University of Florida, IFAS
Range Cattle Research and Education Center
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Range Cattle REC Newsletter

Calendar of Events

Month	Date(s)	Event	Location
January	14-15	Cattlemen's Institute	Kissimmee
January	24	N Florida REC Bull Test Sale	Marianna
February	5-16	Florida State Fair	Tampa
March	9-11	FCA Quarterly Meeting	Tallahassee

IN THIS ISSUE

Cow and Calf Gains on Creeping Signalgrass and Bahiagrass.

This fall we completed a 4-year study comparing creeping signalgrass (*Brachiaria humidicola*) and Pensacola bahiagrass. Grazing for Brangus cows and calves began in mid-May, calves were weaned the first week in August, and cows remained on pasture through October. Cattle were stocked at 1 pair/acre and grazed in a 28-day, 4-pasture rotation. At weaning, calves on signalgrass averaged 549 lb *vs*. 519 lb for bahiagrass at 266-days of age. Cows, which began in May at an average 1133 lb, were 1145 on signalgrass and 1093 on bahiagrass in August. In October cows averaged 1241 lb on signalgrass *vs*. 1136 lb on bahiagrass with a body condition score of 5.7 and 4.7, respectively.

Let's put this information in perspective. Creeping signalgrass has potential as a speciality grass and is not a replacement for bahiagrass. It is a summer grass with no appreciable growth before mid-May, while bahiagrass can provide grazing in early March. Signalgrass produces about 10% more grass annually than bahiagrass, but signalgrass is difficult to stock correctly because it has a tremendous flush of growth in mid-June to July. We needed to double our cow numbers on signalgrass during this 4-6 week period in order to utilize the grass efficiently and not end-up with a large mass of poor-quality pasture. Signalgrass is not cold tolerant and considerable stand loss can occur. These grasses share many desirable characteristics such as both are seeded grasses, persistent and tolerate close grazing, and do not require high levels of fertilizer. If you are considering planting signalgrass, give thought to where weaknesses occur in your grazing program and why signalgrass might make a contribution. Please call us or your extension agent if you have questions.

RSK, JDA, FMP

Forage and Cattle Production in Slash Pine-Bahiagrass Silvopasture at Ona.

Braford cows (52 cows weighing an average 1124 lb at start) and calves (112- d-old, 361 lb at start) grazed two silvopastures and an open pasture (no pines) for 112 d from 1 June to 15 September 2003 (weaning). All pastures were bahiagrass with the legumes carpon desmodium and creeping vigna, and pastures were stocked at 1 cow-calf pair/acre. Both silvopastures had 12-year-old south Florida slash pines, but one had 200 trees/acre while the second had been thinned to 100 trees/acre. Trees were planted in double rows (rows 8' apart with pines 4' apart in rows) with a 40' alley between double rows. Annual forage production totaled 9080 lb dry matter/acre in open pasture compared with the two silvopastures which were not different and averaged 6680 lb/acre. Available forage averaged 2190 lb/acre in all pastures at the start in June, but forage declined steadily over the grazing period in silvopastures. Available forage in the open pasture increased from June to July, then declined through September. Cows lost an average 194 lb on the silvopastures compared with a loss of 48 lb for open pasture. Calf weight at weaning (236 days of age) was 466 lb on open pasture compared with 394 lb on silvopastures, which were not different.

Silvopasture provides a return from sale of cattle, timber products, and hunting leases, while open pasture has a return mainly from cattle. Our work indicates that cattle (and forage) production may reduced to about 75% when pines are 12 years of age and should continue to decline as pines increase in size. If this were a commercial enterprise, other sources of income must compensate for reduction in cattle production. Our hope is that over time we obtain the information needed to determine if silvopasture is a viable practice in south-central Florida.

RSK, IVE

Mineral Intake in Grazing Cattle

The lack of essential minerals in Florida forages has been understood and research to overcome these deficits has been conducted. Two of the most lacking minerals in Florida's forages include copper and zinc. As well, phosphorus and potassium may also be lacking during a beef cow's lactation period. A summary of cow mineral requirements and specific functions of individual minerals is available at the UF-IFAS EDIS website

(AN086), *Essential Trace Minerals for Grazing Cattle in Florida*, http://edis.ifas.ufl.edu.

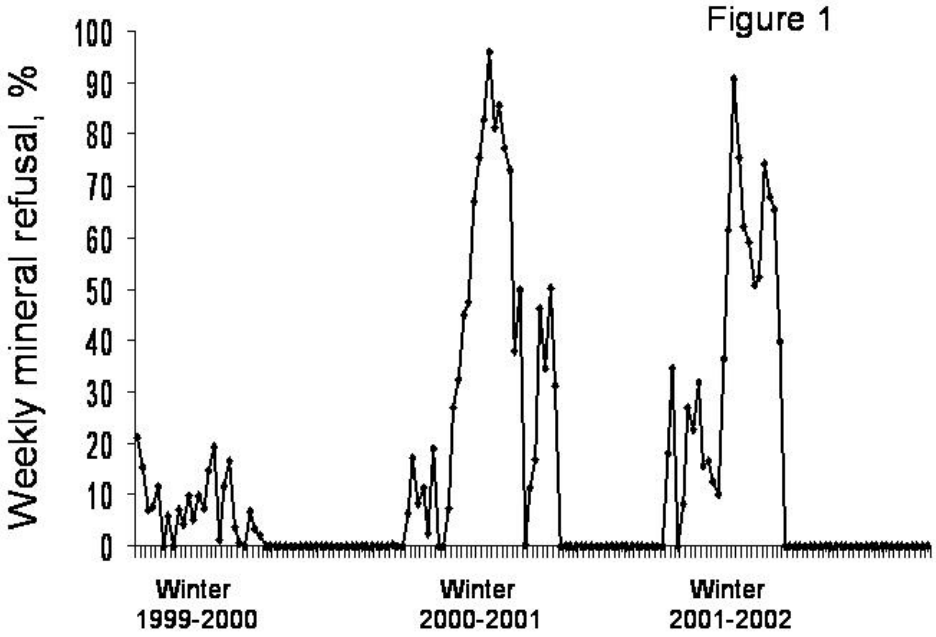
Free-choice, loose mineral supplementation is by far the most common mineral supplementation strategy in grazing beef herds. In nearly all cases, it is an effective, cost-efficient means of delivering adequate vitamin and mineral supplementation to the cowherd. Although formulations vary greatly, the common base mix should contain approximately 20 to 25% salt, along with 8 to 12% phosphorus. This variation in phosphorus content typically provides the most significant influence on overall cost of the product. Intake is often targeted at two to four ounces per head daily. Achieving this target intake by all animals does not occur. Several animals within a herd will consume very little to no mineral at all. However, on the average, mineral consumption usually meets the desired intake levels. It is this averaging effect, over time, which allows free-choice mineral supplements to be the most practical choice for most cattle producers.

In Florida, seasonal variation in mineral intake is evident. During the wetter summer months, cattle readily consume salt-based mineral supplements. In contrast, during the dryer winter months free-choice intake may be greatly reduced. We recently completed a three-year study at the Range Cattle Research and Education Center that investigated the annual variation in free-choice, salt-based mineral intake. In our study, the seasonal changes in mineral consumption were clearly noticeable (Figure 1). Cows were offered a weekly amount of mineral that was equal to their targeted intake of two ounces per head daily (14 ounces per cow weekly). The amount of mineral not consumed was weighed and removed each week. Our results show that during the summer months, cows readily consume their two ounce per day allowance; however, during the winter months cows often consumed less than ½ of their two ounce allowance. These differences in mineral intake are likely due to several factors, but the most important contributors are probably the moisture content of the pasture forage and the presence of winter supplement.

This new information is important to consider when evaluating a mineral supplementation program. For instance, during the summer months cows may consume mineral at a rate that exceeds their targeted intake. In our study, we only offered mineral at the two ounce per day level, but clearly they would have eaten more during the summer. Often this weekly allowance was completely consumed within four to five days. There is nothing wrong with allowing the mineral feeder to remain empty for a couple days. Providing mineral to cows every week or two weeks at a rate that is sufficient to provide their targeted intake is an excellent method of controlling overeating. As cows consume more mineral than required, their body expends energy to excrete extra mineral into the urine. Over-consumption of mineral is usually not considered a health problem; however, there is some evidence of reduced reproductive performance in heifers and young cows that consume too much mineral. The most pronounced impact of mineral overeating is economic, as the producer is receiving no additional benefit from the added costs realized by the additional mineral purchased.

In the winter when consumption is often reduced, try blending your mineral with your winter supplement. If you do not utilize winter supplements, or blending is unfeasible, try mixing your salt-based loose mineral mix with cottonseed meal or soy hulls at a one to one ratio. Remember to double your offer and monitor intake. An increase or decrease in this ratio may be used to control intake to your desired level. If you are purchasing a commercial feed supplement, ask your sales professional about the mineral content of the feed. In many situations, commercial winter supplements are fortified with a sufficient amount of mineral to meet a cow's requirements. When feeding these products the producer may be able to discontinue offering free-choice mineral or only offer stock salt. This may result in a substantial savings in a herd's annual mineral supplementation program.

JDA



Phosphorus for the Brood Cow Herd

Recommendations on the phosphorus requirements of producing brood cows have been substantially reduced over the past 30 years. Developed by a committee of animal scientist from all areas of the U.S., nutrient needs are published as the Nutrient Requirements of Beef Cattle by National Research Council. It is important for Florida cattlemen to take note of changes in the nutrient recommendations which can save money on production cost and be of benefit to the environment, especially water quality.

In 1976 the requirements of phosphorus by a 1,000 pound lactating cow was 28 grams/cow/day throughout the nursing period.. Today, the requirement for phosphorus at peak lactation, the second month after calving, is 21 grams/cow/day and progressively decreases to 11 grams/cow/day at nine months after calving. This is approximately a 50% reduction in phosphorus recommendations for beef cows from 1976 to 1996.

On many ranches phosphorus contained in pasture forage could provide all the needs of the brood cow and no phosphorus supplementation would be needed. The level of phosphorus needed in the forage to meet the total requirements of producing brood cows is 0.2%.

The greatest need for phosphorus on most south Florida ranches is during the winter months when cows are nursing young calves and exposed to bulls for rebreeding. The content of phosphorus in grasses is also the lowest during the winter months. It is very important that brood cows receive adequate amounts of phosphorus at this time to ensure conception of the next calf crop .

To best manage the feeding of phosphorus ranchers must determine the phosphorus content of their pasture forage. On small ranches this would require 3 to 5 forage samples in mid summer and again in mid winter. Sampling for only two or three years will provide an adequate profile of the phosphorus content of the pasture forage, and further sampling is not needed. It cost about $5 to analyze a forage sample for phosphorus, or a total cost of $30 to $50 per year for small ranches. More sampling would be required for large ranches which usually grow numerous forage varieties and have many different ecological areas.

It is possible that no supplemental phosphorus is needed by the cow herd, especially during the spring and summer periods. This savings in phosphorus supplementation would more than pay for the sample analysis.

Another way that phosphorus may be overfed is offering a mineral mixture containing phosphorus during the winter in addition to feeding phosphorus contained in a winter supplement. Some liquid supplements may contain up to 1.0% phosphorus. Commodity feeds like cottonseed meal and wheat midds contain in excess of 1.0% phosphorus. If these commodity supplements are fed, a mineral mix containing phosphorus is not needed. But, a word of caution, trace minerals like copper, cobalt, and selenium are often deficient in Florida forages and, must still be provided in a mineral supplement if they are not contained in the winter supplement.

It is very obvious that Florida cattlemen can save substantial dollars by better managing the feeding of phosphorus to the cow herd. At the same time the quality of our water resources will be protected.

FMP

Forage Production of Ryegrass Cultivars Grown at Ona

Annual ryegrass is a cool-season bunchgrass which can be an important source of forage during winter and early spring. In central Florida these grasses are seeded in early November and can be grazed within 8 wk after seedling emergence and grazing may extend from 90 to 120 days. Ryegrass is most productive when seeded alone or in mixtures with small grains (wheat, rye, oat, and triticale), following a vegetable crop or in a pasture renovation program. Ryegrass seeded in cultivated soil establishes more rapidly than sod-seeded ryegrass and normally requires half the nitrogen rate. This method of seeding ryegrass will produce about 6 times more forage than sod-seeded ryegrass and average 3.0 ton/acre. Ryegrass responds well to nitrogen fertilization leading to rapid growth and increased forage quality. Well fertilized ryegrass will average 21% crude protein and 75% digestible forage.

Since new ryegrass cultivars are continually being released it is important to test them under south-central Florida conditions. All ryegrasses were seeded at 20 lb/acre on clean tilled soil, and fertilized with 50-30-60 lb/acre N-P_2O_5-K_2O + 1.5 lb/acre Mn, Zn, Cu, and Fe (sulfate form), 0.15 lb/acre B, and 6.0 lb/acre S immediately after emergence. Thirty-five lb/acre nitrogen was applied following each harvest (30 day intervals). Irrigation was used as needed during the growing season. The following ryegrass cultivars were grown over a 3 to 6 year period at the Range Cattle REC, Ona (Table 1). These yields provide good representation of each cultivar, since they were grown for more than one year under different environmental conditions, at the same location. The cultivars that consistantly produced high dry matter yields year after year were E TX ‘Prine’ (3.0), SSS ‘Jumbo’ (2.9), LSC ‘King’ (2.8), and E TX Brigadier (2.8 ton/acre). **PM**

Table 1. Dry matter yields of selected ryegrass cultivars grown over a 3 to 6 yr period at the Range Cattle REC, Ona, 1997-2003.

		Year						
Brand†	Cultivar	1997	1999	2000	2001	2002	2003	Avg
		----------ton/acre----------						
E TX	Prine		2.6	3.5	3.2	2.5	3.0	3.0
SSS	Jumbo		3.0	3.4	3.0	2.4	2.9	2.9
LSC	King		2.6	3.1	2.8	2.5	2.8	2.8
E TX	Brigadier			3.2	2.6	2.5		2.8
SSS	Big Daddy	2.7	2.4	3.3	2.6	2.6	2.8	2.7
Wax	Jackson	2.3	2.7	3.0	2.5	2.7	2.9	2.7
Wax	ME - 94	2.4	2.5	3.1	2.7	2.4	2.8	2.7
ASC	Fantastic			3.1	2.7	2.4		2.7
SSS	Ed			3.2	2.7	2.1	2.9	2.7
ASP	Graze-N-Gro		2.4	3.0	2.7	2.4	3.1	2.7
PSC	Passerel Plus			2.9	2.5	2.3	2.8	2.6
DLF	Surrey	2.4	2.3	3.0	2.8	2.2	2.9	2.6
DLF	Surrey II		2.5	2.8	2.5	2.2	2.5	2.5
Wax	Marshall	1.9	2.3	2.8	2.4	2.4	3.0	2.5
DLF	FL 80	2.3	2.3	3.0	2.6	2.3	2.5	2.5
DLF	Gulf	2.5	1.9	3.0	2.1	2.1	3.0	2.4
Bar USA	Ribeye				2.5	2.3	2.5	2.4

† ASC Ampac Seed Co.
ASP American Seed Products
Bar USA Barenbrug USA, Tangant, OR
DLF DLF International Seeds, Inc., Halsey, OR
E TX East Texas Seed Co
Forbes Forbes Seed and Grain, Inc.
LSC Lewis Seed Co.
PSC Pennington Seed Co.
SSS Smith Seed Services, Halsey, OR
Wax Wax Seed Co., Amory, MS

Cattle Situation and Outlook; Winter 2003 – Spring 2004

Cattle inventory continues to decline despite very favorable market conditions. This is a sign that many producers are finding it too costly to rebuild herds at this time. As of July 1, 2003, all cattle and calves inventory was down 1 percent from 2002 and down 2 percent from 2001. Total cows and heifers that had calved were down slightly from 2002 and down 1 percent from 2001. Heifers held for beef cow replacements were steady while heifers held for milk cow replacements fell 3 percent from 2002. The 2002 U.S. calf crop was down 1 percent from 2001, and the 2003 calf crop is expected to be below 2002's level.

2003 beef production has been slightly below 2002's record level. This is expected as inventory has been continuing to shrink. It is also notable since carcass weights have fallen to 35 or more pounds below 2002. The phenomenal prices for all levels of beef production from feeders to fed cattle have encouraged marketings to be higher this year which has allowed the total beef production to remain as close to last year's level as it has. Futures markets have traded at unprecedented levels, and they suggest that prices should be strong through the middle of 2004.

The current projection for feed crops is mixed with corn being favorable and soybeans

being unfavorable. This will translate to low feed costs in the feedyard, but the use of soybean meal as a supplement is likely to be nullified because of costs. While the hay crop was above 2002 level and prices were down across the board, there are concerns about the quality of hay produced this year because of adversity in the weather and harvesting. This could impact the cost efficiency of this winter forage.

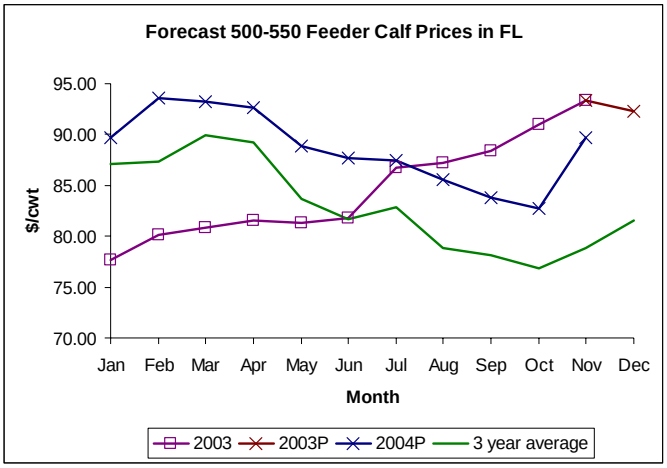
The BSE (mad cow) case in Canada has helped boost prices here in the US. However, do not look for the opening of the border to cause a significant fall in prices in 2004. Futures prices on feeder calves are still trading in the high $80 range on mid 2004 contracts. This includes an expectation that the border will reopen to Canadian cattle in the early part of 2004. The return of the Canadian cattle will likely allow feeders to adjust the currentness of the feedlot and help with the low supply of choice cattle by allowing more days on feed.

What about that cattle cycle? Do we have one anymore? Weather conditions have put off the expected herd rebuilding for three or more years now. The average heifer placements for 2003 suggest herd rebuilding still has not begun. Many areas are doing all they can to just keep the herd sizes as they are while very favorable market conditions have made retention of extra heifers too costly to be a serious consideration. This will help keep the supply tight for the next couple of years, and with demand appearing to strengthen with the current popularity of low-carb diets, expect prices to remain strong even into 2005.

One last note, Canada was the first country with a case of BSE where consumption of beef in that country actually increased. Prior to the BSE announcement, Canadians consumed on average 48 pounds of beef per year. After the announcement, that average consumption rate increased to 52 pounds of beef per year. The contention is that Canadians showed patriotism by supporting the embattled Canadian beef industry.

TEA

Figure 2



Legume-Bahiagrass Pastures for Mature Cattle not Yearling Steers

We often say that low summer average daily gains (ADG) by cattle grazing bahiagrass pasture may be overcome by incorporating perennial legumes in the pasture. In reality this statement is only partially true since it depends largely on the class of animals involved.

In 2002, yearling steers were grazed continuously on either pure bahiagrass, *Aechynomene evenia*-bahiagrass, or creeping vigna-bahiagrass pastures at the Range Cattle Research & Education Center, Ona. The steers were only 11 months old and weighed about 450 lbs each at the beginning of the experiment. These young steers gained between one and one-half of a lb per day from April through July. In August, the daily weight gain slowed sharply and the steers lost all their weight gain by the end of September. An energy-protein (molasses-cotton seed meal) supplement had to be provided to maintain the steers through October when the study ended. There was a negative overall live weight gain on all pasture types for 2002.

We kept the steers on good quality hay supplemented with molasses-cotton seed meal through the rest of the fall 2002 and winter 2003. The animals recovered condition and gained weight during this period.

In spring 2003, the same steers, now 23 months old with an average body weight in excess of 800 lbs each, were reassigned to the same three pasture types for a second years grazing. This time around, the animals gained more than 2 lbs a day

from April through May and have maintained a cumulative daily gain of about 0.77 and 1.2 lbs on pure bahiagrass and legume-bahiagrass pastures, respectively, through October 2003. Live weight gain per acre through October is about 90 lbs on bahiagrass, 140 lbs on evenia-bahiagrass and 170 lbs on vigna-bahiagrass. We only have November left to complete grazing this year.

These results have shown that when bahiagrass provides the bulk (> 80%) of the diet in a legume-grass mixture, the TDN of the overall diet is inadequate to meet the energy requirements of young growing steers. We conclude that the inclusion of legumes in bahiagrass pasture will not improve forage nutritive value sufficiently to support seasonal weight gain in yearling steers but the performance of two-year-old steers and mature cows may be improved.

MBA

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