

Maine Forage Facts: Tall Fescue

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Tall fescue [*Schenodorus arundinaceus* (Schreb.) Dumort] is a high-productive grass with excellent nutritive value, adapted to dry or humid soils. It spread slowly by underground stems to form a tough sod, very tolerant of animal treading. Genotypes should be endophyte-free, although new varieties are available containing a non-toxic endophyte for improved persistence under hot or droughty conditions.

Leaf blades are flat and have rough margins and a prominent midrib. Blades are dull and ribbed on the upper surface and glossy below. Leaves are rolled in the whorl. Flowering stems are round and smooth and grow primarily erect. The grass usually grows between 24 and 48 inches tall. The root system is deep, extensive, and fibrous.



Tall fescue seedhead.

Photo: Bas Kers, Creative Commons

Site selection

Tall fescue tolerates drought and wet/flooding soils and has a good tolerance for soils with a high percentage of salinity. It prefers soils with a pH of 5.4 to 6.2. Tall fescue is surprisingly shade tolerant, particularly in humid climates with high humidity. This makes it an appropriate grass for silvopasture.

Soil preparation and establishment

Tall fescue and accompanying legumes can be seeded in spring or late summer. Spring seedings should be made as early as possible to avoid hot, dry weather when the seedlings are small. Late-summer seedings usually have less weed competition and more favorable moisture conditions than spring seedings. Late-summer seedings should be made in the middle or late August in Maine, using 8 to 10 pounds of seed per acre when seeded alone. When sown in a mix, applying 4 to 6 pounds per acre is recommended, as the tall fescue-dense growth could be great competition for the legume with a lower growth rate.

For best results, band seed tall fescue $\frac{1}{4}$ inch deep. Press wheels used with band seeding add additional stand insurance or a final pass with a roller after the seeding. If the seedbed is dry and not firm, cultipack before seeding to make a firm seedbed.

Liming and fertilization

Before seeding, determine lime and fertilizer needs by a soil test. Tall fescue can produce good yields on low-pH soils, but maximum productivity is achieved when the pH is between 6.0 and 7.0. Without a soil test in monoculture for tall fescue, plow down 0-45-135 pounds of nitrogen, phosphorus, and potassium per acre and apply 20-20-20 pounds per acre at planting (banded if possible). Do not apply nitrogen at seeding if tall fescue is seeded with a legume.

If pure tall fescue stands are used, high yields can be expected if fertilizer is applied in winter or early spring. Tall fescue used for hay should receive 100 to 150 pounds of nitrogen after the first cut. The same amount should be applied if tall fescue is used for early grazing. If much fall pasture is desired, reapply fertilizer in August.

Tall fescue-legume mixtures should be top-dressed annually with phosphorus and potassium. A fescue-legume mixture removes about 15 pounds of phosphate (P_2O_5) and 45 pounds of potash (K_2O) from the soil for each ton of hay produced.

Under pasture conditions, evaluating the amounts of nutrients removed by grazing animals is difficult. Grazing animals trample or leave some of the total grass biomass. This is returned directly to the soil. Manure is not deposited evenly across the field; most studies show that about 12 to 15 percent of a pasture area is covered with manure by grazing animals each year. If an estimated 3 tons of forage is produced from a pasture field, an annual application of fertilizer at 0-20-60 pounds per acre should maintain performance.

Varieties

Kora: This variety is recommended for hay or silage production but not for direct grazing with dairy cows. It is a grass with high productivity, digestibility, drought tolerant, and winter hardiness.



Tall Fescue has a membranous ligule as well as blunt auricles. Auricles are relatively wide and short.

Photo:Matt Lavin, Creative Commons.

Cajun II: Grass-type endophyte-free tall fescue that promises broad adaptation and high yields. Cajun II was developed primarily from selections from Cajun, Martin, and Mozark. Cajun II is safe for all livestock intake, including horses.

Dominant: Endophyte-free variety with medium maturity maximizes grazing and hay production. It also maintains its nutritive value for longer, allowing growth to be stockpiled for early winter grazing.

Kentucky 31: Usually used as turf grass, Kentucky 31 is adaptable to multiple soil types and tolerant of warm and cool climates. Its symbiosis with endophytic fungi gives this adaptation, so it is not recommended for animal intake.

Productivity

Tall fescue can be part of a forage program but should not be all. Legumes with tall fescue improve animal performance and increase forage production during the summer. Legumes are difficult to maintain in a tall fescue sod. Still, certain management practices will help keep legumes in the stand, such as maintaining a pH above 6.0 and making annual potash applications.

Tall fescue grown with either red or white clover should not be allowed to smother the legume in the spring. This can be avoided by harvesting early and close to the soil surface. Red clover is a short-lived perennial and must be managed to produce seed in the stand after 2 to 3 years if red clover is desired.

The expected yield for tall fescue is 3 to 5 tons of dry matter per acre per year, usually distributed in 2 to 3 harvests. With excellent fertilization and management, tall fescue can reach 7 tons of hay per acre annually.

Grazing management

Tall fescue withstands closer grazing and more abuse than most cool-season grasses, but it can be overgrazed to the point that vigor and production are reduced. Don't graze closer than 3 or 4 inches; allow at least 30 days for tall fescue to recover.

Tall fescue is an excellent grazing forage due to its persistence and adaptability to wet or dry soils. However, tall fescue has lower palatability than other forages. If used in a mix with other grasses, animals tend to reject tall fescue, leading to fiber accumulation and loss of nutritive value. If used together with other grasses, tall fescue should be established in rotational stocking management.

An improvement in animal performance has been reported for the new endophyte-free or non-toxic endophyte varieties relative to endophyte-infected varieties of tall fescue. Increased average daily gains of 0.5 pounds per animal per day have been reported for 7 to 12-month-old Angus steers with grazed endophyte-free compared to endophyte-infected tall fescue. In a two-year study at Penn State comparing endophyte-free tall fescue varieties, animal performance was similar for all varieties..

Additional Resources

- Bulletin #2262, *Forage Facts: Growing Forage Grasses in Maine*
extension.umaine.edu/publications/2262e/
- Bulletin #2263, *How Maine Farmers Can Determine if They Have Enough Hay and Forage for the Winter*
extension.umaine.edu/publications/2262e/

- Bulletin #2272, *Forage Facts: Selecting Forage Crops for Your Farm*
extension.umaine.edu/publications/2262e/

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King's Agriseeds Inc. Seed catalog.
kingsagriseeds.com/

Seedway-Growmark Inc. Seed catalog.
seedway.com/

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