Réseau laitier canadien
Canadian Dairy Network

The Power of Information

It is time to make a very important decision. To do so, would you pull out a nickel and flip "heads or tails"? Surely not since such random and spontaneous decisions are risky and often incorrect. On the dairy farm, producers make decisions every day, some more important than others. When it's time to make a decision that has a major impact on the herd profitability, producers need to increase the likelihood of making the right choice. Planned and well-informed decisions are by far the most accurate, which comes with increased knowledge. Knowledge, in itself, is a function of past experience and learning as well as new information that is made available. Such new information may be in written format but it may also come as advice from others, including experts in the field of interest. For dairy producers today, the information available to them may sometimes be overwhelming but when important decisions have to be made, they should use the resources available to them, which include reports from industry organizations and/or recommendations from advisors with expertise in the required area such as economics, animal health, nutrition, reproduction or genetics.

Having the Foresight and Vision

The rate of improvement in Canadian dairy breeds continues to be impressive. Thirty years ago, most of the gains achieved in production were due to improved management whereas more recently, genetics is responsible for 80% of the increased productivity. When one reflects back on how the current programs and services came to be, it is obvious that various people and organizations required vision to create the future. A quick review of today's breed improvement programs helps to show the impact that these visionary's ended up having on our industry today.

Animal Identification & Herdbook Registration

When the first Holsteins were imported into Canada 125 years ago, animal identification information and pedigrees were recorded via the establishment of the Holstein-Friesian Association of Canada in 1884. Thanks to this visionary action, there are currently nearly 9,000 animals with at least a million known ancestors, with the maximum being 1.8 million. At Canadian Dairy Network (CDN), this extensive pedigree data allows for monitoring of inbreeding trends and the calculation of genetic evaluations for breed improvement. Down the road, animal identification and pedigree data will also be important for animal traceability and disease surveillance.

Milk Recording

In 1905, leaders in Canada started the first milk recording program, which was primarily focused on measuring butterfat yields. Over the past 100 years, DHI services have expanded very extensively to now include the recording of milk yields, sample analysis for milk components, somatic cell counts, milk urea nitrogen, calving dates, calving ease, calf survival, breeding, disposal dates and reasons, milking speed and temperament as

well as the whole herd inventory. The collection of this data translates to comprehensive herd management reports to assist dairy producers in making informed decisions. These services and reports are so valuable that 70% of all Canadian dairy herds are voluntarily enrolled on DHI.

Type Classification

Over 80 years ago, breed leaders implemented a type classification program, mainly for the promotion of elite animals. Today, the world class Multi-Breeds Classification System, which is common to all breeds, is a vital part of breed improvement. Nearly 80% of milk recorded cows are classified, which is clear evidence that it has become a basic herd management tool that also serves as a prerequisite for genetic mating programs.

Artificial Insemination

It was about 65 years ago when A.I. became commercially available using fresh semen. Contrary to the belief of some people in that era that it would not likely see widespread use, the industry pioneers pushed onward to realize their vision. The success of A.I. and its impact on our dairy populations worldwide is nothing less than incredible. Canada has certainly played a major leadership role in this regard. For several years now, 90% of the new animals in the herdbook were produced by A.I. Globally, of the 24 bulls that have sold more than one million doses of semen, one-third are from Canada. Our country is also the home to two of the three sires with the greatest number of paternal granddaughters within Interbull member countries, namely Aerostar and Starbuck, each with 1.7 million, while Blackstar has produced three million. These statistics are evidence of the huge impact that this technology has had on breed improvement.

Young Sire Progeny Testing

After frozen semen became commercially available about 50 years ago, A.I. leaders envisioned and implemented young sire proving programs. Over the years, the selection criteria have changed to use more powerful genetic tools and the efficiency of these testing programs has improved enormously. Today, the 400 young sires sampled annually in Canada represents the industry and producer commitment to this fundamental program for identifying the next generation of elite proven sires.

Genetic Evaluation

In conjunction with young sire proving programs, leading scientists introduced rudimentary genetic evaluation systems over 50 years ago. These daughter-dam comparisons have eventually been replaced by very advanced methods and models based on continued research. Canadian scientists have been important leaders in this area, which has made Canada's genetic evaluations synonymous with proof accuracy and stability. During the past 10 years, 80% of the total progress achieved for production traits can be contributed to genetic improvement.

The Vision of Today

As in the past, industry leaders today must establish a clear vision of the future and set plans to achieve the required objectives. In this regard, recent efforts in Canada have

focussed on the development of a national health recording system for herd management and genetic evaluations. The scheduled implementation in early 2007 will pave the way to new ground in terms of information for herd management and genetic selection decisions at the farm level.

Industry leaders and government now need to take action towards the implementation of a national DNA collection and storage system for all dairy animals in Canada. This will undoubtedly play a critical role for quality animal traceability systems as well as for the further advancement of dairy cattle by combining traditional genetic tools with new approaches using genomics.

Strong Partnerships

A major component of Canada's success in providing dairy producers with timely, highly valued information for their daily management decisions is the strong collaborative spirit and partnerships that exist amongst industry organizations and with government. The sectors including breed associations, milk recording, A.I. and genetic evaluation work especially hard to meet the needs of Canadian dairy producers with efficient programs and services. The focus on "serving producers" has long been a driving force that will guarantee continued progress.

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