LOW COST COW/CALF PRODUCTION

The Bulletin ***For Alumni Of The School***

Volume 5 **Number 2**

I'm Not Ready

In the Student Manual on pg 4 of Appendix 10 (Certified Forage Testing Laboratories), it is listed as Northeast DHIA. The name now is officially "Dairy One Forage Lab" according to its March 1999 Update letter. Many of you have been using Dairy One to analyze your forage samples. There are numerous reasons for this but a major reason is that NEm is calculated for you, using the Ohio State (Bill Weiss) equations. If you recall from the March '97 Bulletin, the equations require analyses for Crude Protein, Neutral Detergent Fiber, Crude Fat, Ash, Lignin, ADICP and NDICP. *Other labs, from which we receive reports, derive NEm by using a linear mathematical relationship with Acid Detergent Fiber - not a good estimator of energy.* Some of you have your favorite lab run the complete analyses and use the Ohio State equations yourself. There is nothing wrong with that. In fact, even if you use Dairy One as your laboratory, you will be employing the Ohio State equations (shown below).

Dairy One Advances

The guys (both genders) at Dairy One are a bunch of forage GEEKS. Not only that, they work closely with forage specialists and ruminant nutritionists at Cornell University. The **Fall Out** is that the estimator for energy contained in forage has been taken to a new level. Essentially, the rate of passage of feed particles from the rumen is taken into account. While these particles may be fermentable by the rumen microorganisms, they get shoved out of the rumen before the bugs have sufficient time to do their thing. When rate of passage is taken into account, the NEm values are not as high as the values we have been using. They are measurably lower. The adjustment (to the NEm values) begins by discounting TDN relative to the quantity of Neutral Detergent Fiber contained in the forage. The equations are in the public domain, having been reported in the scientific literature. Dairy One, however, has put forth the effort to ferret all this out. This gives a degree of propriety to the calculations used to derive the new NEm values. We respect this. All of us are looking for an "unfair advantage."

What Do I Do Now?

It is likely that the new NEm values will render the equations more precise. Our equations will have to be adjusted, however, before we can go there. For instance, the equation used to estimate NEm consumption is basic to many other calculations. It is involved in estimating animal performance and determining nutrient requirements for supplement formulation. It will become a different equation which will reverberate through all of our calculations. Making the changes will take time. Fortunately, we have very cooperative clients for whom we make projections and formulate supplements. We will carry two sets of values during the coming year and will develop new estimators using the new and improved NEm values. If indeed it is a better way to go, major revisions to the School will be made during the summer of Y2K. In the meantime, you will have to stick with the Ohio State equations you currently are using. Even if Dairy One is your laboratory, you will have to recalculate the NEm values just as you do for all of the other laboratories. If you are using the Excel spreadsheet that we provide, the Ohio State equations are located on the Lab Reports sheet in Columns AC through AF. If you are using a different spreadsheet or making the calculations by hand and need some assistance, don't hesitate to call.

Rumors

"It is the biggest breakthrough we've ever had in our operation. We really believe in your program." Thank you, Gary & Georgia Marshall, Oregon.

Schools In 1999 – Y2K

Locations in Canada to be announced.

January 24 – 27, '00

February 7 – 10, '00

February 22 – 25, '00

Linda Lynch-Staunton
Beefbooster Management Ltd.
#26, 3515-27th St NE
Calgary, AB T1Y 5E4
(800) 668-1529 or (403) 291-9771

Pratt, KS May 18 - 21, '99

Baker City, OR June 7 - 10, '99

Billings, MT September 14 - 17, '99

Ogallala, NE September 20 - 23, '99

Sacramento, CA December 13 - 16, '99

Dick Diven
Agri-Concepts, Inc.
12850 N. Bandanna Way
Tucson, AZ 85737-8906
(800) 575-0864 or (520) 544-0864

$$TD_{CP} = e^{-0.012\times([ADICP+CP]\times 100)}$$

$$FA = EE - 1$$

$$NDF_N = -8.77 + (0.33 \times CP) + (0.143 \times NDF)$$

$$TDN = (TD_{cp} \times CP) + (FA \times 2.77) + [0.98 \times (100 - NDF_N - CP - Ash - FA - 1)] +$$

$$0.75 \times \{(NDF_N - Lig) \times [1 - (Lig \div NDF_N)^{0.667}]\} - 7$$

$$DE = TDN \times 0.02$$

$$\boxed{ME = 0.82 \times DE}$$

$$\boxed{NEm = -0.50803 + 1.37 \times ME - 0.30423 \times ME^2 + 0.051033 \times ME^3}$$