



## FORAGE FACTS

*Publication Series*

### PASTURE RENOVATION PRACTICES FOR EASTERN KANSAS

#### INTRODUCTION

Kansas has two broad types of pastures: warm-season and cool-season grass pastures. The warm-season pastures are generally native rangeland that varies from the tallgrass rangeland of the Flint Hills to the short grass prairie of western Kansas. Cool-season pastures are the result of grasses that are planted on cropland acres in the eastern one-third of the state. Generally, the 1.5 million acres of tame pasture in Kansas are either smooth brome-grass or tall fescue.

Stocking rates, grazing systems, prescribed burning and brush control can be effective pasture renovation practices for native rangeland. Cool-season pasture improvements can be as simple as applying fertilizer according to soil test recommendations or as complex as destroying the existing forage and reseeding grass.

#### WARM-SEASON NATIVE GRASS PASTURES

The best grazing system to improve and/or maintain rangeland is the intensive early stocking (IES) grazing system. Intensive early stocking is defined as stocking twice as many cattle per acre between May 1 and July 15 as normal season-long stocking rates. When compared to season-long grazing, the IES system results in: (1) higher grass yields and lower brush production; (2) improved grass quality; and (3) a more uniform grazing distribution. Pastures grazed season-long have resulted in considerable spot grazing and nonuniform burns the following spring.

Stocking rates should be based on three factors: (1) desired animal performance; (2) forage available for livestock utilization; and (3) adequate forage remaining at the end of the grazing season to support a prescribed burn the next spring.

An overgrowth of brush is generally the result of overgrazing and a lack of prescribed burning. Infrequent burning results in a reduction of warm-season grasses and forb species and an increase in woody vegetation. When prescribed burning is postponed, trees

and shrubs can become established in a few years. Timely burning can result in a dominance of warm-season grasses and reduced cool-season grasses and forbs. Producers should burn three consecutive years and then may skip three to five years before repeating the burn cycle.

Kansas State University research between 1950 and 1989 showed an average increase of 14 percent in total gain for steers grazing burned pasture compared to pasture that was not burned. In addition, late spring (May 1) burning consistently produced a more desirable plant composition than did earlier burning (March 20) or not burning at all.

#### COOL-SEASON GRASS PASTURES

Most cool-season pastures suffer from overgrazing and low fertility. Overgrazing results in plants that usually don't respond well to fertilization because of shallow root systems and low vigor.

Low vigor pastures generally turn green after fertilization, but don't respond with much actual growth. A spring or fall fertilization and a 50 percent reduction

in stocking rates during the prime growing season can improve vigor. An additional method to improve a cool-season pasture is to apply recommended fertilizer in late August and avoid any grazing until November 1.

A nitrogen application should be applied prior to each grazing season because it does not carry over from one season to the next. If a phosphorus and potassium application is required it only needs to be applied once per year, preferably in the fall.

Adding legumes to cool-season grass pastures can increase animal performance, especially if the pas-

ture is grazed during June, July and August. Tall fescue is an ideal grass for grass-legume pastures because the bunch grass has open spaces in the sod for legumes to establish. Legumes to consider for use in grass-legume mixtures are red clover, ladino clover, alsike clover, annual lespedeza and alfalfa. With the exception of annual lespedeza, the legumes grow from May through mid-summer and produce high quality forage for grazing. Annual lespedeza needs adequate spring moisture to establish each year, but it does provide good late-summer growth.

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