



FORAGE FACTS

Publication Series

LEGUMES FOR PASTURE

INTRODUCTION

Many legumes may be successfully established into grass pastures. One strategy is to no-till cool-season annual legumes into bermudagrass pastures. The bermudagrass must be carefully managed to ensure that a minimum amount of residue remains at the time of establishment. If the bermudagrass canopy is not removed, emerging legume seedlings will not be able to compete for sunlight and become established. Forage canopies may be removed by grazing or mowing.

Another popular strategy for utilizing legumes in a grass pasture is to mix a legume with tall fescue or other cool-season grass pastures. The tall fescue has a negative effect on the bloating potential of legumes, and the legumes may play a role in reducing the effects of fescue toxicity.

The following is a short description of the legumes that may be used for pasture.

Alfalfa is a perennial legume that is difficult to establish in existing pasture, but will persist for three to four years under grazing conditions. The seeding rate for alfalfa is 10 to 15 pounds per acre. Rotational grazing will increase production and life of the stand. It has a high bloat potential and a bloat preventative must be used. Alfalfa offers high forage production and high animal performance.

Red clover is an easy legume to establish in new pastures or existing pastures that are closely grazed. It performs best on well-drained soils of high moisture content with a pH above 6.2. It can be seeded in the fall or spring at a seeding rate of 6 to 8 pounds per acre. Red clover will persist with good forage yield potential for two to three years without reseeding, and if it is moderately grazed, enough seed will be produced for reseeding. Some bloat potential exists with red clover, but it is not as serious a problem as it is with alfalfa and ladino clover.

Sweetclover is a biennial legume that has a high forage yield potential in the second year of growth. Uti-

lization should occur during early and mid-summer because the growth rate slows after mid-summer. A heavy stocking rate is desirable to prevent the forage from becoming coarse and unpalatable which would counteract the benefit of using sweetclover. High coumarin levels affect palatability and can cause health problems with livestock. Sweetclover is generally less desirable than other legumes for grass-legume combinations. The seeding rate for sweetclover is 6 to 8 pounds per acre.

Ladino clover is a short-lived perennial white clover that persists longer than most legumes under heavy grazing conditions. Bloat can be a problem when a high percentage of the pasture is ladino. The legume does not produce as much forage as red clover in southeast Kansas, but does persist longer in poorly-drained soils. The seeding rate for ladino clover is 1.5 to 3 pounds per acre.

Birdsfoot trefoil is most productive on fertile, well-drained soils, but does grow on poorly drained, dry, infertile and acidic soils. The legume is prone to establishment problems, but once a good stand is attained, natural reseeding does occur. It is subject to root

diseases in southern Kansas and bloat is not a problem with the legume. The seeding rate for birdsfoot trefoil is 6 to 8 pounds per acre.

Lespedeza grows in Kansas as an annual and a perennial. The annual types reseed each year and are easily established and maintained in pastures. They grow on acidic, eroded, and low fertility soils where production is low. On good soils annual lespedeza can compete with unfertilized grass. The seeding rate for annual lespedeza is 20 to 25 pounds per acre. Perennial lespedeza (*Sericea*) becomes woody in most pastures and contributes very little to livestock feed during the summer months. Perennial lespedeza is considered noxious in some Kansas counties and must be controlled in rangeland and pastures.

Arrowleaf clover is a winter annual legume that is adapted to well-drained soils and tolerates acidity and low fertility less than red clover. It should be planted in early fall (August 15 to September 15) at a seeding rate of 8 to 10 pounds per acre. Arrowleaf clover is primarily adapted for overseeding in bermudagrass, but grows slowly in the fall and can be prone to winterkill if not properly rooted. The legume will start spring growth in early April and flower during June and July. Reseeding will occur naturally under grazing conditions, but will require annual seeding under haying conditions. Arrowleaf clover has a high forage production and needs grazing to prevent a reduction in an accompanying grass stand.

Berseem clover is an annual legume that resembles alfalfa in its appearance, but does not cause bloat. When planted in the fall at a seeding rate of 10 to 15 pounds per acre, some forage can be utilized, but most forage production occurs between April and July.

Hairy vetch is a cool-season winter annual legume that has vine-like growth. The seeding rate is 20 to 25 pounds in early September. A companion crop such as wheat or rye is needed for attachment by the vines of hairy vetch. The high production months are April through June with maturing occurring in June. Hairy vetch can contaminate wheat fields and when grazed in a pure stand, cattle can develop dermatitis.

Austrian winter peas is an annual legume planted with a companion crop such as a winter cereal in late August or September. They grow best on well-drained loam or sandy soil, and they are intolerant of low pH soils. The seeding rate is 15 to 25 pounds per acre.

Cowpeas is an annual warm-season, vine-like plant with large leaves which will tolerate dry and low fertility soil conditions. The plant should be seeded in May or June at a seeding rate of 40 to 70 pounds per acre. Cowpeas do not cause bloat and can be used as hay, creep grazing, or limit grazing when low quality forages are used.

OTHER PUBLICATIONS

Kansas Crop Planting Guide (L-818)

Establishing Legumes into Cool-Season Grasses (Forage Fact Sheet Series)

Fertilizing Cool- and Warm-Season Grasses (Forage Fact Sheet Series)

Grass-Legume Mixtures (Forage Fact Sheet Series)

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