



FORAGE FACTS

Publication Series

FERTILIZING GRASSES

INTRODUCTION

Fertilizer can be an expensive input into forage grass management, a balance must be met between soil test results, fertilizer application rates, and potential forage production and utilization by grazing or haying. Producers cannot afford to over-fertilize if the extra forage produced in response to fertilizer is not utilized by animals.

COOL-SEASON GRASSES

Research has shown that brome grass, fescue and other grasses respond to fertilizer if proper management guidelines are followed for rate and timing of application and appropriate choice of fertilizer.

Before applying any fertilizer, producers should review soil test results and intended use of the grass (spring grazing, fall grazing, or haying), and assess the presence of legumes.

Lime, phosphorus and potassium applications should be based on soil test results. Lime only needs to be applied on established pastures when the pH is 6.0 or less and the rate of application should not exceed 2 tons of agricultural lime. When preparing soil for a new establishment, lime should be applied when the pH is 6.4 or less.

Yearly phosphorus and potassium applications can be applied in the fall or winter. However, research has shown that a fall (September to October) application results in a healthier plant that is better able to tolerate drought and overgrazing. Fall fertilized plants develop healthy root systems in the fall which results in a stronger plant the following year.

Nitrogen should be split into fall and winter applications if fall and spring grazing are utilized. Fescue responds more to this practice than brome grass because fescue grows and stays green longer into the

winter than brome grass. A fall application of 40 pounds of actual nitrogen is usually sufficient for an increase in forage yield and protein content. During the winter, an additional 60 pounds of actual nitrogen should be applied to the pasture when spring grazed and 100 pounds of actual nitrogen for hay production.

When legumes are present in grass pastures, winter nitrogen applications should be eliminated or applied at very low rates. However, 40 pounds of nitrogen can be applied in the fall without reducing the legume stand. Legumes are sensitive to adequate lime, phosphorus and potassium fertilization.

WARM-SEASON GRASSES

Native hay meadows respond well to an early May application of 30 pounds of nitrogen, 10 pounds of phosphorus and 0 to 30 pounds of potassium.

An established stand of Indiangrass and big bluestem grown for hay responds to a nitrogen application of up to 60 pounds, and a phosphorus and potassium application at one-half of the soil test recommendation for grain sorghum.

Eastern gamagrass responds to 90 to 100 pounds of actual nitrogen and a phosphorus and potassium application at the same level of the soil test recommendation for grain sorghum. The nitrogen application should be split between a mid-April application and after the first hay cutting in early-June.

Timely nitrogen application on bermudagrass pastures is critical because bermudagrass is the most efficient user of nitrogen. When bermudagrass is grazed, 75 pounds of actual nitrogen should be applied in mid-April and an additional 75 pounds in mid-June. For hay utilization, 100 pounds of nitrogen should be applied in mid-April, another 50 pounds should be applied after the first cutting in early-June, and an additional 50 pounds after the second cutting in mid- to late July.

Phosphorus and potassium should be applied to soil test with the first nitrogen application.

OTHER PUBLICATIONS

The Effects of Nitrogen Fertilizer on Soil (C-625)

Smooth Brome Production and Utilization (C-402)

Tall Fescue Production and Utilization (C-729)

Native Hay Meadow Management (MF-1042)

Brome Utilization and Production (Forage Fact Sheet Series)

Tall Fescue (Forage Fact Sheet Series)

Bermudagrass Establishment and Management (Forage Fact Sheet Series)

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