Time for Technology

<u>Precision Dairy Management Conference Marks a</u> New Direction

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Canadian astronaut Dr. Roberta Bondar, will deliver the keynote address at the Precision Dairy Management Conference March 2 – 5, 2010 in Toronto. It is most fitting that such a famous Canadian, and famous scientist, physician and photographer will address producers, and their advisors attending this meeting. Dr. Bondar put a Canadian face on leading edge international space technologies and in the same way innovative Ontario dairy producers lead North America in adoption of robotic milking, automated heat detection and other tools that mark a new direction for the dairy industry.

In previous columns I have focussed on specific technologies, such as automated feeding systems but today I would like to consider the impact when a number of these pieces come together. There are now several Ontario dairy herds with 110 to 120 cows, two robotic milking stalls, and well designed newer barns. Some of these herds also use pedometry, automated calf feeding systems and slat scrapers. Production levels are right around 10,000 liters per cow, and in a typical week the hours of labour in these barns averages out to a total of 30 to 32 hours. That works out to 770 litres milk per hour of labour. One 300 cow herd using a similar level of precision technology operates with the equivalent of 3 full time employees or 100 milking cows, plus dry cows and replacements per man, or roughly 600 liters per hour. These dairy farmers are putting out about 1 ¼ million liters of milk per man per year. Contrast that with the average Ontario producer who produces just over 170,000 liters. It seems quite astounding that with the right precision tools, one person can generate a million dollars in revenue while it takes 7 typical producers to do the same. Clearly these tools need to be better understood and more widely adopted.

As our American neighbours and friends in Europe struggle through the toughest economic times in recent history, we have the good fortune of working in a financially stable industry that gives efficient producers a good rate of return. For some, the lack of free market competition means they can stick with traditional practices, and avoid the challenges of coping with all the insecurities that come with improving efficiency. But for the entrepreneur, one of the great benefits of our system is that it provides a secure climate for planned investment. In the last decade or so, that investment is making these entrepreneurs North American leaders in

innovation and efficiency. As examples we have been ahead of the curve in adopting technologies such as pedometry, robotic milking and automated calf feeding.

In a cyclic industry, capital investments in technology, made in good times can be a drag on cash flow in bad, so our American neighbours are more likely to focus relatively short term solutions. Combined with cheap labour, that has meant focussing on big farms that make the best use of large scale mechanization and unskilled labour. In the process management practices have been focussed on large groups of cows, sometimes at the expense of individual care.

Although there are excellent economic arguments for these big dairies, public opinion suggests that this may not be the way of the future. Today, our customers are less focussed on price, and more concerned that food is of the highest quality, and produced locally in a way that includes positive outcomes in animal welfare, environmental impact and the social fabric of the rural community. When the US industry recovers they may also find that societies expectations and have shifted, and that this shift makes individual cow care more important. Access to labour, especially Hispanic labour, may also become more difficult.

With stability provided by supply management and current low interest rates, the Canadian dairy industry is in an excellent position to take a more long term strategic approach, and invest in the tools that will ensure future success in the dairy business. Since we probably do not have many places to put 3000 cow dairies, a new direction in technology, based on maximizing the productive output from a family unit will likely play a big role in the future. Such family farms will be among the first to replace owner/operator labour and management with automation. As labour costs go up, this will make them more competitive with larger herds.

To support this new direction, Ontario dairy organizations have come together to share in the joint development of the First North American Conference on Precision Dairy Management. Organizers include the Progressive Dairy Operators, the University of Guelph, the Ontario Ministry of Agriculture, Food and Rural Affairs, Dairy Farmers of Ontario, and Canwest DHI. The program will also incorporate the Second North American Conference on Robotic Milking, as a follow up to a highly successful conference held in 2002.

The new technologies that we are calling "precision dairy management tools" generally meet three criteria. They rely on sensors and computer data as their main source of management information, rather than on time consuming observation by the farmer. They interpret the information using a computer program and established protocols rather than requiring time from the farmer for this, and they apply all or some of the outcomes using automation or robotics. The last area is where the greatest labour saving benefits can be found. Each of these things happen at the level of the individual animal and that expands the possibilities beyond

just labour saving to higher production, and better health through more precise individual animal management. This leaves the farmer with the task of writing protocols for the system and dealing with the exceptions.

If you are an Ontario dairy producer and you are in the industry for the long haul, there is little doubt that precision technologies will impact on your herd in the coming years. If you want to have a better understanding of this new direction in production management, mark the dates (March 2 to 5, 2010) on your calendar, check out the website (www.precisiondairy2010.com) and plan to join Dr. Bondar and hundreds of the top producers, scientists and industry leaders from Ontario, Canada and the world, at this landmark event.