrass or	8	Haylage/Hay
Orchardgrass or	6	Haylage/Hay
Reed Canarygrass or	8	Haylage/Hay
Timothy	6	Haylage/Hay
Big Bluestem	12 PLS	Haylage/Hay/Pasture
Birdsfoot Trefoil* with	8	
Timothy	6	Pasture/Hay
Bluegrass, Kentucky	14	Pasture
Bromegrass, Smooth	16-18	Hay/Haylage
Clovers**		
Alsike	4	Soil Conservation; Pasture
Ladino/White	2	Pasture
Red	10-12	Haylage/Hay
Crownvetch* with	10	
Tall Fescue or Timothy	6	Pasture; Soil Conservation
Orchardgrass	10-12	Pasture/Hay/Haylage
Perennial 'Forage' Ryegrass	20	Short-term Pasture
Reed Canarygrass	8-10	Hay/Haylage; Soil Conservation
Switchgrass	8 PLS	Hay/Haylage; Soil Conservation
Tall 'Forage' Fescue	12-14	Pasture/Hay/Haylage;
		Soil Conservation
Timothy	8-10	Hay/Haylage

Annual Crops	Lbs Per Acre	Common Use
Barley	96	Grain
Brassicas:		
Kale/Rape	4	Pasture
Turnips/Swede	2	Pasture
'Tillage' Radish	6-8	Soil Conservation
Buckwheat	40-80	Grain; Soil Conservation
Millets	15-30	Emergency Hay, Haylage, Pasture;
		Soil Conservation
Oats	96	Grain
As companion crop	32	Nurse crop/Green chop
Rye (Winter) or Triticale	80-170	Grain; Soil Conservation
Sorghum-Sudangrass	30-50	Pasture; Silage
Soybeans	Varies by row width	Grain
Wheat (Winter)	120-150	Grain

* Inoculation of legume seed, with the plant specific Nitrogen-fixing Rhizobia bacteria, is a recommended practice when the field does not have a recent past history of growing that particular legume.

** Clover listed are usually part of a grass-clover mix.

Seeding Rates and Germination Percentages:
Germination percentages of seed lots may vary. Seeding rates listed above are based on 100% germination. Your actual seed rates will need to be somewhat higher if the tag on the seed bag is less than 100%.

Example: Timothy sold with a germination of 80% should be seeded at 12.5 lbs/acre to provide the 10 lbs/acre recommended above:

$$\frac{100\%\ \text{Germination}}{80\%\ \text{Germination on seed tag}} \times 10\ \text{lbs recommended} = 12.5\ \text{lbs/acre necessary}$$

These are general recommendations. When planning extensive new seedings or field renovations contact a member of the Dairy, Livestock and Forage Crop Team for more specific advice, crop varieties best suited to your farm's location, soils, and animal nutritional needs.

Beef Cattle in grazing turnip field.

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About the Author

Steve Turaj is a Field Specialist in Coos County, and focuses on the plant sciences and practicial on-farm advice. His team specialty is in the broad field of agronomic crops, silage corn, hay/haylage, and pastures.

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