

# CDPQ RESEARCH AND EDUCATION SOW BARN



Centre de développement  
du porc du Québec inc.





# FACILITY OBJECTIVES

## Research Facilities with State-of-the-Art Technology for the Swine Industry!

Dedicated to research and development (R&D) and the training of the next generation, our sow barn is located in Armagh, about 60 minutes from Quebec City. The herd has 675 productive sows (farrow to wean), driven in batches on a four-week flow.

Innovative R&D projects (public and private) will be carried out in this facility and the main objectives are to:

- Minimize impacts on the environment by optimizing the use of resources (energy, water, food, etc.)
- Promote the welfare of animals and breeders
- Optimize the cost of production in order to promote the competitiveness of businesses in the pork sector
- Develop and/or validate innovative techniques, technologies and knowledge
- Develop and/or validate solutions in regard to the labor shortage

WE ARE WORKING  
TO IMPROVE THE  
COMPETITIVENESS  
OF PIG  
BUSINESSES !



# AREAS OF EXPERTISE | RESEARCH AND EDUCATION

RESEARCH &  
DEVELOPMENT



**PRECISION  
FEEDING**



**DATA COLLECTION AND  
PROCESSING + ARTIFICIAL  
INTELLIGENCE**



**AMBIENT CONDITIONS,  
EQUIPMENT AND  
ENVIRONMENT**



**PRECISION  
REPRODUCTION**

PRIVATE AND PUBLIC PARTNERS

TRAINING  
THE NEXT  
GENERATION



OFFERED BY



**CENTRE DE FORMATION AGRICOLE**  
SAINT-ANSELME



UNIQUE  
FACILITIES ON AN  
INTERNATIONAL  
SCALE

# INDIVIDUALIZED FEEDING SYSTEM AND WATER METERS FOR THE ENTIRE SOW PRODUCTION CYCLE, FROM QUARANTINE TO CULL

Each breeding room (quarantine, breeding, group gestation and farrowing) is equipped with an individualized feeding system and water meters, making it possible to:

- Customize the nutrient concentration of feed given to sows
- Obtain individual data on food and water consumption
- Give different feed treatments to all the sows in the facility, from quarantine to cull, for maximum flexibility and data.



WATER  
METERS



INDIVIDUAL  
FEEDING SYSTEMS



Precision feeding is one of our research specialties. Upon entry in the sow barn and until culling, we measure food consumption for each sow, as well as their water consumption.

In addition to the individualized feeding systems, more than 500 water meters have been installed in all breeding rooms, including quarantine.



Silos situated behind the facility

# BUILDING WITH FILTERED AIR AND UNDER POSITIVE PRESSURE WITH A VENITLATION SYSTEM AND EQUIPMENT ALLOWING TO :

- Reduce the risk of herd contamination by airborne viruses
- Control atmospheric variations throughout the year
- Optimize the genetic potential of animals
- Manage parameters having an impact on R&D projects
- Maximize the continuous collection of data (automation +++)

**SPRINKLERS**

**COOL CELLS**

**AIR RECIRCULATOR**

**PIGLET HUTCHES**

**AIR PREHEATING TO AVOID COLD AIR FLOWS**

**SUMMER**

**WINTER**







# QUARANTINE EQUIPMENT

- 2 sections : individual quarantine and group quarantine
- Individualized feeding system with 2 feeds, 2 feeder lines and 2 silos for 90 kg gilts live weight
- Heat detection station with a boar for the individual section
- 40 individually fed gilts = 40 potential experimental units

**A great amount of data is collected on the development of gilts as early as possible in their life. This research expertise is important for the development of knowledge for the benefit of the pork industry.**



**Pen in the individual quarantine section**



# BREEDING ROOM EQUIPMENT

- 2 batches of 168 sows
- 336 stalls and 4 pens
- ESF individualized feeding system with 2 feeds with the possibility of distributing 4 different feeds (4 silos and 4 feeders)
- Measurement of individual water consumption
- Precision reproduction system using image analysis and artificial intelligence
- 168 potential experimental units per batch





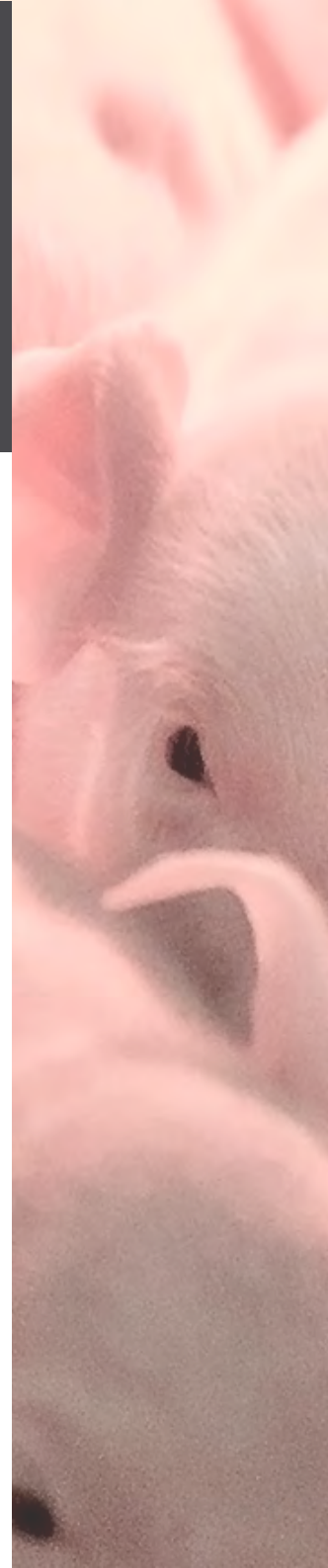
# GESTATION EQUIPMENT

- Group gestation respecting the highest standards of animal welfare (European standards)
- 405 gestation places + 8 pens for problematic sows
- 2 pens of 67 sows/batch = 6 pens (possibility of separating into half-pens)
- 4 free-access ESFs/pen = ~ 17 sows/ESF
- Individualized feeding system with 4 feeds, 10 feeder lines & 10 silos
- Water meter with RFID reader
- 135 potential experimental units per batch



# FARROWING EQUIPMENT

- 65 lift floor stalls (which can be activated or not). Standard design except for the stall elevation mechanism, therefore does not influence research results
- 60 conventional stalls
- 10 farrowing pens 10' x 8'-10' (allows sows to be managed in pens a few days after farrowing)
- Individualized feeding system with 4 feeds, 4 feeder lines and 5 silos
- Piglet hutch with temperature controller and infrared technology (individualized by cage)
- 125 potential experimental units per month





The layout for the gestating sows includes 6 large pens, each equipped with 4 free-access ESFs.

Each pen accommodates 67 sows per batch and we have the possibility of separating the large pens into half-pens.







DO YOU HAVE A  
PROJECT YOU WISH  
TO CONDUCT ?

CONTACT US !



# WHY USE OUR FACILITIES AND USE OUR TEAM FOR YOUR PROJECTS ?

- Help with finding funding, developing and planning your projects
- Data processing, statistical analysis and interpretation of results
- Competitive costs, according to needs and allowing accessibility to all
- Expertise of a multidisciplinary team working with professionalism
- Public organization, offering credibility and recognition of results to the sector for almost 30 years
- Large network of contacts (experts and companies) contributing to successful projects and facilitating technology transfer
- Realization of projects of common interest (sector) in collaboration with several partners or specific to a need for a private organization
- High number of experimental units, ensuring rapid availability of results
- Automation of equipment, generating data from the moment of entry of gilts in the facility, to cull (differs from what can be obtained on commercial farms)
- Possibility of carrying out projects requiring follow-up from sow barn to the slaughterhouse
- Building and equipment ensuring control of environmental conditions

# CONTACTS - RESEARCH COMPONENT & TRAINING COMPONENT



## **FRANCIS POULIOT** ENG., M.B.A.

Responsible for Research infrastructures

**CONTACT PERSON TO  
DISCUSS YOUR PROJECTS !**

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 581 998-3414

A competent and permanent team is dedicated to on-farm and carrying out research projects.

She takes care of the animals and makes sure of their well-being. It also ensures the proper functioning of dedicated equipment researching and taking action.

A team attentive to your needs and accomplice of the success of your projects !

Our sow barn is also a place for practical training for the next generation.


It welcomes students from the Centre de Formation Agricole de Saint-Anselme, who will have the chance to acquire pig production skills.

You are interested in the training component ?  
Contact Ms. Sophie Trepanier

## **SOPHIE TRÉPANIÉ**

Admissions Advisor/ Centre de formation agricole Saint-Anselme

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**CENTRE DE FORMATION AGRICOLE**  
SAINT-ANSELME



*Thank you!*

**TO OUR MAIN  
FINANCIAL  
PARTNERS !**

This industry tool was made possible thanks to them.

**Économie  
et Innovation**

**Québec**



**Centre  
de services scolaire  
de la Côte-du-Sud**

**Québec**



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