



Cow Calf Technical Bulletin

Getting the BEST BUY In Liquid Feed

Supplements represent a major investment for cattle producers. It makes sense to shop around, and find the best value for those dollars. **But . . .**

the liquid feed with the lowest price per ton is seldom a good choice – for your cattle or for your wallet.

The “cheapest” liquid supplement in many markets is some variation on a simple blend containing glutamic acid fermentation product, a fat source, and possibly other locally available by-product(s). These products share several key characteristics: low dry matter, low protein, high fat, little or no sugar, no (or minimal) trace mineral fortification, fairly high levels of salt, and often no use of actual molasses, urea or acids. Before you buy one of these supplements, take the time to look beyond sticker price!



Check out: DRY MATTER

Every delivery of QLF contains significantly more dry matter and less moisture; the difference between 62% and 44% DM products is an additional 360 lb per ton. Compare costs per unit of dry matter:

$$[\text{_____ (QLF price per ton)} \div 2000] \div \text{_____ (QLF \% DM)} = \$ \text{_____ per lb of DM}$$

$$[\text{_____ (Brand X price per ton)} \div 2000] \div \text{_____ (Brand X \% DM)} = \$ \text{_____ per lb of DM}$$



Check out: PROTEIN

The biggest bang from supplementation of a forage-based diet comes from meeting the rumen microbe’s needs for additional crude protein (nitrogen). When this limiting factor is addressed, cattle can consume more forage, and also do a better job of digesting what they eat. Research shows this response is most effectively triggered by supplements with high protein concentrations – and that this leads to improved performance.

COWS FED SUPPLEMENTS OF VARYING PROTEIN CONCENTRATION				
<i>Native grass pastures, All treatments provided equal energy; Kansas State University</i>				
	12%	21%	31%	41%
Pounds weaned per cow	442	490	490	523





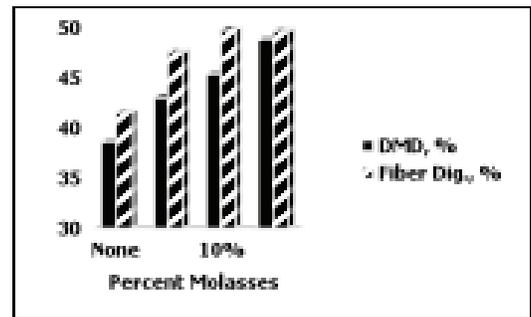
Check out: NPN UTILIZATION

QLF protein supplements contain urea – on purpose. This naturally occurring nitrogen source is a concentrated and effective means for meeting the needs of the rumen ‘bugs.’ And we provide this as Timed-Release© urea-phosphate, a compound created by combining urea and phosphoric acid. Research shows this significantly slows breakdown of the urea in the rumen, allowing more efficient utilization, and increasing the margin for safety. Glutamic acid fermentation product is also an NPN source, but this nitrogen is in the form of ammonium chloride, which is rapidly broken down. There is no opportunity for “timed release,” so intake is followed by a pulse dose of free ammonia in the rumen.



Check out: MOLASSES AND SUGAR CONTENT

Sugars help fuel the fermentation activity of the fiber-digesting microbes. QLF is a key source of this valuable nutrient . . . but not these molasses-free blends. A listing of “molasses products” on the tag typically represents substances left after molasses is utilized in a commercial fermentation process; in other words, the sugars and other nutrients have already been used by the bacteria or yeasts that were given first shot at them. Note the impact of molasses on digestibility of a forage diet fed to beef steers.



*Louisiana State University research



Check out: PHOSPHORUS

Most forage-based diets require supplementation of this essential macro mineral. QLF contains meaningful levels of phosphorus, supplied by phosphoric acid – the most bioavailable source of phosphorus included in NRC publications. Phos acid serves additional roles in liquid supplements: as a component of urea phosphate, as an intake modulator, and as a preservative. Most low-cost liquids do not contain this ingredient.



Check out: FAT

Let’s start with the basics: Low levels of dietary fat have improved reproductive performance and/or calf survival in some research trials. In these incidences, the effects were independent of dietary energy level. In just as many experiments, there have been no, or even negative, responses. Fat levels > 5% of the diet inhibit fiber digestion, at least partially offsetting the additional energy supplied by the fat. In recent research from Oklahoma State, beef cows receiving bermudagrass hay with a soyhull-based supplement gained over 24 lb during mid-gestation. Animals in two treatment groups receiving supplemental fat in the form of 1 ½ lb of sunflower seeds per day (final diet fat levels of 6.2 and 5.5%) either gained just 6 ½, or actually lost, 6 ½ lb. The same results could be triggered with high-fat liquid supplements.



Check out: SALT

Many low-priced liquids use salt to try to limit intake or prevent freezing. One, for example, is 4% salt, and the tag indicates daily liquid intakes may be as high as 8 lb. That would be 1/3 pound of salt/day! This leads to several concerns:

1. Most loose mineral is formulated so that consumption of all minerals hits nutritional targets when the animals satisfy their natural appetite for the salt in the mix. If significant amounts of salt are delivered in a protein or energy supplement, mineral intake will be compromised.
2. Under summer conditions, research from the University of Nebraska and University of Queensland (Australia) showed that increasing dietary salt by 1% led to significant reductions in feed intake, which would reduce performance, and increased animal responses to heat stress (body temperature and respiration), which would lower efficiency.
3. Increased salt in the diet increases an animal's need for water – in that same study, water intake went up 4 ¼ lb per day for steers. If water is in short supply, or long distances from portions of a pasture, this can be an important consideration.



Check out: FORTIFICATION

Essential trace minerals (copper, manganese, zinc, cobalt, iodine, selenium) and fat-soluble vitamins (A, D, E) are all necessary to supplement typical beef cattle diets. Deficiencies impact herd health, performance, efficiency, and reproduction. Check ingredient listings for specific sources of these nutrients, as well as the guaranteed concentrations. Even when loose mineral is being fed, having these in the liquid helps insure against irregular dry mineral intakes.



Check out: QUALITY CONCERNS

In nutrition, consistency matters... and every animal should get the same nutrient blend every time they eat. A high-fat liquid feed will separate if it does not contain a suspension agent; many of these other companies have been forced to disclose this on their tags. Feed that is less than 50% DM may freeze, and will also be more susceptible to spoilage. This is especially a concern if the formula does not contain any acids.



Check out: COST PER HEAD PER DAY

The final decision may still come back to dollars and cents. But sticker price is still not the whole story. Comparisons need to be based on cost of the program; a higher price per ton may be significantly less expensive than high intakes of a low-priced alternative.

_____ (QLF price/ton) ÷ 2000 X _____ (lb expected intake) = \$ _____ per head per day

_____ (Brand X price/ton) ÷ 2000 X _____ (lb intake) = \$ _____ per head per day

QLF's molasses-based protein supplements are clearly designed to nutritionally complement forage-based diets. Specific products are formulated to meet the needs of regional conditions and various classes of cattle. Distributors of low-cost feed blends take a 'one size fits all' approach, despite the tremendous variation in cattle, feeds, and conditions found in the industry. QLF customers have the option of including a wide range of proven additives in their liquid feed as well.



ONE LAST POINT...

What happens when you have a question or concern about your liquid feed, or the animals you are feeding it to? QLF stands behind their product and their service, with quality assurance programs in place at all 11 manufacturing plants. The QLF value package is more than product – it is programs that deliver targeted solutions, information and resources to support your total business, and people who are knowledgeable, accessible, and responsive. These assurances may be difficult to put a dollar value on, but they are a meaningful differentiation between Quality Liquid Feeds and the purveyors of liquid blends who have little to offer beyond their “cheap” price.

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#TB-8009