

# LOW COST COW/CALF PRODUCTION

**The Bulletin** For Alumni Of The School

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## Garrulousness

We don't subscribe to or read much of the popular press relative to beef cattle nutrition - the Stockman Grass Farmer being an exception. We search the scientific materials regularly and report new information here in the Bulletin. We also upgrade the Student Manual periodically. This morning was an exception. Upon searching the Internet for subjects related to beef cattle/nutrition/forage, I came across the Farm Journal's website<sup>1</sup> for Beef Today. I thumbed (moused) through the latest issue, April 1998.

## Ores

There was a well written column entitled The Mineral Maze by Raylene Nickel. She summarized a 2-year study at the University of Nebraska in which three groups of cows were fed a balanced diet. Furthermore, one group received additional organic trace minerals and a second, additional inorganic trace minerals. At breeding, the two groups receiving added minerals had 86% conception rates while the group receiving only the balanced diet achieved 100% conception. **Recall the third Key to the Low Cost Cow/Calf Program?** Precise Nutrition - Provide a balanced supplement that accounts for forage deficiencies relative to animal requirements - *no more/no less*. The Beef Today writer apparently interviewed Dr. John Paterson (or read a recent report<sup>2</sup> on minerals by Paterson) with the Montana State U. Extension Service. Paterson says that mineral supplementation is a site-specific issue. All of us are aware that mineral content of forages and drinking water varies from ranch to ranch. MSU has observed considerable variation from one pasture to the next on the same ranch. Concern for this variation is noted at the School during discussion of the need to collect one forage sample for analysis each month. Further, on sampling day, collect the sample from the pasture/paddock where the cattle actually are eating. By continuing to sample in this manner for 3 years (36 samples), pasture-to-pasture

variation will be accounted for. In most situations, seasonal variation in plant mineral composition is far greater than that resulting from the land. With some noted exceptions, discussed below, nutrient requirements (on most ranches) can be satisfied with 2 or 3 different supplements during the year. Beef Today referred to a survey<sup>3</sup> of 352 forage samples from 18 states by the National Animal Health Monitoring Service. The most notable trace mineral deficiency was zinc. Only 2.5% of the samples contained adequate quantities. Copper was deficient in only 14.2% of the samples, with another 49.7% being classified as marginal. Excesses of iron and molybdenum were found in 10% of the samples, which would be antagonistic to copper utilization.

## The Amalgam

In the School, we learn that the requirement for any nutrient is related to the energy required and/or consumed. Once we've determined the requirement for a particular nutrient, we then subtract that which comes from the forage. The difference is the daily requirement for that supplement. With a call to the supplement company, we find the salt forms (containing the nutrients we need) they inventory. We then calculate the quantity of each salt needed to supply each mineral in short supply. The quantities of all the salts are summed for the day; this tells us the amount of the total blend the cattle will consume. With sufficient information about the forage nutrient composition and the animal's physiological status, the estimated mineral consumption will be right on.

## Always?

W E L L L L. If consumption, following a week or ten days for acclimation to the new supplement, is not close to that which is estimated, there is likely a mistake or insufficient data on forage composition. There also is the possibility of a unique circumstance. I am having difficulty with formulations for my clients whose cattle

graze the cool season grasses in Northern California. The table below shows the supplement requirements from one of these ranches. Trace minerals are deficient throughout the year. Macro minerals are required in the supplement only 4 months of the year. How do I get the traces to the cattle in a package that will be consumed at the desired level? When I

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Phos									.001			
Mag				.009			.018	.004				
Potass							.023					
Sodium												
Zinc	832	534	681	723	904	850	960	764			213	140
Copper	890	664	150	126	472	362	311	274	36	176	381	97
Mangan	865	927	353	983	943		645					
Iodine	27	25	25	25	31	24	21	21	12	4	12	14
Selenm	8.2	7.9	7.8	7.8	10.0	7.3	6.4	6.2	3.3	0.9	3.3	3.8

find a solution, you will be the first (after the California Ranchers) to know.

## Rumors

*"Calves received no hay. They should do well on spring/summer grass."* Thank you, John Dyer, Idaho.

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### Linda Lynch-Staunton

Beefbooster Management Ltd.  
#226, 1935-32 Ave NE  
Calgary, AB T2E 7C8

**(800) 668-1529 or (403) 291-9771**

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### Dick Diven

Agri-Concepts, Inc.  
12850 N. Bandanna Way  
Tucson, AZ 85737-8906

**(800) 575-0864 or (520) 544-0864**

<sup>1</sup> <http://www.farmjournal.com/beeftoday>

<sup>2</sup> <http://agadsrv.msu.montana.edu/extension/Beef/Gov.Conf/ansotegui.html>

<sup>3</sup> <http://www.aphis.usda.gov/vs/ceah/cahm/beef.htm>