

Reconditioning The Rumen For Higher Profit



By Teresa Hanson, B.S.

Last fall, at one of Crystal Creek’s farmer meetings in Northwestern Wisconsin, a customer that has been buying several of our strategic nutrition supplements decided that he wanted to be on the Crystal Creek Dairy Nutrition Model (CCDNM). He was especially motivated after seeing several case studies of positive responses from herds that were currently on the CCDNM. This producer resides in Thorp, Wisconsin where he and his two brothers operate a 75-cow organic Holstein farm. He was very eager to start and see what the CCDNM could do for his herd health, profitability, and other goals he had set for his herd. After collecting his initial herd information, I worked up a first-step ration and walked him through a CCDNM step-by-step strategy specifically for his farm that would cover the next few months. After he purchased the Crystal Creek mineral and we both understood the strategy for his herd and what to look for in herd response, we were on our way.

The CCDNM focuses on reconditioning the herds diet so the rumen will support more rumen bacteria that are designed specifically for the digestion of fiber (hemicellulose) of our recommended high forage diets. These microbes thrive on a very specific type of nutrition profile found in our rations. The CCDNM’s approach focuses on feeding the microbes in the rumen with a new nutrition model and then allowing the microbes to feed the rest of the animal with their metabolites as they pass down the digestive tract. The “Nutrient Comparison” Chart in Figure 1 shows where this herd’s ration was before he started with Crystal Creek. The main limiting factors in this herd prior to starting on the CCDNM were a Low Dry Matter Intake, Low Ration Crude Protein, High By-Pass Protein, Low Soluble Protein, and High Fat.



Figure 1.

	Nutrient Comparison	
	Previous Ration	Crystal Creek
Dry Matter Intake (lbs)	47.54	50.99
Ration Crude Protein (%)	16.15	16.66
By-Pass Protein (%)	40.41	31.65
Soluble Protein (%)	27.61	47.53
Nel (Mcal/lb)	0.78	0.72
ADF (%)	21.5	23.9
Starch (%)	22.5	22.37
Fat (%)	5.54	3.58

Note:

- 1) The Step by Step strategy on how to move a herd to the CCDNM is key to a successful out-come.
- 2) Time period for the data is 4 months.

Good communication is essential to a successful team effort and for optimizing any nutrition program, especially during times when the producer sees a change in the cows or anytime there is a forage change. Communication between this producer and myself was excellent. This excellent communication allowed us to recondition the herd’s rumen function to utilize fiber better and lower overall ration cost. The “Ration Comparison” chart in Figure 2 shows the previous ration this producer was on compared to the Crystal Creek pre-pasture ration. Over the course of 4 months, we slowly adjusted the ration as the cows responded positively to each ration change. We were careful to not make any large, immediate changes in the ration that could have resulted in a drop in milk production. Over the next few months we worked to correct the mineral and salt levels, decreased roasted soybeans, increased haylage and introduced dry hay. Corn silage was limited due to inventory restrictions.



Figure 2.

	Ration Comparison	
	Previous Ration	Crystal Creek
Haylage	38	59
Dry Hay		3
Corn Silage	38	20
HMSC	11	16.25
RSB	7	1.55
Previous Mineral	1.29	
Mag. Ox.		0.06
Salt		0.24
Crystal Creek 2:1		0.42
Dairy Glow		0.13
Dry Matter Intake	47.54	50.99
Total Ration Cost/Head/Day	\$ 6.74	\$ 6.02
Out-of-Pocket Cost/Head/Day	\$ 0.50	\$ 0.59

Note: Time period for the data is 4 months.

With these ration changes that are targeted to optimize rumen function, we saw an increase in milk production, higher butterfat, higher protein, and a lower somatic cell count.

Figure 3.

	Herd Response:	
	Previous Ration:	Crystal Creek:
Dry Matter Intake	47.54	50.99
Milk Production	50	64
Butterfat	3.7	3.8
Protein	2.9	3.13
SCC	250,000	170,000

Note: Time period for the data is 4 months.

Reconditioning The Rumen For Higher Profit
(Continued on page 10)

In addition to the positive herd response of increased production, lower SCC, and stronger component numbers, this farmer is realizing a lowered total ration cost and significant improvement in profitability.

Figure 4.

Out-of-Pocket Expense Evaluation

	Previous Ration	Crystal Creek Ration	Profit Increase on Crystal Creek Program
Increased Annual Milk Sales (est. \$26/cwt):		\$ 99,645.00	\$ 99,645.00
Out-of-Pocket Expenses/ Year:			
Out-of-Pocket Cost/Cow/Day	\$ 0.50	\$ 0.59	\$ (0.09)
Out-of-Pocket Cost/75 Cows/Day	\$ 37.50	\$ 44.25	\$ (6.75)
Out-of-Pocket Cost/75 Cows/Year	\$13,687.50	\$ 16,151.25	\$ (2,463.75)
Increased Annual Profit on the Crystal Creek Ration Program (Based on Out-of-Pocket Expenses)			\$ 97,181.25
Increased Profit/ Cow/ Year			\$ 1,295.75

*Out-of-Pocket Evaluation reflects immediate cash flow impact.

Figure 5.

Total Ration Profitability

	Previous Ration	Crystal Creek Ration	Profit Increase on Crystal Creek Program
Increased Annual Milk Sales (est. \$26/cwt):		\$ 99,645.00	\$ 99,645.00
Total Annual Ration Expenses:			
Total Ration Cost/ Cow/ Day	\$ 6.74	\$ 6.02	\$ 0.72
Total Ration Cost/75 Cows/ Day	\$ 505.50	\$ 451.50	\$ 54.00
Total Ration Cost/ 75 Cows/Year	\$184,507.50	\$ 164,797.50	\$ 19,710.00
Increased Annual Profit on the Crystal Creek Ration Program (Based on Total Ration Expenses)			\$119,355.00
Increased Profit/ Cow/ Year			\$1,591.40

*Total Ration Profitability reflects annual profitability.

Note: All economic evaluations are based on projected annual estimates resulting from initial herd performance.

****Increased profit analysis does not take into consideration:

- 1) Reduced veterinary expenses
- 2) Improved fresh cow transition
- 3) Better utilization of feedstuffs in the diet
- 4) Reduced calving intervals
- 5) Improved Cow longevity

This producer is ecstatic with the results that we saw in increased milk production, his reduced ration cost by utilizing his homegrown forages and the fact that our nutrition model was able to significantly improve his profitability. Throughout the summer, we will continue our routine communication to monitor the herd's progress.

Once off pasture, we hope to maintain his forage utilization and continue the climb in milk production so he can continue on his successful path. Call one of our Crystal Creek dairy nutritionists today so that we can optimize your forage in your herd and see what the Crystal Creek Dairy Nutrition Model can do for you!