

Forage Production in the Southern Coastal Plain Region¹

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The term Southern Coastal Plain region of the southeastern United States is used to delineate the geographic area comprised of southern Georgia, southern Alabama and northern Florida. The Southern Coastal Plain experiences a mild, temperate climate and can support a number of tropical and semi-tropical forage plant species. This region is located at the extreme limits for both tropical and temperate forage species. Plant breeding has produced varieties that are able to tolerate the heat and drought stress which typifies the variable southern environment. Traditional cool season forages, such as red (*Trifolium pratense*), crimson (*T. incarnatum*) and white (*T. repens*) clover, fescue (*Festuca arundinacea*), oats (*Avena sativa*), rye (*Secale cereale*) and ryegrass (*Lolium multiflorum*), grow well late fall to early spring of the Southern Coastal Plain region. New cool season varieties have been developed with improved disease and insect resistances, allowing them to survive the southern pest pressures. Tropical perennial forages, like bahiagrass (*Paspalum notatum*), bermudagrass (*Cynodon dactylon*), rhizoma perennial peanut, (*Arachis glabrata*), and limpograss (*Hemarthria altissima*) also are well adapted to the Southern Coastal Plain since severe winters are rare and these plants can persist through occasional hard freezes.

Plant breeding for cold tolerance and winter survival has improved their adaptation. The Southern Coastal Plain region has an environment conducive to developing a system of nearly year-round grazing, utilizing both tropical and temperate forage plant species.

Forage production in the region is based on warm season perennial grass species; e.g., bahiagrass or bermudagrass. While these grasses support livestock throughout the major portion of the year, forage production declines during the fall. Hay is often fed when perennial pastures turn dormant. Winter grazing of small grains, ryegrass, and cool season clovers are a common practice during the late fall to early spring. The significant challenge with forage production throughout the Southern Coastal Plain is the distribution of forage production over the course of the year. During summer months forage production is often excessive, while it drops off significantly during the fall months. When a winter forage is seeded, grazing generally becomes available mid to late December. However, it is dependent on time of planting and weather conditions, particularly adequate soil moisture. Deferred grazing, hay, feed concentrates, and other supplements are often needed

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to support livestock throughout the winter months or until winter grazing is established.

Improved breeding of perennial temperate forage species, such as fescue or red clover, would greatly benefit the livestock industry in the Southern Coastal Plain region. Current varieties of these temperate forages often behave as winter annuals in the South. Similarly, further progress on selection for winter survival of perennial tropical forages is needed to expand their area of adaptation. Some improvement extending the growing season of warm season perennial grasses has been made, particularly with bahiagrass. Selecting for fall-season production in perennial warm season grasses, like bahiagrass and bermudagrass, would help fill the void in fall and winter forage production for the Southern Coastal Plain.

Alabama has an estimated 3,312,000 acres in permanent pasture grasses state-wide (Alabama Agricultural Statistics Service, 1996). Perennial warm-season grasses comprise an estimated 2,124,000 acres with 1 million acres planted in bahiagrass, 780,000 acres in bermudagrass, and 240,000 acres in dallisgrass (*P. dilatatum*). Johnsongrass (*Sorghum halepense*) is grown primarily in the "black belt" region of Alabama on 104,000 acres. Don Ball, State Extension Forage Specialist, Auburn University (personal communications, 1999) estimates that Alabama acreage planted in cool-season grasses includes orchardgrass (*Dactylis glomerata*) on 40,000 acres and fescue on 1.2 million acres. He estimates that nearly a half million acres are planted in either permanent legumes, like alfalfa or lespedeza, or are over-seeded with red or white clover.

The most recent comprehensive agronomic statistics from Georgia (USDA National Agricultural Statistics Service, 1991) indicate that there are 2,270,000 acres in permanent improved pasture and 680,600 acres in permanent unimproved pasture state-wide. Temporary pastures include nearly 500,000 acres in winter annual and 160,000 acres in summer annual forages. Predominant warm-season perennial grasses include 500,000 acres of bahiagrass and over 1.3 million acres in bermudagrass. An estimated 140,000 acres of annual summer grasses

are grown. Cool-season grasses consist of 846,000 acres of fescue, 135,000 acres of ryegrass, and 400,000 acres of small grains used for grazing. The predominant winter clovers include 275,000 acres of white clover, 62,000 acres of crimson clover, and nearly 100,000 acres in other clovers. Alfalfa (*Medicago sativa*) is grown on nearly 12,000 acres, and acreage should increase with the selection of better grazing types and improved persistence.

Grasslands in Florida are estimated at 11.5 million acres (Florida Agricultural Statistics, 1999). Pastureland accounts for 6.5 million of those acres, and is comprised of 3 million acres of native rangeland, and 3.5 million acres of improved pasture. There are an estimated 5 million acres of grazed forest land in the state. Florida Agricultural Statistics from 1997 reported that 5 million acres of Florida's grasslands are planted in bahiagrass. Hay, silage and alternative forage are produced on 1 million acres of permanent pasture. There is no recent available information on forages pertaining to acreage of individual plant species utilized for forage. Grasslands support Florida's 1.2 million head of beef cattle, and to a lesser degree, other livestock.

Developing forage varieties that provide long season or perennial production would have significant impact on all livestock systems throughout the Southern Coastal Plain region of the United States.

Sources of information:

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