

**Report on the 54th Annual Meeting  
of the European Association for Animal Production  
Rome, Italy,  
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## **1. The Congress**

The annual meeting of the European Association for Animal Production (EAAP) gives the opportunity to present new scientific results and discuss their potential applicability in animal production practices. The EAAP meeting is a major scientific meeting, attended by most large swine producing countries and breeding companies. Those attending include not only European representatives but also representatives of countries which are important markets for Canada, such as Eastern Europe, South America, South Asia. This year's meeting was of particular interest for participants from a wide range of animal production organisations and institutions. Discussions stimulate developments in animal production and encourage research on relevant topics. In Rome the main theme was "Product Quality from livestock systems", which is exactly one of the main concerns in Canada today.

The Commission on Animal Genetics was one of the most important this year, with papers presented by many countries on all species. More and more speakers and delegates come from developing countries and Eastern Europe, which gives the opportunity to share information on a larger scale every year.

The Congress lasted four days, with 37 sessions in total, and about 800 papers presented, including theatre presentations and posters. Topics which were relevant to the pork industry included : pig breeding, sow fertility, feed intake in growing pigs, incorporation of molecular information in breeding schemes, electronic identification, traceability, genetics of behaviour, functional genomics, locomotor disorders, advances in computing strategies, feeding and meat quality in heavy pigs.

## **2. Highlights**

The main purposes for attending the Meeting were to establish a Canadian presence at the European Association of Animal Production, to gain knowledge about recent developments, foster relationships with the world scientific community, and promote Canadian genetic improvement.

Many different subjects were discussed during the meeting, and the main ones were the following :

### **- Molecular genetics**

Several sessions dealt with, majors genes, genetic markers, Quantitative Trait Loci (QTL) and their application into selection programs. A large number of papers were presented by research teams working on dairy cattle, mainly on new genes or markers potentially useful for selection, on the use of molecular information in genetic evaluation programs and on the

efficiency of marker-assisted selection according to simulations studies or real selection experiments. Many countries are putting special emphasis on this area for pig breeding, and most of the papers presented at the EAAP meeting involved researchers from the US, the Netherlands, United Kingdom, Germany, Nordic countries. Very often, results were obtained through collaborations between several countries. Another session was about functional genomics applied to growth, tissue development and meat quality in farm animals. Most of the papers in this session were about pig and beef cattle, especially on carcass composition and meat quality characteristics.

Once again, the main lesson of these sessions was the importance of collaboration between quantitative and molecular geneticists, in order to find the best way to combine both kind of information in genetic improvement programs. The invited presentations by Dr John Gibson on the use of molecular information in a global approach to genetic improvement and Dr Dekkers on commercial application of marker- and gene- assisted selection were very informative and useful for our future work in Canada in the area of molecular genetics.

- **Product quality**

A session on “Genetics and quality of animal products” gave the opportunity to have an overview of quality improvement in several species and countries. A lot of interesting further work was presented, mainly on major genes affecting meat quality and examples of their use in selection schemes. Several other sessions dealt directly with product quality : “Product quality from livestock systems – Human health and consumers aspects”, “Tissue development and meat quality : the role of lipids and antioxidants”, “Feeding and meat quality in heavy pigs”. Many European countries presently work on quality issues in heavy pigs, up to 160kg, because of the growing production of alternative high-quality products such as dry-cured ham.

- **Genetic strategies to improve sow productivity**

A session was organized on this particular subject. It was one of the most popular of the congress, and gave the opportunity for a lot of questions and discussions, which lasted a long time after the end of the session. In this session, several studies involving Germany, The Netherlands, Norway and France were presented. One of these papers, dealing with genetic parameters of piglet weights and survival in the French Large White population, was co-authored by Laurence Maignel. Several questions remain on the best strategy to improve piglet survival from birth till weaning, but this session brought some interesting elements on potential selection criteria : piglet weight, survival rate, lactation feed efficiency, etc.

- **Optimisation of selection**

This session was of particular interest for all geneticists, whatever species. It dealt with optimum designs in breeding programs, the determination of economic values and the prediction of genetic trends and inbreeding levels under index selection.

- **Genetics of behaviour**

This session covered several types of traits, and the majority of papers dealt with pig breeding, especially the recording of behavioural traits, their genetic determinism and results of selection experiments using that traits. Two kind of traits were covered in Rome : maternal behaviour of sows towards their piglets, and harmful social behaviour in growing pigs. Both groups of traits seem to show suitable for selection in pig breeding schemes. A model for genetic evaluation of behaviour was presented by Pieter Bijma from Wageningen University in the Netherlands. He also expressed interest in working with CCSI and testing the model and assumptions using Canadian data.

- **Conformation and locomotion**

A lot of other interesting subjects were presented, among those several papers dealing with locomotor disorders in cattle, pig and poultry, including genetic and environmental factors. A review of many of these disorders in pigs was presented by Dr Jorgensen from the Danish Institute of Agricultural Science.

- **Computing strategies**

A session dealing with “Advances in computing strategies for Animal Breeding” was very interesting. It gave us the opportunity to get knowledge about new methodologies, in order to take more complex models into account, or to speed up genetic evaluation programs. These two subjects are obviously of high interest for CCSI.

### **3. Networking**

This congress is always a good opportunity to keep informed about recent work in animal production, especially in genetics and pig breeding, in European countries. Moreover, over time other countries are more and more represented, especially US, Africa, Australia and Japan. There were several requests favourable with a larger participation of Canada in the next years. Above all, EAAP is a good place where to network with scientists and key individuals in homologous organizations.

We met many scientists and discuss several different issues, such as genetic evaluation methods, international evaluations and advances in molecular genetics. We had interesting discussions with several European working groups involved in piglet survival study : Dr Kaye-Uwe Goetz from Germany, Dr Andreas Hofer from Switzerland, Dr Jean-Pierre Bidanel from France, Dr Rob Bergsma and Dr Jan Merks from The Netherlands.

Several scientists from ITP (Institut Technique du Porc), the French equivalent of CCSI, raised several possible areas of collaboration with CCSI or CDPQ in the future. These discussions will lead to further work on possible interests for both organisations to cooperate.

Dr Andreas Hofer from SUISAG, the swiss pig breeding organization, asked for details on the Canadian Landrace population. His company plans to increase the size of its selection nucleus, and Dr Hofer started a survey on the different opportunities they have to import young animals, without changing too much the performance level of their purebred animals. Dr Hofer was well informed about the recent developments in genetic improvement programs in Canada mainly through CCSI’s website.

Dr Eildert Groenveld from Germany and Dr Jochen Wolf from the Czeck Republic have organised a few international workshops to discuss genetic evaluation methods used in different countries. We talked with Dr Groenveld about the next meeting in Slovenia during the spring 2004. He would very much appreciate participation from Canada as one of the countries where the BLUP technology will be very useful especially for countries in Eastern Europe who are in the process of developing and applying these methods over the recent years and have expressed interest in Canadian genetics. This workshop is also of high interest for geneticists working on genetic evaluation of pigs, to strengthen network all other the world, and get information about what is done in other countries and/or companies.