



Science Helps Hogs to the Finish(ing) Line

By Geoff Geddes, for Swine Innovation Porc

As important as nutrition may be for sows and piglets, if you don't get your hog to market and sell it for the maximum profit, nothing else matters. So it should be no surprise that the care and feeding of growing-finishing pigs is a prime concern of producers and, by extension, of researchers. From low energy diets to high precision feeding, science is seeking innovative approaches for growing your pigs without expanding your expenses.

Low energy feeds

To succeed in pork production, you must consider a range of factors and how they interact, and dealing with low energy feed is a perfect example. Previous research has found that low, constant net energy (NE) diets for grow-finish pigs provide a better return than higher NE diets. Sure, pigs must make up for that lower NE density by eating more, but how hard can that be? In theory, raising consumption is easy; however, this study on low energy feeds considered the practical challenges that could affect feed intake, such as crowded pens and less feeder access.

After providing low or high NE diets to pigs in 96 pens of 18 or 22 pigs per pen, researchers found that less crowding resulted in more feed consumption and greater growth rates. Though adding an extra feeder also boosted consumption, it did

little for average daily gain, most likely due to increased spillage.

Perhaps most interestingly, this project which set out to examine the relationship among stocking density, feeders and diet, concluded that there really wasn't one, and that's a good thing. This result means that even when producers overcrowd a pen or fail to provide an extra feeder, pigs will still do well with a low NE diet.

Not that anyone advocates overcrowding, but it should be of comfort to producers knowing they can use these diets, save money and, for once, not have to balance multiple factors to succeed. Anytime research can bring some simplicity to a complicated business, it is worth the effort.

Using low NE diets may not only save producers money, but can also be simple to implement

Precision feeding

Like walking a tightrope, devising a pig diet is a delicate balancing act. In both cases, there is little margin for error, as improper feeding can send your profits plunging. Whether it's improving phosphorus efficiency or employing low protein diets to reduce feed costs, research has looked extensively at how to get the biggest bang for your feed buck. As it turns out, the answer may be one that leads to more questions: it depends.

Just as humans have a range of appetites, growth rates and nutrition needs, so do pigs. Precision feed researchers addressed this by blending nutrients differently for each pig in their study. They used mathematical models to estimate pig requirements and experimental feeders to dole out the right blend to the right pig.

Though more work must be done to apply the approach in a commercial environment, this study spotlighted exciting advancements in technology that can have a major impact on farm. The computerized feeders offer real-time data on how each pig is performing, and producers can control the feeders from their office, thereby reducing labor needs.

If it's true that knowledge is power, technology and the precision feeding it allows could be a powerful ally for producers in the years ahead. Speaking of allies, these two studies reinforced the value of research working in lockstep with industry. The need for greater feed efficiency and cost reduction options for growing-finishing pigs is a constant theme of producers, and such cutting edge research means that science is getting the message loud and clear. ☺

Learn more...

For more information about the projects described in this article, please contact:

- For low energy feed: Dr. Miranda Smit (miranda.smit@gov.ab.ca)
- For precision feeding: Dr. Candido Pomar (candido.pomar@canada.ca)

This research was part a larger national project titled *Feeding programs for growing - finishing pigs to enhance global competitiveness: opportunities across Canada*. You may find additional resources related to the project by consulting our website:

www.swineinnovationporc.ca/animal-nutrition

The work presented in this article was part of Swine Innovation Porc's Swine Cluster 2: Driving Results Through Innovation research program. Funding was provided by Agriculture and Agri-Food Canada's AgriInnovation Program, provincial producer organizations and industry partners.