

# TECHNICAL BULLETIN

## DAIRY



### HIGH FORAGE LACTATION DIETS: SUCCESS IN THE FIELD

Liquid supplements provide soluble sugars to increase forage fiber digestion, which facilitates formulation of diets with decreased starch and NFC (non-fiber carbohydrates) and higher dietary forage levels. Research has demonstrated that reducing dietary starch and NFC, and increasing dietary forage levels maintains a healthy rumen pH and improves DMI and milk production. This bulletin provides practical considerations for utilizing high forage diets.

#### Diet Formulation

- Accurate laboratory nutrient analyses of dietary forages is essential! Analyze each crop of forage to be used, as seasonal growing conditions affect crop nutrient levels.
- Assess forage feed quality: monitor silages and hays for mold or weather damage.
- Include 0.6 to 1.25 lbs supplemental sugar in high-forage lactation diets, to provide rumen fermentable carbohydrate and stimulate forage utilization.
- Provide 2-6 oz of urea per day, to supply ammonia (nitrogen source) to rapidly growing rumen microbes
- Please see QLF Recommended Ration Nutrient Guidelines for specific diet nutrient levels.

#### Feeding Management

- Process forages to 2-3" long to encourage consumption and prevent sorting due to excessive particle length.
- Apply the liquid supplement to TMR after forage addition, or during the final mixing sequence to ensure liquid application to the forage.
- High forage diets take longer for cows to eat, so provide continuous, non-crowded access to the TMR.
- Monitor actual dry matter intake to ensure actual matches expected.

#### Success Observations

QLF Farm Demonstration data shows that feeding a high forage lactation diet which contains a QLF Dairy Optimizer supplement improves productivity. The following chart details data from four well-managed, high producing herds that currently utilize QLF Dairy Optimizers within high forage lactation diets. (QLF Optimizer supplements provide 0.6#/day supplemental sugar in  $\geq 3.0$  # feeding rate, and supply all ration supplemental macro & microminerals and vitamins.) Data from one year pre-Optimizer inclusion was compared to one year post-Optimizer inclusion; production performance changes are reported below. Herd size of the farms ranges from 146-343 cows.

Herd	Current Forage:Conc. Ratio	Current NFC%	Optimizer lb/d	Lb. Suppl Sugar/d	Pre-Optimizer MLM	Post-Optimizer MLM
DH Dairy	55:45	38.9	4.0	1.12	73.0	75.9
L Dairy	58:42	40.0	3.0	0.66	65.7	76.3
H Dairy	62:38	41.2	4.0	1.08	75.3	78.2
N Dairy	71:29	40.4	3.0	0.66	74.8	78.8

The above farms averaged increase of 5 lb. MLM/day, which provides added income of \$0.70/hd/day (using \$14/cwt). That's \$2100/month added income per 100 milking cows!

In conclusion, the soluble sugars and degradable protein provided by QLF Dairy TMR Supplements improves forage utilization and allows formulation of high-forage lactation diets. Palatability provided by QLF Dairy Liquid Supplements improves forage consumption and enhances success of a high-forage lactation ration.

Please see TB-4318 for specifics on the economic importance of maintaining healthy rumen pH. Also, TB-4317 provides details on reducing dietary NFC and increasing dietary forage levels to maintain a healthy rumen pH and improve productivity. Please see TB-4316 for information on how soluble sugars improve utilization of high quality dairy forages.