The Nuts and Bolts of Cow-calf Nutrition
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Inadequate nutritional plans, for Florida's cow-calf enterprises, are one of the areas of management that results in greatest loss to production efficiencies. Poor nutrition affects the herd in a number of ways including increased disease incidence, lower conception rates, lower market weights/ prices, and increased replacement frequencies. (Maddock & Lamb 2010)

Permanent pastures in North Florida for operations on a Jan-March calving program and under normal growing conditions should be able to meet their herd requirements from about mid-May through September with little or no supplementation for protein and energy. In the southern parts of the state this season is slightly shifted due to calving windows and extended due to longer growing seasons and alternative forage varieties, but the bottom line is still that "supplementation is an important part of an adequate herd nutrition plan for an extended part of our production year."

Factors affecting Supplementation:

<u>Herd/ Animal influences</u>

- **Stage of production—bred/ open, dry/ lactating, developing/ mature**
- **Current condition—body condition score and direction of change (low BCS with increasing demand versus high BCS with increasing demands)**
- **Climatic variables—extended rain, freezes, standing water**
- **Parasite loads—both internal and external**
- **Breed**

<u>Forage/ Feed influences</u>

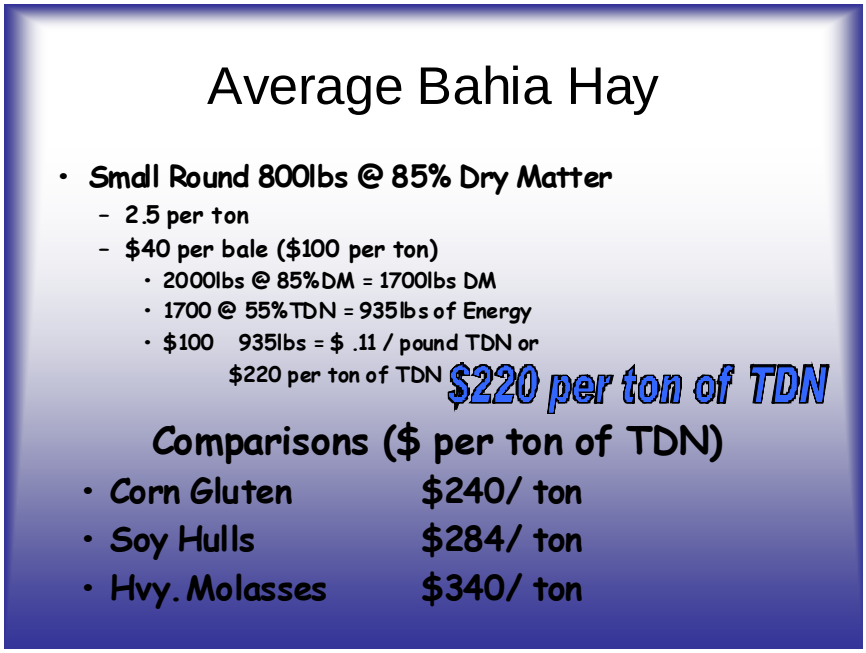
- **Nutrient density—Crude protein (CP) and energy (TDN)**
- **Moisture content—Dry matter versus "as fed" basis**
- **Cost/ pound of nutrient**

In the following two graphs you will find plotted both the CP and TDN requirements for

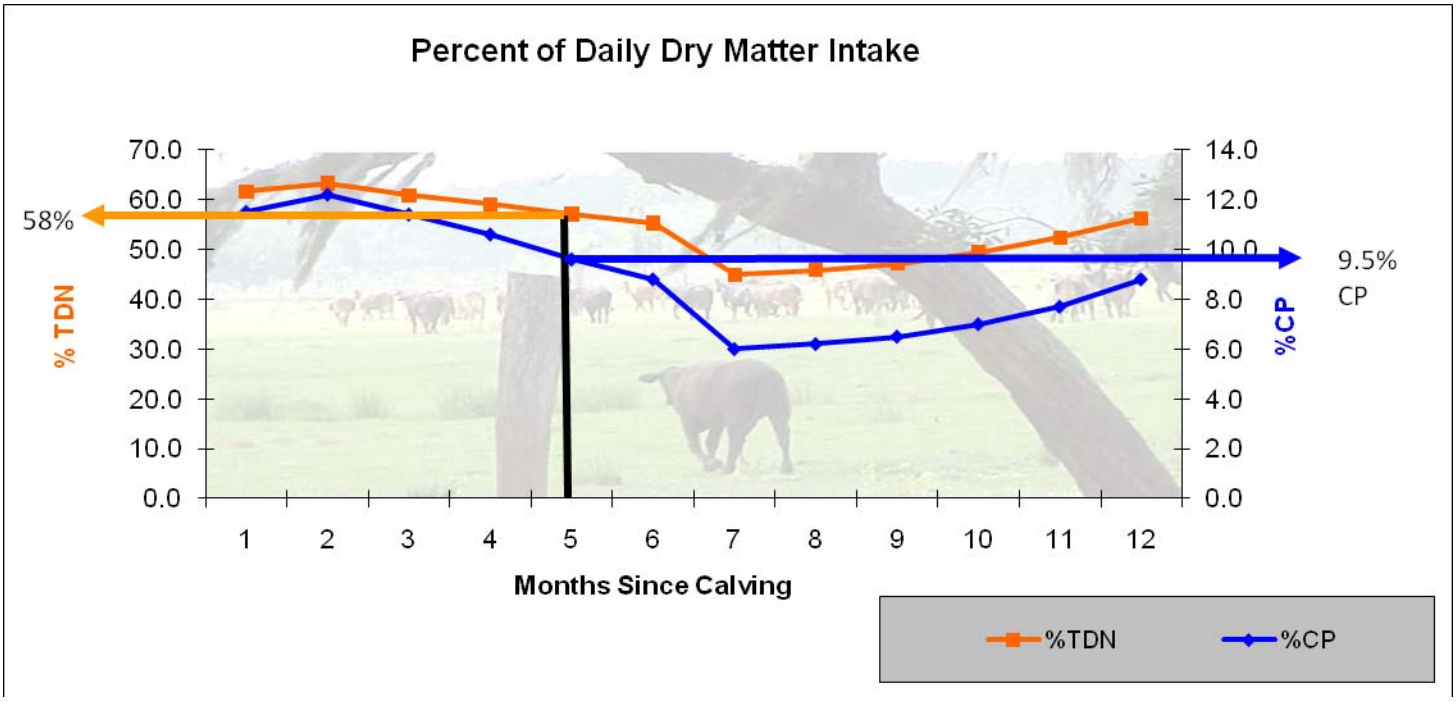
In this example, the bahia hay is reported to have an energy value of 55% TDN. Under certain management and for certain classes of livestock this number can fall short of meeting the requirements of the particular animal.
<u>Example:</u> An 800# replacement who needs to consume 15# of energy on a daily basis, would lose condition (starve to death) if she had unlimited access to 55% TDN hay with no other energy supplement.

800# x 2.5% BW = 20# DMI daily
20# @ 55% TDN = 11# Energy

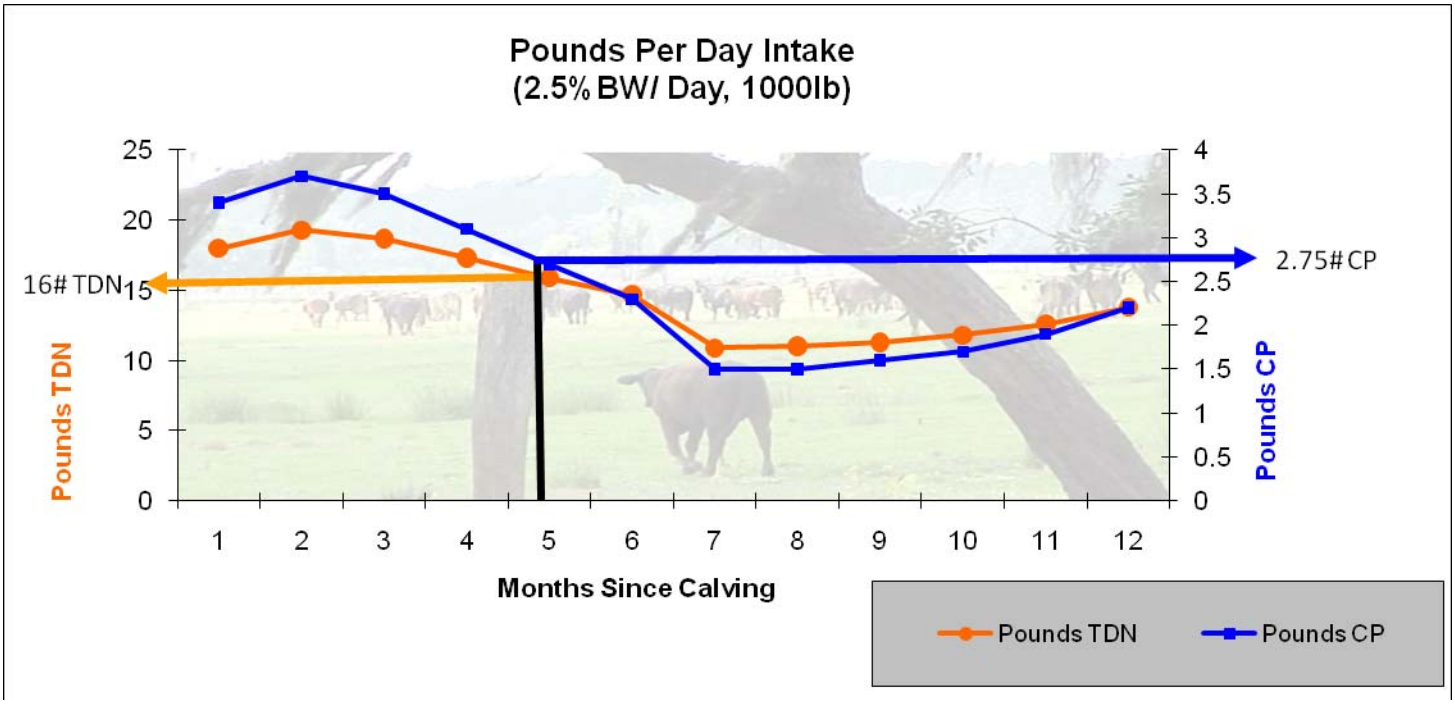
She still needs 4# of energy and her



beef cattle based on the number of months since calving. (Hersom, 2008) In the first graph the data is presented as a feed composition on a dry matter basis (label or analysis information).



In the second graph it is stated as pounds per head assuming a daily intake of 2.5% of body weight on a 1000 pound animal.



Estimating winter feed requirements with stored forages requires that we know the quality of the feed, the average size of the animals being fed, and the expected duration of the feeding period. Below is an example of a typical feeding situation.

Sample Problem:

195 head of brood cows scheduled to breed beginning in April. The herd has an average weight of 1,100 lbs per cow. The producer plans to plant sufficient winter forages to meet the herd requirements after calving, but doesn't expect them to be available until ~January 1st and not up to full production until the 3rd week of Jan. In an effort to avoid a nutritional shortfall the producer wants to plan for the event of an early frost (November 1). If all of the nutritional requirements for the herd had to be provided for the months of November and December plus one half of the requirements for 4 weeks in January how much hay/ balage would he need to secure during the upcoming summer months.

100% Nov-Dec (8 weeks)
50% Jan (4 weeks)

Using *Winter Feed Estimator:*

***Step 1*: Pick a frame type—1,150# Medium Frame (according to USDA mature cow)**

***Step 2:* Slide the chart to the appropriate number of cattle—195 or ~200 head**

***Step 3:* Nov-Dec (8weeks)— 161.0 tons of dry matter**
January (4weeks, @ 50%)—81/2 = ~40.5 tons
201.5 tons (Dry matter)

***Step 4:* Convert tons of dry matter (DM) to bales.**

***Option 1*-- 200 tons 800#, 15% moisture bales = 588 bales @$35/ bale = $20,580**
***Option 2*-- 200 tons 1000#, 20% moisture bales = 500 bales @$45/ bale = $22,500**
***Option 3*-- 200 tons 1000#, 60% moist. balage bales = 1000 rolls @$25/ bale = $25,000**

Nutritional quality of forage feeds can only be determined by collecting a representative sample and having it analyzed. Fees for these types of analysis typically range from $10-16/ sample. Forage quality can change from field to field, from cutting to cutting, and from producer to producer. Each production lot should be sampled independently and then managed accordingly to fit the needs of the herd.

In the above example cost comparisons are only relevant if similar nutrient analysis are reported. If some of the samples have higher reported values, these may be saved for feeding post partum when livestock needs are increased.

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