



## Annual General Meeting March 27, 2007

This year's CSBA AGM is being held in Edmonton, Alberta on Tuesday March 27, 2007 at the Fantasyland Hotel in the West Edmonton Mall.

### Canadian Swine Breeders Association Annual General Meeting

Date: March 27, 2007

1:00 to 5:30 pm  
Presentations and general meeting

5:30 to 7:00 pm  
Awards Banquet

EDMONTON  
ALBERTA'S CAPITAL CITY



Location: Fantasyland Hotel  
Conference Room#12 Chablis  
17700-87 Avenue  
Edmonton, Alberta T5T 4V4  
Tel: (780) 444-3000  
Fax: (780) 444-3294  
Reservations: 1-800-737-3783  
Email: [info@fantasylandhotel.com](mailto:info@fantasylandhotel.com)  
Web : [www.fantasylandhotel.com](http://www.fantasylandhotel.com)

#### Guest speakers:

- ✓ Dr. Steve Moore: University of Alberta - Livestock Genomics, Fulfilling the Promise
- ✓ Dr. Yves Plante: Canadian Animal Genetic Resources Program, AAFC, Conservation of genetic diversity in Canadian pig breeds
- ✓ Dr. John Bell: Alberta Livestock and Industry Development Fund Research Funding

Please pre-register to help us in planning. The pre-registration form is on page 2 of this newsletter.

## Reduction of genetic diversity in Canadian swine breeds and its management

Traditionally, genetic improvement in the swine industry is based on the selection of boars and sows that have a high genetic value for characteristics of economic interest e.g. for faster growth rate, higher lean meat content or a certain type of pork. The breeds that do not meet those requirements get neglected and individuals within the used breed are culled for economic reasons. This reduces the genetic diversity in terms of breeds and unrelated individuals within a breed.

The Canadian swine industry has witnessed a reduction in the number of major breeds over the recent years. There are only three major breeds that are used currently: Yorkshire, Landrace and Duroc while there are fewer pigs from the other breeds such as Berkshire, British Saddleback, Chester White, Hampshire, Lacombe, Large Black, Piétrain, Poland China, Red Wattle, Spotted, Tamworth and Welsh. Among them Berkshire, Hampshire, Lacombe, Large Black and Tamworth are now considered as endangered or at critical status according to Rare Breeds Canada. The more recent example is the Hampshire breed which was one of the major terminal sire breeds used in the national swine improvement program. However, the number of purebred Hampshire pigs tested has reduced so drastically that hardly any effective genetic improvement can be made. One of the reasons was also the Hampshire's higher frequency of the RN gene known for adverse effect on pork quality, especially higher cooking losses. Berkshire is an example of a breed that has been neglected by the swine industry but has recently found a lot of interest especially for the export markets because of its exceptionally good meat quality. The loss of genetic variability has made it difficult to find enough Berkshires to meet the emerging demand.

Like the dairy and other livestock industries, the swine industry is also facing reduction in variability within the existing major breeds in Canada mainly due to excessive use of certain boars through

artificial insemination. The main problems with excessive use of certain boars are the reduction in genetic variability, increase in rate of inbreeding and availability of very few boars and sows for the subsequent generation. The boars may have a large impact on the genetic improvement as well. One or few boars can bring significant improvement in some characteristics for which they have been selected but can reduce the rate of progress in some other characteristics. Further, if the boars are carriers of a genetic defect, the defect may get propagated very widely in the population.

There is a need to manage the genetic variability in Canadian swine while keeping up the rate of improvement for economic benefits to the industry members. One of the important steps taken by the Canadian Centre for Swine Improvement is to provide more information and Internet-based tools to members to manage the genetic diversity. These tools provide information about the inbreeding levels and probabilities of gene origin in their herds and in the whole population. There are reports for each herd showing boar usage, inbreeding trends, effective population size and main ancestors contributing to their herd.

The Canadian Farm Animal Genetic Resources Foundation (CFAGRF) has a mandate and strong interest in addressing the issue of genetic variability in farm animals. The foundation has recently undertaken a research project to inventory science-based approaches and develop an action plan for reducing the speed of the current decrease in the genetic diversity of Canadian livestock including swine. The project will be supported by Agriculture and Agri-Food Canada and will address genetic variability in commercial and non-commercial breeds and the interface between the two. The recently created Centre for Animal Genetic Resources (CAGR) in Saskatoon has also identified swine as the first species for estimation of genetic variability and for research on conservation methods. More information on the Centre's activities, reasons to conserve pig genetic diversity and how CSBA can play a significant role in genetic conservation will be presented at the upcoming CSBA annual meeting.

**Pre-Registration for CSBA AGM**

**Tuesday March 27, 2007**

**1:00 to 5:30pm**

**Conference Room#12 Chablis**

To help us in planning, please contact Francine Roy to pre-register. Tel: (613) 731-5531 Ext. 21, Email: [francine@canswine.ca](mailto:francine@canswine.ca).

Or fax this form to (613) 233-8903

Name: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_

Telephone: \_\_\_\_\_

Email: \_\_\_\_\_

If others will accompany you, please specify the total number of people including yourself: \_\_\_\_\_

**Awards Banquet 5:30 to 7:00 pm**

Number of people attending the banquet: \_\_\_\_\_

There is no charge for the banquet, but we do need to know how many meals to order. Thank you to the Canadian Swine Exporters Association for sponsoring the awards celebration.

Pre-registration by **Friday March 16<sup>th</sup>, 2007** would be appreciated.

