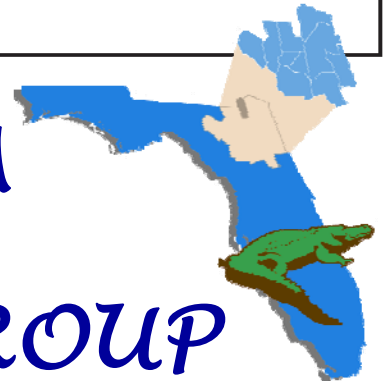


NORTHEAST FLORIDA BEEF & FORAGE GROUP



July 2011

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Dear Producers,

Summer rains have arrived and the hay fields are finally growing. We hope that the information regarding hay production provided in this newsletter will be informative and assist you in your forage management decisions this summer. The **13th Annual Hay and Farm Field Day** will be held Thursday, July 21, 2011 at the W.D. Andrews Farm near Lake Butler. This event will provide the latest information in pasture management as well as new equipment demonstrations. Look for more information about the hay field day in this newsletter. If you have any questions about your pastures or livestock, please contact your local extension agent.

Steve Gaul

Northeast Florida Beef & Forage
Group, Chair



Beef Cattle Management: Preconditioning

Tim Wilson, County Director & Livestock/Forages Agent,
Bradford County Extension

Preconditioning is defined as preparation of calves to reduce the stress of shipping (Stewart et al., 1985). This preparation includes the following: identification, castration, herd health program (vaccination, parasite control, deworming, dehorning) and weaning. Preconditioned calves generally have less sickness during transportation and typically acclimate to their new location easier than non-preconditioned calves. Research from Colorado State has demonstrated that producers who precondition their calves can receive an additional premium of \$1 – 3 dollars per hundredweight (USDA/APHIS). Al-

though some producers do precondition their cattle, some fail to keep detailed records or inform the buy-

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ers and ultimately do not receive an additional price increase for their cattle (USDA/APHIS). Preconditioning your cattle may allow for increased marketing opportunities that may result in increased revenue for your operation.

Identification

Identifying your cattle and maintaining records should be a high priority. Beef producers who use individual identification should be able to maintain accurate records and in the long term improve overall production efficiency by making informed decisions based on those records. Many forms of individual animal identification are used in the beef industry. Some are used alone while others are combined to ensure that each animal maintains its identity if one or the other fails. Some of these methods include fire brands, freeze brands, ear tags, and tattoos.

A newer form of identification that uses cutting-edge technology which some producers have been able to take advantage of is electronic identification (EID). Depending on preference, EID can come in the form of a bar code on an ear tag or as a button ear tag using radio frequency identification (RFID).

Castration

Reducing aggression, preventing males from breeding, and improving meat quality are just a few of the reasons producers incorporate castration into their operations. Although castration is a simple procedure that provides these advantages, many producers use castration to improve the marketability of the calves.



Current research from Texas A&M University reports that weaned intact bull calves shipped in load lots and castrated upon arrival had a 13.5% reduction in daily gain and a 10.3% reduction in season long gain compared to steers. When the effects of castration were combined with the effects of sickness, productivity decreased 24.8% compared to steers. Their conclusions from this study indicated that healthy steers were valued at \$22 more than healthy bulls and \$48 more than sick bulls.

Herd Health

Incorporating a customized herd health program is a valuable tool that many beef producers have utilized. Customizing your herd health program to meet the needs of your local environment as well as providing general protection can be useful in reducing sickness. It would be unnecessary to vaccinate for diseases that are not problematic to your cattle's current or future location. To accurately determine the type of herd health program you should use, contact your local large animal veterinarian for guidance.

Weaning

Weaning, one of the most important but stressful events calves undergo, can result in reduced gains, increased sickness and even death.

Truck Weaning

Some producers will wean calves and send them directly to market. This type of weaning, sometimes called "truck" weaning, requires very little labor or facilities and is extremely stressful to the calves (J. B. Hall, Virginia Tech). These calves are more likely to become sick during the next stage of development due to this type of weaning. Producers who wish to reduce sickness may consider an alternative method such as those described below.

Dry-lot Weaning

Dry-lot weaning involves separating calves from their dams and securing them in a dry-lot with feed bunks and water. Introducing calves to feed and water will be important since they will not have access to a source of milk from their dam. Feed bunks should be placed perpendicular to the fence or hay bails and should be positioned to prevent calves from

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walking the fence line in search of its dam. Allowing a water trough to overflow is useful for calves that may not be familiar with drinking from a trough. Facilities for dry-lot weaning must be sturdy to prevent calves from escaping. The abrupt separation of the calf from its dam is stressful; however, when compared with truck weaning, the stresses related to transportation and marketing are reduced.

Pasture Weaning

Pasture weaning is similar to dry-lot weaning in that calves are separated from their dams, but rather than being placed in a dry-lot, they are maintained on familiar pasture (J.B. Hall, Virginia Tech). These calves should be located a considerable distance from the cowherd to prevent a cow or calf from tearing through fence lines to reach each other. If facility fences are not in good shape, this method of weaning may be more practical than weaning in a dry-lot. As with dry-lot weaning, stresses related to the abrupt separation are still present, but are reduced compared to truck weaning.

Fence-line Weaning

Fence-line weaning involves separating calves from their dams by a common fence line. Producers who utilize fence-line weaning must make sure that fences are secure and sturdy to prevent cows and

calves from mixing. Cows and calves will migrate into the field to graze, but will return and spend time along the fence line. Although behavioral changes occur as weaning takes place, researchers from The University of California, Davis report that after the 5th day of separation, calves returned to normal behavior. When compared to weaned calves that were totally separated, this research reports that fence-line weaned calves gained more weight 2 weeks after weaning.

Selecting a weaning method that best suits your operation will be useful when trying to maximize production. Regardless of the weaning strategy used, developing an understanding of how stress can play a role in weight loss and sickness will be useful when making sound management decisions.

Summary

The management suggestions related to preconditioning have been proven to be successful in many beef operations across Florida and the United States. Understanding how and why these suggestions work is the first step in improving the overall production capabilities of your herd. There are many other management practices that are not covered that may be more or less beneficial to some producers.



Fertilizer Alternatives

Michael Davis, PhD., Agriculture Agent/ County Director, Baker County Extension; Mike Sweat, Agriculture Agent/ County Director, Duval County Extension; Keith W. Wynn, Agriculture Agent, Hamilton County Extension

Estimates are that current fertilizer costs constitute up to 85% of the total variable costs in pasture production and up to 75% of the variable costs in hay production. With these numbers in mind, it is imperative for producers to look for ways to reduce fertilizer costs without reducing yield. Most estimates are for the price of commercial fertilizer to continue an upward climb due mainly to increased international demand and the global production capacity. Increased transportation and production costs are also contributing to higher fertilizer costs.

One of the most important recommendations for reducing fertilizer costs is to test your soil and follow the recommendations, especially in terms of

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lime. Proper liming and maintaining an optimum soil pH will insure that nutrients in the soil will be freely available for the plants. Once you have soil test recommendations, follow through with custom mixed fertilizer products tailored to your individual needs. Some estimates indicate a possible savings of over \$100/acre when using custom mixed fertilizers when compared to a standardized blend.

Other fertilizer alternatives include Biosolids and Animal Manures when available and practical for the individual operation:

Biosolids are the byproduct of wastewater treatment facilities. Once the liquid is taken from the wastewater it is treated and discharged into water bodies, used as irrigation, or reused at the facility. The left over solid is called sewage sludge which becomes a biosolid once it is stabilized. One way to stabilize the material is to add alkaline. An alkaline material such as quicklime is used to raise the pH level to at least 12. If the pH stays at 12 or above for 72 hours it creates an unfavorable environment for organisms such as pathogens to develop and live. Each year in the U.S. there is approximately 7,100,000 dry tons of biosolids generated in 16,500 municipal wastewater treatment facilities.

Biosolids are lime-stabilized which should be a major factor when determining how much of the product to apply on pastures. A soil sample should be taken to provide the ideal soil pH and how much lime should be added to achieve it. One ton of the biosolid is roughly equivalent to 700 pounds of dolo-

mite lime.

Biosolids can also be used as a fertilizer source. However, its nutrients are slow release and analysis is low. In order to benefit from the nitrogen in this material one would have to apply it in a large

Nitrogen	19lb/ton
Phosphorus	5lb/ton
Potassium	2lb/ton
Dolomite lime	700lb/ton

Sources:
 Assessing Economic Value of Biosolids-<http://edis.ifas.ufl.edu/ag115>
 Biosolids: Are These Residuals All the Same-<http://edis.ifas.ufl.edu/ag114>

amount. This could raise the pH above the suggested range. To keep the pH and fertilizer needs of the soil balanced conventional fertilizers may be needed.

Pasture that has not been limed for many years would benefit from the application of biosolids which would help raise the soil pH while applying fertilizer.

Listed below are the nutrient concentrations of a lime stabilized biosolid. These are only average values and the actual value of biosolids produced from other treatment facilities may vary.

Animal manures have long been used as fertilizer for crops. Poultry litter has been and continues to be a good source of nutrients for forage crops and its use can be easily incorporated into a fertilizer regimen. However, caution must be exercised when using any animal manure as fertilizer to prevent nutrient imbalances in the soil and contamination of water sources (surface and ground). As with any fertilizer regimen, it is essential to match the nutrient requirements of the crop with the available nutrients in the fertilizer.

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Nutrient content of poultry litter can vary depending of the type of bird that the litter originates from, the type of material used as a bedding material (if any), the amount of manure in the litter and nutrient composition of the feed. Application of poultry litter to forage fields is typically based on either nitrogen or phosphorus content, depending on the soil that is to be fertilized and the crop to be grown. Phosphorus buildup in the soil and subsequent runoff or drainage is of particular concern as the phosphorus availability is typically 2 times or greater than the amount of available nitrogen.

The following table provides average nutrient composition for broiler type manures, as this is the main type available in Northeast Florida. Please note that these are average values and actual values may differ. The data in this table is adapted from: Biological and Agricultural Engineering Dept., North Carolina State University, as reported in "Poultry Manure as a Fertilizer Source," Soil Facts fact sheet authored by J.P. Zublena, J.C. Barker, and T.A. Carter, North Carolina Coop. Ext. Serv., Raleigh.

Manure Type	Total N	Ammonium (NH4)	Phosphorus (P2O5)	Potassium (K2O)
	lb / ton			
Fresh (No Litter)	26	10	17	11
Broiler House Litter ¹	72	11	78	46
Roaster House Litter ¹	73	12	75	45
Breeder House Litter ¹	31	7	54	31
Stockpiled Litter ¹	36	8	80	34

¹ Annual manure and litter accumulation; typical litter base is pine shavings (occasionally sawdust or peanut hulls).



2011-2012 Hay Outlook

Brad Burbaugh, Agriculture/ Natural Resources Agent, Duval County

U.S. hay acres have dropped off rapidly since 2002, declining on average over 500 thousand acres a year. Even though production was down in 2010, there was significant carryover from 2009 that provided ample hay for the needs. Unfortunately, most projections indicate that there will be little carry over this year due to several factors that will be discussed below.

Acreage in Production and Inventory

The Crop Production report released by the USDA last month indicated intended acres for all hay are down, falling below 59 million acres. One of the reasons for this decline is an increase in the amount of hay producing acres be converted to other crops that currently have a higher return on investment.

For example, it is projected that planted acres of corn this year will be up by 4 million bringing the total acres planted in corn to 92.2 million acres as projected by the USDA Economic Research Service. In 2012, the number of acres utilized for hay production will be the lowest since 1994, thus, decreasing the supply in 2012.

Although extra stocks usually help ease prices, spring has been uncooperative in the South. Dry conditions have resulted in an increase in the number of cattle on hay and have kept several producers from baling and putting hay in the barn this spring. The inability to produce pasture or hay this spring will be compounded by the fact that inventory is low and reduced acreage nationwide will further reduce the supply in 2012.

It is also important to note that acres in production nationwide have reported a cool wet spring, which means the first cutting has been delayed in

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northern regions, and continued flooding in the Midwest will make dry hay difficult to harvest until fields dry out. Overall, the current hay inventory throughout the state is light and based on conditions this spring will be lighter come winter time.

Input Prices

The most variable factor in hay production this year and next will be the price of inputs. According to USDA economists, fertilizer prices should remain steady unless the unrest in the Middle East becomes more volatile. Farm diesel fuel has steadily increased over the last twelve months and prices remain 31% higher than a year ago. On a positive note, Saudi Arabia announced on June 10th that they plan to increase oil production by 1.14 million barrels per day to the market, helping to close a shortfall in supply. This will bring Saudi Arabia's total oil production to 10 million barrels per day, the highest level in 30 years. This may bring the cost of diesel and fertilizer down in the short run, but steady to higher fertilizer and diesel prices are expected in 2011-2012.

Outlook

Decreased acres, drought tensions, and moisture pressure will likely deplete current hay stocks and decrease available hay for next winter. Weather for the next three months is expected to be drier and warmer and this means most southern states may be feeding more hay. The result of decreased acres and even average feeding rates will cause prices to rise. For the current crop-year, national average price estimates for all hay are \$127-\$135 per ton. If realized,



that will be an increase of \$18 per ton or 15.9% for all U.S. hay.

Conclusion

2011 could be a very interesting one for hay producers and buyers. Tight supplies and an improving economy will likely increase demand. However, higher input prices could increase costs enough to lower profits. Therefore, it will be especially important to improve production efficiency and more specifically fertilization efficiency as this constitutes over 50% of production costs.

This article was written using a Hay Economics and Outlook presentation by Dr. Curt Lacy at the University of Georgia and a May 27, 2011 report from the Livestock Marketing Information Center. For a more detailed analysis of hay economics and production I encourage you to attend the 13th Annual Hay Field Day on July 21st in Lake Butler, Fl. For more information visit <http://nfbfg.ifas.ufl.edu/>

Maintain or Improve Hay Quality

Cindy Sanders, Livestock Agent/ County Director, Alachua County Extension

Quality is obviously, or at least it should be obvious, a highly variable factor in any product or service. Webster's Ninth New Collegiate Dictionary defines quality as a peculiar and essential character, or nature; an inherent feature, or property; a degree of excellence, or grade.

Stored forage, or hay quality can mean different things to different people; it all depends on your

perspective and the intended use of the hay product. Depending on the animal to which the hay will be fed – horses, goats, sheep, mature gestating beef cows, growing beef calves, lactating dairy cows – the quality standard can be greatly different.

Having said all that, I would describe hay quality with the following criteria, in this order:

Palatability – Will the animals eat it?

Intake – How much can they eat?

Digestibility – How many of the nutrients are

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**Northeast Florida Beef and Forage Group
Presents**

13th Regional Hay Field Day

Thursday, July 21, 2011
9AM-3PM

**W.D. Andrews Farm
5102 SW 76th Place, Lake Butler, FL 32054**

(See reverse side for Map)

**Educational topics,
demonstrations & tabled displays**

- Pasture herbicide update
- Economic outlook for hay production
- Alternative fertilizers
- Hay quality
- Best management practices
- Disease detection in the field
- Equipment demonstrations

Meal provided by:  **FARM CREDIT**

**Registration 8:30 AM
\$5.00 per person**

Contact your local Extension agent to register by July 18th.

**Cindy Sanders & Barton Wilder,
Alachua County
(352) 955-2402**

**Michael Davis, Baker County
(904) 259-3520**

**Tim Wilson, Bradford County
(904) 966-6224**

**David Nistler, Clay County
(904) 284-6355**

**Derek Barber, Columbia County
(386) 752-5384**

**Mike Sweat & Brad Burbaugh,
Duval County
(904) 387-8850**

**Keith Wynn, Hamilton County
(386) 792-1276**

**Dan Fenneman, Madison County
(850) 973-4138**

**Steve Gaul, Nassau County
(904) 879-1019**

**Elena Toro, Suwannee County
(386) 362-2771**

**Basil Bactawar, Union County
(386) 496-2321**

available to the animal (and/or bacteria, in the case of ruminant animals)?

Nutrient Density – What’s really in there? Anti-quality factors – What’s really in there?

Animal Performance – Conversion of plant matter to animal product(s). Ultimately, the critical test for any hay or feed is how well animals perform when fed a particular feed or diet. Therefore, hay quality is very important.



Assuming that you’ve produced the hay crop with optimal quality – fertilizer, forage species, maturity, processing conditions – you could easily and quickly negate all that work and expense by storing the hay incorrectly.

Losses due to improper storage generally fall under two broad categories: Dry matter losses, and losses due to reduction in forage quality.

Here are some things to remember when storing hay outside: Hay weathering results in reduced feed intake (or even refusal), dry matter losses, and reduced forage quality; where hay contacts the soil, the largest decline in hay quality will occur; water should not accumulate in or around stored hay; plenty of sunshine helps to minimize losses; bales oriented in north-south rows get more exposure to sunshine, and thus stay dryer; rounded sides of bales should not touch; more dense bales tend to have lower forage losses; a reduction in forage quality reduces nutrient delivery to animals, thus requiring supplementation to offset the animal’s nutrient requirements.

Table 1. displays some of the nutrient changes that occur when hay is stored covered or in a barn, versus being stored outside in the weather. Interestingly, crude protein becomes concentrated (+17.7%) when hay is weathered. This is not really

due to any resistance protein has to degradation, but is due to dry matter losses effectively increasing the percentage of protein available compared with the original value.

Likewise, the relative feed value of the two hays (+4.0%) is not significantly different. However, there is a significant reduction (27.9%) in the dry matter digestibility (IVDMD) of hay stored inside, or covered versus that stored outside. This is the critical factor. A crude protein value of 13.5% is very adequate for nearly any beef cow; therefore, an increase in crude protein is not necessary. A significant reduction in digestibility can cost YOU. Because of the significant reduction in IVDMD, supplementation will likely now be required. Not only is there an economic loss in the value of the hay alone, there will now be an added expense because supplementation, primarily a function of the energy requirement, will be required.

Source: Dr. Jeff Carter, North Florida REC



Table 1.

Hay	Storage Method	Crude Protein %	In vitro % Digestibility	RFV	Loss (\$/Ton)
Grass	Barn	13.5%	58.8%	72	---
	Outside	16.4%	42.5%	75	\$9.72

UF/ IFAS Beef Management Calendar

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 foot rot 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

- Cut corn silage.
- Cut hay.
- Apply lime for fall and winter crops.
- Harvest Bahia grass 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

UF/ IFAS Northeast Florida Beef & Forage Group presents:

PASTURE PEST MANAGEMENT FIELD DAY

August 25th 2011 3:00 -6:30 p.m.

Allison Brothers Farm, 2728 SW Cypress Lake Rd., Lake City FL



\$5 Registration
RSVP for BBQ dinner
904-387-8850

This field day will cover Integrated Pest management (IPM) which is a pest management technique that combines many tools including biological, physical and chemical control of pests in hayfields and grazing pastures. The field day will provide current information from UF/IFAS Extension agents and specialists on various pests life cycles, reproduction and control methods. As a result of participants will be able to prevent unacceptable levels of pest damage by the most economical means.

Session Topics:

- Integrated Pest Management (IPM) principles
- Tropical Soda Apple IPM
- Fire Ant IPM
- Mole Cricket control
- Armyworm IPM
- Stem Maggot

For program flyer and directions to Allison Brothers Farm go to
http://nfbfg.ifas.ufl.edu/upcoming_events.html

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We're on the web:
<http://nfbfg.ifas.ufl.edu>

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