



Cooperative Extension Service

Institute of Food and Agricultural Sciences



RANGE CATTLE REC NEWSLETTER

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Calendar Of Events

August

16-17	Florida Brangus Breeders Annual Meeting. Kissimmee, FL
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September

12-13	FCA Fall Quarterly Meeting. Polk County, FL
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28	Florida Santa Gertrudis Sale Auction. Bartow, FL
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October

4	FCA Heifer Sale. Ocala FL
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7	Mo Brangus Sale. Arcadia, FL
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November

1	Hardee Farms Black Bull Sale. Chiefland, FL
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Is a New Cattle Cycle on the Horizon? -

Cattle-Fax released the results of their producer survey in mid-April. The results showed that while many producers were expanding their herds in 2001, there was a significant number of herds that were reduced. Thirty-two percent of the respondents indicated that they either expanded or restocked their herds (23% expansion and 9% restock). Twenty-three percent of the respondents indicated a reduction in their herd size. Those numbers for the Southeast were 29% expansion, 7% restock, and 14% reduce.

The indicated herd plans for 2002 show a potential increase in herd size with 26% of the respondents planning expansion, 13% planning to restock, and only 15% planning a herd reduction. The Southeastern plans are nearly identical to the national composite with 25% planning an expansion, 12% planning to restock, and 15% planning a herd reduction. Ninety-one percent of those planning to expand herds indicated they would do so by heifer retention. When the USDA July 2002 inventory estimates are released in August, we will have better picture if these plans are being followed or if the current market has changed the expectations and plans of producers.

With participation in contract production and alliance participation, the cattle industry is in a transition stage. These new marketing arrangements available and the low cost of competitive meats may have created significant structural changes which could lead to an altered cattle cycle. Only time will tell for certain what the effect will be on the cattle cycle.

The intention of producers to increase herd sizes may point to the beginning of a new cattle cycle in the next year, but the heavy placements of cattle in the first quarter of 2002 may indicate a change in plans. If herd expansion does not occur in the next year, prices could rebound as the effects of the increased cattle placements early this year leads to decreased supplies towards the end of 2002 and well into 2003.

In a side note, the Cattle-Fax survey also polled producers about their participation in

alliances and their attitudes towards long-term contracts. The results showed alliance participation in 2001 was down 2% from 2000. Speculation is that strong cash markets enticed some producers to take advantage of potential profit gains. The results on long-term contract attitudes showed 55% of the producers would accept them. However, there were clear expectations on what price levels were acceptable. (TEA)

Seed of legumes in the soil is an important resource -

The amount of legume seed in the soil, which is part of the soil seed bank, is important because it is from this seed that annual legumes must regenerate each year. We estimated the amount of legume seed in the soil in various pastures at the Range Cattle REC by collecting samples of the top 1" of soil in February 2002. Between 10 April to 28 May 2002 (48 days) we counted the seed that germinated from our samples. It should be noted that our estimates based on 48 day germination reflect only a portion of the legume seed because of the large amount of hard seed that germinates slowly over time.

A bahiagrass pasture seeded (11 lb/acre) to *aeschynomene evenia* in June 2001 and grazed through the summer contained an average 14 seed/m² (a square meter is 3.3' by 3.3'). *Evenia* seed averages about 85,000 seed/lb, so that is about 0.7 lb seed/acre. By contrast, an adjacent pasture seeded to *evenia* in 1996, and where *evenia* has been grown (and has reseeded itself) a total of 6 years, there was an average 128 seed/m² or about 6 lb seed/acre. This indicates that it usually requires several years for the seed bank of legumes to build up. It also emphasizes the importance of allowing legumes to go to seed each year.

Having plenty of reserve seed in the soil is important for perennial legumes too because plants die, and the legume must come back from seed. The great drought of 2000-2001 was responsible for the loss of much carpon desmodium in central and south Florida. In a bahiagrass pasture with a good stand of carpon desmodium, which was seeded in 1997, we found 318 seed/m² after a 48-day germination period. There are about 350,000 carpon seed/lb, so this pasture had about 3.7 lb seed/acre. Carpon is usually sown at 3 to 5 lb/acre, so there was an excellent reserve of seed on hand. (RSK)

Aeschynomene Production, Quality and Management -

Animal performance and forage quality of most warm season, perennial grasses, especially 'Pensacola' bahiagrass usually decrease during the summer rainy season from June through September. Rate of gain for steers on Pensacola bahiagrass pasture declines progressively through the summer in Florida.

One way to improve forage quality of warm season perennial grasses during the summer would be to introduce legumes into the sward. *Aeschynomene* (American jointvetch) is a summer annual legume which grows rapidly on most flatwood soil pastures. This legume can be grown on cultivated soil or in association with a perennial grass. The establishment of *aeschynomene* from seed is relatively easy, however, seeding rate will depend on use of hulled or unhulled seed. The unhulled seed, or segments of the fruiting

body have a germination rate of 5 to 10% and should be seeded at 20 to 25 lb/A. Hulled seed (Pericarp or hull removed) have a germination rate of 85 to 90% and can be seeded at 5 lb/A. If aeschynomene is seeded when a continuous supply of soil moisture is guaranteed, hulled seed can be used, resulting in a uniform emergence (80 - 90%) of seedlings. However, if the supply of moisture diminishes immediately after seedlings emerge, most seedlings may die, resulting in a crop failure. Seeding unhulled aeschynomene in moist soil, results in about 5 - 10% of seed germinating immediately, if moisture diminishes, plants die, but a new supply of residual seed in the soil (5-10%) will germinate when additional moisture becomes available. One can also mix 2 lb of hulled seed with 5 - 10 lb of unhulled seed/acre to cover both dry and wet soil conditions.

Establishing aeschynomene in a perennial grass sod requires the grass to be grazed close to the soil surface (2 to 3 in); scarification of the sod by a roller chopper, or disk; seeding; followed again by light discing and rolling to provide good seed-to-soil contact. Establishing aeschynomene in a cultivated soil can be accomplished by seeding on clean (without vegetation) soil, light discing, and rolling. All land area that is disturbed with a chopper or disk must be seeded and rolled the same day, regardless if the cultural practice is conducted on sod or cultivated soil. This practice conserves moisture resulting in more rapid emergence of seedlings. Establishing aeschynomene on cultivated soil can follow winter annual forages (ryegrass, small grains etc) or a spring corn crop. Advantages of seeding aeschynomene on cultivated soil or after the death of a winter annual, is a more rapid establishment under moisture stress conditions, because seedlings do not have to compete with perennial grasses or other plants for moisture.

Aeschynomene basically has a low to medium fertility requirement. The application of about 0-25-50 lb/A N-P₂ O₅-K₂O + 1.25 lb/A elemental Zn, Cu, Mn, Fe (sulfate form), 0.25 lb B and 2.5 lb/A S.

Seeding aeschynomene on land area for the first time requires all seed be inoculated with either "cowpea" or special aeschynomene rhizobium to ensure early effective nodule development. Once an aeschynomene crop has been grown on a specific land area, further inoculation of successive crops is not necessary.

Following germination of aeschynomene, plants require 5 to 6 wk to attain initial 6 inches growth, followed by an additional 6 inches of growth weekly. For each additional 6 inches increase in plant height, yield increased an average 0.25 T/A. In late October growth ceases due to short days resulting in leaf drop and termination of growth by November 1.

Whole plant digestibility decreased by 3.2 percentage units, with each successive 6 inches increase in plant height. Forage digestibility and crude protein (CP) of a 24 inch aeschynomene plant could range from 80 % IVOMD and 24 to 30% CP for the top 6 inches part of the plant and 35 to 42% IVOMD and 6 to 8% CP for the bottom 6 inches increment of the plant. Normally the top 18 to 24 inches of an aeschynomene plant has an average digestibility and CP of 65 and 17%, respectively.

Grazing perennial grass pastures after seeding should continue until aeschynomene attains 1 to 2 inches or until seedlings are being grazed by cattle. All livestock should then be removed from the pasture and aeschynomene plants allowed to attain a height of 15 to 18 inches. Cattle should again be allowed to rotationally graze the aeschynomene back to about 8 inches, remove cattle and allow regrowth to attain 18 to 20 inches.

Aeschynomene, American jointvetch, is a highly palatable legume readily consumed by beef and dairy cattle and deer, however, its palatability to horses is very low. (PM)

Mole Cricket IPM in Florida Pastures and Turfgrasses -

We applied 22 billion beneficial nematodes to 16 ranches and 4 sod farms in south-central Florida to suppress damaging mole crickets and bring economic relief to livestock producers.

In September of 2000, nematodes were applied in strips to distribute 0, 1/8, 1/4, and 1/2 billion nematodes per acre to determine the rate of nematode spread within the mole crickets on a Polk City pasture. Number of mole crickets trapped were recorded weekly and samples of mole crickets were analyzed for nematode infection monthly. Mole crickets are very mobile and infected mole crickets spread the nematodes throughout that pasture within a few months. In the fall of 2001, the entire pasture got flooded for several days and the adult mole crickets relocated. However, results show that the nematodes persisted in the soil through the fall and subsequent winter months and have resumed breeding in adult mole crickets during spring 2002. For April 2002, percentage nematode infection at the Polk city site ranged from 30 to 50%. Mole cricket numbers have declined by 65-80% and pasture grass has recovered by 45-100%.

To promote widespread distribution of these mole cricket-killing nematodes, the Florida Legislature provided UF-IFAS Mole Cricket Task Force, through FDACS-DPI, \$300,000 in 2001. The purpose of those funds was to reestablish a research/demonstration Mole Cricket State Program and conduct an area-wide distribution of the nematodes in Florida.

In the first phase of the State Program, Nematac S donated by MicroBio, was applied in spring 2001 to seven ranches covering Hardee, DeSoto, Pasco and Polk Counties. Nematodes were applied with a slit-injector in strips at the 1/4 and 1/8 billion/A. We observed no differences between the effects of 1/8 and 1/4 billion rates of nematode application on infection level. The nematodes applied in spring 2001, persisted in the soil during summer, survived the winter and spread within the adult mole cricket population this spring. Percentage of trapped mole crickets infected with nematodes when averaged over March and April 2002 was as follows: H. Keller (Hardee) 50%; Peace River Ranch (Hardee) 75%; L. Bryant (Hardee) 25%; W. Wise (DeSoto) 20%; Al Bar (Pasco) 70%; M. Nutt (Pasco) 50%; and H. Combee (Polk) 20%.

In the second phase of the program, nematodes were applied to pasture and sod farms on 13 sites in south-central Florida. Nematac S product was applied in strips only at the 1/8 billion nematodes/A at all sites during fall 2001. The nematodes have spread on pasture

from February to April, 2002. For the pasture sites, average March and April ratings for percentage trapped mole crickets infected with nematodes were: D. Barber (Osceola) 71%; Deseret (Osceola) 20%; T. Kibler (Manatee) 35%; M. Taylor (Manatee) 45%; J. Payne (Highlands) 40%; Hollingsworth (DeSoto) 80%; B. Keating (Hardee) 65%; J.B. Starkey (Pasco) 30%; and Yates (Orange) 0%. Similar infection ratings for the sod farms are: Duda (Polk) 74%; Schrodder-Manatee (Manatee) 47%, Bethel (DeSoto) 55% and H & H (Osceola) 10%. Conclusions In all three studies, the percentage of trapped mole crickets infected with the nematodes increased steadily from winter through spring in 2002. Any mole cricket infected is expected to die within a few days. The nematodes have done a good job in breeding within the mole crickets and their offspring continue to attack other adult mole crickets in 19 of the 21 sites. Nematodes have persisted in the soil through flood and cold winter months. There has been dramatic recovery of pastures in most cases. We will continue to monitor the spread and grass recovery. Meanwhile, the nematodes became commercially available to ranchers and sod growers this spring and marketing information may be obtained from Becker Underwood's local representative, Gabe Diaz-Saavedra, at 941-350-7291. Information on application can be obtained from your local extension agent or from the Range Cattle REC at 863-735-1314 ext 211. (MBA)

Body Condition Scoring the Cow Herd -

The body condition of a cow or heifer is very important to productivity. Body condition is a measure of a cow's degree of fatness which is important for maintaining reproductive function and milk production for the calf. Cattlemen have long recognized the importance of body condition subjectively using terms like good, moderate, or poor condition to make management decisions such as forage and supplement needs, and to predict future performance.

To make body condition more objective scoring systems were developed to place numeric values on the body condition of cows and heifers. The scoring system most used today is one with scores of 1 to 9, with 1 being emaciated cows, 5 being cows in moderate condition with the 12th and 13th ribs showing when cows move or have been shrunk, and 9 being very fat cows with no bone structure seen or felt and tail head buried in fat. This scoring system, with photos, is available from UF/IFAS publication SP 144, Effect of Body Condition on Productivity in Beef Cattle, authored by Bill Kunkle, Bob Sand, and Owen Rae. The publication is linked to the Range Cattle REC or EDIS web site at <http://EDIS.ifas.ufl.edu/AN004>. The nice part about body condition scoring is that it gives a producer an immediate appraisal of a single animal or an entire herd. Cows can be scored in the cow pen or in the pasture from the pick-up truck.

The important relationship to body condition score is reproductive performance. Field studies show a positive link between pregnancy rate and body condition scores taken at either pregnancy testing, calving, or during the breeding season. The publication reference above by Kunkle and others (SP 144) showed pregnancy percentages of 13, 46, 66, and 94 for brood cows with condition scores of 2, 3, 4, and 5, respectively (8 field trials).

The ideal body condition score is 5 or higher for brood cows at calving. A body condition score of 6 or higher would be a better target for first calf heifers.

The importance of body condition scoring is not only to predict what will happen, but to determine what actions need to be taken to have a better reproductive performance. If cows are thin at weaning or at calving a good supplementation program and better pasture would have a positive effect on their conception rate during the following breeding season. Cows could also be divided according to condition score with thin cows offered better pasture and/or more supplement.

Body condition scoring is one of the simplest but most useful management tools available to cattlemen. Put it to work in an efficient cow/calf production program. (FMP)

Improving the Productivity of Beef Heifers in Florida -

The management of commercial beef heifers in Florida has been a recognized challenge since cattlemen first began implementing improved agricultural practices. Replacement heifers represent our investment in the continued improved quality of the cowherd. In all herds that are making progress toward genetic improvement, the heifers represent the animals with the highest potential value. "Potential" is the key word here and achieving this potential takes considerable time and money. Most Florida cattlemen appreciate the maternal characteristics of Brahman-influenced cows. Brahman breeding often makes up $\frac{1}{4}$ to $\frac{1}{2}$ of the genetic makeup in commercial Florida cowherds. Although Brahman-influenced cows have exceptional longevity, they mature slowly, often not achieving full maturity until 4-years of age. During this development period these females require special attention. Many management schemes have been developed to address the special needs of developing heifers.

Replacement heifers – purchase or raise my own?

This is a very important question to answer for your operation, especially if you are a medium to small producer. The costs associated with raising a replacement heifer are great. To complicate the issue we all realize that selecting bulls that have the potential for producing quality replacement heifers, as well as calves with good carcass traits is difficult. Many producers have addressed this issue by making a habit of always purchasing their replacement females. In doing so, producers are able to select from a wide variety of females with the goal of finding the right breeding at the right price. Under this management system, these producers are able to make bull-buying decisions based only on carcass quality (terminal cross). Even though the average price per heifer replacement may increase, the improved value of the calf crop may offset this difference.

When selecting replacement females big is not always better. Mature cows consume approximately 2.0% of their body weight on a daily basis – no matter what their size. Therefore, we could expect a 900 lb cow to consume about 1 ton less dry matter annually compared to a cow weighing 1200 lb. This increase in feed intake is a major cost to any production system. This added cost must be offset by an increase in calf weaning weight.

Select replacement heifers that are in the upper average for weaning weight, but not the largest in the group. An excellent way to best understand this concept is by dividing a calf's weaning weight by the weight of their pregnant dam at weaning. This ratio tells us what proportion of the cows actual body weight is being marketed each year. Although our largest cows are consuming the most feed, they seldom fall out on top in this evaluation.

Maintain weaned heifers on a high-plane of nutrition

Brahman-influenced heifers achieve puberty more slowly than heifers of British breeding. Nevertheless, Brahman-influenced heifers can still successfully breed as yearlings when maintained on a high plane of nutrition after weaning. A common target weight for the start of the breeding season is 60% of the projected mature cow weight. For example, if your mature cowherd averages 1000 lb, then you should target a heifer weight of 600 lb by the start of the breeding season. Typically, we can expect heifers to be ready for their first breeding at about 13 to 15 months of age. In a typical Florida system, heifers born during October – December of one year can be exposed to bulls in December and January of the following year. The key to achieving acceptable conception rates is targeting optimal heifer weight at the start of the breeding season.

Manage heifers and young cows separate from mature cows

This is an important concept. Heifers and young cows require increased management beyond that of the mature cowherd. Supplementing heifers and young cows the same as the mature cowherd will result in poor reproductive performance from the young, still-growing females. On the other hand, supplementing the entire cowherd to address the needs of young females will be expensive and wasteful since the mature cows will be provided nutrition beyond their requirement. Consider keeping heifers separate from the mature cows until they have weaned their second calf. This provides the opportunity to address the special nutritional needs of heifers, separate from the mature cowherd, during the first and second lactation.

Target your highest quality forages for heifer grazing

Consider the range in quality of your pasture forages and allow your heifers and young cows access to the highest quality forage available. These females can best utilize this forage to maximize production. If you have improved forages available, consider using these exclusively for heifer and young cow grazing. Also, there are often opportunities to provide limited grazing on hay pastures. Heifers and young cows should be used for these situations as well.

Early weaning

The added nutrition required to support lactation is great, especially for young females. Recent results from our research have shown that early-weaned, first calf heifers require approximately 50% less TDN to achieve and maintain an optimal body condition compared to lactating heifers of the same age. These data alone suggest that early weaning may be a practical and profitable management consideration for Florida cow/calf operations. The use of early weaning will allow young females to regain their lost body condition, and do so with less forage and supplemental feed. As well, these

females will have a shorter post-partum interval meaning that they will become pregnant earlier in the breeding season and therefore produce calves that will be older and heavier at next year's weaning.

Producers may choose to market early-weaned calves immediately after weaning versus accepting the management of these young animals. The mild winters associated with Florida offer a unique opportunity to manage early-weaned calves on a forage-based grazing system using ryegrass, a highly nutritious, winter annual forage. Fall-born, early weaned calves can be maintained on winter annuals and then marketed in late April or early May when calf prices are typically their highest of the year. (JDA)

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