

A Twist on Feed Efficiency

William Herring provides perspectives on genetic improvement of feed utilization — from the swine industry.

by

KINDRA GORDON

“Be careful what you ask for, because you just might get it — and that is especially true with genetic selection,” said William Herring as he addressed participants at the 2010 Beef Improvement Federation (BIF) symposium June 29 in Columbia, Mo.



William Herring, who formerly conducted beef genetic research, shared comments on genetic improvement of feed utilization from the perspective of the swine industry.

Herring, who formerly conducted beef genetic research, shared comments on genetic improvement of feed utilization from the perspective of the swine industry. Through his role with Smithfield Premium Genetics*, Herring has successfully transformed swine genetic evaluation into a state-of-the-art statistical and technical process.

Herring noted that the swine industry has changed over the last few years and will likely continue to do so given the continuing changes in the economic, environmental and international climate. Most notably, he pointed out that the sow inventory has been reduced by 5%-15%, while production has been able to remain relatively constant.

Herring shared that Smithfield Foods operates an integrated system with an internal unit focused on genetics. “Efficiency is important, especially over the last several years,” Herring stated.

With regard to feed efficiency or feed conversion, Herring challenged the beef industry to rethink the definition. Traditionally, feed efficiency is defined as pounds of feed consumed divided by the pounds of gain realized, he explained. “I challenge you to think about it from a commercial perspective. Rather than individual animal, evaluate group closeout.”

In that scenario, Herring likes to monitor pounds of feed placed divided by pounds actually sold or marketed.

“Reduced intake during lactation for a breeding female certainly could be the first step to reducing pounds of calf weaned per cow exposed.”

— *William Herring*

With this equation, he explained, all feed cost is realized, but you don't get credit or revenue for any animal that dies, which gives a better indication on profitability.

“That's how we monitor if we are being successful or not,” Herring said.

Herring acknowledged that several factors can influence efficiency — from gender to environmental and disease stressors. He noted that the swine industry pays close attention to several non-genetic factors, including feed manufacturing and delivery.

“We look for any inefficiency from the mill to delivery to the pig feeders themselves,” he said. These, combined with genotype, all have a role in efficiency. As an example, Herring gave comparisons of two genotypes — a super efficient lean animal compared to a fatter, slower-growing animal. Whether a hog or beef animal, Herring noted, when put in a commercial setting and exposed to stress, the leaner animal has a higher maintenance and will likely have a reduced intake and average daily gain.

“Those animals that present a lean type of genotype are more susceptible to environmental stressors. Stressors drive down intake and that is not good,” he stated.

Recognizing this, Herring said, whether you are working with swine or beef, it is important to put the right genes in the system to create that next generation.

Herring noted that Smithfield Foods is always testing breeds/genetics to monitor performance on a commercial level. They utilize expected progeny differences (EPDs), indexes and measure individual animal consumption at the purebred level. The data is then used in multiple-trait models. “Windows of acceptability” guide genetic selection.

In his closing comments, Herring noted that his colleagues in the poultry industry have had similar conclusions to the pork industry with regard to genetic improvement for feed efficiency on the commercial level.

“They've selected for it and made progress. But the big take away is they feel like they've created genetic gain, but it's also resulted in a bird that has less intake, and they view that as a bad thing,” Herring stated.

His parting advice to the beef industry: “As you push forward with selection for efficiency, I really think this area deserves more attention just to be sure you're heading down the right

path.” He cautioned that intake efficiency influences several other traits.

Specifically, Herring said, “Any response that reduces intake during lactation is a bad thing. I want sows consuming and to breed back. I don't care how efficient she is, if she is not breeding back that's a bad deal. My gilt replacement cost is not insignificant.”

He concluded, “Reduced intake during

lactation for a breeding female certainly could be the first step to reducing pounds of calf weaned per cow exposed.”

Themed “Gateway to Profit,” the 2010 BIF Annual Research Symposium and Annual Meeting was hosted by BIF June 28-July 1 in Columbia.



***Note:** In September 2010, William Herring joined Pfizer Animal Genetics as senior director of

global technical services. In his new role he will lead the global technical services team to maintain Pfizer Animal Genetics' commitment to customer-focused solutions through its portfolio of genomics-based products and services.

Editor's Note: For additional coverage of the symposium, visit www.bifconference.com, Angus Productions Inc.'s (API's) event coverage site. This coverage is made possible through collaboration with BIF and sponsorship by BioZyme Inc. through its significant gift to the Angus Foundation.