GRAZING MANAGEMENT OF EASTERN GAMAGRASS IN SOUTHWESTERN GEORGIA

Mike Owsley,Malcome Kirkland,Sid Brantly,Don Surrency

ABSTRACT

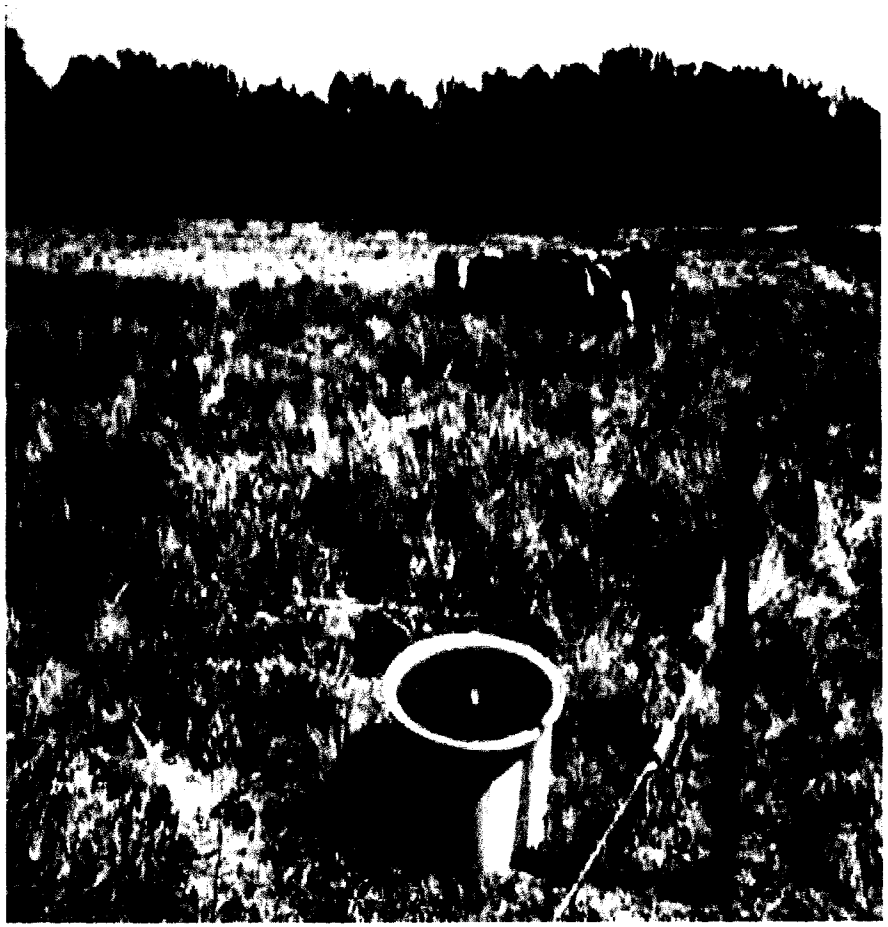
Grazing Management of Eastern Gamagrass in Southwestern Georgia

USDA NRCS, 295 Morris Dr., Americus, GA 31709

Grazing management of Eastern Gamagrass is being demonstrated at the Jimmy Carter Plant Materials Center at Americus, Georgia. This USDA Natural Resources Conservation Service Plant Materials Center is located on the upper coastal plains region of southwest Georgia. Livestock producers in this part of the country often disregard native forages in deference to introduced forage species. One reason for utilization of introduced species is the higher level of grazing management required for persistence of native plants in the face of high grazing pressures.

This demonstration attempts to show how management of the frequency and severity of defoliation by growing steers can result in persistence of Eastern gamagrass while providing forage in adequate quantity and quality to justify utilization of this native plant in livestock operations. Eastern Gamagrass (*Tripsacum dactyloides*) was established on 2.02 ha in spring of 1993 and subsequently divided into 10 uniform paddocks. In the summer of 1999 a rotational grazing system was utilized that provided a maximum grazing period of 3.5 days per cycle and a minimum plant stubble height of 25 cm

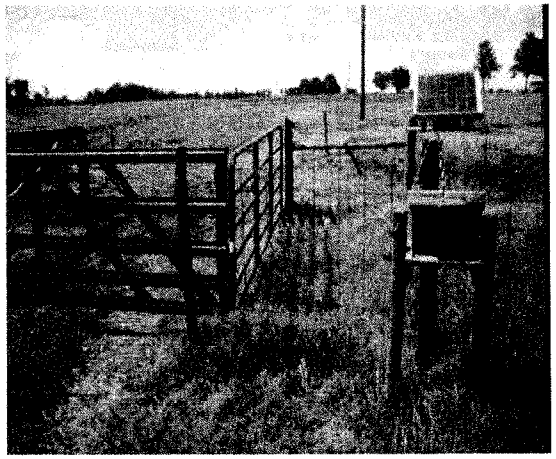
NIRS analysis of fecal samples indicated an average forage crude protein of 10.42 and digestible organic matter of 62.74 average daily gains of 0.79 kg per steer were realized during the demonstration. These results suggest that Eastern gamagrass forage quality and quantity may be adequate for typical livestock operations in the Southeastern US.



INTRODUCTION

Eastern gamagrass, *Tripsacum dactyloides*, is a warm-season, native perennial grass suited to most of the Eastern United States. One of its potential uses is forage for livestock. The Jimmy Carter Plant Materials Center in Americus, Georgia is demonstrating intensive grazing management of this plant. The Lamar County Soil and Water Conservation District is providing cattle for this demonstration.

MATERIALS AND METHODS

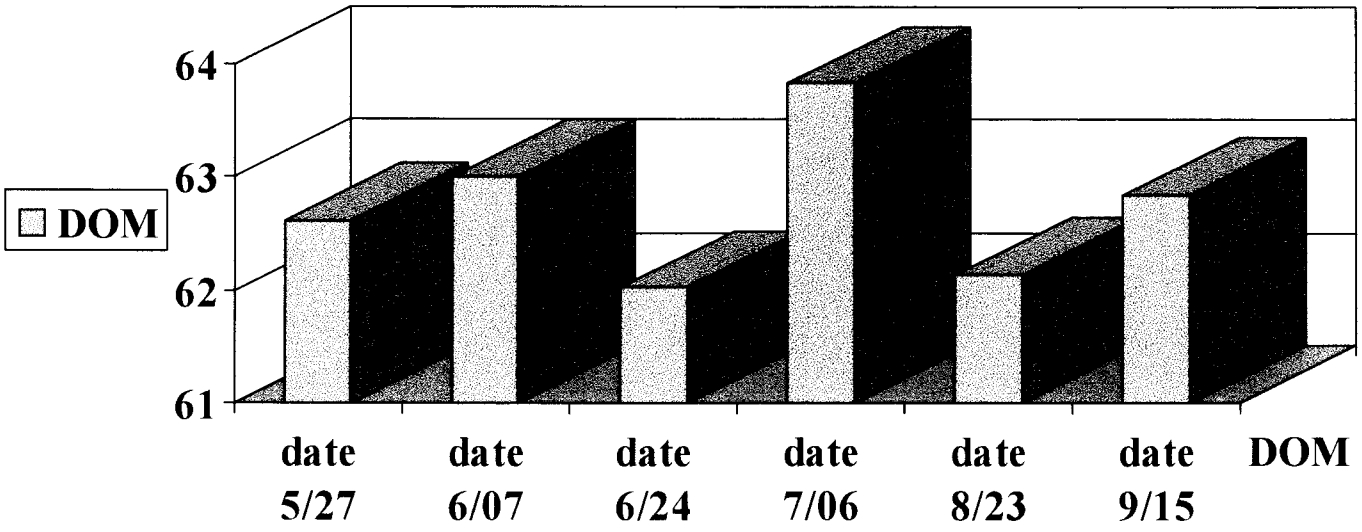


In the spring of 1993, a 4.5 acre field of 'Pete' Eastern Gamagrass was planted in 36" rows with a corn planter. It was allowed to establish during 1994-95. This demonstration is located in the upper coastal plain of Southwest Georgia where mean annual precipitation is 125cm and mean annual temperature is 18.5degrees C. The site is divided into ten paddocks, approximately 0.2 hectares each, with a single strand of electric fence wire about 90cm high. Water was provided in each paddock using one inch plastic pipe and 60 gallon water troughs. On April 1, 1999, twelve steers weighing 575pounds each were brought to the demonstration site. On April 22 the steers were weighed, vaccinated, wormed, treated for flies and tagged. On May 5, the steers began 3.5 day grazing periods in each paddock. 150 pounds of ammonium nitrate was applied to each paddock after the grazing period. Manure samples were taken periodically to determine crude protein and digestible organic matter of forage consumed.

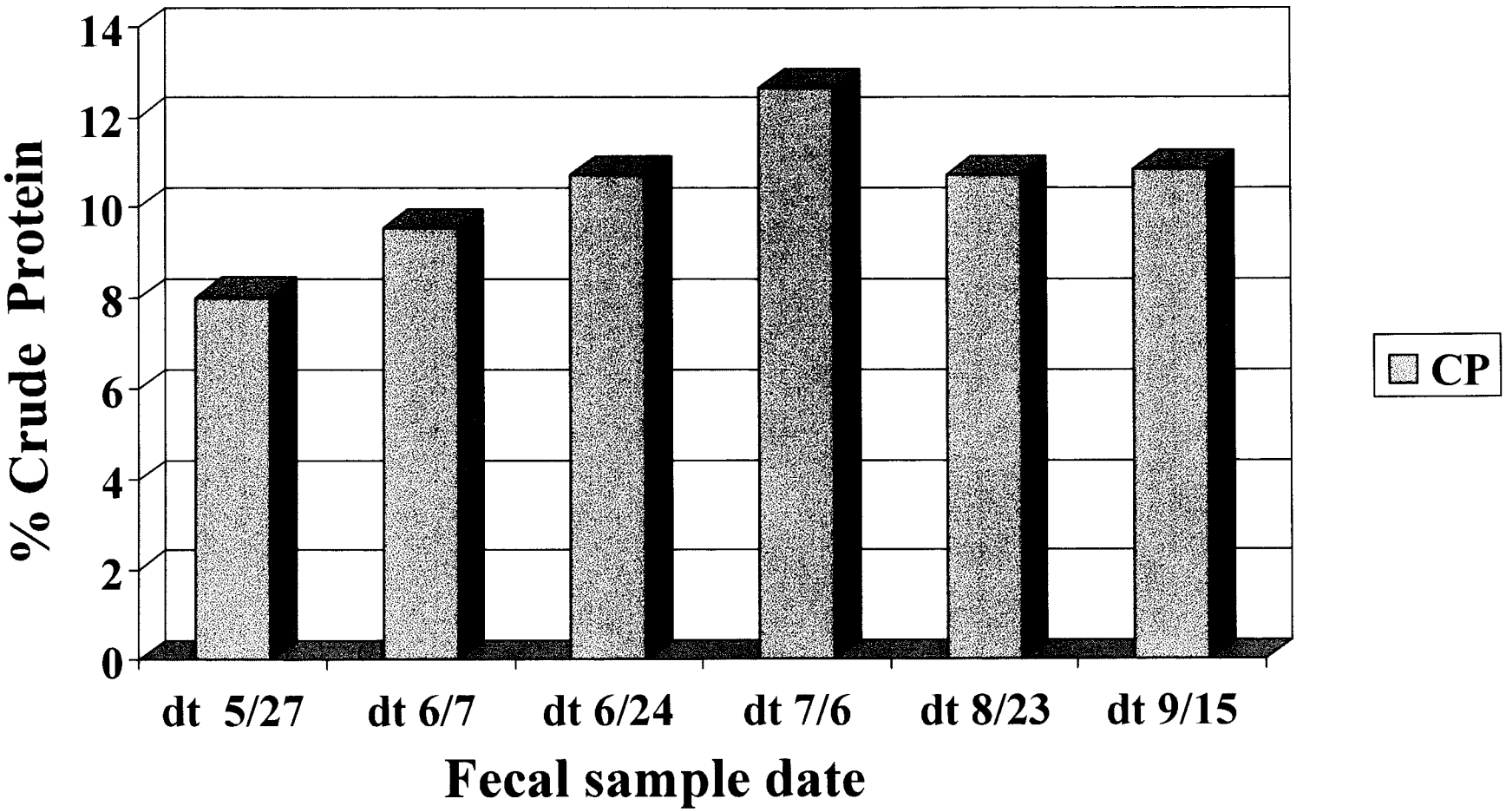
RESULTS AND DISCUSSION

Cattle were rotated through ten paddocks on a 3.5 day grazing cycle. The cattle moved through the entire ten paddocks three times; on the fourth cycle the grazing time in the paddocks was shortened to two days. Under this intensive grazing system, forage quality ranged from 8.02% to 12.65% crude protein and 62.02% to 63.83% digestible organic matter.

DIGESTIBLE ORGANIC MATTER



CRUDE PROTEIN



ANIMAL PERFORMANCE

	DATE	WEIGHT	TOTAL GAIN	AVG.DAILY GAIN
Beginning Weight	04/01	573 lbs.		
Ending Weight	09/15	866 lbs.	293 lbs.	1.74 lbs.

The steers showed a total average weight gain of 293 pounds in 168 days of grazing on Eastern Gamagrass at the Jimmy Carter Plant Materials Center in Americus, Georgia.

SUMMARY

Cattle performance and results of NIRS analysis of fecal samples for crude protein and digestibility suggest that forage quality is adequate for typical livestock operations in this region.