



FORAGE FACTS

Publication Series

SOIL TYPE AND FORAGE PRODUCTION

INTRODUCTION

The soils of Kansas are very diverse. Soils range from the weathered, shallow claypan soils of southeast Kansas to the relatively young, deep silt loam soils common in the western part of the state. In between, significant acreages of sandy soils exist, generally along and south of the Arkansas River. These soils vary in many properties including water holding capacity, acidity, depth and nutrient status. All of these properties can influence the suitability of a given soils potential for successful forage production. Fortunately, a wide array of forages are adapted to Kansas growing conditions. To address the issue of soil type and forage production, forages will be grouped into warm-season perennials, cool-season perennials, summer annuals, and legumes or grass legume mixtures.

WARM-SEASON PERENNIALS

Many of these species are native to Kansas and can do well on most soils in the state. They can be found on many acres deemed unsuitable for production of cash grain crops (shallow, rocky or eroded soils).

These species have good productive potential without supplemental fertilization, even when nutrient levels in the soil are often low. Because these forage species are so well adapted to the diverse Kansas soils, they were widely planted on the state's large CRP acreage.

COOL-SEASON GRASSES

The cool-season grasses grown in Kansas are introduced forages. They can be very productive but require a higher level of management than the grass forages. These grasses are best adapted to the soils of eastern Kansas and in favorable locations in central western Kansas—deep, well-drained soils. Many of these species are well adapted for irrigated pasture on a variety of soil types. These species can be productive on poor soils (shallow, rocky, eroded soils) but often require lime, nitrogen and other nutrients for optimum production. Even on deeper, highly productive soils, these forages require fertilization with nitrogen and

sometimes phosphorus and/or potassium and may require liming.

SUMMER ANNUALS

These forages include Sudangrass, sorghum-Sudangrass hybrids, and millets. They can grow on most Kansas soils, with productive potential based primarily on moisture. Thus, in the drier areas of the state, they do best on deep soils with more water holding capacity.

LEGUME/LEGUME MIXTURES

Legume or grass-legume mixtures can be successfully grown on most soil types with moisture being a major limitation. Legumes may require supplemental fertilization (phosphorus and/or potassium) and liming (on acid soils). Legumes do not fare well on very shallow or rocky soils.

SUMMARY

Most of the forage species grown in Kansas can be productive on most Kansas soils. The level of production is usually a function of water, so deep soils with more water-holding capacity have more productive potential.

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