



TAKING STOCK

Delta Genomics helping define the next great era for Canadian cattle

In the cattle industry, you're only as good as your best bull. While that may be the case, staying focused on your genetic breadwinner isn't easy when you're staring at a field full of cattle.

Delta Genomics is leveraging funding from Agriculture and Agri-food Canada under the Agriculture Innovation Program, to increase the use of genetic testing that will advance the competitiveness of the Canadian Beef industry and improve a producer's stock.

The technology is called SNP (single nucleotide polymorphism)-based testing, and it can more easily, accurately, and affordably identify the common traits between bulls and their offspring. "SNP is now the gold standard of genomics," explains Colin Coros, project lead with Edmonton-based Delta Genomics. "It's an important step forward for our industry."

SNP-based parentage testing will replace a technology known as DNA microsatellite testing that producers have been using for the past decade. It is a more affordable process and is quickly becoming the standard in the industry.

"In addition to parentage testing, the benefits of SNP-based testing are many, it allows us to quickly isolate and encourage attractive traits like feed efficiency, meat quality, and fertility in cattle," Coros says.

Delta's goal is to offset steep transition costs for the producer so that SNP-based testing becomes routine. The first phase of the project is nearly complete, and four major breed associations are already seeing the enormous cost benefits of this new technology - including Limousin, Gelbvieh, Angus and Simmental. "The number one hybrid bull breeding company in Canada, Beefbooster, is also on board," Coros says. "Beefbooster alone has added over 16 million new data points to its pedigree from this project. This is real world success which we hope will only grow."

Proof of the power of SNP-based testing can be found just across the pasture, in Canada's dairy industry. Having adopted the system in 2008, the industry has saved upwards of \$180 million and the quality of stock has improved immensely. It's a model Coros hopes to replicate with the beef industry. "This project will form a critical mass of associations and producers and prepare Canada for the next generation," he says. "It's our time to grow."

PROJECT BRIEF

Increase the use of a superior DNA testing model (called SNP-based testing) in the Canadian cattle industry.

CRITICAL BENEFITS

- Reduce the high, up-front costs necessary for producers to participate
- Improve accuracy, efficiency and affordability of genetic testing
- Generate rapid genetic improvements in stock
- Create a more competitive Canadian cattle industry



LEAD ORGANIZATION

Delta Genomics is a not-for-profit DNA processing lab specializing in livestock.

Parent organization is Livestock Gentec, a global leader in genomics research, based out of the faculty of Agriculture, Life, and Environmental Sciences at the University of Alberta.



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