



# THE CUTTING EDGE OF NUTRITION

## The Bulletin for Alumni of the Beef Cattle Nutrition School

**August 1995**

### Why The Bulletin

Continual review of the scientific literature, together with feedback from alumni with whom we consult, keeps us at the top of the learning curve. Given that Nutrition is a very dynamic subject, it stands to reason that we frequently modify the application of the principles we study in the School. The Bulletin will serve to keep you abreast of "what's new".

When information accumulated from a Bulletin collection pushes your revision threshold, you know it is time to repeat the School. It's sort of like, BCS can decline just so far - then you know *ya gotta* wean the calves.

The Bulletin can serve as a forum. Hopefully you will have something to share with fellow alums. How has the School helped or hindered your operation? Perhaps you would like some clarification of "stuff" from the School. Your suggestions for improving School content and presentation will be welcomed. What specific subject would you like to have discussed in The Bulletin?

The content of The Bulletin will be most meaningful to the School graduates. Many of you have requested (when we did come up with a newsletter) that we put so and so on the mailing list. We will be glad to do so, and if there are others with whom you are working we will add them as well.

Enough introduction. For the remainder of this presentation and all future Bulletins we will deal only with matters that can impact your operation.

### Body Condition Score

The importance and utility of BCS, as a **management tool**, probably have not been emphasized sufficiently in the Schools -- particularly early in the School's history. BCS is an estimation of the fat content of the animal's body. The presence of a certain amount of fat is essential for the heifer to experience a timely first estrus. Similarly, body fat is essential for short anestrus periods and

high **postcalving conception** rates within a given time frame. Therefore, BCS has a **cause and effect** relationship with reproduction.

BCS is a useful tool for determining **time of weaning** -- when the demands of lactation must stop. While averages and norms seldom are experienced, we must count on certain happenings, at least most of the time. We must assume that the grass will grow and the cows and heifers will gain weight. Also, we must know the BCS that will produce conception rates we are happy with.

For example, assume that with the **photoperiod** at the time of year you calve, a BCS 6 results in your desired conception rate. Then, given your forage capabilities *or the amount of money you have in your pocket*, how much weight will your cows gain (increase in BCS) between weaning and calving? If the projection is an increase of 1.5 in BCS, then weaning must occur when the cows are in BCS 4.5. Should the estimated increase in BCS from weaning to calving be two scores, the cows can slip to BCS 4 while lactating.

Similarly, BCS is a useful tool for **drought management**, especially if feed purchases or liquidation are options to be considered. Again, assume that a BCS of 6 at calving will assure your goals. In a difficult situation, however, you will extend the breeding season, accept a reduced conception rate and get by with a BCS of 5. Knowing the current BCS, you need to ask - if it rains tomorrow can my cows get back to my minimum BCS 5? If the answer is either "no" or "I cannot afford the feed", then you have a pair to sell that is in good condition relative to others in the area. You also beat the rush to the sale yard and inevitably, depressed prices.

BCS can be used to estimate body weight and change in body weight -- remember NEΔ. It is useful when **predicting conception** rates. We have been using BCS of cows to predict fertility. There is a recent study **forecasting reproduction** with heifers which will be discussed in a subsequent Bulletin.

### How To Get There

Step one is to determine the empty mature body weight (EMBW) of your cows. This involves two factors - frame score<sup>a</sup> and cessation of protein deposition. When growth is comprised of only fat, cows are in BCS 7.85. This would be their mature body weight if they ever got this fat. The accompanying table may be of some assistance. The difference in weight between the BCSs is 8.2% of EMBW.

		BODY WEIGHT RELATIVE TO BCS						
Frame Score		3	4	5	6	7	8	9
Height		48	50	52	54	56	58	60
EMBW		1028	1102	1177	1252	1326	1401	1476
BCS	% FAT	EMPTY LIVE BODY WEIGHT						
3.5	15.93	661	709	757	805	853	901	949
4.0	18.12	703	754	805	857	908	959	1010
4.5	20.30	745	799	854	908	962	1016	1070
5.0	22.49	787	845	902	959	1016	1074	1131
5.5	24.68	830	890	950	1010	1071	1131	1191
6.0	26.86	872	935	998	1062	1125	1189	1252
6.5	29.05	914	980	1047	1113	1180	1246	1312

### Schools in '95

**Boise, ID** September 26 - 29

**Albuquerque, NM** October 17 - 20

**Tucson, AZ** November 7 - 10

### Your Comments Please

If you have questions about our Consulting Service, need additional Brochures or wish to sign up for one of the Schools:

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<sup>a</sup> One of our alums, Roy Largent, wrote an article in the Miniature Hereford, spring/summer 1995 Newsletter, about hip height and frame score. He presented a table showing this relationship for mature cows and growing heifers. If you wish to contact Roy, give me a call.

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