



The Gene Scene



Winter 2011 Volume 1

Information letter of the Canadian Farm Animal Genetic Resources Foundation

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To Animal And Poultry Industry Stakeholders

The Canadian Farm Animal Genetic Resources Foundation (CFAGRF) is seeking your support for future initiatives related not only to the genetic resource activities within Canada but also to the concern of Canada's future commitment to the research needs of a dynamic animal and poultry industry in Canada. The Foundation is concerned about the steady erosion of Canadian scientific capability, particularly where it impacts its livestock and poultry both domestically and internationally. As well the Foundation is concerned about the very future of Canada's animal agriculture.

Agriculture and Agri-Food Canada's 2009-2010 Research Review Panels

These panels of AAFC- Plant Science, Animal Science, Environment and Ecology, Food Science and Crop Genomics continue to favour the plant sector of Canadian agriculture. The Plant Science panel has 9 members, the Animal Science panel 4 members and the Crop Genomics panel has 9 members. In 2009/2010 the research projects approved in Plant Science numbered 12, Animal Science 6, and Crop Genomics had 21 projects approved. The Foundation questions such a seemingly unbalanced allocation of funding.

Foundation History

Stakeholders may want to review *A Sense of Accomplishment* on the Foundation's website (www.cafgrf.ca) which outlines in detail the activities carried out by the Foundation since 1996.

Since the Central Experimental Farm (Green Belt Farm) was discontinued in 1996, a Canadian Farm Animal Germplasm Technical Experts Board consisting of 18 scientists, industry and regulatory personnel was established.

In 1996 after a series of meetings, *The Canadian Farm Animal Genetic Resources Conservation: A Plan For The Future*, was developed. The Foundation, with six Directors, was established when the Board completed its report.

The CFAGRF has played a key role over the last decade in maintaining Canadian commitment to the issue of animal and poultry genetic resources. In 1997 the Foundation contacted all industry organizations and AAFC to assess the possibility of the vacant Ottawa Green Belt Farm being utilized for a National Animal Germplasm Centre similar to the United States Beltsville Maryland location.

In 1997, over 100 individuals from all parts of the world attended a symposium *Canadian Farm Animal Genetic Resources: Crisis or Opportunity*. This program was led by CARC, the Foundation and AAFC.

In 2003 CFAGRF had a document, *The Need For An Animal Genetic Resource Policy For Canada*, prepared by Dr Larry Milligan, former Vice-President Research, University of Guelph.

The Foundation was instrumental in the development of the Canadian Animal Gene Resource Centre in Saskatoon. More recently, a project was completed at the CGIL, University of Guelph, under the Foundation's direction with support from CanAdapt. This report, *Development of a Plan of Action to Preserve Genetic Variability and Diversity in Canadian Farm Animals*, is a step to future activities needed by the animal industry

Moving Forward

The Foundation has held three conference calls and a meeting in Guelph January 5th this year. Leading individuals in Canada have been assessing the need to move forward and look to the future of Canada's animal agriculture.

The result is a plan to hold a conference: **THE FUTURE OF CANADA'S ANIMAL AGRICULTURE-ANIMAL PROTEIN FEEDING THE WORLD**". The rationale for this conference is included in this newsletter and industry stakeholders will be contacted for support in the near future with more details provided.

Dr. Don Wilson
Foundation Co-Chair

Jim Dalrymple
Foundation Co-Chair

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THE FUTURE OF CANADA'S ANIMAL AGRICULTURE

ANIMAL PROTEIN—FEEDING THE WORLD

Conventional agriculture, especially animal agriculture, is in danger of losing its social contract- the intangible but essential public support needed to be able to profitably serve society through food production. Many children for example don't know that ham is a pork product. Most families are at least a generation removed from farm roots and are losing appreciation of the importance of conventional agriculture. They not only take affordable food for granted, but increasingly don't support agriculture friendly public policies. We need to urgently rebuild agriculture's social contract with our people. The industry must meaningfully address such issues as sustainability, animal welfare, and food safety. The general public will have to support conventional agriculture if the industry is to remain sound and capable of meeting the world's food needs in the twenty-first century and beyond.

LIVESTOCK AGRICULTURE'S COMMITMENT TO SOCIETY

A CALL FOR ACTION

An ample and affordable supply of high quality animal products in the human diet is essential both to a growing human population and as a component part of a sustainable agriculture.

Yet there are growing environmental concerns about the role livestock agriculture has in providing a healthy food supply while maintaining or improving the natural resource base for agriculture. Concerns about the generation of greenhouse gases, biodiversity loss, overgrazing, deforestation and desertification of dry lands and the maintenance of soil and water quality, are increasing as human populations grow.

A responsible and responsive livestock industry must recognize these situations where they exist and find means to minimize negative effects. But in so doing we must not lose sight of the vital role that livestock production plays in providing the human population with foods of animal origin. Those of us engaged in Agriculture, including farmers, plant and animal scientists and agricultural practitioners understand the beneficial interdependence between crop and animal production. It has been a part of our experience and training. But circumstances have changed sufficiently to persuade us that we have taken too much for granted and have not recognized, until recently, the need to honour, renew and strengthen our social contract with the public. In today's society the majority are increasingly removed from their agricultural roots and we need to explain what we do, why we do it, how we do it and why our efforts are so vital to food security and the long term sustainability of agricultural production.

BACKGROUND

Livestock production has been an essential component of the human diet and of our environment from the dawn of civilization. Livestock products provide sources of animal protein that supplement and complement the nutrients provided by plants. Livestock convert feedstuffs that are not directly usable as human food and in so doing increase both the quantity and the quality of the human food supply. Importantly, livestock production requires farming practices that help promote sustainable use of land resources, such as introducing forage legumes in the cropping system. To significantly reduce or discontinue livestock production in a well intentioned effort to increase the human food supply would, we are persuaded, have the opposite effect because doing so would idle millions of hectares of land suitable only for grazing and be detrimental to the soil quality of croplands. In addition, the annual supply of feedstuffs that are made unsuitable for human consumption by unfavourable weather conditions would simply be wasted, thus further reducing the human food supply. Of equal importance, animal utilization of surplus grain supplies sustains price levels that help ensure profitable production during such periods of oversupply.

We are convinced of the vital importance of animal agriculture to the human food supply and our environment but we are equally convinced and determined that we have a responsibility to explain to the public why this is of such importance. We live in an era of heightened concern about our physical environment and of increased concern about our ability to provide an adequate diet for the present human population and its expected increase over the coming decades. We recognize as well that many believe that livestock production cannot be sustained as human population increases and that livestock production has negative environmental impacts.

RENEWING ANIMAL AGRICULTURE'S SOCIAL CONTRACT

The above concerns are entirely legitimate but, for the sake of present and future generations, it is important that we seek lasting and sustainable solutions. The time has come for those of us engaged in some aspect of livestock production, marketing and processing to advance the case for animal agriculture and the need for continuing research and innovation to improve our methods of production and the quality, safety and abundance of animal products in the human diet. We need new research as well to ensure that production practices are sustainable ecologically and economically.

To those ends we are now in the process of planning a two-day conference that bears the working title:

THE FUTURE OF CANADA'S ANIMAL AGRICULTURE

As a nation endowed with the land mass, the water resources and the crop resources to produce far in excess of domestic needs we feel entitled to subtitle the conference

ANIMAL PROTEIN—FEEDING THE WORLD

TASK FORCE TO FASHION A CONFERENCE TO DEFINE THE SUSTAINABLE ROLE FOR CANADA'S ANIMAL AGRICULTURE

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RESOURCES

The following reports are valuable in assessing initiatives in research and in the conservation of animal and poultry genetic resources.

Report of the Auditor General to the House of Commons (Spring 2010) Chapter #5- Scientific Research –Agriculture and Agri-Food Canada, Office of the Auditor General. www.oag-bvg.gc.ca/internet/English/parl_oag_201004_05_e_33718.html

Safeguarding the World's Agricultural Legacy. Consultative Group On International Agricultural Research. www.cgiar.org

Year of Biodiversity 2010, Voice for Agriculture in the Year of Biodiversity. Food and Agriculture Organization. www.fao.org/nr/cgrfa/en/

2010: What Does It Mean for Farm Animal Genetic Resources? A Perspective From The United Kingdom. GLOBALDIV Newsletter, 14th edition, 24 April 2010. www.globaldiv.eu/NL/GlobalDiv_Newsletter%20no%2014.pdf

A Global View of Livestock Biodiversity and Conservation. Animal Genetics, Volume 41 Issue s1, May 2010. www.interscience.wiley.com/journal/123356073/issue

The Rate of Return to Agricultural Research In Canada (Oct 2010) CAIRN-Canadian Agricultural Innovation Research Network

Statistics of Canada's Animal Genetics 2990. Statistics Canada AAFC No. 11259E <http://www.dairyinfo.gc.ca/pdf/genetics-publication-2wfc.pdf>

Canadian Animal Genetic Resources (CAGR)

What Is The CAGR Program?

Canadian Animal Genetic Resources (CAGR) program is a joint initiative of Agriculture and Agri-Food Canada (AAFC) and the University of Saskatchewan (U of S), to preserve the genetic diversity of Canadian livestock and poultry breeds, and to develop new techniques to conserve germplasm. The three branches of the CAGR program include Genetic Diversity, Gamete and Embryo Biology, and Cryobiology.

Where Is CAGR Program?

CAGR program is coordinated at the University of Saskatchewan, and the AAFC Saskatoon Research Center, Saskatchewan. This program has facilities at the College of Agriculture and at the Western College of Veterinary Medicine.

Key Mandates of CAGR

- Acquire, maintain, and distribute genetic resources.
- Characterize, evaluate, and analyze genetic diversity.
- Develop indicators of change in domestic animal genetic diversity.
- Perform research on biology of gametes and embryos.
- Develop new techniques for conservation of genetic resources.

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The Foundation was pleased to have
Dr. Jean Paul LaForest and Dr Frank
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A special thank you to retiring
Directors, Dr Jacques Chesnais and
Dr Flavio Schenkel for their
support over the previous years.

www.cfagr.ca

The Foundation appreciates the support of the following new corporate members.



Ayrshire Canada



Canadian Sheep Breeders Association



Canadian Embryo Transfer Association



Canadian Pork Council



Jersey Canada



Canadian Swine Breeders Association



CANADIAN FARM ANIMAL GENETIC RESOURCES FOUNDATION
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Invoice for 2011

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Corporate		Individual	
Platinum: 2000	\$ -----	Gold: 150	\$-----
Gold : 1000	\$ -----	Silver: 100	\$ -----
Silver : 500	\$ -----	Bronze: 50	\$-----
Bronze : 100	\$ -----		

Cheque payment is to be made payable to :

Canadian Farm Animal Genetic Resources Foundation.

Mail cheque to:

**Canadian Farm Animal Genetic Resources Foundation
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Contributions are tax deductible. A receipt will be issued