

# Welcome to the Prairie Swine Centre

**WE DO RESEARCH!  
THAT'S OUR  
JOB!**



# What do we do?

## **We evaluate:**

- Additives
- Equipment
- Ingredients
- Management
- Manure
- Pharmaceuticals
- Transportation
- Vaccines

## **We measure responses in:**

- Behavior
- Costs
- Digestibility
- Environment
- Health
- Housing
- Metabolism
- Production
- Welfare

# We are Experts in:

- Meticulous collection of data
- Conscientious maintenance of confidentiality
- Scientific protocol development
- Scientific support with on-site research scientists
- Results dissemination - *only if desired*



# We are Experts in:

## **GCP/GLP**

### **– Good Clinical Practices/Good Laboratory Practices**

We are experienced and professionally trained in the areas of

- Experimental design
- Data collection
- Statistical analysis
- Regulatory reporting



# What can we do for you?

- Product affirmation
- Registration validation
- Product comparisons
- Supply high quality pathogen free pigs



***We are a recognized  
supplier of data for CFIA,  
Health Canada, FDA, efsa  
(European Food Safety  
Authority)***



**Here's our expertise in :**



## NUTRITION

- Digestibility - Total and Ileal
  - Amino acids
  - Carbohydrates
  - Energy
  - Fibre
  - Protein
  - Starch
- Feed evaluation
  - Additives
  - Conversion
  - Management strategies
- Ingredients
  - Contaminants – molds, toxins, etc
  - Inclusion levels
  - New or novel evaluations

**Here's our expertise in :**



## **NUTRITION (cont)**

- Interactions
  - Mineral
  - Nutrition and Behavior
- Nutrient requirements
  - Amino acids
  - Protein
  - Energy
  - Fibre
  - Minerals
  - Vitamins
  - Water
- Physiological components
  - Blood
  - Urine
  - Digesta
- Water
  - Intake
  - Additives
- Weight gain

## Here's our expertise in :



# ENGINEERING

- Air quality
  - Ammonia
  - Hydrogen sulfide
  - Bioaerosols – microbial levels
  - Carbon dioxide levels
  - Carbon monoxide levels
  - Airborne viable bacteria concentrations
- Climate control
  - Heating/cooling systems
  - Humidity
  - Temperature
- Computational Fluid Dynamics –numerical simulation



**Here's our expertise in :**



## **ENGINEERING (cont)**

- Greenhouse gasses
- Energy Usage
- Odour
- Respirable particles
- Total dust
- Ventilation rates and patterns
- Water Usage

**Here's our expertise in :**



## **ETHOLOGY/BEHAVIOR**

- Ease of pig handling
- Environment enrichment
  - Social management
  - Stocking density
- Efficient use of technology
  - Electronic sow feeders
  - Water usage
- Group dynamics/group management
- Handling responses
- Human/Pig interactions

**Here's our expertise in :**



## HOUSING

- “Walk in, Lock in” sow housing
- Effluent systems
- Emissions
- Feeding systems
- Flooring systems
- Hygiene grading
- Odour
- Penning systems
- Respirable particles
- Stocking density
- Total dust
- Ventilation Systems
- Watering systems

**Here's our expertise in :**

## **ANIMAL WELFARE**

- Good handling practises
- Lameness management
- Pain management
- Satiety
- Well being



**Here's our expertise in :**



## ANIMAL HEALTH

- Antigen-antibody reactions
- Challenge studies
- Coughing indices
- Dosage delivery
- Dosing regimes
- Effective dose levels
- Immunology
- Lameness detection, treatment and prevention
- Pain response
- Post mortems
- Residue
- Serology
- Slaughter inspections
- Tissue evaluations



**Here's our expertise in :**



## **DISEASE EVALUATION**

- Disease challenge models
- Sampling
  - Tissue
  - Blood
  - Nasal
- Scoring
  - Critical illness
  - Manure looseness

***We collaborate with local,  
national and international  
laboratories.***

**Here's our expertise in :**



## **SURGERY**

- T cannulas
- Jugular catheters
- A dedicated surgery room and collaboration with certified veterinarians allows us to perform operations on pigs of all stages of growth for your research needs.

**Here's our expertise in :**



## **OCCUPATIONAL HEALTH**

- Dust exposure
- Noise exposure
- Lighting exposure
- Gas exposure
- Time management

**Here's our expertise in :**



## **TRANSPORT**

- Trailer design
- Loading facility design
- Welfare of pigs during transport

## **MANURE**

- Management
  - Handling
  - Nutrient
  - Storage
- Additives
- Treatments



**Here's our expertise in :**

## **REPRODUCTION**

- Performance of sows and boars
- In-vitro fertilization
- Frozen semen
- Nutrition interaction

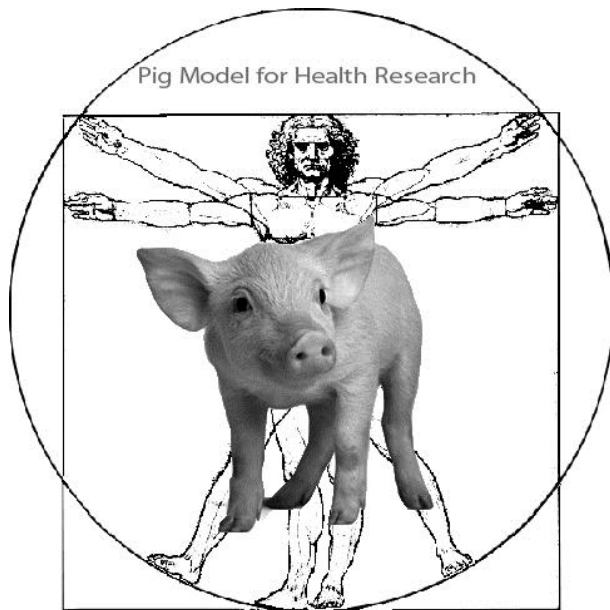




**Here's our expertise in :**

## **PIGS AS A HUMAN HEALTH MODEL**

- Bone density
- Disease
- Nutrition



# Our Facilities

## Prairies Swine Centre

- **300 sow farrow to finish**
- “Walk in, lock in” gestation housing facility
- “All in, all out” nursery rooms
- Intensive, semi-intensive and commercial rooms for grow/finish
- Metabolic crates
- Surgery facilities
- Dedicated engineering rooms
- Laboratories
- Metal fabrication



# Our Experts

## Research Staff at the PRAIRIE SWINE CENTRE

- Dr. Denise Beaulieu – Nutrition
- Laura Eastwood, MSc - Nutrition
- Dr. Bernardo Predicala – Engineering
- Alvin Alvarado, MSc – Engineering
- Dr. Jennifer Brown – Ethology
- Dr. Harold Gonyou – Ethology
- Dr. Fiona Lang - Ethology
- Dr. Yolande Seddon – Ethology
- Barb Stefanyshyn-Cote - Contract research manager
- Raelene Petracek – Research coordinator
- Lee Whittington - President & CEO

# Our Collaborators

## Other Swine Facilities

The Prairie Swine Centre has agreements with even larger commercial operations to conduct research that may be appropriate to your needs.

- Site 1 - 600 sow, electronic sow fed
- Site 2 - 2000 head nursery
- Site 3 - 5000 sow, group electronically fed

# Our Collaborators

## **VIDO – Vaccine and Infectious Diseases Organization**

- **Biosafety Level 2**

- available for nursery, grower-finisher, and sows
- work with infectious agents capable of causing human or animal disease but under normal circumstances are unlikely to be a serious hazard to lab workers, livestock, or the environment (ex. TGE, many salmonella)

- **Biosafety Level 3**

- work with infectious pathogens that usually cause serious human or animal disease, or which can result in serious economic consequences, but do not ordinarily spread by casual contact (ex. anthrax, tuberculosis)



# Our Collaborators

## PRAIRIE DIAGNOSTICS

- Full service lab with ISO/IEC 17025 accreditation
- Capabilities
  - Full necropsy
  - Histology
  - Bacteriology
  - Mycology
  - Parasitology
  - Polymerase Chain Reaction
  - Immunology
  - Virology
  - Clinical Pathology
  - Endocrinology
  - Toxicology



**2012 is a landmark anniversary for us. We are celebrating 20 years of innovation! Contact us for a tour!**



*Celebrating* **20** *Years*  
OF INNOVATION



# Any questions? Contact Us!

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