



Prairie Swine Centre E-Zine

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Non-Nutritional Impacts on Feed Efficiency

Feed efficiency always has been important, given the current high cost feed environment there has been considerable emphasis placed on management strategies that improve feed efficiency. Since feed efficiency is impacted by feed intake and average daily gain, nutritionists tend to focus on individual factors that impact these two factors. However, within a production system there are multiple factors, outside of nutrition, that impact feed efficiency such as genetics, disease, environment, and management. So, what are those factors beyond nutrition that impact whole herd feed conversion? What is their impact? Are we measuring feed efficiency correctly? These were some of the questions addressed by Dr. Aaron Gaines (The Maschoff's) during a recent webinar (April 10) examining "Herd Management Factors That Influence Whole Herd Feed Efficiency."

Typically when we talk about feed conversion we assume it's a feed per gain measurement on a live weight basis. Is this the most accurate way to measure feed conversion? Higher feeds costs have encouraged producers to increase use of alternative feed ingredients and DDGS. These higher fibre-low energy diets have inherently resulted in feed efficiency getting worse, but have improved the bottom line. This type of relationship creates a strong argument to measure feed efficiency on a carcass basis, opposed to a live weight basis, and has significant impact on economic decisions within a production system.

Expected feed efficiency can be influenced by a number of factors within an operation: lower dietary energy levels, older (heavier) pigs at weaning, continued heavier market weight, and pelleted diets. All these factors change according to feed and hog price relationships, which makes it difficult to interpret feed conversion data over a period of time. In order to account for this difference Kansas State University (Dr. Bob Goodband) has developed adjustment factors to account for these items and their impact on feed efficiency (equations can be found in the *Pork Insight* database at www.prairieswine.com).

What about the impact of the breeding herd? Feed costs for the breeding herd, are for the most part sunk costs. Therefore a more productive sow herd means more pigs to spread these feed costs over. Data presented during the webinar suggests increasing sow productivity by 2.5 pigs/ weaned sow results in a reduction of 8.4lbs of feed per weaned pig or approximately \$1.00/pig at current feed prices. As well differences between gilt and sow progeny indicate, progeny of gilts experience 2-3% more cases of mortality and removal for thriftiness when compared to sows in each phase of the barn.

What other non-nutritional factors within the grower-finisher barn? What happens if we would estimate the transfer weight into the grower rather than weighing pigs? It's significant, as data shows us that a 5lb variance in weight would have a .6 change in whole herd feed conversion. This shows us the risks involved in using inaccurate weight collection data. Another very important factor impacting feed efficiency is mortality, especially in late finishing. Benchmarking data from AgriStats also indicates that pre-weaning and finisher mortality consistently rank in the top five factors that impact farm profitability.

While is not a comprehensive list of management factors that impact whole herd feed efficiency, it does provide a starting point on how we can look deeper into our operations. Improving feed efficiency is very dependent on individual systems each system would have its own unique challenges. Producers would be encouraged to create a self-assessment that would identify areas of improvement within their system.

As part of Prairie Swine Centre's "Focus on Feed Efficiency" webinar series the topic of "Herd Management Factors That Influence Whole Herd Feed Efficiency" was recently addressed by Dr. Aaron Gaines. For more information on this topic, or others related to feed efficiency can be found on our website.

Use of Dried Distillers Grains with Solubles (DDGS) in Swine Diets

<http://www.prairieswine.com/use-of-dried-distillers-grains-with-solubles-ddgs-in-swine-diets/>

The Response of Growing and Finishing Pigs to High and Low Crude Protein Diets

<http://www.prairieswine.com/response-of-growing-and-finishing-pigs-to-high-and-low-crude-protein-diets/>

Dr. Aaron Gains Presentation "Herd Management Factors That Influence Whole Herd Efficiency"

<http://www.prairieswine.com/herd-management-factors-that-influence-whole-herd-feed-efficiency/>

