

Canadian Institutions Partner to Invest \$20m in Livestock Genomics Research

Immediate Release

Edmonton, October 20, 2011

Genome Alberta announced today that it is leading a group of funding partners on two large-scale genomics projects which will help improve Canada's livestock sector. These projects build on Genome Alberta's Applied Livestock Genomics Program which was launched in Dec 2010.

"Application of Genomics to improve Swine Health and Welfare" is a \$12.4 million research project lead by Graham Plastow from the University of Alberta, John Harding from the University of Saskatchewan and Bob Kemp from PigGen Canada.

With the mapping and sequencing of the pig genome, scientists have an opportunity to apply genomic-based tools to the pork industry. Similar tools are already part of the Canadian cattle industry and have revolutionized the dairy industry around the world. Researchers will apply genomics to help reduce the impact of two of the most common diseases in commercial pig production - Porcine Circovirus Associated Disease and Porcine Respiratory and Reproductive Syndrome. Scientists are studying mechanisms in pigs that make them genetically less susceptible to these diseases, providing important new diagnostic tools for breeders and expanding our understanding of disease control mechanisms. Public perceptions about the use of genomic technologies to prevent disease in pork production will also be examined. This work will lead to new strategies for disease control in addition to new drugs, improved vaccines, and a safer food chain by reducing the use of antibiotics.

Genome Alberta is one of Canada six regional Genome Centres and on this project partnered with Genome Prairie. Reno Pontarollo is the Chief Scientific Officer for Genome Prairie and said "Genome Prairie is proud to partner with our colleagues at Genome Alberta and the University of Alberta. The Swine genomics project has been 4 years in the making, and we are very pleased to be able to support the important efforts that John Harding and Scott Napper at the University of Saskatchewan are bring to the initiative".

"Whole Genome selection through Genome Wide Imputation in Beef Cattle" is an \$8.2 million research project led by Stephen Miller, University of Guelph, and Alberta researcher Stephen Moore who has recently been appointed as Director, Centre for Animal Science at the University of Queensland in Australia.

Canadian researchers were directly involved with a major international undertaking to sequence the bovine genome and are now at the forefront of developing genomic selection techniques to boost genetic improvement in cattle. This project will target traits that are difficult to improve through conventional means. Low-cost tests are being developed that will allow an animal's genome to be inferred from a relatively small number of genetic markers, giving valuable information about its breeding value at a very early age. In addition, the project will examine the potential market barriers for adoption of these genomic technologies. This will bring immediate benefits to breeders, enhance product traceability and lay the foundation for the next generation of technologies aimed at environmentally sustainable production. It is estimated that this research will generate benefits in excess of \$300 million over the next ten years. Global demand for animal protein is expected to double by 2050 and genetic improvement through this project and others like are key to helping cattle producers meet that demand.

An international science review board recommended both projects for funding based on scientific excellence, the potential to translate the research results to benefit Canadian livestock producers, and the internationally recognized project leadership. Genome Alberta's Chief Scientific Officer Gijs van Rooijen said, "These projects are taking advantage of the Alberta expertise and global leadership in livestock genetics, and are excellent examples of how industry and societal needs can be integrated."

Funders for the projects include Genome Canada, Genome Alberta, the Alberta Livestock and Meat Agency, PigGen Canada, Genome Prairie, an international consortium led by the U.S. Department of Agriculture, Western Economic Development, and a number of international agencies and organizations.

Genome Alberta's CEO David Bailey made the formal announcement at the Livestock Gentec Conference this morning at the Delta South in Edmonton.

Gordon Cove, President and CEO of the Alberta Livestock and Meat Agency noted after the announcement was made that "Livestock genomics is a key means for Alberta's livestock and meat sector to differentiate and compete at a global level." He added, "Consumers want top-quality products and genomics research will help meet that demand."

To arrange an interview with Genome Alberta's CEO David Bailey or with Chief Scientific Officer Gijs van Rooijen contact:

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A selection of images from this morning's conference are available for download at

<https://picasaweb.google.com/105187177517498388788/LivestockGentec2011#>

(click on the thumbnail to open an image, use the 'action' button to download in hi-res)

About Genome Alberta

Genome Alberta is a publicly funded organization that initiates, funds, and manages genomics research and partnerships. We are based in Calgary but lead projects around the province and participate in a variety of projects across the country. We are one of Canada's six Genome Centres and work closely with these centres to advance the science and application of genomics, metabolomics, and many other related 'omics'. For the latest in life science news visit our GenOmics application at <http://facebook.genomealberta.ca> or visit us on the web at <http://genomealberta.ca>

About Genome Canada

Genome Canada is a not-for-profit corporation dedicated to developing and implementing a national strategy in genomics and proteomics research for the benefit of all Canadians. Since 2000, Genome Canada has received \$915 million in funding commitments from the Government of Canada to which has been added approximately \$1 billion in co-funding commitments from other organizations to finance innovative, large-scale research projects in genomics and proteomics as well as Science and Technology Innovation Centres. This additional funding was secured in partnership with the regional Genome Centres, through the development of collaborative relationships and partnerships with the private, public and venture philanthropist organizations both in Canada and abroad.

For more on Genome Canada go to <http://genomecanada.ca>

About ALMA

The Alberta Livestock and Meat Agency (ALMA) contributes ideas, information and investment as it works with industry partners towards achieving the goal of a sustainable, profitable and internationally respected livestock and meat industry. For more information about ALMA, visit www.alma.alberta.ca.