



## QLF Calf and Heifer TMR Program Profit Values

**Stretching Forage Supplies:** Feeds such as cornstalks, soybean stubble, or low quality hay fit well economically in many heifer diets. Sugars and urea from QLF heifer products enhance palatability and digestion of low quality forages to increase rumen efficiency, VFA, and microbial protein to heifers.

**Precision Feeding Strategy:** Nutrients and additives in QLF products are distributed evenly throughout the product, and into the TMR. QLF products are an excellent method to deliver low inclusion nutrients & additives like trace minerals, vitamins, Rumensin®, Bovatec®, etc., so each heifer receives her proper dose

**Consistency:** Delivering protein, minerals, vitamins, and additives through a QLF product reduces ration separation and feeding loss of valuable nutrients. Enhancing physical qualities of TMR presented to heifers aids intake consistency and rumen efficiency while reducing waste.

**Reduce Shrink:** In the QLF closed handling system, there is virtually no shrink with a QLF product. Using QLF to improve TMR palatability & consistency helps reduce feeding losses of rough forages, too.

**Flexibility:** QLF offers a selection of Heifer Liquid Supplements to complement a wide variety of feeding programs. If needed, customization is available. QLF Dairy Heifer products can be used in traditional TMR or limit-fed TMR scenarios.

# The QLF Transition Calf TMR Program: 200-400 lb QLF Dairy Transition Heifer Calf

A successful 200-400 lb heifer program provides economical growth and development, resulting in a heifer that is prepared to utilize the forages and feeds of the next growth phase.

## Efficiency – TMR Feeding for 200-400 lb heifers

TMR Feeding enhances labor & equipment efficiencies and reduces waste. Also, TMR feeding promotes healthier intake patterns reducing opportunities for slug feeding and rumen upset.

## Healthy Calves Through Rumen Development

Feeds digested in the rumen provide energy and protein (through VFA & microbial protein) needed to fuel growth of 200-400 lb heifers. A well developed rumen has a balanced microbial population, healthy papillae and strong wall to maximize feed utilization and nutrient absorption, fueling growth and future milk production.

## Practical Feeding Considerations

- Forage is a very important part of 200-400 lb phase, providing an economical source of protein & energy. Consistently processed good quality forage aids rumen development & establishment of forage digesting bacteria population. The optimal forage for 200-400 lb heifers: good quality grass or grass/alfalfa hay.
- Minimize sorting activity. Sorting for short particles and against long particles increases the energy density of the diet consumed by 200-400 lb heifers. This can lead to rumen upset, over conditioning, and reduced mammary development during this phase.
- Use a liquid QLF Transition Calf TMR supplement in 200-400 lb Dairy Heifers TMR
  - Typical liquid supplement feeding rates for 200-400 lb heifers are 1.5 – 2.5 lb/day. Feed 0.4 – 0.5 lb supplemental sugar (6-8% of diet DM).
  - Sucrose, the main sugar in cane molasses, stimulates digestion of good quality forages and butyrate production in the rumen. Butyrate is stimulatory for growth and development of rumen papillae.
  - Complement a precision feeding strategy with QLF. Supplemental sugar, protein, minerals, vitamins and ionophore can be delivered through QLF. QLF disperses easily in TMR, and reduces ration separation and sorting, helping ensure that each heifer receives needed nutrients and additives.

## TMR Diet Example

Item	Units	
Distillers Grn (50% DM)	Lb/day	5
Grass hay	Lb/day	4
Cracked Corn	Lb/day	3.5
QLF	Lb/day	1.5
Soybean Meal	lb/day	0.5
<b>Ration DM Amount</b>		
Ration DM Amount	Lb/d	10.5
Dry Matter	% of DM	73
Crude Protein	% of DM	17
RDP	% of DM	10.8
Starch	% of DM	23
Sugar	% of DM	9
NEm	Mcal/lb DM	0.79
NEg	Mcal/lb DM	0.48
ME	Mcal/lb DM	1.28
NDF	% of DM	30
Vitamin A	IU/day	25,900
Calcium	% of DM	0.6
Zinc	Ppm DM	57
Selenium	Ppm DM	0.3



- These TMR's are simple mixes, only 3-5 ingredients.
- Consider feed quality & digestibility - these are important performance factors for young heifers.
- QLF products for 200-400 lb dairy heifers may be customized to complement available feeds and forages.
- A minimum 100 heifers at 200-400 lbs are needed for most efficient use of TMR equipment and mixing, and to maintain compliance with inventory turnover regulations for medicated liquid supplements.



# QLF TMR Heifer Program: 400 lbs to Calving

Economics and performance is an important factor in feed selection and TMR management for older heifers. QLF Heifer products fit well into a balanced feeding program and provide valuable benefits to maximize TMR Utilization:

- **Stretching Forages with Palatable TMR's** Feeds such as cornstalks, soybean stubble, or low quality hay fit well economically in many heifer diets. However, they can also have high levels of waste, due to low digestibility and TMR sorting. Using a QLF liquid supplement improves nutrient utilization from these lesser quality feeds. Urea and sugars from QLF Heifer products enhance digestion of low quality forages to increase rumen efficiency, VFA, and microbial protein production. These feeds can supply valuable energy and metabolizable protein to heifers, helping fuel desired growth and development.
- **Suspension Technology** from QLF allows delivery of protein, calcium, minerals, vitamins and additives through a QLF liquid supplement without ration separation. Dry, powdered ingredients such as minerals are typically unpalatable. Also, minerals can separate easily from coarse forages and by-products used in heifer diets, increasing TMR variability and shrink losses. QLF Heifer products provide a convenient, palatable method to deliver urea, micronutrients & additives.
- **Precision Feeding** Micronutrients and ionophores are needed in small, but precise amounts for heifer diets. Correct dosage is essential to achieve desired nutrition and growth efficiencies while preventing waste. Closed storage and accurate weigh/ metering equipment precisely delivers the correct amount of QLF supplement to the TMR without shrink. Nutrients & additives in QLF products are distributed evenly throughout the product and into the TMR, ensuring that each heifer receives her proper dose.
- **Flexibility and Simplicity** Nutrient levels in QLF Heifer products are designed to allow feeding one product from 400 lbs to calving; feeding rate is adjusted as heifers grow. This helps simplify feeding programs and maximizes ration consistency. QLF offers products to fit into heifer diets based from grain or legume silages, high fiber forages, and by-products. If needed, customization is available. QLF Dairy Heifer products may be fed in limit-fed TMR scenarios.



Selected Heifer Product Options				
	Units	QLF Heifer Complete 40	QLF Heifer Developer 56	QLF Heifer Core 56
Crude Protein	%	40	56	56
NPN	%	38	54	55
Calcium	%	5.4	7.7	11
Phosphorus	%	0.6	0.6	0.1
Zinc	ppm	1520	910	910
Manganese	ppm	1520	660	660
Copper	ppm	350	275	275
Selenium	ppm	8	8.2	8.2
Vitamin A	IU/lb	110,000	55,000	55,000
Vitamin D	IU/lb	22,000	15,200	15,200
Vitamin E	IU/lb	295	415	415
Dry Matter	%	68	68	68





# Equipment for Your Heifer Operation

## 6250 Tank Set-up

Dimensions: 102' x 194'

### 1 ½" Viking Gear Pump

Without Relief Valve

Option: With Relief Valve

#### Flow Rate:

approx. 20 G.P.M

#### Motor Options:

1 ½ hp (220 volts – recommended)

2 hp (220 volts)

3 hp (220 volts)

#### Pump Options:

2" Roper

2" SherTech

1 ½" SherTech

#### Optional:

Reversing Switch

(Gear Pump Only)



### EASE OF APPLICATION:

A simple toggle of an on/off switch allows liquid supplements to be easily and accurately applied to a ration batch. This increased level of control offers the potential for more accuracy than with supplements delivered through a slide gate or with a front-end loader.

### STORAGE SIMPLICITY:

Because liquid supplements are nutrient dense, less total space is required for storage. Tank location and set-up can be modified to fit the needs of each situation. There are no bags or other packaging to handle. It is virtually impossible to cross-contaminate dry feed ingredients with liquid. Liquid supplement storage tanks typically only need to be cleaned once a year (slow inventory turnover may dictate more frequent cleaning). Reversing switches on pumps, proper placement of valves, and use of appropriate pumps and pipe size will take care of most weather-related issues. Extreme cold weather can make it necessary to provide added insulation or heat-tracing to either the storage tank, lines, and/or pump to keep the products flowing.

