

Report on the 41st Research Swine Days
(Journées de la Recherche Porcine - JRP)
Paris, France, February 3rd - 5th, 2009
<http://www.journees-recherche-porcine.com/>

Each year, since 1969, the **National Institute for Agricultural Research (INRA)** and the **French Institute for Pig and Pork Industry (IFIP)**, formerly known as ITP) organize jointly "The Research Swine Days" in Paris. The aim of these "Swine Days" is to inform the swine industry about the most recent results in swine research. The number of participants is about 800 on average, with an increasing number of speakers and delegates from other countries: Canada, Belgium, Spain, Italy, etc.

The Research Swine Days are an excellent place to hear about very recent research results and transfer of these results to practical use. It is also an important opportunity for networking with geneticists from other countries, but also with researchers working in other areas, and with experts from different sectors of pig industry. It is also a good opportunity for CCSI to strengthen its collaboration with IFIP on several projects of common interest such as disease resistance, molecular genetics and computer services. This year, there was a special emphasis put on several innovative papers presented by Canadian speakers. One of them was the study presented by CCSI on the prediction of intramuscular fat on live pigs. This gave CCSI the opportunity to showcase some recent research results, as well as provide information on Canadian breeding stock and the national breeding programme. There was particular interest from French and Spanish groups to work on some technology transfer projects between Canada and Europe. This will most likely happen in 2009 and 2010.

Seventy-eight communications were presented at the conference, including 29 theatre presentations and 49 posters, in five different sessions (the number of presentations in each session is provided within brackets):

- **Genetics (9)**
- **Quality of Products (11)**
- **Animal Nutrition (22)**
- **Animal Health (9)**
- **Welfare (14)**
- **Environment (7)**
- **Economics (6)**

Highlights

Papers of special interest in the genetics area:

The session on Genetics was very popular this year, with a large audience attending theatre and poster presentations. In spite of the increasing number of research projects on molecular genetics, this year's Genetics session was dealing mostly with quantitative genetics, especially on growth, feed efficiency, residual feed intake and stress hormones. Three papers were about molecular

genetics, including a meta-analysis on the effects of the Halothane gene, a pilot project on marker-assisted selection in a Chinese-European composite line, and a joint project between INRA and IRTA in Spain to look at genetic variability in French and Spanish swine populations, based on microsatellite markers used for parentage testing in both countries. The oral presentations included a paper submitted jointly by CCSI and CDPQ, to present some preliminary results in the area of intramuscular fat prediction on live pigs using ultrasound technology and the potential applications in selection. The complete list of papers (4) and posters (5) presented during the genetics session is provided below.

1. **Genetic relationships between feed efficiency, growth and feed intake profiles in Large White pigs**, H el ene Gilbert, Syrina Al A in, Pierre Sellier, Herv e Lagant, Yvon Billon, Jean-Pierre Bidanel, Philippe Guillouet, Jean Noblet, Jaap van Milgen, Ludovic Brossard.
2. **Estimation of genetic trends from 1977 to 2000 for stress-responsive neuroendocrine systems in the French Large White and Landrace breeds using frozen semen**, Aline Foury, Thierry Tribout, Christophe Bazin, Jean-Pierre Bidanel, Pierre Mormede.
3. **Using ultrasound technology to predict intramuscular fat of loin in live pigs and perspectives on the use of ultrasounds in pig genetic improvement**, Laurence Maignel, Jean-Paul Daigle, Brian Sullivan.
4. **Meta-analysis of the halothane gene effect on parameters of pig meat quality**, Btissam Salmi, Jean-Pierre Bidanel, Catherine Larzul.

Posters

1. **Estimation of genetic parameters for growth and carcass traits in the French Pi etrain breed and a halothane negative composite Pi etrain line**, Michel Sourdioux, Guillaume Lenoir, Laurent Guery, Damien Bahon, Thierry Tribout, Jean Pierre Bidanel.
2. **Analysis of genetic variability of Spanish and French pig populations from paternity test data**, Simon Boitard, Magali SanCristobal, Claude Chevalet, Neus Torrent o, Jean-Claude Meriaux, Armand Sanchez, Marie-Jos e Mercat, Joan Tibau.
3. **Implementation of a marker-assisted selection program in the Chinese-European Duochan pig population**, Sandrine Schwob, Juliette Riquet, Thierry Bellec, Louis Kernaleguen, Thierry Tribout, Jean-Pierre Bidanel.
4. **Divergent selection for residual feed intake in the growing pig: correlated effects on feeding behaviour**, H el ene Gilbert, Syrina Al A in, Jean-Pierre Bidanel, Herv e Lagant, Yvon Billon, Philippe Guillouet, Jean Noblet, Pierre Sellier.
5. **Do the composition and structure of the zona pellucida influence the penetration of spermatozoa into the oocyte?**, Sylvie Mugnier, C ecile Douet, Claude Lebos, Pierre-Yves Sizaret, Morgane Kervella, Eric Venturi, Guy Duchamp, Philippe Monget, Ghyl ene Goudet.

Other sessions:

Pork quality (11 papers)

This year, the session on Quality focused on food safety, with an emphasis on the control of bacteria such as Salmonella, Campylobacter and Listeria in pig farms and carcasses. Several posters dealt with the impact of including specific fatty acids in the pig diet on fat and lean tissue quality.

Animal Nutrition (22 papers)

This year the nutrition session was very heterogeneous in terms of content. Various feed supplements were presented with their potential effects on health and productivity. The impact of mycotoxins in the feed was reviewed, as well as the potential use of immunomodulators as growth promoters.

Animal Health (11 papers)

This year a good half of the papers in this session dealt with Circovirus type 2, which is still a challenge in European farms. A very interesting study looked at a transcriptomic analysis of PK15 cells infected by PCV2, in order to understand the cellular mechanisms underlying the disease. Other papers dealt with avenues to improve immunity transfer and early piglet survival.

Animal welfare, breeding management and reproduction (14 papers)

Papers about animal welfare are more and more numerous every year, following the application of several EU regulations coming soon especially in terms of space allocation and type of housing for gestating and lactating sows. Several papers dealt with breeding techniques, including sow management and AI boar training. A review was provided on summer infertility in sows in French farms.

Environment (7 papers)

This session dealt mostly with manure management and monitoring of gaseous and odorous emissions from pig operations.

Economics (6 papers)

This session gave a good overview about the current situation of Europe in the context of globalization, but also how French stakeholders and breeders see the future of pig production in France in the coming years.

More information is available at the following URL :

<http://www.journees-recherche-porcine.com/>

Abstracts are available in French and English at

<http://www.journees-recherche-porcine.com/gb/index.htm>

Full papers are available on request at CCSI.