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Creeping Signalgrass for South Florida Pastures

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Creeping signalgrass, *Brachiaria humidicola*, is native to tropical Africa. It was tested at Ona in the 1950's by Dr. Elver Hodges who found that it compared favorably with bahiagrass for yield and persistence, and it was adapted to our wet, infertile sandy soils. However, its use was not recommended at the time, and I am sure the reason was that it held no outstanding advantage over bahiagrass. Bahiagrass is more widely adapted state-wide than creeping signalgrass as the latter is more susceptible to frost and winter-kill with a hard freeze. In the early 1990's, Dr. Paul Mislevy tested different *Brachiaria* species at Ona in a mob-grazing trial, and of these, creeping signalgrass was the best, again comparing favorably with bahiagrass. He found that crude protein was about 2% higher in bahiagrass, but digestibility was about 9% higher in creeping signalgrass. Creeping signalgrass was found to be very competitive and persistent under close and frequent grazing.

Recently, there have been two developments that have created interest in a further look at creeping signalgrass. In 1996, ranchers lost many acres of bahiagrass due to the tawny mole cricket. Clearly, we need an alternative to bahiagrass that is resistant to the mole cricket, and it must be a grass that shares many of the favorable attributes of bahiagrass, such as establishment from seed, tolerance to overgrazing, and low fertilizer inputs.

Secondly, the first commercial pastures of creeping signalgrass established in 1996 appear very promising. I had been working with Desert Cattle and Citrus to develop pastures on land thought to be too wet for bahiagrass. Since a large portion of the development area was planted to limpograss, we wanted to include other grasses in the pasture program. Creeping signalgrass seemed to be a good choice. So, we contacted a seedsmen in Brazil, ordered seed to sow 600 acres, and broadcast 6 lb/A of seed mixed in

fertilizer in May. Creeping signalgrass established in 75 days and has since formed a tight sod due to spread from stolons. I have been impressed with creeping signalgrass over the past 2 years because it has proved to be palatable, persistent and requiring limited fertilization in order to maintain the stand. In fact, the Deseret pastures have received only 80 lb/A of N since seeding 3 years ago.

We took a small portion of one of the Deseret pastures and applied several fertilization treatments and sampled plots under grazing conditions for yield and nutritive value from early April to late October 1997 and 1998. With no N, annual dry matter yield averaged 5300 lb/A. However, creeping signalgrass produced little forage before May or after September, which is its main disadvantage. With no N, yield was about 500 lb/A from March to May. With 50 lb N/A in March, annual yield was about 7400 lb/A compared with 9300 lb/A for June fertilization. Fertilization in March resulted in about 600 lb/A of forage from March to May, so the only good we received from the March fertilizer was an increase in yield after the start of the rainy season. Crude protein and digestibility in hand plucked samples of creeping signalgrass fertilized with 50 lb N/A in March ranged from 9.6% and 53% on April 15 to 4.4% and 41% on September 9.

Although creeping signalgrass is resistant to mole cricket, we have observed spittlebugs on the grass. Reports from South America, where creeping signalgrass is widely used, indicate that spittlebug damage can be a problem.

Based on what I have seen, I believe that creeping signalgrass would be appropriate as a summer grass for mature cows. Presently, we are involved in a grazing trial at Ona comparing calf production on creeping signalgrass with that on Penascola bahiagrass. Fifteen acres each were sown in 1998 and some preliminary evaluation is being done in 1999 with the real measurements to be made over the next 5 years.