

Focus on Profits for Dairy Success



By Erik Brettingen, B.S.

When sitting down with current and prospective dairy clients, the conversation regularly revolves around farm goals and benchmarks. This is important to make sure the dairy is headed in the direction the owners are striving for. Different dairies

may have different goals, which is just one reason the dairy industry is so amazing. It is not unusual though, to find that farms may be scope locked on milk production as a goal without other context to go along with it. Milk production is very easy to measure daily, it has long been a metric of success, and let's be honest, it is a lot of fun when cows are making a lot of milk. However, milk production alone does not equal profitability for the farm. Profitability, or at least income over feed cost, should be the focus on dairies and is what truly measures success. Profit is harder to measure and track but yields more positive results. Crystal Creek® works with clients to track profitability and comb through data to find opportunities for improvement. This includes tracking and monitoring feeding software programs, understanding of herd management software, DHIA report review and analysis, and diet evaluation to maximize profitability, not just milk production.

Increasing long term profitability and economic sustainability usually revolves around the big picture of the dairy. Seldom is the key to unlocking a dairy's potential hidden in an expensive ingredient added in the ration to get two more pounds of milk. Crystal Creek® helps producers look deeper into their operation to find larger bottlenecks like:

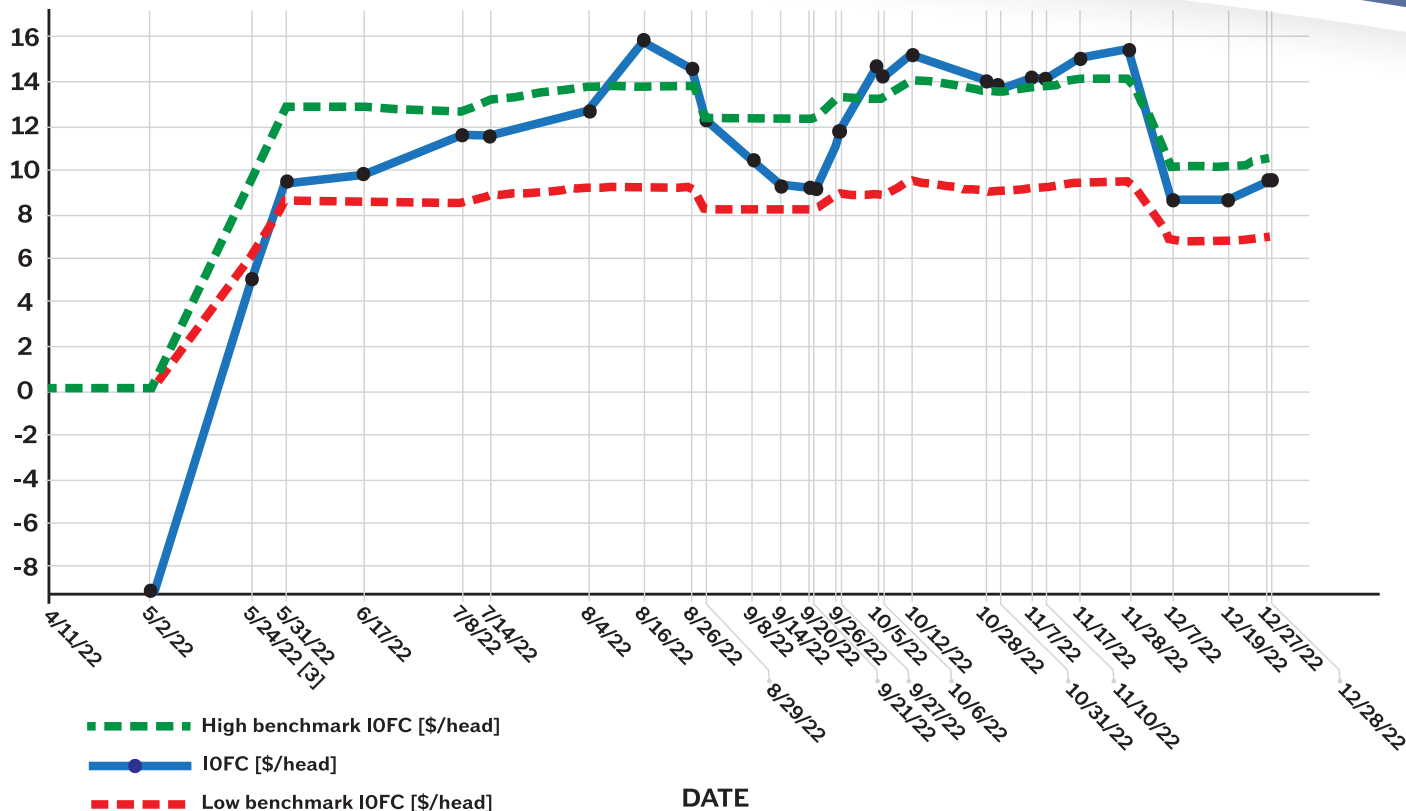
1. Heifer inventory as a percentage of the milking herd
2. Average herd age and demographics
3. Heifer performance compared to aged cows
4. Reproductive assessment
 - a. Which breeding methods are working, and which aren't?
 - b. Patterns in days of the week or by technician
 - c. Patterns by service number
 - d. Early embryonic death loss
 - e. How can we get more cows pregnant on natural heats?



5. Cull rate
 - a. Why are cows leaving?
6. Cow comfort and time budgets
 - a. Is cow comfort robbing you of production or health?
 - b. Are cows getting enough time to rest, eat, ruminate, and express normal behavior?
7. Forage quality assessment
 - a. What changes can be made to increase forage in the ration and maintain or increase cow performance and health?

Along with looking for bottleneck areas to make improvements, Crystal Creek® tracks economic data over time. This helps compare each dairy to itself and make sure the trend in profitability is increasing. This also points out times in the year or events which either improve or hinder profitability.

Figure 1 INCOME OVER FEED COST



Crystal Creek® uses NDS Professional ration balancing software which has impressive economic tracking features. Figure 1 is an example showing the Income Over Feed Cost with each ration tracked over time.

NDS easily generates gross revenue reports of total farm economics and profitability using revenue numbers from the lactating groups and then subtracting all feed costs including the costs of feeding youngstock. This

can be extremely helpful for meeting with banks and identifying potential problem groups of the dairy.

It is not uncommon when looking at competitive feed companies' rations to see a laundry list of ingredients, some being very expensive. The producer may not know why the product was added in the first place, what the actual cost is, and if it is paying for itself. Crystal Creek® looks extensively at the cost of additives and

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Figure 2 SUMMARY OF HERD'S ECONOMICS: DEMO FARM

Pens	Feeding costs & IOFC				Single head				Pen or Herd/day						
	Heads Total	Heads Milked	Current recipes	DHI	\$/lb DM	Total per head	IOFC	\$/lb DM	Purchased per head	IOperFC	Costs	Total	IOFC	Costs	Purchased IOperFC
Decimal places					4	4	4	4	4	4	4	4	4	4	4
Lactating Ration	300	300	Deroo Farm Example Lactating Ration	57.5457	0.1545	8.8889	11.2766	0.0819	4.7105	15.4541	2,666,4000	3,382.8716	1,413.1500	4,636.2216	
Dry Cow Ration	40		Deroo Farm Dry Cow Ration	29.7954	0.1323	3.9412		0.0882	2.6277		157,6480			105.1080	
Bred Heifers	85		Deroo Farm Bred Heifer Ration	24.4978	0.0987	2.4175		0.0179	0.4386		265,4875			37.2810	
Pre Breeding Heifers	135		Deroo Farm Pre Breeding Heifer Ration	14.6196	0.1224	1.7893		0.0492	0.7187		241,5555			97.0245	
Weaned Calves	25		Deroo Farm Weaned Heifer Ration	8.0000	0.2567	2.6532		0.2567	2.6532		51,3300			51.3300	
Baby Calves	25		Deroo Farm Milk Call Ration	3.9311	1.1590	4.5569		1.1590	4.5569		113,9000			113.9000	
Lactating	300		88.2% Adult cows	57.5457	0.1545	8.8889	11.2766	0.0819	4.7105	15.4541	2,666,4000	3,382.8716	1,413.1500	4,636.2216	
Dry	40		11.8% Adult cows	29.7954	0.1323	3.9412		0.0882	2.6277		157,6480			105.1080	
Replacement heifers	270		44.3% All herd - 98.0% Lactation	16.1268	0.1406	2.2677		0.0688	1.1094		612,2730			299.5355	
All cows (Lactation and Dry)	340		55.7% All herd	54.2810	0.1530	8.3669	9.4962	0.0823	4.4655	13.3268	2,824,0480	3,225.3236	1,518.2580	4,531.1136	
All herd (Cows and Heifers)	610			37.3931	0.1507	5.6333	4.2037	0.0797	2.9800	6.9379	3,436,3210	2,613.8566	1,817.7935	4,231.5781	
Overall efficiency of the herd															
Milk from Forage	lb/lb		39.3 Milk Efficiency	lb											1.477
Concentrate per cow (as fed)	lb/lb		21.4 ECM efficiency	lb											1.596
Concentrate per lb of milk	lb		0.252 Energy conversion efficiency	Mcal											0.682
Margin over Concentrate	\$/lb		15.45 Feed cost	\$/cwt											10.456
Milk yield breakeven	lb		37.5 Purchased cost	\$/cwt											5.542
			IOFC	\$/cwt											13.267
			IOperFC	\$/cwt											18.181
			IOFC Butterfat	\$/lb											3.236
			IOFC Protein	\$/lb											4.069

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what cow performance changes are needed to make sure the diet change was profitable. Below are two scenarios. In **scenario 1**, cows are making 85 pounds of milk with 4.1% butterfat and 3.1% protein. The purchased cost of the ration is \$4.37 per cow per day. Income over purchased feed cost is \$15.45 per cow per day. This example then compares with **scenario 2** in which methionine, an amino acid, was added to the ration. This increased the purchased cost of the ration to \$4.71, adding 34 cents per head per day. Adding methionine routinely leads to an increase in milk protein and often butterfat. Because NDS takes current class III component milk pricing into account, it can quickly be determined how much of response is needed to increase income over feed cost. In this case, a milk protein increase from 3.1 to 3.26 with no butterfat increase and no milk volume increase

would pay for the addition of the methionine. This is a very realistic response to expect. Going through this process helps minimize risk for the producer and establishes the needed response to watch for in the cows. This increases profitability, empowers producers to make informed decisions about what is in their rations, and eliminates ingredients that are not making the farmer money.

Crystal Creek® takes a total farm approach to analyzing and maximizing profitability, looking at more than just milk in the tank when balancing rations. Crystal Creek® has the experience and ability to monitor farm data, track economic performance, and build rations with profitability as the primary goal. Contact a Crystal Creek® nutritionist today to look into the economic performance of your dairy and find opportunity.

SCENARIO 1

Environment		Cattle		Holstein	
Days in milk	160.0	ECM lb	90.85	BCS c.	3.00
Milk production lb	85.00	BW lb	1,455.0	BCS t.	3.00
Milk Fat % w/w	4.10	Milk Protein % w/w	3.10	days	100

NCPS	Milk quality		Well-being risks		Fiber adequacy	
	Supply	Balance	% Req.	%	Milk lb	
ME Mcal/day	66.66	+0.33	100.5		85.62	
MP g/day	2,785.0	+119.7	104.5		90.70	
NH3-N g		82.3	138.4			
Urea (CPE) g			93 g RDtrueP/lb fCHO			
peNDF lb	12.66	1.74	116.0	22.04 %DM		
uNDF30 lb						
Met g	60.2	-4.9	92.5	2.16 %MP		
Lys g	189.0	3.3	101.8	6.79 %MP		
Lys:Met		3.14:1				

Costs	Production efficiency	Milk price	Total	Purchased
Cost at last save	\$/head		8.549	4.371
Cost/head	\$/head		8.549	4.371
Cost/lb DM	\$		0.149	0.076
Cost/lb milk	\$		0.101	0.051

Costs	Production efficiency	Milk price
Milk gross income	19.819 \$/head	
IOFC	11.271 \$/head	
IOpurFC	15.448 \$/head	
IOFC Butterfat	3.234 \$/lb	
Milk efficiency	1.479 lb	
ECM efficiency	1.581 lb	

SCENARIO 2 (Methionine Added)

Environment		Cattle		Holstein	
Days in milk	160.0	ECM lb	91.82	BCS c.	3.00
Milk production lb	85.00	BW lb	1,455.0	BCS t.	3.00
Milk Fat % w/w	4.10	Milk Protein % w/w	3.26	days	100

NCPS	Milk quality		Well-being risks		Fiber adequacy	
	Supply	Balance	% Req.	%	Milk lb	
ME Mcal/day	66.74	-0.05	99.9		84.91	
MP g/day	2,803.3	+45.4	101.6		87.06	
NH3-N g		84.1	139.3			
Urea (CPE) g			94 g RDtrueP/lb fCHO			
peNDF lb	12.66	1.73	115.8	22.00 %DM		
uNDF30 lb						
Met g	77.8	10.2	115.1	2.78 %MP		
Lys g	189.0	-3.5	98.2	6.74 %MP		
Lys:Met		2.43:1				

Costs	Production efficiency	Milk price	Total	Purchased
Cost at last save	\$/head		8.549	4.371
Cost/head	\$/head		8.888	4.711
Cost/lb DM	\$		0.154	0.082
Cost/lb milk	\$		0.105	0.055

Costs	Production efficiency	Milk price
Milk gross income	20.164 \$/head	20.142 \$/head
IOFC	11.276 \$/head	11.254 \$/head 0.133 \$/lb
IOpurFC	15.454 \$/head	15.432 \$/head 0.182 \$/lb
IOFC Butterfat	3.236 \$/lb	
Milk efficiency	1.477 lb	1.475 lb 3.5% FCM 1.619 lb
ECM efficiency	1.596 lb	1.594 lb 4.0% FCM 1.498 lb