Consulting Services that Benefit Small Dairies

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Evolution of a Consulting Practice

My work as a veterinarian began in a general mixed practice. The practice had a heavy dairy component, and I became involved in providing reproductive services. I'm not sure if I could pinpoint a moment in time when I thought I had been transformed from a reproductive veterinarian to a consulting or a production or a performance medicine veterinarian. I'm still not sure what my proper title should be, or even if I'm there yet. I feel the evolution has progressed well, but when I look back, I realize I have been practising for 20 years.

There have been many influences that have propelled me down the road toward a consulting practice. Some of these influences were from within my previous multi-person, multi-discipline practice. Some were external, such as the changing economies of the modern dairy industry, and some of the influences were personal, with a desire to be more involved with the well being of my dairy clients.

One of the influences was frustration. Much like a dog chasing its tail, it seemed that just as I was poised to conquer one aspect of the dairy management puzzle, another challenge (opportunity) seemed to emerge.

I started my career when prostaglandins and GnRH were about to be approved in Canada, and reproductive services were very much in demand. It soon became apparent that these new drugs had their limitations. We started to body condition herds in an attempt to justify the success or failure of our hormonal intervention. Body Scoring was quite often a frustrating exercise. I could collect the data and plot the points on the graph, but I didn't know how to intervene to correct the problem.

Nutritional services were my transition between a Herd Health practice and a Production Medicine practice. Nutritional consultation yields a response that is fast and measurable and has been well received by producers. I had growing pains as this service was being developed: initially, my learning curve was steep; it was difficult to get paid; and feed industry consultants felt threatened. I felt very strongly that it was important to develop a liaison with the feed industry. By maintaining my independence and working with the company presently employed on the farm, eventually, a trust was built. Now, I often have meetings with feed company personnel and I am asked to speak at their meetings. I have even received referrals from feed companies to troubleshoot some problem herds. The relationship can be very synergistic.

As with reproductive services, it became apparent to me that nutritional services have limitations. A finely tuned ration, balanced to several decimal places, does not guarantee a positive response. Progressing from this point is what started my final transition to a full fledged production medicine practice. Up to this point, many situations could be dealt with as an entity unto themselves. Now the complete dairy enterprise has to be assessed, realizing that each facet of this enterprise will have an impact on the other. Consulting services start to investigate the "big picture".

Record Analysis

As interventions start to impact on herd performance, it makes it necessary to get involved in record analysis. It is important to offer the farmer value for this service. The list of services we can provide is extensive and includes Body Scoring, disease monitoring, lactation curve analysis, reproductive performance and Linear Score Monitoring. It is important to offer services that relieve bottlenecks, and preferably to attack problems that have the biggest financial impact on the farm. Timeliness becomes an issue. Intervention into reproductive or heifer raising programs, while important, may have a slow payback, whereas nutrition or udder health programs may have a faster payback.

Cash Flow Analysis

As priority lists were developed, I found it necessary to rate them. Cash flow and cost of production

analysis fulfilled this need. One of the bigger concerns expressed by many dairy clients today is cash flow problems. The reasons are many. In Canada, uncertainty over the future of the quota system has caused many producers to sit on the fence to see what will happen. With the rest of the world moving along and costs continuing to rise, dairy producers suddenly find themselves with not enough income. This situation has been exacerbated over the last two years with high feed costs. In my area, many producers could supplement their income by genetic sales, but this opportunity is becoming limited to the more elite herds. In some cases, family members are coming into the operation and the present cash flow cannot support the extra living expenses.

Cash flow analysis is a natural extension to records analysis. It starts to tie in the biology with the economics of the farm operation. So, too, it helps to identify bottlenecks and prioritize their economic impact on the farm operation. Do interventions we make as consultants actually make money for the dairy farmer?

Veterinarians, as well as the farmers themselves, often have lofty goals for their operation. However, the ultimate goal of any dairy farm should be profitability, either to ensure their survival or to maintain their quality of life. All goals and decisions should be made with this primary goal in mind. It is important to realize that performance does not equal profitability. There is not a causal relationship between the two, but it does not mean that they cannot coexist.

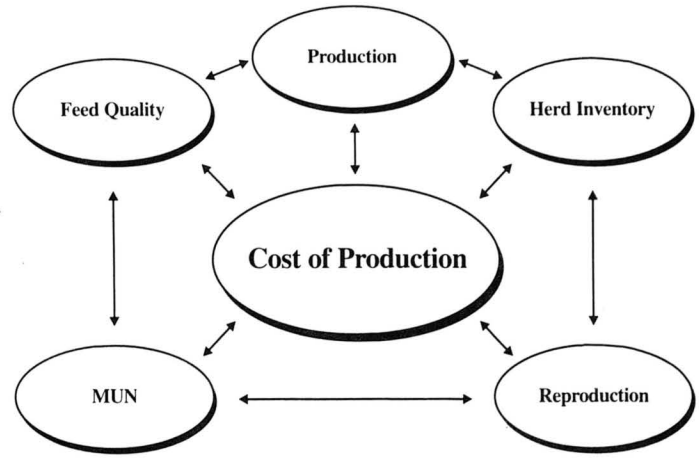
Project 60

I was involved with Ontario DHI in a pilot initiative called Project 60. As the name implies, 60 herds were involved over a 16 month period in a Cost of Production analysis. These herds were above provincial average herds for milk production. On a monthly basis, at the time of the regular DHI visit, the farms' dairy related incomes and expenses were recorded. The list of expenses was not totally inclusive but it tried to reflect the major variable expenses. At the same time, feeds fed, amounts fed, dry matter percents and costs of feeds fed were recorded for milk cows, dry cows, and replacement heifers. Analyses were collected for all feeds, and all fermented feeds were tested monthly. Actual milk shipped and herd inventory were monitored. MUN values were analyzed on all cows on a monthly basis and reproductive parameters were measured. Summary Reports for Cost of Production and a MUN scatter graph (MUN vs. DIM) were returned to the farm, monthly. Once enough data were generated, benchmarks were created.

The aim of this project is primarily to determine how much it costs to produce a kilogram of butterfat. (Note: Payments for milk shipments are based on kilograms of components). The major variable costs were identified, but fixed costs and labour costs were not included.

Project 60 looked at the relationships among feed quality, dry matter intake, MUN levels, reproductive performance, herd inventory and cost of production (Table 1). Some questions we want to answer are: Does high feed quality lower cost of production?; Can feed quality be too high and have a negative impact on reproduction, MUN values, herd inventory and ultimately, increase the cost of production?; Do high producing herds have lower costs of production?; What is the financial impact of carrying too much herd inventory, particularly replacements?

Table 1. Relationships Examined in Project 60.



The project is nearing completion at the time of writing this article, so many questions are still unanswered. However, it appears several trends are emerging. Project 60 allowed us to develop some benchmarks (Table 2).

Project 60 Income

The average Ontario dairy farm has 12,300 kg of quota. The average Quebec farm has 9450 kg of quota. Quota is based on butterfat, one kg of quota is the equivalent of one kg of butterfat. Quartile 1 herds had a total revenue of $14.01 per kilogram of butterfat. Quartile 4 herds had a revenue of $14.65 per kg. This $.64 difference represents a $7,800.00 difference in revenue between Q1 herds and Q4 herds. Q4 herds had a higher milk revenue per kg fat because of higher component yield, due to higher production.

Additionally, Q3 and Q4 herds had higher dairy and beef sales. Data are not yet available to know what contributed to these sales but we know herds with good heifer replacement programs, good reproductive programs, udder health programs and good cow comfort, have the opportunity of having more dairy sales and voluntary culls.

Table 2. P60 Benchmark Report to March 25, 1997.

Quartile	% of Revenue	ALL	1	2	3	4
Number of Herds		48	12	12	12	12
Daily Comparisons:						
Forage DMI/Milk Cow/Day		11.54	11.30	11.32	12.05	11.92
Total DMI/Milk Cow/ Day		23.12	22.20	23.30	23.14	23.31
Fat Yield/Milk Cow/Day		1.09	1.05	1.09	1.10	1.12
Protein Yield/Milk Cow/Day		0.91	0.85	0.90	0.92	0.96
Protein to Fat Ratio		0.85	0.84	0.85	0.85	0.85
P60 Monthly Comparisons in $/Kg Fat:						
Milk Revenue/Kg Fat		$12.78	$12.60	$12.83	$12.93	$12.86
Subsidy/Kg Fat		$0.63	$0.63	$0.63	$0.63	$0.63
Dairy Sales/Kg Fat		$0.17	$0.10	$0.07	$0.31	$0.41
Beef Sales/ Kg Fat		$0.54	$0.55	$0.49	$0.66	$0.50
TOTAL REVENUE/KG FAT		**$14.32**	**$14.01**	**$14.05**	**$14.52**	**$14.65**
Breeding Expenses/Kg Fat	1.6%	$0.23	$0.24	$0.24	$0.29	$0.21
Health Expenses/Kg Fat	3.2%	$0.46	$0.49	$0.50	$0.46	$0.36
Dairy Supplies /Kg Fat	1.3%	$0.18	$0.17	$0.15	$0.18	$0.21
DHI Expenses /Kg Fat	0.7%	$0.10	$0.10	$0.10	$0.09	$0.09
Replacement Purchases /Kg Fat		$0.00	$0.07	$0.17	$0.00	$0.00
Milk Cow Feed Costs /Kg Fat	26.3%	$3.76	$4.22	$3.74	$3.69	$3.19
Dry Cow Feed Costs /Kg Fat	2%	$0.29	$0.28	$0.25	$0.29	$0.34
Replacement Feed Costs /Kg Fat	6%	$0.88	$0.96	$0.85	$0.88	$0.89
Total Feed Costs /Kg Fat	34.7%	$4.97	$5.44	$4.93	$4.72	$4.39
TOTAL P60 EXPENSES/KG FAT	**42.8%**	**$6.13**	**$6.87**	**$6.25**	**$5.88**	**$5.43**
NET REV. OF P60 EXPENSES/Kg Fat	**58.1%**	**$8.30**	**$7.23**	**$7.89**	**$8.57**	**$9.18**
Management Factors:						
Milk Production (Kg)			8741	9041	9690	9743
Fat (Kg)			325	345	359	360
Protein (Kg)			287	301	316	317
Milk Value			$4567	$4780	$4911	$4908
Linear Score			3	2.7	3.0	2.9
Age at First Calving (year/day)			2/80	2/39	2/54	2/44
Calving Interval (month)			14	13.3	13.4	13.6

Legend
Values express are mean values.
Herds are listed by quartiles: Quartile 1 (Q1) is least profitable, Quartile 4 (Q4) is most profitable.
Profitability is determined by Total Revenue - P60 expenses/kg FAT (net revenue of P60 expenses).
Dollar values are expressed on a $ per kg of butterfat basis.

Project 60 Expenses

The total expenses represent the variable costs to produce a kg of quota. Surprisingly, many expenses did not vary much between Q1 and Q4 herds. Health expenses were lower than mean for Q4 herds. Feeds costs, particularly milk cow feed costs, were a major contributor to profitability among the quartiles. There is over a $1.00 per kg difference in milk cow feed costs between Q1 and Q4 herds. What contributed to lower feed costs in Q4 herds? Did production dilute out costs? What impact did ration balancing, dry matter intake, forage quality, housing and feeding systems have on reduced feed costs?

The Net of Project 60 expenses shows that Q4 herds had $1.95 per kg more income than Q1 herds. Considering these are above average production herds, this is a large variation in income. Putting this in the perspective of average quota holdings, this difference is equal to $24,000 per year between Q1 and Q4 herds.

Project 60 has its limitations. It does not address all the costs associated with the dairy enterprise, but we found a very strong correlation with OFMAP data which look at the total farm enterprise. Project 60 was developed as a pilot project. It will be a stepping stone for future cost of production programs which will have the option of being more inclusive with regard to expense analysis. With the daily quota system in place this fall, it will be very valuable to have a system that can correlate monthly incomes and expenses with monthly quota shipments.

Quota Management

In Canada, a discussion of cash flow is not possible without discussing quota. Quota is quite often the single biggest investment on most dairy farms.

Quota management involves two issues. First, getting the most out of the existing quota, and second, looking at opportunities to expand the quota holdings.

Dairies pay producers by the kilogram of components shipped. In the 1996-97 dairy year, the projected farm gate payout for each kilogram of fat produced is $5.05 , $8.26 per kilogram of protein and $1.19 per kilogram of other solids. Quota holdings are based on kilograms of butterfat: there isn't a quota on protein. Attempts to maximize the protein yield in relationship to the fat yield (protein : fat ratio) can have a tremendous influence on profitability. Ration balancing software, such as NCPS modeling, has been very beneficial in formulating rations to best match the rumen available protein with the rumen available carbohydrate levels. MUN testing has also been a valuable monitoring tool of ration efficiency.

Producers have the opportunity to buy quota monthly. They have a choice of buying unused quota, which can be used in the current dairy year, or buying used quota, which can't be used until the next dairy year. There is a price differential between the two quotas, and the prices vary monthly. Quota purchases are very expensive, and it is important to develop quota purchase strategies that will give the highest return. These strategies will have to be reviewed when a new system, daily quota, starts in August 1997. Quota purchases are very much a part of the cash flow analyses and decision processes that veterinarians can be involved in.

Review of My Consulting Services

It is difficult to describe a typical day. No day is the same, nor is any herd the same. Being able to provide a service to a farmer will have limited value, unless the service influences the profitability of the farm. I would categorize my consulting services as follows:

Reproductive Services

Most herds involve palpation work, but increasingly, this trend is changing. For about 25% of my present herds, I don't perform any palpation duties. Most reproduction visits are in the morning. Usually I'm on my first farm between 7 am and 8 am. I am very proactive in regards to use of hormonal therapies and targeted breeding programs.

Nutritional Services

Assessing milk cow rations is usually the producer's primary focus, and success in this interven-

tion will determine future services to this farm. I perform nutritional services for almost all of my herds, and I have found that nutrition has opened many other doors to the farm operation. I stress to my clients that we must go beyond the ration on the computer printout and focus on the management of that ration. Immediately, cow comfort issues enter the equation, as does feed bunk management, housing and ventilation, udder health, and even crop issues, such as crop selection. As credibility builds with the milking ration, I try to quickly address the dry cow rations, and eventually, the heifer rations.

Management Analysis

As a private practitioner, and through my involvement with Ontario DHI, I am often involved with trouble shooting management problems. This involves one or two visits, lasting 3 to 4 hours. Some visits are assessment visits, where we measure how things are going and look for opportunities for improvements. Most visits are initiated because of specific problems or concerns, and usually involve cash flow analyses, expansion opportunities, production or udder health concerns. I try to get as many records as I can prior to the visit, and I involve as many parties as possible. I leave relevant documentation at the end of the visit: an article; a handout; or a computer printout. I will follow up with a written report which summarizes our discussion, along with any supporting documents, as required. With the producers permission, the reports are copied to those industry people involved with the specific issues discussed. We try to establish goals and expectations of the parties involved, both short term and long term, and these are reviewed at subsequent meetings.

Continuing Education Programs

I try to lead by example. I will tell my clients about upcoming programs I'll be attending, and most will remember later to ask me what I've learned. Look for those teachable moments, either on the farm or in small group settings. I find informal group meetings very valuable in providing timely information on new products and services. They are a good opportunity to involve industry personnel. They create a good liaison and reinforce the team approach.

Monitoring Services

No service is valuable unless success and failure are measured. Monitoring is becoming easier with new computer software. The introduction to Ontario farms of Dairy Comp 305 looks promising. DHI customer service representatives will be collecting and entering the data: veterinarians and producers can focus on assessing and interpreting the data. Dairy Comp 305 will provide good information on reproductive indices, udder health, production and herd inventory. This information will help to assess the status quo, as well as assisting in goal reviews.

Consulting Opportunities

Canadian dairy farms are on the verge of expansion. 65% of Ontario dairy farms are milking less than 50 cows. Only 5% of the herds milk over 100 cows. Economic pressures will force expansion. Management styles will have to change as dairymen move from tie stall to free stall barns. Feeding and storage systems will change. Commodity feeds, 3x milking, and labour management will be issues facing dairy farmers.

Veterinarian comfort will be taxed as we move outside of our normal sphere of knowledge. AABP pre convention seminars and Dairy Certificate programs, such as have been offered at the Ontario Veterinary College, University of Guelph, have been invaluable in stretching our comfort zones. We can't be all things to all people, but dairy producers see veterinarians as their best, and most reliable, source of information. Our regular access to the farm and our independence are important factors. As governments reduce funding for agricultural extension programs, a vacuum will be created that will need to be filled. **Will veterinarians be part of that process?**

The last comfort issue is farmer comfort. Our expertise and advice will be received differently by different producers. Some decisions are easy, some are complicated. The decision to act comes down to the farmer's comfort level and attitude. There is a distinct difference between what one is able to do, and what one is willing to do.

Many farmers feel that they start to lose control as decisions become more complicated, but the one thing any of us can control every morning, before our feet hit the floor, is our attitude.