

Commercial scale research by Gowans Feed Consulting



Submitted by Gowans Feed Consulting

Research focusing on feeding pigs with different feed ingredients, feed additives, and feeding strategies conducted under commercial conditions provides useful information that producers can apply in their own herds to improve performance, reduce production costs and increase net return. Experiments conducted in university or research institution settings often employ smaller pen group sizes, lower stocking densities, and animals of higher health

status compared to commercial conditions. It is often perceived that the credibility and applicability of research results would be greatly improved if such research could be conducted under commercial conditions similar to those in which the results are to be applied. Research efforts conducted “on-farm”, however, often lack the facilities to accommodate the statistical design necessary to detect and quantify differences between treatments.

Gowans Feed Consulting, a leading Canadian pig, poultry and beef nutrition consulting company, conducts research in two state-of-the-art commercial-scale research barns – one for nursery (Lewisville Nursery Research Barn), and one for grow-finish pigs (Drumloche Research Barn). These barns were designed to conduct applied research from weaning to slaughter weight, using proper experimental design and control. The facilities are located near Irma, Alberta, about one and a half hours east of Edmonton. All trials conducted at these facilities are managed by Gowans Feed Consulting and supervised by its research team.



Front view of the Lewisville Nursery Research Barn. The barn is serviced by five smaller (four tonne) and five larger (six tonne) bins with the possibility of testing up to five experimental diets.

Lewisville Nursery Research Barn

Built in 2016 by Lewisville Pork Farm, the commercial research nursery barn consists of two rooms with a capacity of 1,400 pigs on test (700 pigs per room). Each of the 50 test pens holds 28 pigs from weaning (six kg initial body weight; 20-21 days of age) up to 25-26 kg of



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body weight, providing 0.27 m² or 2.9 ft² per pig. Pen is the experimental unit and pigs are weighed as pen groups. There are four additional pens for sick/non-test pigs. The feed is dispensed to feeders in both rooms with an electronic automatic computer controlled feeding system (Feed Logic). Water lines are plumbed to allow five different water treatments to be provided to each pen, allowing the testing of water feed additives independently of feed. Lines are equipped with water meters so water usage can be tracked by treatment. Feeders are multi-space dry feeders (Crystal Springs) while water is provided in two bowl drinkers. The Nursery Research Facility also has a viewing area and laboratory where feed, blood or fecal samples can be processed.



Feed Logic system. The automated feed delivery robotic system keeps track of feed delivered to each pen accurately. The robotic system manages multiple diets and can also blend feeds or dispense supplements or additives to specific pens with no cross contamination.



Inside view of one of the rooms at the nursery research facility. Each pen has a multi-space dry feeder and has access to one of 5 different test water lines.

ily and consists of 2 rooms, each room housing 1,050 grower-finisher pigs in 50 pens (21 pigs/pen). Two remaining pens in each room are used for treated or injured pigs. Pens at the Grower-Finisher barn are equipped with a nose

to nose wet/dry stainless steel feeder (Crystal Springs; 2 feeding spaces and one water nipple) and a supplementary water bowl located on each pen partition. Each room at the Drumloche Research Barn is serviced by 6 bins, each with a 7 tonne capacity. Similar to the

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Drumloche Grow-Finish Research Barn

The grow-finish research barn was constructed in 2005 by the Burden Fam-



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The Drumloche Research Barn. This facility has 2 rooms (1,050 head each) with the capacity to conduct 2 research trials simultaneously.

nursery, the barn is equipped with a robotic feed delivery system (Feed Logic) for accurate dispensing and tracking of the test diets. Since its construction, a wide array of applied research projects have been conducted at the barn. Some of the projects have focused on evaluating alternative feedstuffs for swine, determining nutrient requirements for pigs, energy response curves, amino acid requirements, feed additive and



Pens at the Drumloche Research Barn. Each pen (total space of 158 ft²) is equipped with a nose to nose wet/dry stainless steel feeder and a supplementary water bowl located on the pen partition.

vaccine evaluations, and terminal sire line trials.

The research data are collected by highly skilled technicians with labor support as required. Dr. Malachy Young is the General Manager of the Nursery and Grower-Finisher Research barns and is involved in experimental design, analysis of results and preparation of final



Inside view of one of the rooms at the Drumloche Research Barn. Each room has 52 pens, 50 of them used as test pens and 2 for treated or injured pigs.

reports. Feed used in the Research barn is prepared at the Sunhaven Farms Feed Mill which manufactures only swine feed and is located 16 km from the barn.

If you require further information please contact Malachy Young at Gowans Feed Consulting (780-842-0780; malachyy@gowansfeedconsulting.ca) ■

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