Cooperative Extension Service

Institute of Food and Agricultural Sciences

RANGE CATTLE REC NEWSLETTER

June, 1998 - Vol. 1, No. 2

Calendar Of Events

July	
6-7	Deseret Reproduction School, Deseret Cattle & Citrus, St. Cloud, FL. Phone: 407-846-4148.
August	
17-18	Florida Forage Worker's Tour, Immokalee, FL. For IFAS Phone: 352-392-1817
22	Florida Brangus Breeders Female Sale, Ocala, FL.
September	
3-4	FCA Quaterly Directors' Meeting, Pensacola, FL.
25	FCA Replacement Heifers Sale, Arcadia, FL
October	
8	Range Cattle Research and Education Center Field Day, Ona, FL. -

Phone: 941-735-1314

- In This Issue-

1. Cell Grazing An Innovative Management System (Editorial)
2. Purchasing Planting Materials for Pasture Establishment
3. Minimizing Hay losses with Tarp Covers
4. Big Trefoil Research Continues
5. Eastern Gamagrass in South Florida
6. Breeding Seasons for Cows Grazing Range and Bahiagrass Pasture Evaluated
7. Featured Ranch Tippen Bay Ranch, Bob Paul, Inc.

Editorial:

Cell Grazing An Innovative Management System for Productive Grasses

Grazing animal performance on pasture and range is affected by forage species, nutritive value, grazing pressure and grazing method. More and more, Florida cattle producers are looking at improved grazing management as a means to better utilize their new pasture grasses. Improved grazing management can increase carrying capacity on productive perennial grasses by 20-30%. This is particularly important to ranchers with limited land holdings since it is equivalent to the purchase of more land.

Grazing management, however, no longer means continuous grazing as usual. A number of Florida cattlemen are beginning to practice a pasture management technique called "controlled grazing" also called "intensive rotational grazing" or "cell grazing". Large portions of ranches are planted to improved warm season grasses such as Florona stargrass, Floralta limpograss or Tifton 85 bermudagrass. These improved sites are subdivided into pastures with permanent fencing. Permanent pastures are often capable of being further subdivided with electric fencing into smaller cells. Cattle are moved from cell-to-cell for a constant supply of fresh pasturage. Dairy cattle get a fresh cell as often as twice daily, and beef cattle as frequently as once every 3 to 7 days.

The frequency of herd rotations depends on the growth rate of the pasture and the stage of growth of the grazing animal. The rationale for this intensive livestock rotation is to graze pasture plants in the vegetative stage before they become stemmy, and to allow grazed plants time to regrow before the next grazing. Grasses in the vegetative phase are rapidly growing, highly productive, palatable and nutritious. A single grazing of plants in the vegetative phase of growth stimulates tillering, which is the growth of new shoots near the base of the plants. If grazed plants are allowed a sufficient recovery period before being regrazed, the growth of new tillers will result in a dense pasture sward. If grasses

are allowed to be continuously grazed without recovery, they will be kept in an immature stage of growth. Plants at the immature phase are slow growing, lack sufficient forage dry matter for cattle and will suffer root damage. At the other end of the scale, grasses which are not grazed in the vegetative phase will become mature and go to seed. Mature plants possess sufficient quantity of forage for livestock, but are unpalatable, low in crude protein and total digestible nutrients, and slow growing.

Therefore, under intensive grazing, ranchers can control how frequently their grasses are grazed during the growing season. Under continuous grazing ranchers have no control over how frequently grasses are grazed since livestock remain on the same pasture for long periods.

The investment in materials, labor and time required for an intensive grazing system must be carefully considered in relation to the type of pasture grass involved. Bahiagrass pastures will not provide much animal response to rotational grazing. Stargrass, limpograss, bermudagrass and Suerte will provide good returns on a well managed controlled grazing system. (MBA)

- Purchasing Planting Material For Pasture Establishment -

After developing and releasing any improved vegetatively established forage grass cultivar, the IFAS Range Cattle Research and Education Center provides foundation planting material at cost to growers for a few years. This is done to encourage the free enterprise system where growers multiply and commercialize the distribution of planting material to other ranchers.

Florida does not have a certification program for forage planting material. Therefore, it is the responsibility of individual customers to ensure the purity and quality of planting materials they purchase. Common bermudagrass, vaseygrass, sedges, and many other plants may present weed problems to new grass establishment if planting material is contaminated. Ranchers should be sure that fields where planting material is obtained are free from weeds. Ideally, vegetative planting material should be cut from a field that has been well fertilized with 100 lb N/A plus phosphorus, potash and micronutrients and allowed to regrow for 70 to 80 days. Studies have shown that additional N (40-50 lb/A) applied 2 to 3 weeks prior to cutting plant material will promote faster establishment on a clean seedbed. (MBA)

- Minimizing Hay Losses With Tarp Covers -

If you leave your hay unprotected, chances are that you lose from 12-30% of dry matter to water damage. Producers who grow hay crops do not need to invest in a permanent structure such as a shed in order to store their hay. Hay can be stacked and tarped on the ranch without any damage until used.

Economically, tarps may be a better investment than sheds based on the following analysis. Big round bales can be stacked in a 3-2-1 pyramid fashion. A 25 ft by 36 ft tarp can cover 36 bales each 5 ft in diameter. Assuming each bale weighs 700 pounds, then the tarp covers 13 tons of hay. The tarp costs $204, for a storage cost of $16/ton of hay. Over a 4-year life of the tarp, the cost is $4/ton. At a selling price of $90/ton of hay, the 36 covered bales are worth $1170. Assuming uncovered hay will lose 20% to spoilage in the top layer, the loss amounts to $234. This means a savings of $30 over the cost of the tarp in the first year and a savings of $732 for the 4 years on every 36 bales stored. Also it is easier to remove bales from a stack than from a shed. Trucks can pull on either side of stack and load in less time than from a shed.

But tarps need to be in good condition to be effective. They are subject to wind damage and a tarp with a hole or rip in it can be worse than no cover at all. Growers should buy heavy duty, ultraviolet-resistant, silver, heat-reflective, rot-resistant and waterproof tarps for longevity. Information on sources of tarps can be obtained from your County Extension Office or the South Florida Beef and Forage website on the internet. (Source: Hay and Forage Grower, March 1998) (MBA or WFB)

- Big Trefoil Research Continues -

Some readers may remember "Maku" lotus, a cool season perennial legume that was being tested at the Range Cattle REC. Maku is a variety of big trefoil that was developed in New Zealand. In the early 1990's, Dr. Buddy Pitman found that Maku had good persistence in bahiagrass pastures at Ona. It was able to survive the summer so that it could produce in the winter when conditions favored its growth. It turns out that Maku was far from perfect in this respect, but it was a step in the right direction. In a 12 acre bahiagrass pasture sown in 1994, some plants have survived to this day. Resistance to the many diseases that kill big trefoil could come from survivors like these. Dr. Ken Quesenberry has obtained seed from our survivor plants. The seed has been used to produce many individual plants which will be evaluated in the field at Ona in 1998. Progeny from the Maku survivors will be evaluated for disease resistance and persistence along with more than 1000 big trefoil plants that came from 39 big trefoil entries collected in Turkey and Morocco by the U.S. National Plant Germplasm System. Research in Missouri has indicated that big trefoil from these regions seems to have more disease resistance than big trefoils from other areas. It is a long-shot whether a Florida variety will come out of this research, but the value of providing a perennial winter legume for Florida cattlemen would be great. (RSK)

- Eastern Gamagrass In South Florida -

Gamagrass is widely distributed from south Florida to Massachusetts and west to a line from Nebraska to Texas. It is a high yielding native grass that is nutritious and palatable. Work in Oklahoma within the past 10 years has raised expectations that efficient seed production would be possible, thereby making this grass popular for grazing. Two commercial varieties of gamagrass have been released: Pete and Iuka. Articles in popular magazines and trade journals have resulted in a few phone calls by interested Florida

ranchers who called me about the possibilities for Florida. In 1983, I was interested in gamagrass as a candidate for increasing livestock production on our Florida range and conducted a 3-yr study here at Ona, while Dr. Leonard Dunavin carried out the identical study at the Jay REC in the Panhandle. The only difference was that I obtained my gamagrass from a local population I collected at Yeehaw Junction, while Leonard obtained his from near-by Alabama. Our treatments were clipping at different times (seasons) on fertilized (1 ton dolomite and annual application of 50-25-60 lb/A N-P_2O_5-K_2O) and unfertilized soil (native conditions). Gamagrass produced very little forage under native flatwood conditions, and on fertilized areas, the nutritive value of our local ecotypes was relatively poor. We concluded that if we needed to fertilize, we were better off with the pasture grasses we already had. Recent published accounts of livestock performance of steers grazing Pete gamagrass in the Mid-West have been outstanding with average daily gains well over 1 lb/head /day, leaving little doubt that gamagrass is a valuable grass. Still, I am not ready to recommend it for Florida because, even if livestock performance is high, establishment remains a big problem. I received a 1/4 pound each of the two current varieties in March and after a recommended 6-week cold treatment to break dormancy, I have 21 and 3 plants of Pete and Iuka, respectively, and this was with germination in sand in the greenhouse. My only hope now is that I will get something to take to the field to test! I think there is much research that still needs to be conducted before gamagrass can be recommended for Florida. (RSK)

- Breeding Seasons For Cows Grazing Range - and Bahiagrass Pasture Evaluated

A four-year study at the Range Cattle REC has compared a fall-winter range grazing period with spring breeding vs. a winter-spring range grazing period with summer breeding. Cows were moved from range to bahiagrass pasture and exposed to bulls for 90 days beginning March 1 or May 15, and calves were weaned in late August or mid November for the two breeding seasons, respectively. Cows were placed back on range after calves were weaned. Cows were supplemented with 5 lb/cow/day of molasses based supplement from the start of calving through the first 60 days of the breeding season.

Cows grazing range during the fall-winter lost 62 lb more weight and 0.3 units more body condition than cows grazing range during winter-spring. These results showed that the spring period is better suited for maintaining the weight and condition of lactating brood cows grazing native range. Because summer-bred cows lost less weight on range, it would appear that the better utilization of range resources with spring grazing would improve calf production. However, the heavier body weight and better condition of cows removed from range in May, as compared to cows removed in February, was lost during the period cows grazed bahiagrass pasture.

A problem with a summer breeding season is the time cows grazed bahiagrass pasture. Summer-bred cows grazed bahiagrass forage at a later stage of maturity and of poorer quality than bahiagrass forage grazed by cows removed from range in late February. This would be particularly true for bahiagrass available during the early fall, a time when

summer-bred cows were nursing heavy calves which also depended considerably on bahiagrass forage for their nutrition.

A second problem with summer breeding is that cows are nursing calves during the wettest period of the year. For example, in 1994 the Range Cattle REC received 37 inches of rain during the August-November period. Summer-bred cows weaned calves that were 116 lb lighter than calves nursing spring-bred cows.

Over all four years, calves from spring-bred cows averaged 54 lb heavier (452 vs. 398 lb) than calves from summer-bred cows when weaned at 230 days of age. There was no difference in cow pregnancy rates. These data strongly indicate that cows utilizing a combination of native range and bahiagrass pasture should be grazed on range in the fall-winter period and bred between late winter and early spring for best feeder calf production.

This information will be published in detail as Florida Agricultural Experiment Bulletin 904 which will be available in county agricultural extension offices and other IFAS units within the next few months. (FMP and RSK)

Featured Ranch:

Tippen Bay Ranch
Bob Paul Inc.

Tippen Bay Ranch, a subsidiary of Bob Paul Inc., is located off SR 31 in the south-east corner of Desoto County. This cow-calf operation has about 1,200 brood cows which graze a little more than 5,000 acres of palmetto and sand-cypress areas and wax myrtle sloughs. In the past 10 years, the ranch has embarked on a systematic development of native range to improved pastures to the point where it now combines calf production with hay and planting material sales to the local market. The Ranch manager, Mr. Buzz Stoner, kindly provided a tour to share some of his experiences on warm season grasses with our readers.

Initially, 800 acres of bahiagrass was established on vegetable farmed land on the property. Some 175 acres of Ona stargrass was also developed shortly thereafter. Within the past 5 years, pasture development to speciality grasses such as 'Floralta' limpograss and 'Florakirk' bermudagrass has been promoted on the ranch. The acreage of improved grasses on the ranch now stands at: Floralta limpograss 1050 acres; bahiagrass 1100 acres; Florakirk bermudagrass 200 acres; and Ona stargrass 175 acres. The remainder is about 2,500 acres of native range with assorted grasses (which is sparingly used).

The IFAS general recommendation is that limpograss should be planted on the wet, low-lying areas of a ranch, but Mr. Stoner found palmetto sand ridges to be the most suitable site for Floralta production. Buzz indicated that Floralta prefers good drainage, especially during establishment. After establishment it can withstand a lot of water, but he believes it still grows better on drained soil. Existing ditches provided reasonable drainage to all

pasture sites. However, in decreasing order of ease of Floralta establishment, Buzz's ranking was: palmetto sand areas, sand cypress areas and myrtle sloughs. The same order held true for the establishment and production of Florakirk bermudagrass, but not for bahiagrass. Marked differences were observed in grass ground coverage and plant height in favor of palmetto sand areas over the slough sites of recent Floralta establishments on the ranch. According to Mr. Stoner, Floralta can be planted as late as Thanksgiving if excess rain water prevents summer planting. Since Floralta is tolerant to cool weather, the delay in time of planting has no adverse effect on success of establishment.

Based on soil test results, palmetto sand areas are amended with 1.5 t/A of High-Cal lime and the sloughs with 2 t/A of Mag lime or dolomite before planting. Pasture fertilization on the ranch consists of 300 lb/A of 20-2-10 for Floralta and 60 lb N/A on bahiagrass in the spring. A second 60 lb N/A is applied to Floralta pastures in the fall to stockpile forage for the winter. In recent years, the ranch has been cutting back on N fertilization of bahiagrass pastures with no apparent adverse effect on the 550+ lb average weaning weight of calves. Hence, for the 1998 season, no N fertilizer was applied to bahiagrass pastures.

Grazing strategy on the ranch involves fertilizing and stockpiling Floralta for winter and early spring grazing. Buzz says that even in the event of a frost, the frosted top canopy of Floralta will protect the lower canopy to provide good winter grazing when supplemented with molasses/protein mix. Buzz feels that bahia and Floralta forages complement each other from spring through summer bahiagrass providing the protein and Floralta the energy needs of cattle. The excess Floralta forage is cut and baled for hay. As fall approaches, cattle are removed from Floralta (which is fertilized and stockpiled) to graze bahiagrass.

To boost hay production on the Tippen Bay Ranch for the local market, 200 acres of Florakirk bermudagrass was established in 1997. Mr Stoner was ecstatic about this new pasture addition. "Just 45 days after planting in July 1997, we put 100 yearling heifers on 100 acres for light grazing. Seventy days after planting, I rolled 3 round bales per acre from the remaining 100 acres not grazed. After 3 weeks of rest (in October), we placed the 100 yearling heifers on the 100 acres cut for hay. We then rolled 3 bales of hay per acre off the 100 acres first grazed. For the remainder of the winter, we rotated the 100 heifers between the two 100-acre pastures every 3 weeks. The heifers gained weight very well. Remember, this was a frost free winter which allowed the bermudagrass to grow. After the winter, we removed the heifers, and this spring we harvested 50 square bales/A from the same stand", Buzz concluded with excitement. Mr. Stoner plans to sell planting material from the Florakirk this summer.

The Range Cattle Newsletter is extremely grateful to the Tippen Bay Ranch and Mr. Buzz Stoner for showing our audience how complementary grasses can be combined to provide year-round grazing and how the cow-calf program can be diversified to include hay and planting material. In addition, the ranch harbors a citrus grove and a horticultural landscaping operation. (MBA)

Newsletter Contributors:

Martin B. Adjei, Editor
Extension Forage Specialist
Agronomy Assistant Professor

Rob S. Kalmbacher
Range Management and Forage Crops
Agronomy Professor

Findlay M. Pate
Beef Cattle Management
Animal Science Professor & Center Director

William F. Brown
Forage Evaluation
Animal Science Professor