



THE CUTTING EDGE OF NUTRITION

The Bulletin for Alumni of the Beef Cattle Nutrition School

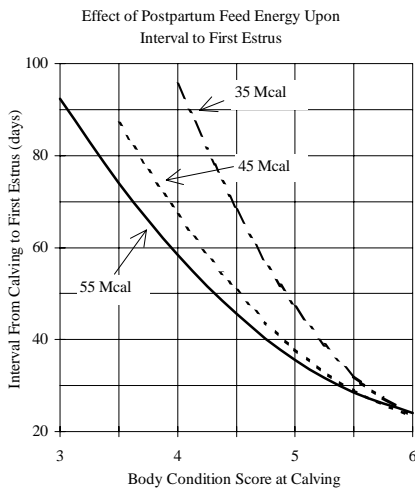
September 1996

Ambiguous? Who? Me?

OK! So there may be a couple of points that I have failed to make perfectly clear. "Dick, you're equivocating about post-calving feed energy and/or BCS and subsequent conception". It is difficult to accept that I have been less than forthright but the frequency of the comment suggests otherwise. It couldn't be that I'm confused.

PPI and PP-BCS

When your cows are in suitable BCS at calving for the shortest PPI practical at your latitude, there should not be questions nor should there be problems. The graph below is an extrapolation of work at Miles City, MT (46° 45' N Latitude).



When the cows at Miles City are in BCS 5.5 or better, the postcalving forage quality has little or no effect upon the interval from calving to first estrus. For example, at BCS 6, PPI will occur in about 25 days regardless of postcalving forage quality. Conversely, cows in BCS 4 at calving will experience first estrus at about 58 days postcalving with a high quality forage. When the same cows consume forage with only 35 Mcal of NEm, days to first estrus will be about 95 days.

A Whopping 20%

A recent report from Mississippi State contains this statement, "Cows can lose

as much as 20% of body weight at certain times of the year (particularly after calving) without any detrimental effects on long-term productivity, provided they are in adequate body condition at the time they calve and when weight loss occurs".¹ Therefore, use your quality forage to achieve the desired BCS just prior to calving. Then postcalving forage quality is of little or no concern. The key is energy availability at the time of calving to meet the energy required by the cow to return to normal cyclicity and commence ovulation. Regardless of forage quality, the bulk of the energy must come from the cow's body reserves.

Cow Stature

(For some, the following is going to be drier than a drought but others want the information). Many of you asked how frame score is estimated from hip height. Below is an abbreviated table for those of you who choose to interpolate rather than calculate.

Frame Score of Mature Cows Relative to Height at the Hip Bone (inches)									
FS	1	2	3	4	5	6	7	8	9
Ht	44	46	48	50	52	54	56	58	60

The equation on which these values are based and used in the School follows:

$$FS = 0.5 \times Ht - 21$$

The Beef Improvement Federation² (BIF) has an equation for cows that is quite similar: $FS = 0.5199 \times Ht - 20.978$

It has developed an equation for determining frame score of bulls as well:

$$FS = 0.50889 \times Ht - 22.056$$

Adolescent Anatomy

A few of you who can make a calculator whistle or computer hum have asked about frame scoring calves. The BIF has developed equations for both sexes five months of age or older. The calculations

involve, quite naturally, the calf's age. Be mindful, however, that size on any given day depends not only on age but on growth rate as well. The BIF equations do not consider a growth rate factor. The "Age" factor used in the equations below is in **days**.

Heifer calves:

$$FS = -117086 + 0.4723 \times Ht - 0.0239 \times Age + 0.0000146 \times Age^2 + 0.0000759 \times Ht \times Age$$

Bull calves:

$$FS = -11548 + 0.4878 \times Ht - 0.0289 \times Age + 0.00001947 \times Age^2 + 0.0000334 \times Ht \times Age$$

I will be pleased to send you tabled values for the above calf equations. Please don't hesitate to ask.

Chance Encounters

We will be speaking at some Rancher-type meetings in the near future. If you are attending any of these gatherings, give us a call in advance and we will arrange to hang around for a cup or two.



Oct 4, '96. Tulsa, OK *Merck AgVet. Developing Strategies for Effective Economic Management (Survival)*. Call Jeff Schoen at (918) 250-5486.

Oct 26, '96. Sierra Field Station. Brown's Valley, CA *Controlled Grazing Research and Extension Project-Open House*. Call Roger Ingram at (916) 889-7385.

Nov 15 - 17, '96. Dallas, TX *Grass Farmer's 1996 North American Grazing Conference*. Call The Stockman Grass Farmer at (800) 748-9808.

Schools In '96 and '97

Kerrville, TX October 7 - 10

Redding, CA October 28 - 31

Wichita Falls, TX January 13 - 16

Tucson, AZ February 24 - 27

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¹ Bagley, C.P. and R.R. Evans. 1996. Questions and Answers Beef and Forage Production. Pub 2023. Cooperative Extension Service. Mississippi State U.

² McPeake, C.A. Hip Height and Frame Score Determination. OSU Extension Facts F-3271. Oklahoma Cooperative Extension Service. Oklahoma State U.