

Maidencane, a Key to Managing Florida Wetlands

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Maidencane (*Panicum hemitomon*) has often been called the "ice cream" grass of Florida. In Louisiana, it is better known as paille fine—pronounced "pie fine" which is French for fine straw. It has also been called Simpson grass. Regardless of what it may be called, cattlemen know it as the most productive, dependable and nutritious native grass in Florida.

Historically, the first collection and identification occurred in South Carolina by botanists in 1753 and later near Savannah, Georgia in 1816.

Maidencane is widespread in the coastal plain extending from New Jersey to Florida and as far west as Texas. It has been observed as far north as Macon, Georgia.

The first established cattle ranches in Florida were around St. Augustine and Palatka and in Alachua County. Marsh areas with lush stands of maidencane were the basis for the establishment of these early ranches. Tax records obtained from the archives in Madrid, Spain, indicate land grants with herds of 500 to 2,000 head.

Maidencane is a perennial, warm-season grass which produces a characteristically bright green growth. It generally gets 2 feet high but may reach as much as 5 feet. Leaves are 8 to 12 inches long and about 1/2 inch wide. Major growth and spread is from underground stems or rhizomes. In muck soils, the rhizomes may go as deep as two feet. Two types of shoots or culms are produced. The sterile shoot has sheaths which are hairy; these do not produce seed heads. The other type shoot is without hairs and produces fertile inflorescence which is compact, about 6 to 8 inches long and less than 1/4 inch in diameter.

The first seed heads usually appear in mid-May but may occur anytime prior to August or September. So far, very little is known about seed production, germination, or viability. Indications are that normal seed production is low.

Growth may start as early as late January or early February in south Florida but usually during March in the northern part of the state. Growth slows down on all marshes during August and September. This slowdown is generally observed throughout the state and is attributed to extreme wet conditions and high temperatures. A second growth period occurs in October and November and up to early December in southern Florida. It is susceptible to cold and dies back to the soil surface immediately following freezing temperatures.

Maidencane is found throughout Florida on a variety of both organic and mineral marsh soils, where it is most pro-



New growth of maidencane coming up through a dense stand of carpet grass following a two-month rest. The new growth comes from the rhizomes. Claude Howerton, SCS Technician is examining the new shoots.

ductive and important. Associated species are cutgrass, giant cutgrass, with lesser amounts of smartweed and pickernelweed. On occasion, maidencane may be observed on flatwood soils, which leads some to believe that in years past, it may have been a major grass there. Perhaps heavy grazing and frequent fires in the flatwoods may have contributed to its present scarcity.

Management to produce and maintain maidencane is not difficult. The most heavily grazed marsh areas have a seed source (roots) of maidencane. The underground stems or rhizomes produce a few short broad leaves. These are often



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mistaken for the common broadleaf carpet grass or low paspalums which usually dominate overgrazed marshes. Cattle, being selective grazers, seek out the "ice-cream" maidencane. As a result, production is limited to mere survival by a small amount of leaf production for maintaining the root system. The simple mechanics of closing a gate and resting the marsh for a growing season will initiate the rapid recovery of this highly desirable grass. Normally, maidencane, being a taller grass, will shade out the shorter and less productive grasses. Successive periods of rest followed by planned periods of grazing will assure high production.

In some instances, a light mechanical disturbance will speed up re-establishment. A light pasture chopper may be used but must be followed by a rest from grazing.

This grass is recognized by ranchers to be the most productive of all native grasses. Numerous observations and weighings by Soil Conservation Service range men show it producing as much as 9,000 pounds of air dry forage per acre. This, of course, has been on well-managed areas. Studies conducted by the University of Florida have shown production up to 9,900 pounds per acre. These studies also show that more production was obtained on moderately grazed pastures than from pastures grazed only lightly. Further studies are being conducted to determine the frequency and intensity of grazing and seasonal variation in production and nutritive values.

Present day economy dictates that grassland agriculture must produce with as little input of fossil fuel energy as possible. High yield of good quality forage from maidencane is available with the lowest possible input of energy. In most instances all that may be required is a grazing plan, coordinated with other available forage resources. Such a plan would provide for planned periods of resting and grazing.

Wetlands, where maidencane is a major species, play an important role as pollution filtration systems. These wetlands include sand ponds, inland marshes, and the broad flood plains of the major rivers and streams. These natural marsh areas when left relatively undisturbed, except for good grazing management, capture and recycle nutrients from the uplands. Maidencane, and especially many of the associated species of the marshes, take up nitrogen and phosphorus and hold them during summer and fall months. When nutrients are finally released they slowly filter through the marshes, thus preventing entry into large bodies of water to cause eutrophication during periods of high temperatures. Unfortunately, through the years many of these natural marshes have been altered by various methods and degrees of drainage.

However, by grazing management and water control for reestablishment of the marsh ecosystem, ranchers as well as others, will obtain increased benefits from these wetlands.

Mineral Supplementation Can Mean Life or Death in the Humid Tropics

Wayne H. Miles

The 300 million hectares (750 million acres) of savanna rangelands and 550 million hectares (1,375 million acres) of forests of the low humid tropics of South America constitute an area having possibly the greatest potential for expansion of beef production of any similar area of the world. In general, current cattle production is at a low technological level with overall low production. It is said that South America has twice the cattle numbers of the United States and half the beef production. Since production levels in the tropics are well below the overall average, then production per cow is even less than a fourth of US averages in the low wet American tropics.

While disease and tropical climate are factors in lower production, low level of nutrition is considered to be the major problem. In recent years a great deal of progress is being made through research and rancher experience in the use of improved pastures based on *Brachiaria decumbens*, *Hyparrhenia rufa*, *Panicum maximum* and other grasses.

The International Center for Tropical Agriculture (CIAT), Cali, Colombia, is on the verge of a major breakthrough that will provide persistent perennial tropical forage legumes to use in combination with grasses. The four most promising legumes include two natives, *Stylothanses capitata* and *Zornia latifolia*, and two introductions, *Desmodium ovalifolium* and *Prueraria phaseoloides* (tropical kudzu). Low levels of protein now reduce cattle gains and these legumes promise to raise protein levels in forage. Daily cattle gains on experimental grass legume pastures are over 500 grams per day and compare favorably with those of the temperate zone. Average rates of gain on native range are now about 250 grams per day.

An area of nutrition research which is receiving minimal attention in the tropics, at the moment, is mineral nutrition. While the US Agency for International Development (AID) has recognized this as a major problem and is financing a program with the University of Florida at Gainesville to promote mineral nutrition research in Latin America, there seems to be very little current work in this field in Colombia where the author ranches.

While Colombia ranchers say that they favor the use of

About the Author: Miles had a long career as a range conservationist with the Soil Conservation Service (SCS) and Agency for International Development (AID) before settling down in Colombia to enter the ranching business with his son. He commented that common names of grasses vary from country to country, so he thought it best just to use their Latin names.