

# MANAGING FORAGES FOR HIGH QUALITY AND PROFITABILITY IN NORTH FLORIDA: WORK IN PROGRESS

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**ABSTRACT:** When we moved from Central Florida to Madison County in the big bend area of North Florida, we started with a clean slate. The land we purchased had only a rusty broken down perimeter fence. After learning about an Extension Program on forage management, we decided to rotationally stock this land and market forage-finished beef. We have re-fenced the perimeter and added interior fences to total 13 miles, also 22 miles of single strand high-tensile electric fence and 4 miles of water lines. With this infra-structure in place we were able to start intensively rotationally grazing our livestock. In our system, forage quality AND quantity is our livelihood, so we figured out how to produce and harvest very high quality forages- both grasses and legumes. We have been very successful in the Southeastern Hay Contest with class winners or top three placings every year since 2005. When the cost of commercial fertilizers became prohibitive, we began to look for less expensive alternatives. We now use a foliar-applied fish emulsion concoction to address the bulk of our fertility requirements. The alternative fertilizers saved us almost 30% on our fertilizer bill. With the shift to alternative fertilizers, we worried that the plants weren't getting the "food" they needed so we began tissue analysis on all the fields throughout the year. We now monitor our status based on plant tissue analysis and adjust our fertilizer regime to address potential nutrient shortfalls in the plants. Because we are a father and son operation with a limited labor force and the weather is not always conducive to spraying liquid fertilizers, we installed GPS technology in our sprayer rig so we can spray after dark. The technology is useful during daylight hours as well since there is a lot of acreage and little time. The other big concern for us was weed control, controlling broadleaf weeds in a grass, legume, forage mixture is very difficult. Granted, the intensive grazing has limited the weed pressure but some weeds still persisted. We purchased a weed wiper and found that we cut our herbicide costs by 80%, while still controlling the weeds without damaging any of the legumes we are growing. Our hay fields are the only irrigated fields we have and we utilize subsurface moisture meters to determine when we need to measure the evapo-transpiration rates so that the hayfields never suffer drought stress.

**Keywords:** Forages, rotational grazing, alternative fertilizers and high tensile wire.

## Introduction

We started in Brevard County on the edge of the St. Johns River on muck and sand. We are now in Madison County in the panhandle of Florida. We have 3,833 acres in Greenville in the west side of the county. 2,433 acres of that are wildlife and wetland areas. We also have 460 acres in Madison in the east side of the county, 800 acres leased in the south end of Madison County and 300 acres leased in South Georgia. That leaves approximately 2,960 acres for livestock enterprises. The average rainfall for Florida is 52-62 inches per year. The average temperature for Florida is 57-79 degrees Fahrenheit. The average snowfall is none! We are 60 miles from the Gulf of Mexico with moderate temperatures and usually adequate supplies of moisture.

## Soils

Our soils are Sandy Loam, strongly acidic with a pH of 4.5-5.0, 1-2% organic matter, high heat, high humidity, 3-7% slope and highly erodible.

## Family

We are a sixth generation cattle family who raised locally adapted commercial cattle including Brahman, Angus and Hereford Crosses before moving to Madison County, Florida in 2004.

## What Are We Doing?

We are trying to remain profitable in the cattle business, thinking outside of the box, producing a healthy, safe product that we are proud to say we produced!

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### ***How Are We Doing It?***

We are utilizing the full resources of the land-grant universities-research and extension services through The University of Florida, The University of Georgia, Clemson University and Auburn University. We are attending Forage Conferences and Seminars and participating in on farm testing of non-traditional methods and forages.

### ***What We Started With***

We started with nothing, a true blank slate. The land had been used for hunting and recreation. It was covered with broomsedge, blackberry briars, dog fennels and some bahia grass. Small patches had been continuously farmed and it had very poor soil fertility and a rusty, broken down perimeter fence.

### ***What We Did***

We re-fenced the perimeter and primary lanes to equal 13 miles. We installed 4 miles of water lines because we needed accessible clean, fresh water in each paddock. We also built 22 miles of single strand HT and poly-wire fence and began a major fertility campaign by adding 2 tons of dolomitic lime per acre followed by a ton per acre 18 months later. Initially we used commercial fertilizers but they were not sustainable and were too expensive. We then shifted over to alternative fertilizers and focused on legumes with foliar applications of fish emulsion and micronutrients and tropical legumes for increased forage quality and some nitrogen.

### ***Alternative Fertilizers***

Fish emulsion analysis (2-4-1) defies conventional agronomic recommendations. Most commercial farms use 300-400 pounds of 19-5-19 per acre. We use 2 gallons per acre per application of fish emulsion. Tissue sampling indicated an improvement in the micronutrient levels of the forages. Soil sampling is still measuring results. The cost of this alternative fertilizer is approximately 30% of the cost of commercial fertilizers. You do have to apply more often but can apply small amounts behind cattle and can use a GPS with light-bar for spraying.

### ***When We Started***

One of our first Bermuda grasses we sampled showed a crude protein dry matter basis of 7.2 and total digestible nutrients dry matter basis of 51.6. An average Crude Protein is 10-12% with a TDN of 57-60%.

### ***Sorry Hay***

The use of sorry hay will result in cattle needing to be supplemented with grain, winter grazing, range cubes (cake) and/or molasses. Resulting in extra labor, time and cash. In addition, feeding poor quality hay in the same place each time does not spread the nutrients

around to different locations in the field, therefore, all of your organic matter stays in one place.

### ***Results of the Southeastern Hay Contest in Moultrie, Georgia Showing High RFQ Scores***

Bermudagrass and perennial peanut hay category winners from the 2005 with 134 Total Samples Entered.

#### **Warm Season Grass Hay**

Overall Range 5.8-19.2(CP), 46.6-65.6(TDN), 50-127 (RFQ)

Tie for 3rd place Big Oak Farm (GA)

Troy Platt (FL)

Gamble Farms (GA)

12.8-16(CP), 50.9-63(TDN), 119 (RFQ)

Legume Baleage Overall Range 10.2-19.1(CP), 65.6-74.1(TDN), 85-162 (RFQ)

1st place Troy Platt

Madison Co, FL

.1 (CP), 74.1(TDN), 162 (RFQ)

2nd place Troy Platt

Madison Co, FL

.3 (CP), 70.6(TDN), 149 (RFQ)

Category winners from the 2006 Southeastern Hay Contest with 197 Total Samples Entered.

Grass Baleage Overall Range 7.9-17.7(CP), 51-65(TDN), 53-128 (RFQ)

1st place Troy Platt

Madison Co, FL

12.0(CP), 58(TDN), 128 (RFQ)

3rd place Troy Platt

Madison Co, FL

10.6(CP), 54(TDN), 111 (RFQ)

Legume Baleage Overall Range 11.4-15.9(CP), 56-68(TDN), 95-215 (RFQ)

1st place Troy Platt

Madison Co, FL

15.9(CP), 68(TDN), 215 (RFQ)

3rd place Troy Platt

Madison Co, FL

15.7(CP), 67(TDN), 137 (RFQ)

### ***Results of the Southeastern Hay Contest in Moultrie, Georgia All With Less Than 100 ppm Nitrates***

Category winners from the 2007 Southeastern Hay Contest with 250 Total Samples Entered.

Category Farm Crude Protein, % TDN, % RFQ

Mixed and Annual Grass Hay Overall Range: 6.3 - 19.3(CP), 44.3 - 72.0(TDN), 64 - 211 (RFQ)

1<sup>st</sup> Place Troy Platt 11.2(CP), 72(TDN), 211 (RFQ)  
Madison Co., FL  
Grass Baleage *Overall Range: 8.3 - 18.2(CP), 46.7 - 64.6(TDN), 91 - 225 (RFQ)*  
1<sup>st</sup> Place Troy Platt 8.7(CP), 64.6(TDN), 225 (RFQ)  
Madison Co., FL  
Legume Baleage *Overall Range: 8.8 - 18.7(CP), 50.4 - 66.6(TDN), 96 - 256 (RFQ)*  
1<sup>st</sup> Place Troy Platt 8.8(CP), 66.6(TDN), 256 (RFQ)  
Madison Co., FL  
2<sup>nd</sup> Place Troy Platt 9.3(CP), 64.0(TDN), 206 (RFQ)  
Madison Co., FL

Category winners from the 2008 Southeastern Hay Contest with 195 Total Samples Entered.

Category Farm Crude Protein, % TDN, % RFQ  
Grass Baleage *Overall Range: 7.7 - 17.4(CP), 40.5 - 61.0(TDN), 70 - 164 (RFQ)*  
2<sup>nd</sup> Place Troy Platt 17.4(CP), 60.0(TDN), 155 (RFQ)  
Madison Co., FL  
Legume Baleage *Overall Range: 11.8 - 12.9(CP), 55.6 - 58.2(TDN), 122 - 144 (RFQ)*  
1<sup>st</sup> Place Troy Platt 12.5(CP), 58.2(TDN), 144 (RFQ)  
Madison Co., FL  
2<sup>nd</sup> Place Troy Platt 12.9(CP), 57.7(TDN), 132 (RFQ)  
Madison Co., FL  
3<sup>rd</sup> Place Troy Platt 11.8(CP), 55.6(TDN), 122 (RFQ)  
Madison Co., FL

### ***Good Forages***

Finishing cattle on quality forages is essentially the same cost of production. No feed supplements are given. Better utilizes time, labor and capital. Increases animal performance in the areas of: cattle breeding stronger, breeding earlier, making more milk and breeding back more successfully. Turns out it's cheaper to make high quality forages!

### ***Our Arsenal of Forages***

Included in our arsenal of forages are Legumes, Grasses and Forbs. The legumes are Annual peanuts, Cowpeas and Perennial peanuts. The Clovers are Red, Crimson, White, Arrowleaf and Ball. Other Forages are Alfalfa, Vetch, Hairy Indigo and Lanceleaf Crotalaria. The Grasses include Bermudagrass, Bahiagrass, Millet, Sorghum/sudan, BMR's, Small grains and Ryegrass. The Forbs are Chicory.

### ***Grazing Strategy***

Finished cattle lead and the backgrounders follow. The finisher cattle receive the "icecream" of the forages, then several days behind them, the backgrounders will follow and graze on what is left. This is done in order for the finishers to gain the best weight possible daily and to maximize the use of our forages and pastures. As you see in the picture, the grass on the left side of the post has been grazed down so the cattle were moved into the pasture on the right side of the post. The next slide shows that both sides are grazed down.

### ***Rotational Grazing***

Through the use of rotational grazing, you better utilize forages, pastures and spread the nutrients back out over on the pastures. Cattle are moved into a new pasture daily. A closer view shows a water trough in the middle of the high tensile wire allowing it to be accessible for two pastures at the same time. We also use rotational grazing in our "wagon wheel" field. We call it that because nothing is a straight 90 degree angle. We have water and shade in the middle of the field and the setup of the high tensile wire allows the cattle to access the water and shade at all times no matter which section they are grazing in.

### **Conclusion**

In conclusion, through the use of high quality forages, rotational grazing, alternative fertilizers high tensile and poly wire fencing, we can better manage our cattle and land resources. In turn, optimizing our return on our investment while producing a healthy safe product that we are proud to say we produced!