

Some Important and Associated Native Grasses on Central and South Florida Ranges

L. L. YARLETT

Range Conservationist, Soil Conservation Service,
Sebring, Florida

The major woodland-forage site in Central and South Florida is the flatwoods site. Originally, this was an open forest of common slash pine (*Pinus elliottii* var *elliottii*) with an understory of shrubs and tall grasses. Under the influence of a tropical or sub-tropical climate large amounts of herbage were produced, much of which was ungrazed. Unused grass termed "rough" by present day ranchers was a fire hazard to early day turpentine operations. Burning of the accumulated grass was often done to protect the gum producing trees. Earlier, Indians often used fire to lure game into the "greened-up" areas.

Cattlemen have long recognized a decided increase in body weight of cattle which grazed the new growth of grass made available by burning the accumulated rough (Dacy 1940). Seasonal analyses of pineland threeawn (*Aristida stricta*) indicate a higher nutritive value in spring months on burned than on unburned ranges and a sharp decline under both treatments during late May and June (Halls

et. al. 1952). Livestock placed on freshly burned areas will utilize nearly all grass species equally well until May or June. At this time the palatability of pineland threeawn or "wiregrass" decreases sharply. The more desirable or tall, broadleaved grasses, however, are generally selectively grazed through much of the growing season. The process of repeated burning and uncontrolled grazing has created the present wiregrass ranges which produce approximately 700 pounds of air-dry forage per acre. This herbage is generally available only during a two-month period in the early spring (Southern Forest Experiment Station 1958).

Well over 350 native species of grass are found in Florida, 147 of which furnish forage (Hitchcock 1951; Rummell 1957). Very few have been closely observed for their reaction to grazing or position in plant succession. Technical assistance to landowners in organized Soil Conservation Districts in Florida has focused the attention of ranchers on several important species on

the flatwoods range site. Some have been mentioned only briefly in previous literature as being a part of the composition of a wiregrass range (Biswell et. al. 1943). Others were briefly recognized as contributing in part to the total available forage and classified as broad-leaf grasses or broom sedge or miscellaneous (Halls et. al. 1956).

The most widespread desirable native grass being managed on South Florida ranges is creeping bluestem (*Andropogon stolonifer*) (Figure 1). This warm-season, perennial bluestem forms dense colonies from extensively creeping rhizomes. Leaf blades are often as much as 24" long. Seed stalks appear in late August and September, grow 2-6 feet tall and mature seed by mid-

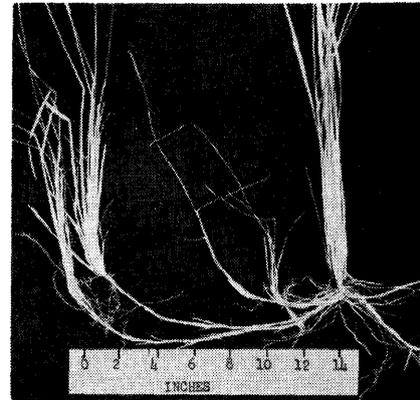


FIGURE 1. Rhizomes of creeping bluestem—elongate as much as 12 inches in a single growing season.

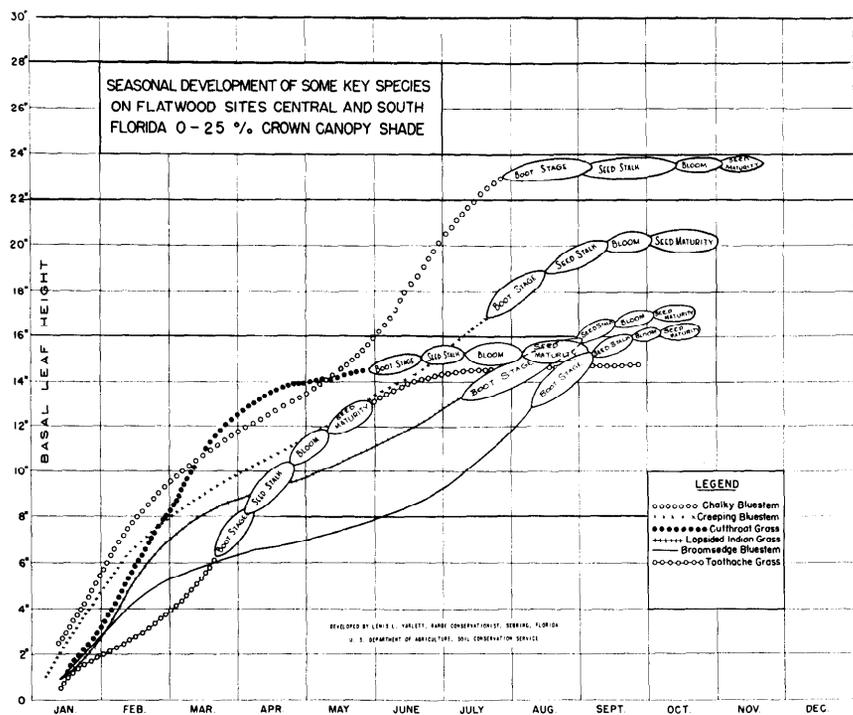


FIGURE 2. Seasonal development of important and associated grasses of South Florida.

October. Creeping bluestem is associated on ranges in good and excellent condition with Florida threeawn (*Aristida rhizomophora*), lopsided Indiangrass (*Sorghastrum secundum*), chalky bluestem (*Andropogon capillipes*), pineland threeawn and cutthroat grass (*Panicum abscissum*). A pure stand of creeping bluestem will yield between 4000 and 5000 pounds of air dry herbage per acre. Major growth occurs from January until seed forms during September. Observations in South Central Florida have indicated a 6" growth in 5 weeks following clipping to ground level the first week in January.

On heavily grazed ranges, creeping bluestem may be found within such protected areas as clumps of saw palmetto (*Serenoa repens*). This important bluestem is classified as a decreaser on all sites.

Florida threeawn (*Aristida rhizomophora*) is regarded by many ranchers as a valuable grass. This species is unique among the threeawns. It is the

only species within the genus in the United States having well developed rhizomes. Its major growth period is from late February until October. Florida threeawn is a decreaser on sweet flatwood range sites where the pH of subsoils is slightly neutral or below. A pure stand of Florida threeawn will produce approximately 1750 pounds of air-dry herbage per acre by mid-March. Associated grasses on ranges in good and excellent condition are creeping and chalky bluestem, Florida paspalum (*Paspalum floridanum*), tall threeawn (*Aristida patula*) and pineland threeawn. Florida threeawn is very palatable from spring until late summer and provides good roughage during winter months when supplemented with protein.

Chalky bluestem, a bunchgrass, is one of the most palatable native grasses in Florida. It has statewide distribution on a wide range of soils. Plants are covered with a chalky-glaucous exudate which rubs off easily. It is from this substance that it

takes its name. Vigorous plants commence growth early in January and mature seed in October. Chalky bluestem is readily selected by cattle throughout the growing season and is classified as a decreaser. Chalky bluestem is rarely found in pure stands; it occurs with Florida threeawn, creeping bluestem and cutthroat grass. Cutthroat grass, a perennial, warm season grass well known to ranchers, often occurs in pure stands and is limited primarily to Highlands County, Florida and fringes of adjacent counties. Optimum growth is obtained on slopes which receive extra moisture from seepage. Growth is from a robust tuft and spreads primarily from short, thick rhizomes. The sheath is very wide, strongly keeled and cuts back sharply to form the blade—thus the name, cutthroat. Cutthroat grass, in pure stands, will produce approximately 800 pounds air-dry herbage by April 1 and a maximum of 3200 pounds by August 1. Seed is produced in June or July. Regrowth is rapid, often producing as much as 12 to 14" within 25 days following a clipping at any one time during the growing season. It is readily grazed by all classes of livestock during spring and summer. It is considered excellent winter forage when high protein supplements are furnished. The main grasses associated with cutthroat are chalky and creeping bluestem and lopsided Indiangrass.

Two species of toothachegrass, *Ctenium aromaticum*, a bunchgrass and *C. floridanum*, a rhizomatous plant, occur throughout the sloughs and flatwoods sites. Both are warm season perennials. Growth commences in late January and seeds are produced in April or May. Regrowth continues until October. Portions of the base of the culms immediately beneath the soil surface produce a deadening effect on the tongue and gums when chewed.

This medicinal quality gave these species their common name. The flowering stalks, frequently 3-4 feet tall, have spikelets arranged on one side of the rachis. Toothachegrass furnishes fair to good forage during spring and summer. It is utilized with other desirable grasses in fall and winter when protein supplements are fed.

Lopsided Indiangrass (Figure 3) is a warm season, perennial bunchgrass widely distributed on flatwood sites. Unlike other species of this genus, the panicle is distinctly one-sided. This grass is commonly called wildoats by ranchers. Lopsided Indiangrass acts as a decreaser under con-

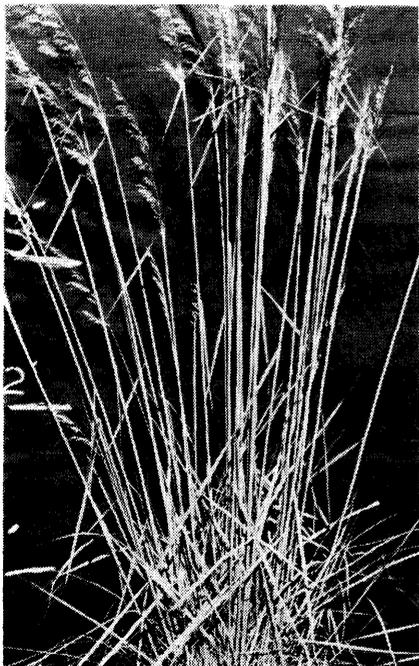


FIGURE 3. Lopsided Indiangrass, a perennial bunchgrass of the flatwoods site.

tinued grazing pressure. Growth starts in early January or February and continues until the booting stage in early July. From July until seed maturity in late October, all growth is represented by the development of the seed stalk. Very little regrowth occurs after seed formation.

Blue maidencane (*Amphicarpum muhlenbergianum*) (Figure

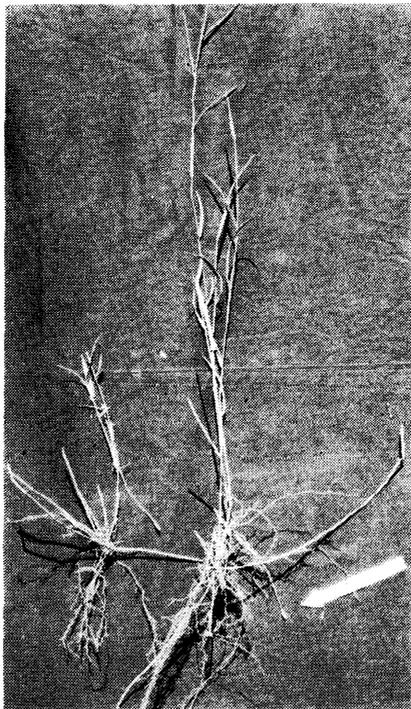


FIGURE 4. Blue maidencane. Fertile subterranean spikelet indicated by arrow.

4) is a perennial, warm season grass usually 1 to 2 feet tall. Spikelets are of two kinds on the same plant, one a terminal panicle, perfect but sterile, the other perfect and producing seed on slender leafless subterranean branches from the base of the culm. The seed producing spikelet beneath the soil surface is often $\frac{1}{4}$ to $\frac{1}{2}$ inch long. This may explain the common name of "goobergrass". Goober is a colloquial term for peanuts in the southeast.

Blue maidencane occurs throughout Florida on flatwood sites. It spreads rapidly from vigorous creeping rhizomes, especially on mechanically disturbed soils. Major growth occurs during the warm season. Blue maidencane is associated primarily with pineland three-awn. Pure, high producing stands occur under the canopies providing 40-50 percent shade.

Production records from four south Florida ranches indicate the potential of the more desirable native grasses when co-

ordinated with improved pastures and good animal husbandry. On these four south Florida ranches calf crops have averaged 85 percent compared with the national average of 86 percent and the Florida average of 64 percent. The average live-weight of all cattle in the United States is about 1,000 pounds. In Florida it is 735 pounds. Live-weight of breeding animals on these same four ranches will meet the national average. Average price paid per hundred weight in the U. S. during 1960 was \$22.60 compared with a Florida average of \$20.50. The four Florida ranches equalled the national average.

LITERATURE CITED

- BISWELL, H. H., SHEPHERD, W. O. SOUTHWELL, B. L., AND BOGGERS, T. S. Jr. 1943. Native forage plants of cutover forest lands in the Coastal Plain of Georgia. Ga. Coastal Plain Exp. Sta. Bul. 37, 43pp. illus.
- DACY, GEORGE H. 1940. Four centuries of Florida Ranching. Britt Printing Co., St. Louis, Mo. 310 pp.
- HALLS, L. K., HALE, O. M., AND SOUTHWELL, B. L. 1956. Grazing capacity of wiregrass—pine ranges of Georgia. Ga. Agr. Ex. Sta. Tech. Bul. N. S. 2., 33 pp. illus.
- HALLS, L. K., SOUTHWELL, B. L., AND KNOX, F. E. 1952. Burning and grazing in Coastal Plains Forests. Ga. Agr. Exp. Sta. Bul. 52, 33 pp. illus.
- HITCHCOCK, A. S. 1935. Manual of the grasses of the United States. U. S. Dept. Agr. Misc. Pub. 200, 2nd Ed. Revised by Agnes Chase 1951, 1051 pp.
- RUMMELL, ROBERT S. 1957. Beef cattle production and range practices in south Florida. Jour. Range Mangt. 10: 71-78.
- SOUTHEASTERN FOR. EXP. STATION. 1958. Research notes No. 118 Southeastern For. Exp. Sta., Asheville, North Carolina.

Longmont Seed Co.

Field Seeds and Complete Seed Service
Buy—Clean—Treat—Sell
Legumes—Grasses—Grain
LONGMONT, COLORADO