Balancing Cow Nutritional Needs & Forage Quality

Bethany Johnston

Nebraska Extension in the Central Sandhills

bjohnston3@unl.edu 308-645-2267

EXTENSION

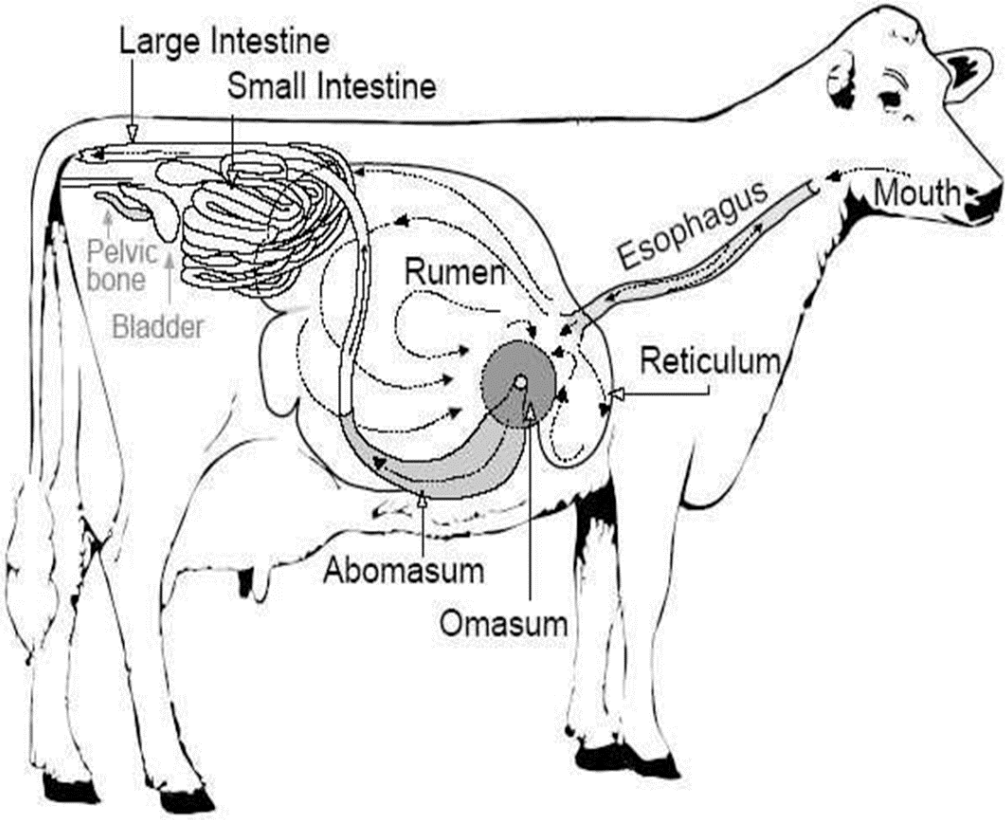
Understanding the Metabolizable Protein System

- Crude Protein is simply the nitrogen content * 6.25
- Crude protein does not tell us where or how the protein will be used

Metabolizable Protein

- Metabolizable protein consists of protein broken down in the rumen
  - Feeding the “Bugs” and the “Factory”

- Undegradable Protein (RUP) + bacteria flowing out of the rumen to be digested in the abomasum and absorbed in the small intestine
  - Feeding the “Animal”



Concepts to Remember
Nutritional Needs Go Up When…

- Cattle are cold
- Cattle are growing
- Cattle are pregnant
- Cattle are milking
- Cattle are active

Concepts to Remember
Pregnancy Rates Goes Up When…

- Breeding on an inclining plane of nutrition (flushing effect)

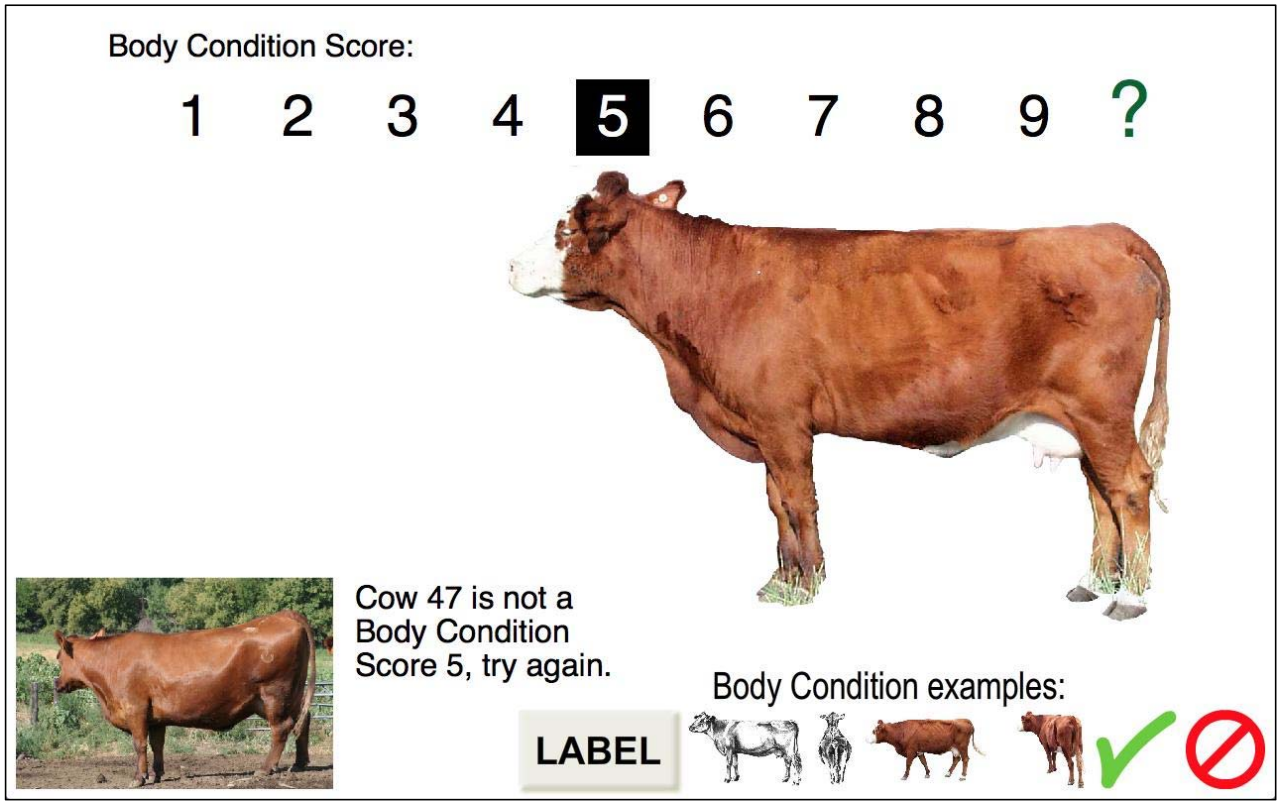
"I would rather breed a thinner cow on a diet that is increasing, than a fat cow on a diet that is decreasing."

- Order of Nutritional Needs: Maintenance, Growth, Milk, Pregnancy

Body Condition Score- Fat is Money in the Bank

For cows: BCS 5 (at breeding, what at calving?

For heifers: BCS 6 at calving
What happens to a heifer after calving?



The Milk Dilemma

- 30-60 days after calving- starting to ramp up milk
  - What else?

- 8 weeks after calving- Milk Peak
- If calve March, then peak lactation RIGHT before breeding

Passage Rate
How quickly does the feed digest in the gut?

- Cattle eat less (fewer pounds of forage) on a poorer quality diet
- Cattle will eat more (more pounds of forage) on a higher quality diet

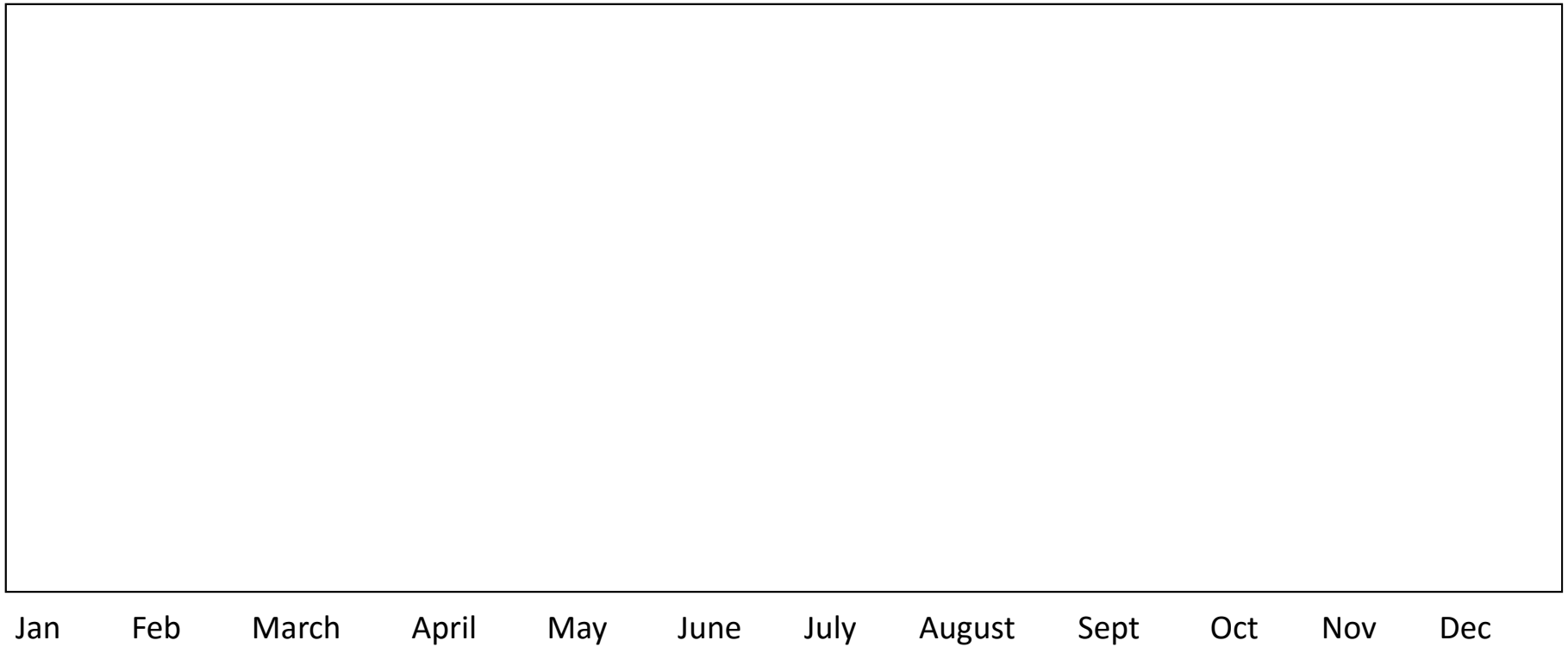
Concepts to Remember- Forage

- Forage value changes through the year
  & from year to year
- More leaves fewer stems & seedheads , ↑ forage value
- Plants not mature usually have higher protein & energy
- Understand when and what is growing
  - Cool season vs Warm season
- Forage value may or may not fulfill cow needs

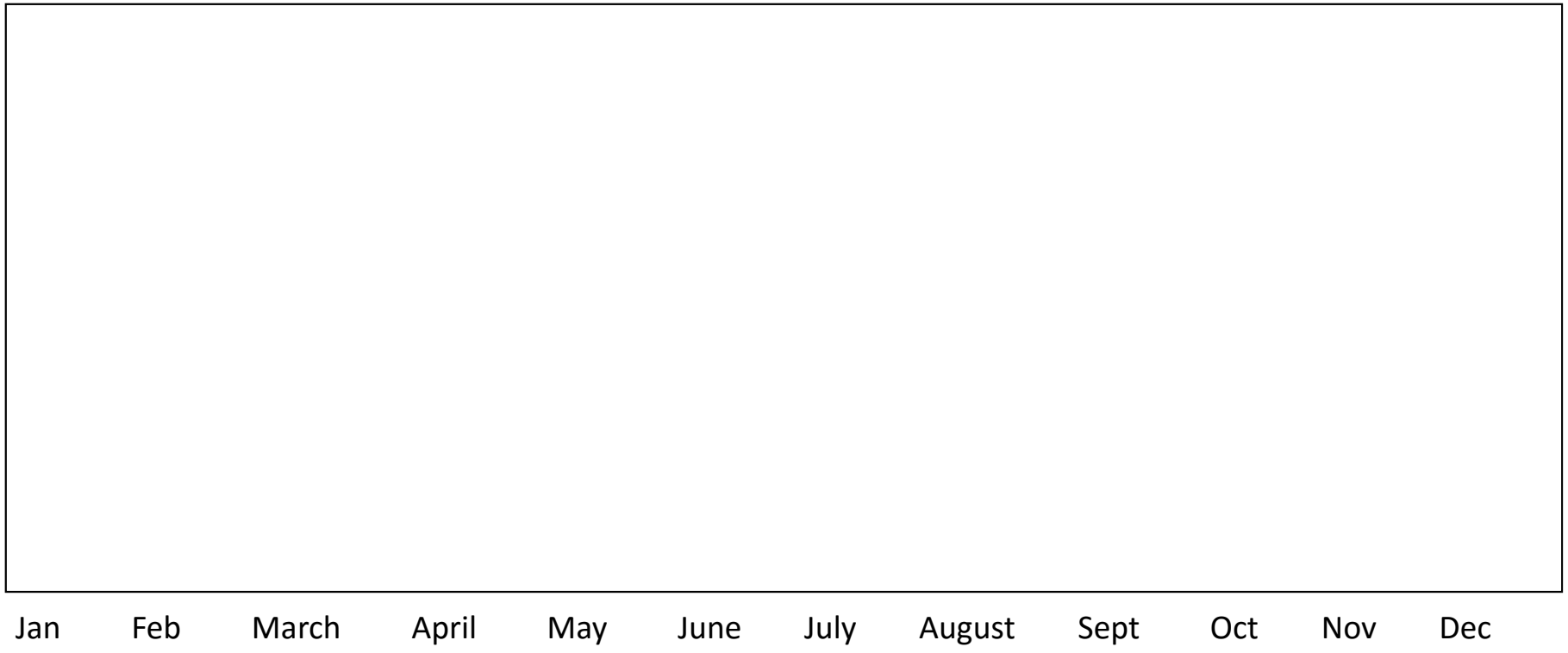
Forage Quality Through the Year

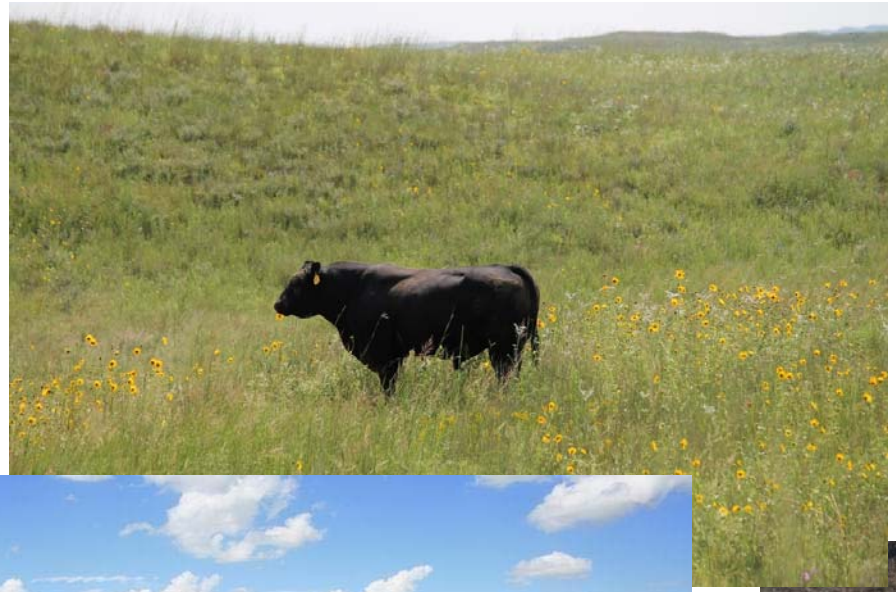
- Sandhill Upland Range
- Sandhill Wet Meadow
- Smooth Brome

Crude Protein (CP)



Energy (TDN)



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Crude Protein & Energy for

600 lb calf		Heifer (1100 lbs) dry		Cow (1400 lbs) dry		Mature Bull (2000 lbs)	
CP 12.1%	TDN 68%	CP 7%	TDN 50%	CP 6.5%	TDN 48%	CP 6.5%	TDN 50%

Heifer (1100 lbs) 3rd Trimester		Cow (1400 lbs) 3rd Trimester	
CP 9.5%	TDN 55%	CP 9.5%	TDN 52%

Heifer (1100 lbs) Milking		Cow (1400 lbs) Milking	
CP 10.5%	TDN 61.1%	CP 10.3%	TDN 59.1%

Match Cattle Needs on Grazing Charts

What to do about “holes” in the forage?

- Cover Crops
- Irrigated Pivots
- Crop Residue
- Proximity to Distillers

(or other high energy/high protein)

Resources

beef.unl.edu

Karla Jenkins- Ruminant Nutritionist
(308) 632-1245
kjenkins2@unl.edu

Body Condition Scoring Cattle- Rick Rasby

Table of Cattle Nutritional Needs
https://www.uaex.edu/publications/PDF/MP391.pdf