



Boar Taint Research in Good Taste

By Geoff Geddes, for Swine Innovation Porc

People who say the boar taint problem has been overstated have one thing in common: They've never tasted the results. On the other hand, researchers behind the project *Validation of feeding strategies - Model validation and intact males* (I. Mandell and J. Squires) take the problem very seriously, and are doing their best to keep boar taint from leaving a bad taste in the consumer's mouth.

"The whole issue of boar taint is a major problem in the pork industry for its impact on meat quality," said Dr. James Squires, a professor in the Department of Animal Biosciences, Ontario Agricultural College at the University of Guelph.

Uncastrated male pigs produce a sex pheromone that gives pork an unpleasant, gamey taste and an equally unappealing odor. To prevent this, all commercial male pigs raised in North America are castrated early on. Yet

in some respects, the solution is worse than the problem, as castration leads to animal welfare issues and eliminates the improved lean growth and decreased fat levels that are characteristics of uncastrated pigs.

Subtraction by addition

It's a problem that Dr. Squires has studied from many angles. His latest approach was evaluating the potential of certain feed additives to control boar taint and improve the quality of meat produced by intact male pigs. Following the evaluation, three trials were conducted using the most effective feed additives for binding androsterone and skatole, two compounds responsible for boar taint.

Of these trials, one in particular shows great promise for producers. It focused on wood charcoal, a new binding agent which is a feed ingredient approved by the Canadian Food Inspection Agency.

Gut instincts

"The idea stemmed from something vets and doctors treating humans have been doing for a long time. If a dog eats something nasty or someone overdoses, the first step in treatment is using activated charcoal to bind up the foreign matter in the gut. Since compounds causing boar taint are either produced in or recycled through the gut, we made the connection and put activated charcoal to the test in pigs."

The result was something that surprised even Dr. Squires himself: it worked.



Finisher pigs. Image: Public domain

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“This trial showed that when you include activated charcoal in diets fed to uncastrated males, over time it lowers the amount of boar taint compounds accumulating in the animal to levels acceptable to consumers. We are still fine tuning the concept, trying to determine the minimum amount of charcoal needed and how long you must use it; but we think it’s a very promising approach.”

Kinder, gentler, cheaper

Adding to the promise is that controlling boar taint through nutrition has a two-pronged benefit. Apart from addressing animal welfare concerns around castration, this approach could improve productivity as intact males are leaner and more feed efficient, saving some production costs on farm.

“This is one of the few win-win propositions in research as we can benefit both animal welfare and productivity. Usually I work on one or the other as they tend to be opposites, so the potential here is intriguing.”

Avoiding castration also removes the potential for infection that can arise from that process. Still, there are questions that researchers must investigate: Will the nutrition approach require additional labour? Will it control boar taint in all cases? What is the

ideal level of activated charcoal for different breeds?

They are also looking at other more cost-effective alternatives to activated charcoal.

The bottom line for industry is that there may be a way to improve animal welfare, reduce costs and enhance meat quality at the same time. And if doing so can leave a good taste in the mouths of consumers, committing more resources to make it happen is an easy concept to swallow.

Learn more...

For more information about the work described in this article, please contact Dr. James Squires at jsquires@uoguelph.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/research-animal-nutrition

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