



THE CUTTING EDGE OF NUTRITION

The Bulletin for Alumni of the Beef Cattle Nutrition School

April 1996

When FOO-FOO Powder ???

Use it when it works for your cattle, both biologically and economically. FOO-FOO powder is a label I give to those nutrients, not required by cattle, that are incorporated into some commercial (otherwise **complete**) feed supplements. Also included under the label of FOO-FOO powder are nutrients in particular molecular forms that are said to be more available. Generally such supplements are accompanied by a sales pitch, suggesting miraculous increases in cellulose, fiber, roughage, forage or organic matter digestion. *One company's flier suggests a potential increase in the digestibility of forages by as much as 34%*. Once a sufficient number of ranchers hear about this, all other supplement companies and Beef Cattle Nutrition Schools will be blown away.

True Claims ???

Yes -- but what are the bases for the claims? They are based upon in vitro studies (*in an artificial environment outside the living organism*). A forage sample that has been treated with the FOO-FOO powder-containing supplement is added to flasks, along with rumen fluid (collected from a critter fitted with a rumen fistula). Untreated forage is added to other flasks for controls. The mixture is incubated for varying lengths of time and then analyzed for the disappearance of various fiber components, e.g., dry matter, organic matter, etc. The differences in rates and/or total disappearance between the supplemented vs. the unsupplemented forage produce values such as 34% increased digestibility. Thus, the claims have a basis. With these experimental results, extrapolations are made that cattle will:

breed earlier, have tighter calving intervals, improved reproductive efficiency and milk production, reduced calving problems, enhanced fiber utilization, reduced labor cost, decreased wintering costs, heavier weaning weight and improved carrying capacity.

Studies with real live cattle, supporting similar claims, are not available or at least not reported. Most of you inquiring at the School about the use of FOO-FOO supplements were using them as adjuncts to other **complete supplemental** programs. For most, the primary program was "cafeteria style".

My Neighbor Says ----- !!!

Nutrients other than the nonessential nutrients also are brought to the table by these supplements. As with most supplements, the following are included: crude protein, calcium, phosphorous, potassium, magnesium, zinc, iron, copper, cobalt, manganese, iodine, selenium, Vitamin A and sometimes sodium. (*When salt is not included, it is recommended that it be fed separately*). If your neighbor's program does not supply these essential nutrients in sufficient quantities or there is a nutritional imbalance, then the FOO-FOO powder-containing supplement could be a boon.

Does The FOO-FOO Help ???

It is very, very unlikely that it does, even though it is the most expensive portion of the supplement. FOO-FOO powder commonly includes Vitamin D (the sunshine vitamin). If your ranch is above the 45th parallel, there may be some benefit to feeding D during four months of the shortest photoperiods, although sun-cured forage is a good source of D. Vitamin E often is added but product fliers usually note that a requirement for cattle has not been established. Natural feedstuffs usually contain adequate E. If your veterinarian diagnoses white muscle disease in your calves and suggests supplementation with E, do it.

The B Vitamins choline, niacin, pantothenic acid, riboflavin and thiamin are common components of FOO-FOO powder. Deficiencies of practically all B Vitamins have been demonstrated experimentally in young calves deprived of milk. It is not so with adult cattle. Cattle of all ages have requirements for B Vitamins. Milk is a good source of the B's,

which are relatively abundant in ordinary feeds. The rumen microorganisms have requirements for B Vitamins so they synthesize them for their own needs. These microbially produced vitamins eventually become available to the host animal. Beneficial supplementation of B Vitamins has been indicated for some high-producing dairy cows consuming high-grain diets during early lactation. Thiamin deficiency has shown up in beef cattle when grazing monoculture grass pastures that have gone to seed. On the day cattle elect to eat only seed heads, polioencephalomalacia (degeneration of brain tissue) may develop. It is linked to microbial thiaminase (destroys thiamin) production with high starch-containing diets. Your veterinarian will shoot up those with symptoms and may request thiamin inclusion in the supplement for a few days. Do it.

But The Minerals Are Chelated

Chelates occur naturally. Iron as a part of hemoglobin is an example. Chelated minerals are manufactured by combining an amino acid with a metal cation. Supposedly, the mineral is more available to the animal. This is true with some minerals when compared with the less available metal oxides. Chelated minerals, however, are not available to the rumen microorganisms and some are not available to the animal. A good FOO-FOO powder will contain sufficient quantities of readily available metal sulfates or carbonates to cover for any uncertainties related to the high dollar chelates.

[More FOO-FOO powder, anyone?](#)

Schools in '96

Grand Junction, CO July 8 - 11
Albuquerque, NM August 5 - 8
North Platte, NE September 10 - 13
Kerrville, TX October 7 - 10
Redding, CA October 28 - 31

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