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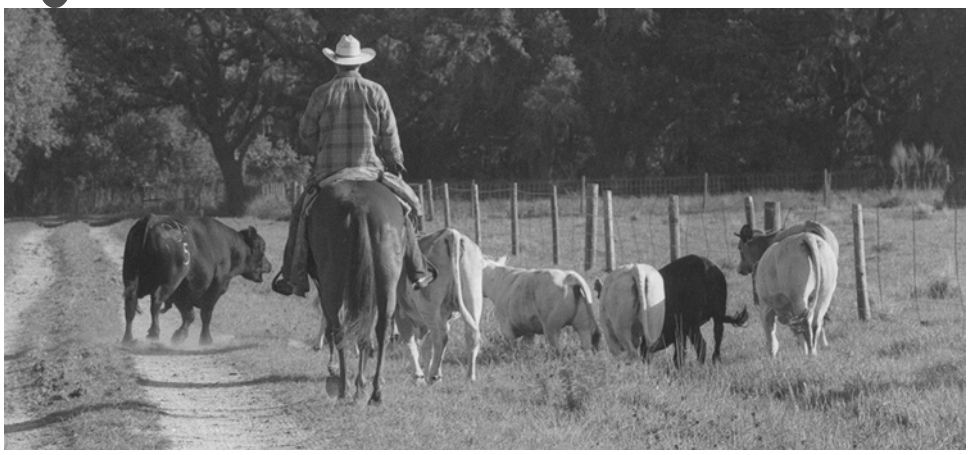
Range Cattle REC Newsletter



Calendar of Events

Month	Date(s)	Event	Location
March	25	NFREC Beef Field Day	Marianna, FL
May	5-7	Beef Cattle Short Course	Gainesville, FL
May	19	STARS Field Day	Brooksville, FL
June	16-18	FCA Annual Convention	Marco Island, FL

IN THIS ISSUE

Declining Overall Cow Herd Trend Continues: Beef Herd Remains Stable

In the past, I have mentioned the tell tale sign of a new cattle cycle is an increase in heifer retention. Twice a year the USDA releases its cattle inventory estimates. These estimates give the reader a glimpse into the industry psychology and of what to expect for the next couple of years.

The National Agricultural Statistics Service (NASS) branch of the USDA released its latest cattle inventory numbers and estimates on January 30. They show that cattle inventories have continued the downward trend that began in 1996. The cattle industry is into the 15th year of the cattle cycle, and there are no clear indications of a herd expansion. However, there are signs of stabilization particularly in the beef herd.

Florida's cattle inventory numbers were in line with the national trend. Overall 2004 Florida cattle and calves inventory is estimated to be down one percent to 1.74 million head from 1.75 million head in 2003. All cows that had calved are estimated to be down 10,000 head to just under 1.1 million. Beef cows that had calved totaled 950,000, down less than one percent from 2003, and milk cows that had calved totaled 140,000, down five percent from 2003. Calf crop numbers show a one percent decline from 930,000 head in 2002 to 920,000 head in 2003.

Heifer hold-backs are a key indicator of potential herd expansion and the inventory numbers show little evidence of such a trend beginning. Beef cow replacements in Florida are up from 130,000 to 140,000 head. Milk cow replacements held steady at 40,000 head. However, this is not consistent with the national figures beef and dairy replacement heifers were down two percent each. Nationally, there is every indication that the current cycle will last into 2005 and beyond which can potentially translate to continued strong cattle prices for at least two more years barring any unforeseen negative impacts. The already tight fed beef supplies will only get tighter as a result of these shrinking numbers further helping maintain prices in the current economic conditions.

One significant change is that cattle on feed are up four percent from 2003. At the same time, all calves under 500 pounds along with non-replacement heifers and steers over 500 pounds not on feed is down four percent. This is a reflection of the very strong prices at the end of 2003, but it is partly a reflection of the BSE impacts in Canada and the US on the beef supply. First, fewer cattle are not on feed because supplies tightened with the closing of the border to Canadian cattle. While, the closure of foreign borders to US beef has allowed the supply to the domestic market to loosen a bit. Couple these factors with the strong prices, and there is little reason or incentive to keep of age cattle off feed.

This year's USDA inventory report did not include figures on the number of cattle operations.

With the inventory numbers showing a continued decline in the national herd and not any evidence of herd rebuilding, the implications on the market are favorable for the industry to continue to deal with the closed borders. Last year's beef production fell as a result of lighter carcass weights, but a higher slaughter rate helped keep beef production over 26 million pounds. Outstanding prices in 2003 allowed every sector of the industry to enjoy robust profits. With little price and no demand impact as a result of BSE in Washington State, the profitability should remain favorable. When

foreign markets do reopen on a broader scale, supplies will tighten again. Shrinking calf crops still translate to shrinking supplies. This means that prices should remain strong through the next couple of year. The decline in calf numbers will also continue impact the total beef production. With beef demand continuing to be strong, do not be surprised to see another rise in the retail price of beef over the next 12 months. The only question that remains is how high can retail beef prices get before demand is severely impacted?

TEA

Weight Gains for Cows in Spring

The rate of weight recovery by cows after winter can be astonishingly great with good bahiagrass pasture. At the beginning of March 2003, Braford cows wintered (October to February) on range at the Range Cattle REC weighed an average 939 lb with a body condition score (BCS) of 3.6. By June first at the end of the 90 day breeding season, their weight was 1123 lb with a BCS of 5.1. While these cows received 5 lb/hd/day of natural protein-molasses slurry, bahiagrass pasture growth was excellent. Rainfall totals for March, April, and May were 1.1, 1.8, and 1.7 inches above the 61-year means for these months. Minimum monthly temperatures for these months were all above the long-term means, especially for March when the average low temperature was 9.2 ^{o}F warmer than normal. This combination of weather conditions along with 300 lb/acre of a 16-4-16 fertilizer in February 2003 meant abundant, highly nutritious bahiagrass-carpon desmodium pasture.

Early spring fertilization pays and can provide the most economical, nutritious bahiagrass pasture possible. While results are dependent on weather, you can only take advantage of the benefit if you take the initiative to fertilize. You may not need to fertilize all bahiagrass pastures each year, but limit fertilization to what is needed to meet grazing needs for March to June.

RSK, JDA, FMP

Pasture and Hayfield Weed Control

Weed control is essential for establishing and maintaining high quality pasture. Weeds should be controlled in established pastures annually or at least biannually to reduce competition with desirable grasses for plant nutrients, water, sunlight, etc. Uncontrolled weeds produce high concentrations of seed in the soil. For example one large tropical soda apple (TSA) plant will produce about 450,000 seed/yr. If each seed germinated and occupied 1 ft^2 a 10+ acre area could be covered by TSA plants.

Weed management can be accomplished by cultural, mechanical, and chemical methods. Seeding or planting pasture grasses at a high density will help control weeds (cultural). Mowing (mechanical) is the most popular method and can be quite effective on some weeds. Mowing prior to flowering stage will eliminate seed formation and prevent weeds from spreading. Mowing will generally provide more effective control of broadleaves than grasses and annual than perennial weeds.

Currently, there are few herbicides (chemical control) available for use in pastures. The most popular broadleaf herbicide is Weedmaster® which is a combination of 2.87 lb/gal 2, 4-D and 1.0 lb/gal dicamba. This chemical formulation can be purchased under various trade names. Weedmaster® is generally used at a rate of 1.5 lb/A or 1.5 qts/A (4 lb/gal formulation). This rate will control dog fennel from 6 in to

2 ft along with Oldfield toadflax, Primrose willow, Carolina geranium, Wondering cudweed, Spreading dayflower, young pigweed, lambsquarters, Mexican tea, etc. However, there are numerous weeds not controlled by Weedmaster®. **Best weed control is obtained when weeds are sprayed at the immature stage generally mid to late March in central Florida.** The combinations of 2, 4-D + dicamba can be used on most perennial pasture grasses, but not on limpograss/Hemarthria or seedlings of suerte/atra paspalum.

Broadleaf weed control in limpograss requires 0.75 to 1.0 lb/A and seedlings of suerte 0.5 lb/A dicamba.

Tests at the Ona REC during the spring of 2003 revealed that Cimarron® at 0.3 oz/A + Weedmaster® at 1 lb/A + 6 oz/100 gal water of silicone surfactant provided excellent control of numerous broadleaf weeds including goatweed. This herbicide combination can be used on stargrass, bermudagrass, and pangolagrass pastures but **not on Pensacola bahiagrass.** Cimarron® at 0.3 oz/A + 6 oz silicone surfactant/100 gal water provided good broadleaf weed control including goatweed in limpograss with only a very slight suppression. Cimarron provides good control of hard to kill weeds like thistle, pigweed, Florida pellitory etc.

Redeem R & P® at 1.5 lb/A + 6 oz silicone surfactant/100 gal water will also control selected broadleaf weeds and is especially good on Black nightshade. Redeem® has no effect on limpograss, stargrass, bahiagrass, or bermudagrass (except Florakirk) which experiences some suppression. Remember regardless of herbicide used try to apply in mid to late March after weed emergence but before plants attain heights beyond 12 in. Smutgrass and Tropical soda apple control will be discussed in the next issue. For additional information call 863-735-1314. **PM**

Using Charolais Crossbred Heifers as Replacements

In crossbreeding plans involving Charolais bulls the term “terminal cross” is often used. “Terminal cross” means that all calves, both steers and heifers, will be sold at weaning with no heifers kept for replacements.

The most popular continental breed used in the U.S. is the Charolais, a French breed. Charolais gained popularity in the 1950's and 1960's, but fell out of vogue in the 1970's for a number of reasons. Charolais has regained much of its popularity in the last fifteen years, primarily from the use of Charolais bulls in commercial crossbreeding programs. In Florida, Charolais bulls have been used in many cow herds containing Brahman and English crossbred brood cows.

In 1963, Mr. Mac Peacock initiated a crossbreeding study at the Range Cattle REC at Ona that involved Charolais, Brahman and Angus breeds. The study was designed to evaluate the three purebreds and all possible two-way crosses between the three breeds..

One outcome of the study was that Brahman genetics is very important for adaptability whether in combination with Angus or Charolais breeds. It was also observed that Brahman x Charolais crossbred cows performed equally well as Brahman x Angus crossbred cows. These comparisons were for both cow reproduction performance and calf weaning weight.

These research data indicate that heifer calves resulting from crossbreeding Charolais x Brahman will make good replacements into a commercial breeding herd. Another acceptable breeding plan

could involve breeding Brangus or Braford type cows to Charolais bulls. Heifers from these crosses could be bred to Angus or Hereford bulls. This would likely be a "terminal cross" because the level of Brahman genetics may be too low for cows in south Florida. However, these heifers should make good brood cows in the more temperate climate of north Florida and other areas in the Southeast.

Recently the author visited the Lightsey Ranch near Lake Wales, Florida. This ranch has a large herd of crossbred brood cows developed by breeding Braford cows to Charolais bulls. This herd is bred back to Angus bulls and has an excellent weaning rate of heavy feeder calves that attract top dollar when marketed.

In summary, a production plan involving breeding Brahman or Brahman derivative breeds to Charolais bulls will produce replacement heifers very acceptable for use in commercial breeding herds in south Florida. If these heifers and cows are then bred to Angus, Hereford, or back to Charolais bulls resulting females should be marketed for feeding and slaughter. They could possibly be marketed as breeding stock in north Florida and other temperate regions in the Southeast.

FMP

Liveweight Gain of Meat Goats Grazing Leucaena-Bahiagrass Pasture

We wanted to evaluate the value of incorporating a browse plant in the diet of grazing Boer goats. The browse plant was leucaena K636, a new selection of *Leucaena leucocephala*, a tropical leguminous shrub that is dependable and produces nutritious forage in south Florida. The selection K636 has proved to be one of the most productive and adapted selections in central and south Florida. Between July and November of 2003, we grazed recently-weaned, three-quarter Boer x Spanish wethers and does (average weight 38 lb at start) in leucaena+bahiagrass pastures. Leucaena was planted in three rows (rows 3 ft apart between and within rows) with a 16-ft alley of bahiagrass between the triple rows. Liveweight gains of the goats were compared with those of two other groups that grazed bahiagrass with soybean meal supplementation at 50% daily requirement (50% protein) or without supplementation (control). Goats in all three treatment groups were stocked at 11 goats/acre, and received one-third of their daily energy requirement through a mixed ration of cracked corn, soy hulls and molasses. Goats on bahiagrass were continuously stocked while those on bahiagrass+leucaena sequentially grazed two equally-sized paddocks, and moved between paddocks every 28 or 56 days, depending on the availability of leucaena leaves. Goats on bahiagrass+leucaena were inoculated with the "leucaena bug" (*Synergistes jonesii*, a bacteria necessary to fully digest leucaena in the rumen) prior to the start of grazing.

Available bahiagrass averaged 4500 lb dry matter/acre in the 50% protein and control pastures and 3200 lb dry matter/acre in the bahiagrass+leucaena pastures. At the 11 goats/acre, grass was not limiting throughout the grazing period. Leaves available from the leucaena varied between 90 lb dry matter/acre in July to 21 lb dry matter/acre in October, but the goats had access to enough leaves to provide supplementary grazing at least 30% of their daily dry matter requirement. Previous studies in central Florida showed that K636 leaves contain no less than 30% crude protein and had in vitro digestibility of about 50 to 55%.

Goats on leucaena+bahiagrass gained 19 lb/head during the grazing season

compared with an average of 9 lb/head on 50% protein and control treatments. The trend in the average daily liveweight gain is noteworthy. In August, the first month of grazing, goats on all pastures had similar weight gains. In September and October, goats on leucaena+bahiagrass had gained twice as much as those on 50% protein and control treatments. By November, goats on leucaena+bahiagrass maintained their summer weight gain whereas those on 50% protein had lost weight. Low gains of cattle on bahiagrass in July and August is a well-known phenomenon, and is thought to be due to the combination of flooding, high ambient temperature, and low nutritive value of grass. Even in our situation where grass was abundant, the goats barely maintained their weights (at lower levels than in leucaena+bahiagrass) during the summer, but lost weight by early fall as the nutritive value of bahiagrass continued to decline. Thus, access to leucaena is one means of maintaining improved weight gain of goats throughout the summer and early fall. However, it needs to be emphasized that leucaena use as a forage plant in Florida is still in experimental stages only and has not yet been recommended by the University of Florida. Many aspects of leucaena utilization and its management under grazing still need to be understood and worked out before its potential can be fully exploited.

IVE, RSK, MJW, LAG, JDA

The Use of Organic Trace Minerals in the Commercial Cowherd

Organic mineral is a generic term used to describe the condition whereas an inorganic, soluble salt is joined with an organic carrier, typically a portion of a protein, sugar, or amino acid. This complexing action may occur in a variety of manners, most of which are defined and controlled by the American Association of Feed Control Officials. Often the term "chelated mineral" is used to describe all organic mineral sources. This is a misnomer. Some common organic mineral categories include, trace mineral amino acid complexes, trace mineral amino acid chelates, and trace mineral proteinates. The trace minerals commonly found in commercially available supplements include zinc, copper, manganese, and cobalt.

The theory behind the benefit of organic minerals is based on improved efficiency of absorption compared to the traditional inorganic counterparts. This improvement in mineral availability is thought to have an impact on cowherd reproduction, calf weaning weight, immune function, and structural soundness (i.e. hoof integrity).

Conclusive research supporting the benefits of organic mineral inclusion in commercial cow-calf supplements is lacking. Although some studies show a benefit to organic mineral supplementation, many do not. With this concept in mind, we have completed a three-year study using the Braford cowherd at the Range Cattle REC. In this study, we compared the effectiveness of organic versus inorganic trace mineral supplements on cowherd performance. Over the entire study, the organic mineral treatment had no effect on reproductive performance, cow body weight or body condition, or calf weaning weight. However, performance improvements were realized when young cows were considered separately. Young cows nursing the first or second calf experienced an 18% average increase in pregnancy rate (84 versus 66%) and a 16 d shorter calving interval (364 versus 380 d; Table 1).

The results of this three-year study suggest that organic trace minerals may be

an important management tool for the commercial cattlemen. Our results suggest that due to the increased cost of organic trace minerals, their use might be most economically effective on the young cows in the herd. If young cows are separated from mature cows then this management option may be simple and effective alternative to traditional inorganic trace mineral supplementation.

JDA

Table 1. Effect of trace mineral source on post-partum interval and pregnancy rate in grazing Braford cows [a]

	Yr 1		Yr 2		Yr 3	
Item	Young [b]	Mature	Young [b]	Mature	Young [b]	Mature
	---------- Postpartum interval, d ----------					
Organic [d]	355 [c]	341	363	359	374 [c]	374
Inorganic [d]	374 [d]	337	367	366	400 [d]	360
SEM	2.0	2.0	4.5	4.5	4.2	4.2
	---------- Pregnancy rate, % (= n) ----------					
Organic [d]	75	86	89 [c]	91	88 [e]	98
Inorganic [d]	76	95	57 [d]	95	65 [f]	92

[a] Pregnancy determined by rectal palpation and rate calculated using only lactating females.
[b] Young cows are 3 and 4 yr old. Mature cows are all ages > 4 years.
[c,d] Means with unlike superscripts within yr differ, P = 0.02.
[e,f] Means with unlike superscripts within yr tend to differ, P = 0.15.

Pasture Insect Pests of Concern

The weather is warming up and the cycle of insect pests on pasture will soon resume. We need to watch out and protect our pasture against major insect damage. The most common pasture insect pests that occur in south-central Florida are the chinch bugs, spittle bugs, caterpillars, mole crickets and white grubs.

Mole crickets have just awaken from their dormant winter sleep. They are feeding and flying around bahiagrass pastures to mate and breed. These mature mole crickets will lay millions of eggs in underground chambers between March and May before they die out about the end of June. But they will be survived by the millions of nymphs that hatch from eggs in May and June unless we act together to control the adults now. The UF-IFAS, the Florida Department of Agriculture, the Florida Cattlemen Association, and the Florida Turfgrass Association established a partnership in 2002 for the commercial production of the mole cricket biological control product, **Nematac® S** by Becker Underwood. This spring's nematode product is marketed from mid-February to May. The team also established a commercial strip-application by Ingram Grove Services and a network of nematode vendors throughout Florida. Sales information on nematodes can be obtained from your local vendor, but technical information on proper application methods and the custom applicator can be obtained from your local Ag. Extension Office.

Southern chinch bugs are most abundant in dry years and prefer thin stands of grass. The adult chinch bug has a black body and white wing covers, each with a black triangle at the middle of its outer margin. Nymphs are reddish with a white

band across their backs, and older and larger nymphs are reddish-brown with a white band. If you observe the appearance of black-white-red ants on the thatch of your damaged bermudagrass pasture, it is most likely caused by chinch bugs. The chinch bug overwinters as adults and large nymphs in thatch of infested fields. Activity resumes in spring when temperatures exceed 65 ^{o}F. The bugs suck plant juices from grass resulting in yellowish to brownish patches usually beginning with the driest part along the edges of the field. The damage expands to new areas as the bugs migrate. Control measures include monitoring for the insect, close mowing (3") and spraying the affected area plus a 5-ft buffer with recommended chemicals.

The adult two-lined **spittlebugs** are black with red eyes and legs and have two orange transverse stripes across their wings. The nymphs are yellow or white with a brown head and are enveloped in a mass of white frothy spittle that they secrete for protection. The majority of the spittle masses are not readily visible since they are located near the soil surface at the base of the thatch. Damage to grass is caused by adults and nymphs piercing and sucking juices from the plant. The insect also injects toxic salivary substances into the plants. Infected grasses wilt and tips turn yellow and eventually brown. Limpograss, pangolagrass and rhodesgrass are very susceptible especially under high humidity conditions. Close mowing or grazing in summer will reduce the dense thatch mat and the spittlebug problem. Burning off the dense mat of dry grass in late-February or early March is an alternative control measure. The protective spittle makes biological control of this pest very difficult.

Caterpillars or worms are the immature stages of grayish-brown moths. These are migratory pests that often move in large numbers from one area to another in search of food. They can cause extensive defoliation of N-fertilized foliage and prefer N-demanding grasses such as bermudagrass, stargrass and pangolagrass. We will discuss the details of the problem with armyworms and loopers and their solution in the summer as their season approaches.

MBA

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