



# Winter Feed Planning w/ Expensive Hay

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**State Beef Nutritionist**

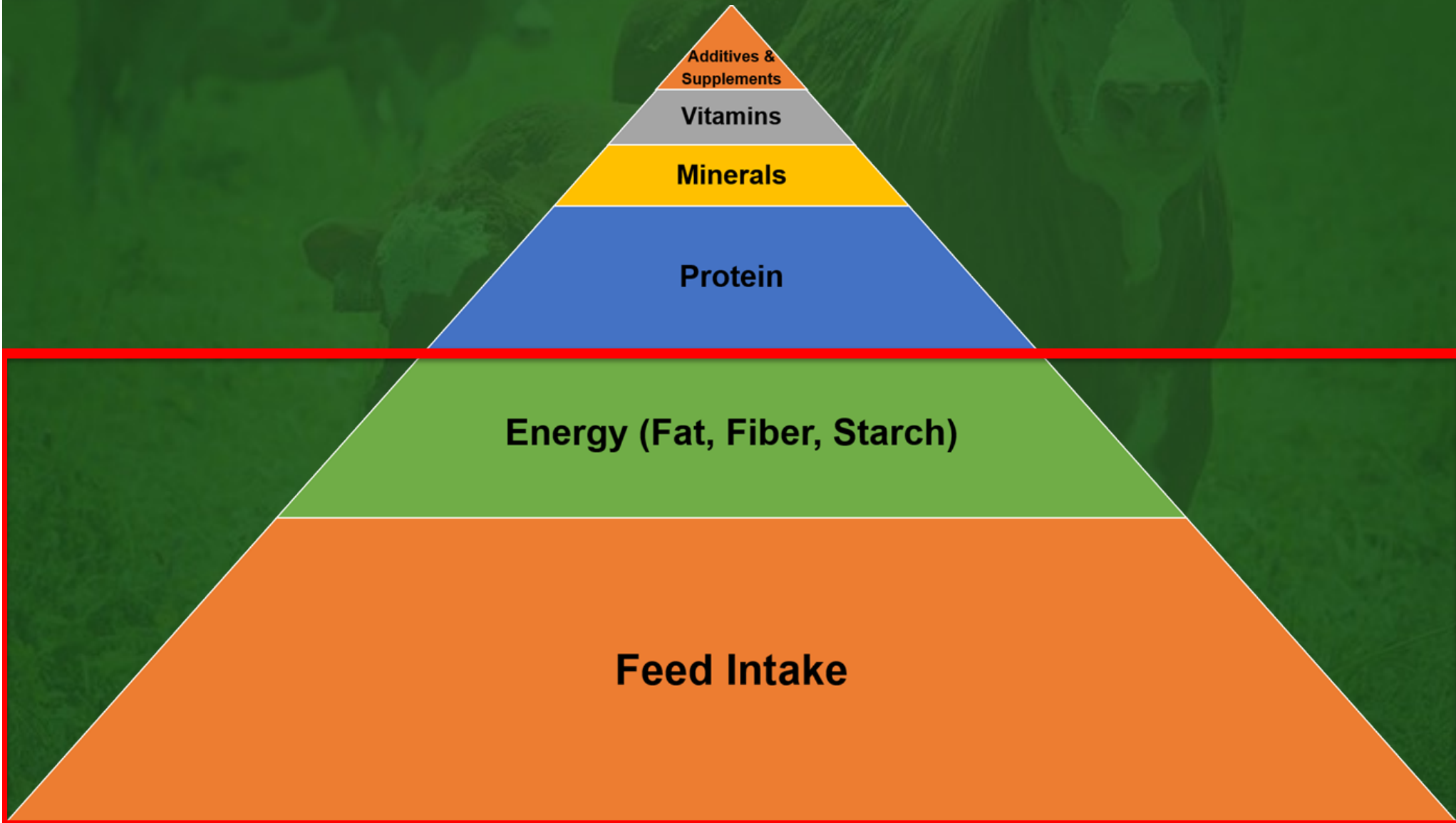
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“ *A cow with feed  
has many  
problems. A cow  
with no feed only  
has one problem.*



# Beef Nutrition Priorities







# Budgeting Hay for Cows

## Ample Hay

**One large round bale per cow per month**

**40 lb hay per cow per day**

**1,400 lb cow**

**Feed hay @ 3% of body weight per day**

**Consumes ~2.5%, wastes other 0.5%**

**33 lb hay & 7 lb waste (17.5%)**

# How Much Hay do I Have?

Table 1. Estimated dry weight or dry matter (DM) of bales of the most common bale dimensions at different bale densities.

		<b>Bale Weight</b>				
<b>Bale Size</b>		<b>---Bale Density, (lbs. per ft<sup>3</sup>)---</b>				
Width	Height	<u>9</u>	<u>10</u>	<u>11</u>	<u>12</u>	<u>% by</u>
(ft.)		<u>-----</u> (lbs. of DM/bale) <u>-----</u>				<u>Volume</u>
4.0	5.0	710	790	860	940	56%
5.0	4.0	570	630	690	750	45%
5.0	5.0	880	980	1080	1180	70%
5.0	5.5	1070	1190	1310	1430	84%
5.0	6.0	1270	1410	1560	1700	100%
% of 12	Cu. Ft.	75%	83%	92%	100%	

Overestimating bale density is a common mistake. So, one should assume bale's weight is ~10% less than indicated in the above table.



# Estimating Density

**Loose/Spongy = 9 lbs/ft<sup>3</sup>**

**Slight deform = 10 lbs/ft<sup>3</sup>**

**Rigid but will give under pressure = 11 lbs/ft<sup>3</sup>**

**Deforms only under weight of tractor = 12 lbs/ft<sup>3</sup>**







# Poor Quality Hay

**Hay below 55% TDN or 7% CP will need supplement**

Target 0.5-1.0 lb of crude protein per day

Example: 5 lb of a 20% protein supplement

**This is where distillers grains shine**

Source of both protein and energy

**3-6 lb of an energy supplement will correct energy deficiency**

**Don't be afraid to double this if you're feeding straw, corn stalk bales, or hulls as your forage source**



# Minimum Hay to Feed

## 10 lb of hay is a VERY safe place to start

We can go lower, but the risk of bloat & founder increase

## \$85 a bale hay makes it tough to pencil out

50% TDN hay @ \$140 a ton = \$0.16 per pound of TDN

- Cows need 13-20 lb of TDN per day

– \$2.08 to \$3.20 a cow per day

85% TDN byproduct supplement @ \$175 a ton delivered

- \$0.11 per pound of TDN (31% COST SAVINGS!!!)



# Limiting Hay: Unrolling

## In a 5 Foot Diameter Large Round Bale of Hay

33.1% of bale is in outer 6 inches

**33.1% of total bale**

26.4% of bale is in next 6 inches

**59.5% of total bale**

19.9% of bale is in next 6 inches

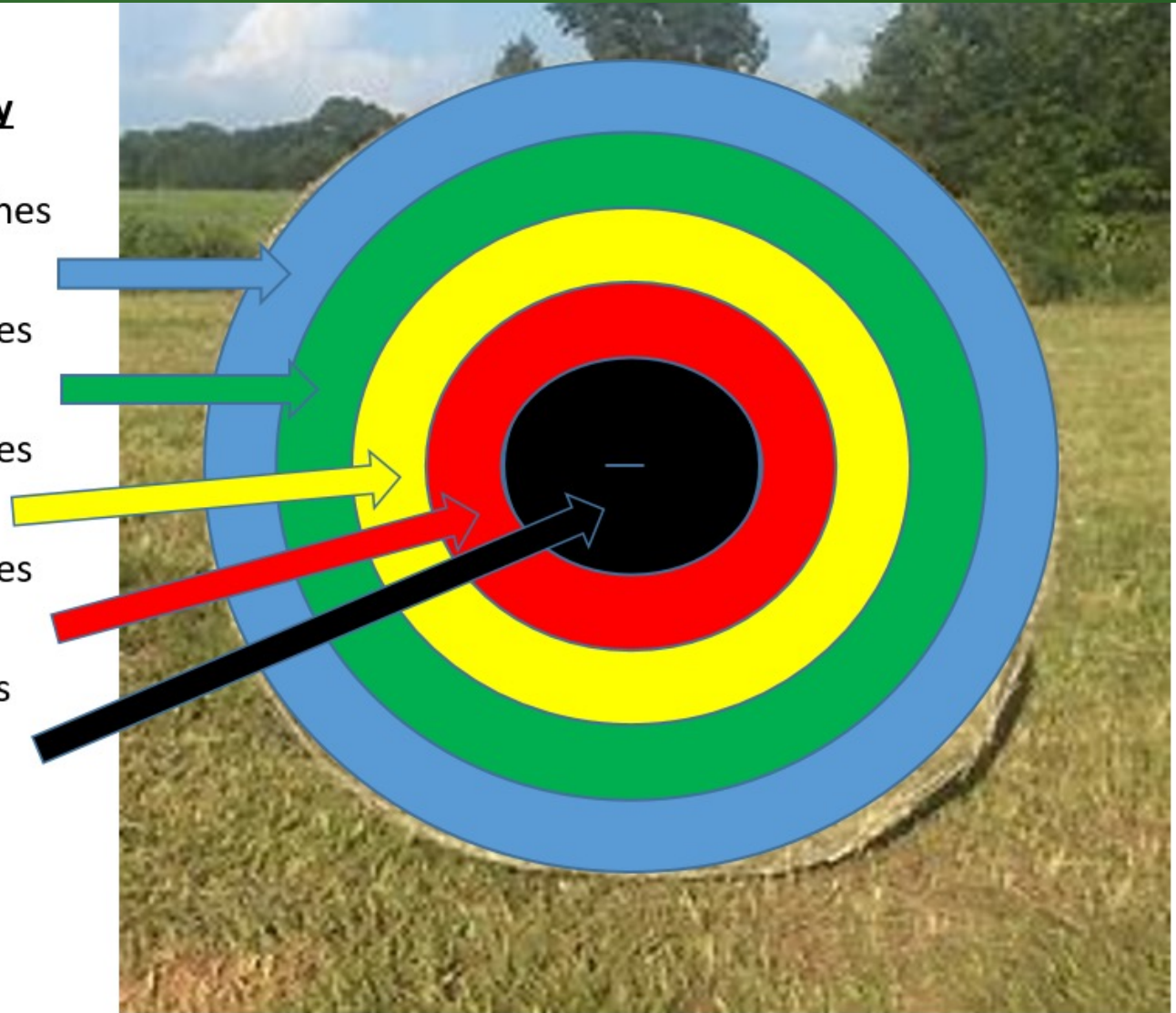
**79.4 of total bale**

13.2% of bale is in next 6 inches

**92.6% of total bale**

7.4% of bale is in next 6 inches

**100% of total bale**



<http://nwhttp://nwdistrict.ifas.ufl.edu/phag/2016/05/13/hay-bale-size-really-does->



# Limiting Hay Restricting Access

	Treatment		
Item	<u>4 hour</u>	<u>8 hour</u>	<u>24 hour</u>
Hay disappearance, lb/hd/day	22.5	32.2	35.7
Hay waste, %	9.8	13.0	18.1
BCS change	-0.63	-0.25	0.15



# Considerations if Using Baleage

**Not going to unroll**

**Wet feed (1.75 lb of baleage for every lb of hay)**

**Misconception about quality**

**Not automatically better quality than hay**

**Better compared to hay put up late or if it  
got rained on after swathing**



# Drought Corn Silage

**Historical pricing “in the bunker” per ton = 10x corn bushel price**

**Nitrate test important, especially if N fertilization aggressive**

- **Fermentation reduces nitrates 40-60%**

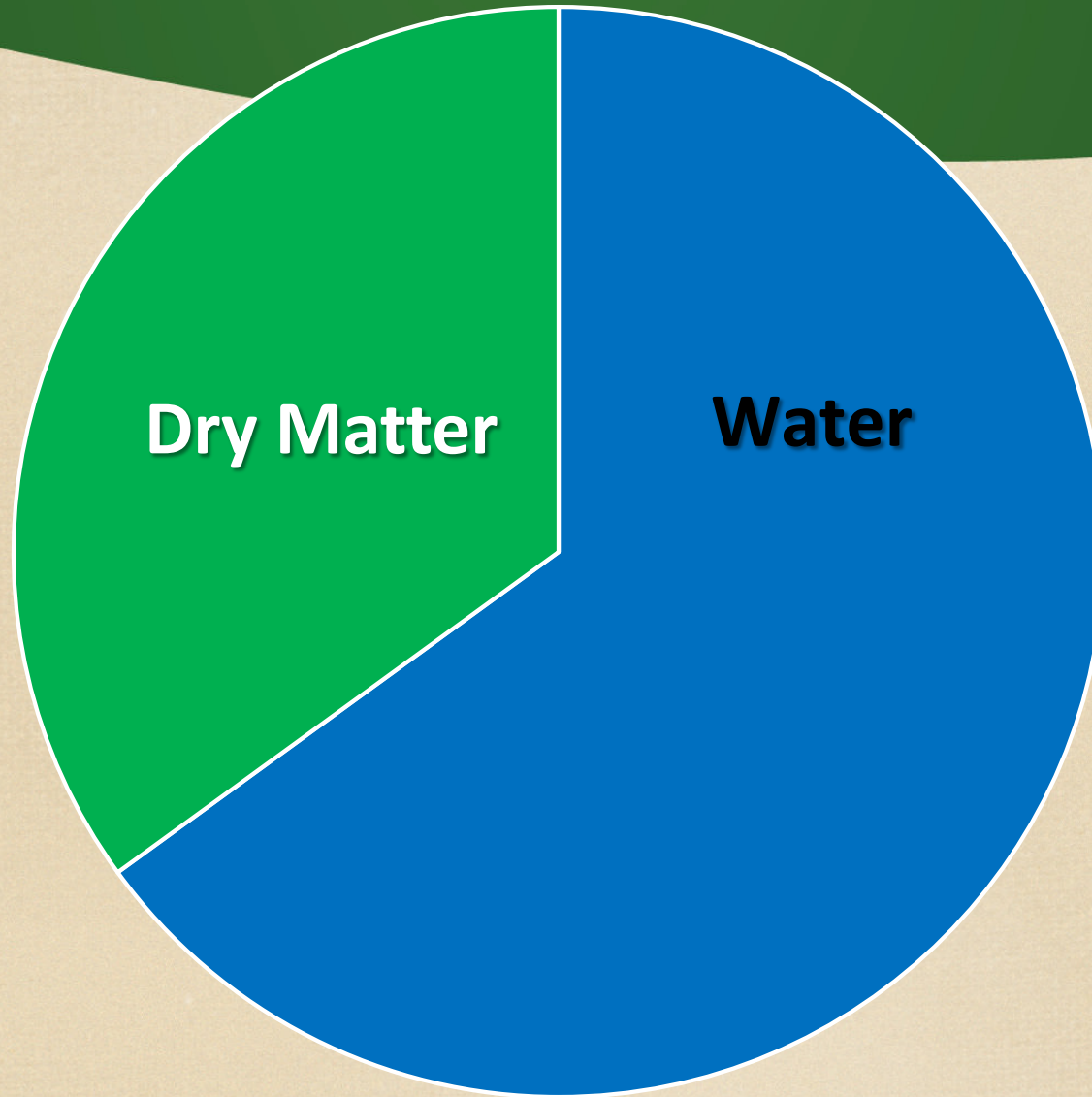
**Nutrient content 75-90% of well eared silage**

**Very close to meeting cow nutrient requirements**

**65% TDN & 9% CP**



# 2.5 lb of Silage per lb of Hay wt/wt





# If Hay is VERY Scarce/Overpriced

**I'd start w/ 5-6 lb corn (whole, cracked, etc...)**

**1 lb corn replaces 2 lb poor quality hay (energy basis)**

**Don't go above 6 lb w/out seeking guidance**

**Do they still have pasture/hay to pick at?**

**If NO, I'd add another 5-6 lbs of a feed w/ little grain**

**Soyhulls, Gluten pellets, DDGS**

**Probably better to work with local feed store to get a custom mix or use one of their products**

**5-6 lb of byproducts if cows are nursing calves**

**More corn = more management**



# How I Would Feed Through This

**Assumption: 1,400 lb cow heavy milker**

**30 pregnant spring calvers and hay quality is TERRIBLE (<6% CP & <45% TDN)**

**Unroll half a bale in the MORNING**

**Feed 9 lb of 50:50 corn & byproduct blend (wheat midds, soyhulls, gluten pellets) in the EVENING**

**90% of energy requirements**

**Free choice salt and mineral**

**Use a drylot or pasture as your sacrifice area**

**Rest pasture over the next 60 days PLEASE!!!**



# How I Would Feed Through This

**Assumption: 1,400 lb cow heavy milker**

**30 fall calvers and hay quality is TERRIBLE  
( $<6\%$  CP &  $<45\%$  TDN)**

Unroll half a bale in the MORNING

Feed 9 lb of 50:50 corn & byproduct blend (wheat midds, soyhulls, gluten pellets) in the MORNING & EVENING

**90% of energy requirements**

**Free choice salt and mineral**

**These feeding rates are flexible. If cows flesh up quickly (30 days), reduce feed offered by 10-20%**



# FAQ: Ideal “Grain Mix”

**Does not exist in right now**

**What can you feed efficiently?**

**What can you store?**

**How much?**

**Price?**

**What has worked in the past?**

**Work with your local feed dealer!!!**



# Questions for Feed Dealer

## Can they do custom mixes?

Potential for cost savings

Downside is little guidance on feeding rate, other issues

- Worth it for LARGE operations in my opinion

## What size loads do they deliver?

## Unloading equipment needs?

Augers

**\$200+ a ton feed makes more sense to me than \$85 /bale hay right now**

**More nutrients and more consistent than unfamiliar hay**



# Final Thoughts

**Focus on the big need: MEET ENERGY REQUIREMENT**

**13-20 lb of TDN per day. Get hay tested!**

**Our biggest problem is letting cow weight slip**

**Overcomplicating nutrition**

**Paralysis by analysis**

**Hay is overpriced right now!**

**We are here to help. Call anytime!**



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