



Okaloosa County Extension

5479 Old Bethel Rd.

Crestview, Florida 32536-5512

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Calendar of Events



August

3 Extension Field Day

West Florida Research Center
Jay—See Attached Flyer

**7, 14,
21, 28**

Beef Cattle Management School

Interactive Audio/Video
Crestview—6:00-8:00 p.m.
Call 689-5850 for more information.
Cost \$40 per farm & \$5 each additional person.

12

Cattleman's Association Heifer Sale

Covington Center Arena, Andalusia, Alabama
Selling 60+ Bred & Open Heifers
Call 334-222-1125 for more information.

September

22

Forest Tree and Plant Identification for Forestland Owners

Extension Office—Crestview
9:00 a.m.—12:00 p.m.
Cost \$10. Call 689-5850 for more information.

October

5-6

Quail Management Shortcourse

Monticello, Florida
Call the Extension Office at 689-5850 for more
information.



"Well, I'd give you the maintenance history,
but they didn't keep records back that far."



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<http://okaloosa.ifas.ufl.edu>

Prepared By: Gerald Edmondson *Gerald R. Edmondson*
Okaloosa County Extension Director
5479 Old Bethel Road, Crestview, Florida 32653-5512
Phone: 850-689-5850 Fax: 850-689-5727
Email: gedmondson@co.okaloosa.fl.us



July

- Cut corn silage.
- Control weeds in summer pastures.
- Apply nitrogen to warm season pastures, if needed.
- Check mineral feeder.
- Check for army worms and mole crickets, and treat if necessary.
- Wean calves and cull cow herd.
- Watch for evidence of footrot and treat.
- Consider preconditioning calves before sale including vaccination for shipping fever and IBR at least 3 weeks before sale.
- Check dust bags.
- Update market information and plans.
- Revaccinate calves at weaning for blackleg.

August

- Treat for liver flukes as close to August 15th as possible, if they are in your area.
- Cut hay.
- Apply lime for fall and winter crops.
- Harvest Bahiagrass seed.
- Check mineral feeder.
- Update market information and marketing plans.
- Check for army worms, spittlebugs, and mole crickets, and treat if necessary.
- Check dust bags.
- Wean calves and cull cow herd.
- Watch for evidence of abortions.
- Observe animals regularly for signs of disease.
- If cattle grubs were found on cattle last winter or heel flies were observed in the pasture, treat for cattle grubs this month.
- Pregnancy test and cull open heifers from replacement herd.

Source: Department of Animal Science, University of Florida

Body Condition Scoring

To properly evaluate body condition for cattle, an observer must be familiar with skeletal structures and with muscle and fat positioning. Although there are several methods available to determine body composition, many cattlemen use a scoring system that involves ranking cattle on a scale. This manuscript will focus on the commonly used scale of 1 to 9, with 1 being emaciated and 9 being obese (Whitman, 1975).

Cattlemen can easily observe cattle under pasture conditions to get body condition scores. Familiarity with key skeletal structures listed in Figure 1 is required to apply an accurate body condition score. A description of each condition score is listed in Table 1.

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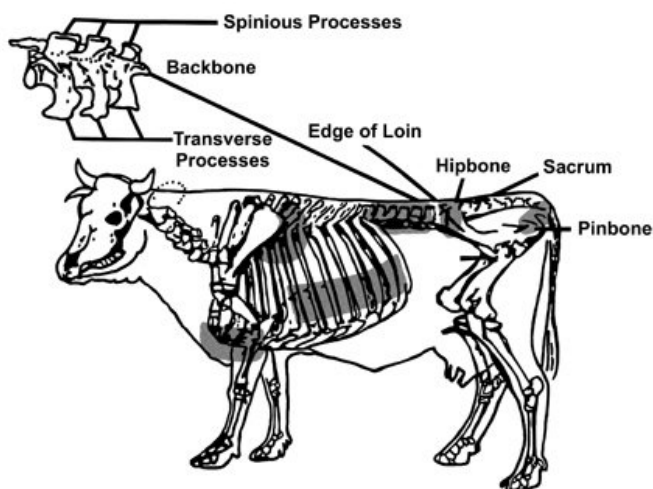


Figure 1. Skeletal structures of a cow used to evaluate body condition score.

Table 1. Description of body condition scores (BCS) (1 [thin] to 9 [obese])^a.

BCS	% Body Fat ^a	Detailed Description ^b
Thin		
1	3.77	Clearly defined bone structure of shoulder, ribs, back, hooks and pins easily visible. Little muscle tissue or fat present.
2	7.54	Small amount of muscling in the hindquarters. Fat is present, but not abundant. Space between spinous process is easily seen.
3	11.30	Fat begins to cover loin, back and foreribs. Upper skeletal structures visible. Spinous process is easily identified.
Borderline		
4	15.07	Foreribs becoming less noticeable. The transverse spinous process be identified by palpation. Fat and muscle tissue not abundant, but increasing in fullness.
Optimum		
5	18.89	Ribs are visible only when the animal has been shrunk. Processes not visible. Each side of the tail head is filled, but not mounded.
6	22.61	Ribs not noticeable to the eye. Muscling in hindquarters plump and full. Fat around tail head and covering the foreribs.
7	26.38	Spinous process can only be felt with firm pressure. Fat cover in abundance on either side of tail head.
Fat		
8	30.15	Animal smooth and blocky appearance; bone structure difficult to identify. Fat cover is abundant.
9	33.91	Structures difficult to identify. Fat cover is excessive and mobility may be impaired.

^a (Source: NRC, 2000)

^b (Adapted from: Herd and Sprott, 1986)



BCS2



BCS3



BCS4



BCS5



BCS6



BCS7

Body condition scoring is a subjective measurement, meaning that one producer may score slightly different than another. The producer can gain experience using body condition scores by identifying cattle into one of three categories: thin (1 to 3), borderline (4), optimum (5 to 7) or too fat (8 and 9). Over time, as the producer becomes familiar with details of each specific body condition score, these categories can be further broken into actual condition scores. Research reported by the University of Florida (Table 2) demonstrates that as cattle decrease from a body condition score of 5 to 4, they may have reduced pregnancy rates by as much as 30 percent. An additional 30 percent of pregnancies can be lost when cattle drop from a four to a three. Cattle that receive a BCS of 5 or below may have reduced pregnancy rates. Although most cattlemen tend to keep cows on the thin side, cattle that are obese (BCS of 8 to 9) may also have reduced pregnancy rates.

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Parity	Body Condition Score ^b at Calving			
	≤3	4	≥5	All
1	20	53	90	84
2	28	50	84	71
3	23	60	90	85
4-7	48	72	92	87
>8	37	67	89	74
All	31	60	89	82

^a(Rae et al., 1993; University of Florida)
^b(Scale of 1 [thin] to 9 [obese])

Table 3 shows the impact of BCS on pregnancy percentage, calving interval, calf performance, calf price and income. Cows in a borderline body condition (BCS of 4) have greatly reduced pregnancy rates, increased calving intervals, lower calf daily gain and greatly reduced yearly income. For example, a cow calving in a BCS of 4 will return an income of approximately \$100 less than a cow calving in a BCS of 5. If BCS is taken 90 days prior to calving, the cows in borderline condition can be properly supplemented to achieve a BCS of at least 5 at calving. In most cases supplemental feed costs will be approximately \$25 to \$35 for feed that costs \$100 to \$150 per ton. This is far less money spent on feed than would be lost if cows were allowed to stay in a BCS of 4. The impacts are

BCS ^b	Preg. Rate (%)	Calving Interval (days)	Calf WA (days) ^c	Calf DG (lb) ^d	Calf WW (lb) ^e	Calf Price \$/100 ^f	Income (\$/Calf)	Yearly Income \$/Cow ^g
3	43	414	190	1.60	374	96	359	142
4	61	381	223	1.75	460	86	396	222
5	86	364	240	1.85	514	81	416	329
6	93	364	240	1.85	514	81	416	356

^a(Adapted from Kunkle et al., 1998; UF/IFAS Publication SP-144).
^b(Body Condition Score; scale of 1 [thin] to 9 [obese]).
^c(Weaning Age; 240 days for cows in BCS 5 and 6 and decreasing as calving interval increases)
^d(Daily Gain)
^e(Weaning Weight; calculated as calf age multiplied by calf gain plus birth weight [70 lbs]).
^f(Average price for similar weight calves during 1991 and 1992).
^g(Calculated as income/calf times pregnancy rate times 0.92 [% calves raised of those pregnant]).

even greater for a BCS of 3 and is a condition that should never happen with any of the cows in the herd.

Source: The University of Georgia Cooperative Extension

Elevated Temperatures Affect Crop Maturity and Management

Temperatures significantly influence plant growth rates. High temperatures accelerate development and maturation. The warmer it is, the faster things happen; that is, until temperatures reach the mid-90°s F, at which growth rates level off and begin to decline. Given the high temperatures of late May through June, we should expect plant processes to advance more rapidly than normal. Elevated temperatures typically propel the crop more rapidly towards cutout, towards the point where fruiting sites run out at the top of the plant.

In dryland fields, high temperatures coupled with drought lead to early cut out and low yields. In irrigated culture where yield potential is considerably greater, accelerated plant development should affect irrigation and plant growth regulator use, and to a lesser extent, N application. In a simplified analogy, irrigation and side dress N push the gas pedal while mepiquat taps the brakes. Thus, to minimize the threat of premature cutout in high temperature conditions, irrigation should be more aggressive than normal and mepiquat applications less so. In such environments, stomp the accelerator and be careful with the brakes!

The standard timing for side dress N is from 1st square to 1st bloom. Delaying applications to 1st bloom or later can result in yield losses, especially in non-irrigated fields. In dryland production, it is important to make applications closer to the initiation of squaring to allow more time and opportunity for N movement into the root zone by showers. During rainy seasons or in irrigated culture, soil applications of N can provide a growth boost, but even in the best of environments, they are not recommended past the 3rd week of bloom to minimize the threat of rank growth. Foliar N can help a borderline-deficient crop without contributing to excessive vegetative growth. Peak bloom is the best time to make foliar N applications. Be aware that some research suggests little benefit for such treatments beyond the 4th week of bloom.

Source: Georgia Cotton, June 15, 2006

Sidedress Nitrogen—Sources, Urea, Volatilization and Agrotain

The goal of sidedressing cotton is to provide readily available nitrogen to the plant when demand rapidly increases, i.e. between first square and first bloom. Ammonium nitrate (solid) and “liquid N” or “N solutions such as 19 %, 32 % and the popular 28-0-0-5(S) are commonly used. Organic N sources such as poultry litter and biosolids are not the best choice for sidedressing cotton. This is because a good portion of the N in these organic sources is “slow-release”, again during a time when the cotton plant needs significant amounts of N ready to be absorbed. Other slow release N fertilizers such as sulfur-coated urea or urea-formaldehyde are also not recommended as sidedress N sources on cotton for this reason.

Due to the rising cost of ammonium nitrate and safety issues related to its handling, storage and use, there is currently a lot of interest in using granular (46 % N) urea. The cost of urea has actually gone down recently making it even more attractive as an alternative to ammonium nitrate. Fertilizer dealers across Georgia are taking a hard look at switching from ammonium nitrate to urea as a granular N source. Some have already made the switch. Why not handle both? There is an issue with storing both ammonium nitrate and urea at the same location. It can be done under certain conditions, but usually the ammonium nitrate “grabs” moisture from the urea and basically gets too messy and wet to handle.

Will urea work as good as ammonium nitrate? Another good question. Urea is made by adding carbon dioxide to ammonia under high temperature and pressure. When

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applied to soil, urea is converted to ammonia where it grabs a hydrogen ion from water and is converted to ammonium. At this point urea acts as any other ammoniacal (ammonium containing) N source including the ammonium portion of ammonium nitrate.

Urea is unique and different from ammonium nitrate however in the fact that it can undergo a volatilization reaction whereby ammonia is lost as a gas back up into the atmosphere. This reaction requires an enzyme called urease that is naturally present in soil and on crop residues. It also requires that the urea undergo hydrolysis (reaction with water). Under certain conditions, volatilization losses of N from urea have been reported at 25 to 35 %. I believe losses of this magnitude are "worst case scenario" however. What is the worst-case scenario? Surface applied granular urea applied where there is residue, not incorporated and where there is enough soil moisture for hydrolysis but you go on a hot and dry spell for at least two weeks. Sounds like cotton sidedressing time in South Georgia, doesn't it?

Well, the good news is that there are some management factors that can help reduce loss of urea to volatilization and make it a viable alternative to ammonium nitrate. One is that on irrigated land, $\frac{1}{4}$ to $\frac{1}{2}$ inch of irrigation water should incorporate the urea far enough into the soil where volatilization is greatly reduced. Obviously on dryland, rainfall of this amount will do the same thing. Another tool available to reduce N volatilization from urea is the use of urease inhibitors. These products block the urease enzyme but are safe to other microbes and organisms in soil. (Don't get these confused with nitrification inhibitors which block the reaction of ammonium to nitrate). Currently there is a product available in Georgia called Agrotain which is a urease inhibitor. This product has been tested extensively across the country and claims to reduce N volatilization from urea for up to 2 weeks after application. More limited data is available on cotton in the southeast but it is definitely encouraging. And in fact, some fertilizer dealers are already offering to treat urea with this product. The other good news is that it is not terribly expensive either. In fact, you only have to save approximately 4 lbs N/A to cover the cost of this additive.

Don't forget that any "UAN" solution, i.e. Urea Ammonium Nitrate such as 32% and 28-0-0-5 contain half of their N as urea. Volatilization of N from these materials is less of a concern since only half of the N is urea and they are usually applied as a concentrated band which reduces volatilization. However, you can still lose N from these products and may still get a benefit from adding a urease inhibitor such as Agrotain.

Look for this trend away from ammonium nitrate and toward urea to continue. Also look for more research on urease inhibitors and other methods to minimize volatilization losses. Predicting exactly how much N will be lost from urea is difficult. The magnitude of loss depends on both soil properties such as pH and environmental factors such as moisture and temperatures. Most of the loss if it does occur is going to happen soon after application. The final good news is that most of the high volatilization losses have been measured under laboratory conditions, and in the words of a UGA soil scientist back in 1989 (back when we had a lot more soil scientists at UGA) "in a dynamic field environment, the conditions necessary for high rates of NH₃ loss seldom exist for sustained periods of time" (W.L. Hargrove. 1989. Soil, Environmental and management Factors Influencing Ammonia Volatilization Under Field Conditions. In B.R. Brock and D.E. Kissel (ed.) Ammonia volatilization from urea fertilizers. Bull. Y-206. National Fertilizer Development Center, Tennessee Valley Authority, Muscle Shoals, Alabama.

Source: Georgia Cotton, June 15, 2006

Stance Plant Growth Regulator

The new plant growth regulator "Stance" has garnered much attention and many questions from growers and agents. Our typical growth regulators which contain mepiquat chloride (Pix and generics), mepiquat chloride plus kinetin (Mepex Ginout), or mepiquat pentaborate (Pentia) must all be used at rates varying from 4 to 16 oz/A depending on plant growth stage and rate, weather conditions, and variety. Stance contains mepiquat chloride plus cyclanilide, the added ingredient in the defoliant Finish which distinguishes it from Prep. In addition, Stance is more concentrated than other mepiquat formulations. It contains two times the amount of mepiquat per gallon as these other products and its use rate is significantly less than other growth regulators.

What is the use rate of Stance?

The recommended use rate of Stance is generally 3 oz/A. This rate may need to be reduced to 2 to 2.5 oz/A in some situations.

Can such a low use rate be as effective as 8 to 16 oz/A of other growth regulators?

A 3 oz application of Stance supplies the same amount of mepiquat chloride as a 6 oz/A rate of the other growth regulators. However, there is the added effect of the cyclanilide. Research in Georgia last year indicated that a growth regulator program consisting of multiple applications of 3 oz/A provided identical height control and yield as standard programs of other growth regulators.

Should I use this 3 oz rate even under these current hot a dry conditions?

This year is much drier and hotter than last year during which the previously discussed data were generated. In these situations cotton can potentially be stunted by aggressive growth regulator management, regardless of product. Under these current conditions DPL 555 BGRR and other potentially aggressively growing varieties such as ST 6565 B2RF, ST 6611 B2RF, and FM 991 BR, should still be treated with 3 oz/A, the rate should probably be lowered on less aggressive varieties. Until we learn more about Stance under these conditions growers should limit the number of acres treated with product, especially those not irrigated.

How much of my acreage should be treated with Stance?

While growers are encouraged to try Stance, as with any new product or variety, caution is advised. Treat no more than 20 to 30% of total acreage.

Source: Georgia Cotton, June 15, 2006

