

TECHNICAL BULLETIN

DAIRY



QLF DAIRY NUTRIENT DISTRIBUTION

The benefits of reduced sorting and improved palatability of liquid supplements in a TMR are well documented and well accepted. Additional, often overlooked benefits of liquid supplements:

- ❑ effective carrier of macro and micro nutrient and dairy additives
- ❑ effective at aiding uniform distribution of these minerals and additives throughout the TMR and aiding more uniform intake by all herd individuals.

The following information demonstrates the effectiveness of QLF Lactation Optimizers to uniformly distribute the liquid and its components within the final TMR. This data is a field demonstration from a Minnesota farm. The farm has 100 feet of continuous bunk space for lactation cattle. TMR was mixed in 7000 lb batches, 2x/day. The farm pushes up feed 4x/day. After TMR was mixed and delivered to the bunk, 0.5 gallon TMR samples were collected at 10-ft. intervals along the bunk.

Nutrient analyses of TMR samples were conducted at Dairyland Laboratories, Inc., Arcadia, WI. Bunk samples from three consecutive feedings (p.m.-a.m.-p.m.) were collected and analyzed. Results provided are an average of analyses from three feedings. Samples taken at 20 and 60 feet were combined to facilitate processing and shipment. Samples taken at 30 and 70 feet were combined, and samples taken at 40 and 80 feet were combined.

*QLF Custom Lactation Optimizers provide all supplemental minerals and vitamins needed in ration. In this diet, a QLF Custom Lactation Optimizer provided 49% of dietary calcium, 78% of dietary zinc, and 63% of dietary manganese. The remaining calcium, zinc, and manganese are provided by the other ration ingredients.

QLF Optimizer Nutrient Profile (as-fed):

Dry Matter	65%
Crude Protein	6.0%
Calcium	7.7%
Phosphorus	0.7%
Salt	5.0%
Magnesium	0.4%
Zinc	1115 ppm
Manganese	650 ppm
Copper	170 ppm
Cobalt	4.0 ppm
Iodine	14.2 ppm
Selenium	4.7 ppm
Vitamin A	41,500 IU/lb
Vitamin D	8,250 IU/lb
Vitamin E	280 IU/lb
Total Sugars (as invert)	20%

Ration Information (as-fed)

Ingredient	lbs/day
Corn Silage	41
Haylage	39
HMEC	14
140 RFV Hay	7
Soybean Meal 44%	1
Roasted Beans	5.5
QLF Optimizer*	3.5
Total	111



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Results & Discussion:

The graphs below show that analyzed calcium, zinc, and manganese levels were at or slightly above expected values. While small variations between sampling points exist, the numeric uniformity of results for each respective mineral indicate that the QLF Lactation Optimizer was evenly distributed within the ration. Also, the close proximity of analyzed and expected values demonstrates that the QLF product and other ration ingredients met calcium and trace mineral specifications used in the ration formulation.

