

Research and Tips to Combat High Feed and Production Costs



It's hardly news that pork producers today are facing near-record feed prices, and the outlook for the rest of 2011 does not look to reverse that trend in a positive way. However, there are always ideas to consider and techniques to try that may help blunt the upsurge in cost of production.

Over the years, Pork Checkoff-funded researchers have looked into many issues that affect production costs. Last November, in the *Pork Checkoff Report Special Edition*, we highlighted much of the recent research conducted on DDGS, so this time we'll focus on other feed-related areas, as well as highlight additional management tips and resources compiled by the Pork Checkoff.

Main Areas to Focus On to Impact Costs

According to Kansas State University extension swine specialist, Dr. Steve Dritz, producers should focus on the areas of cost they can control to reduce cost and optimize margin. These include:

- Productivity (reproduction x genetics x health)
- Health
- Pig care
- Feed cost (F/G x ingredient purchase)
- Marketing (weight x plan)

"Some variables are apparent to producers such as pigs per sow per year, but others such as genetics may not be," Dritz said. "My analysis has shown genetics can result in \$3 difference per head, which surprises a lot of people."

Dritz says health is always critical. Whether it's circovirus or PRRS, it can easily result in \$5 per head difference in cost. However, lesser diseases also can make a big impact on costs, especially when they are chronic in a herd.

Pork production per sow is a good measurement for producers to monitor says Dritz. "It's highly correlated to profitability and is often a good indicator of the financial health of an operation from a production perspective," he said.

More insights from Dr. Dritz and his colleagues can be found online at <http://www.asi.ksu.edu/DesktopDefault.aspx?tabid=1270>. ✓

Annual Meeting Notice

The annual meeting of the Pork Act Delegates will be held March 4-5, 2011 at the JW Marriott Desert Ridge in Phoenix, Ariz. For details go to pork.org or call (800) 456-7675.

Tips and Resources

The following ideas for reducing feed costs and increasing efficiencies are partially funded by the Pork Checkoff or gathered by Checkoff staff from reputable sources.

Feed Processing/Manufacturing

Decrease feed particle size – For every 100 micron change in particle size, feed efficiency is impacted by 1.2 percent. Decreasing particle size from 750 microns to 600 microns will result in substantial savings per pig. In most cases, this particle size is not fine enough to worry about ulcer problems, but feed dust will be increased. For more information on analysis of particle size, go to <http://www.asi.k-state.edu/DesktopDefault.aspx?tabid=1225>. For a fact sheet titled, *Effects of diet particle size on animal performance*, go to <http://www.oznet.ksu.edu/library/grsci2/mf2050.pdf>.

Improve pellet quality – Fines cause feed waste, but feed utilization and efficiency can be improved by using a pelleting process that ensures less than 20 percent fines at the feeder. Research at Kansas State University shows that pelleted diets result in more highly available nutrients, less dust, less feed waste, better feed conversion and lower incidence of ulcer problems. Always check the cost of pelleting against expected efficiency gains to determine if pelleting pays. For more technical information, go to <http://jas.fass.org/cgi/content/abstract/73/3/757>.

Maintain equipment for optimal efficiency – Rotate or replace hammers in the hammer mill to ensure consistent particle size. Also, maintain roller mills for desired particle size and ensure mixing equipment is maintained to distribute nutrients throughout the entire volume of feed. Finally, calibrate and maintain the scales for weighing pigs and feed at least twice per year.

Consider use of wet-dry feeders – These feeders may reduce feed waste and dust. Also, palatability is improved over dry diets, which may increase consumption and performance. For the article, "Impact of feeders and drinker



devices on pig performance, water use, and manure volume," go to <http://www.aasv.org/shap/issues/v8n2/v8n2p51.html>.

Repair or replace broken feeders – This problem can lead to excess costs due to feed waste or inadequate feed for the pigs, which can result in poor performance. So, consider replacing older/inefficient feeders with well-designed, efficient feeders that minimize feed waste and promote maximum performance.

Adjust feeders to reduce waste – This should be a routine practice. Minor adjustments of feed bins and transport systems also can result in big savings. Kansas State University recommends the following steps for proper feeder adjustment:

- Close feeder completely after cleaning and before putting any feed in the feeder.
- Open feeder just enough to start small feed flow.
- Shake feeder to increase the amount of pellets or meal in the pan (to cover 1/3 of pan).
- Clean corners daily instead of increasing feeder adjustment to increase feed flow.
- Prevent moisture damage and spoilage in feed systems and storage.
- Eliminate all rodents, birds and other pests.

For feeder adjustment cards showing properly adjusted feeders for nursery, grow-finish and lactation, go to <http://www.asi.k-state.edu/desktopdefault.aspx?tabindex=1007&tabid=889>.

For another tip sheet, go to <http://www.thepigsite.com/articles/6/production-and-mgmt/2169/management-practices-to-reduce-expensive-feed-wastage>.

Feed Management

Monitor feed allocations and use least-cost formulations – Follow feed budgets closely to ensure accurate compliance for each pig phase. Otherwise,



efficiencies may go down as costs rise. It's best to formulate diets with economic costs in the equation and to develop diets at optimum performance and the least cost of ingredients. See <http://www.oznet.ksu.edu/library/lvstk2/MF2301.pdf>.

Reevaluate phase feeding and options for split-sex feeding – Make sure weight categories and genetic descriptions fit your current rations closely. Consider split-sex feeding to further increase feed efficiency. These steps can improve ration accuracy and increase production efficiencies. Also, consider finishing rations that limit or eliminate excess nutrients just prior to slaughter to lower feed costs on your heaviest pre-market hogs.

Decrease/eliminate feed outages – Feed outages significantly impact the efficiency of feed utilization in pigs. Assess the frequency and duration of feed outages and minimize or eliminate them. For more insight, see “Out of feed events in grow-finish pigs: Causes and consequences” found at <http://ianrpubs.unl.edu/swine/ec05-219.pdf>.

Make measuring of feed intake/waste part of the work routine – Monitor feed intake on individual pigs or pens to quickly recognize feed waste, pen health problems, water quality/availability, ventilation challenges and other issues.

Practice proper feed withdrawal before marketing – Consider withdrawing feed from market pigs up to 12 hours prior to scheduled processing to save on feed consumed, to reduce the actual live weight of the hogs and to enhance average carcass quality. As always, follow recommended withdrawal times for feed additives to prevent carcass condemnations, disruption of market channels, negative publicity for the pork industry or rejections of pork exports.

Summary

More tips and suggestions are available on Extension websites, the Pork Information Gateway (PIG) at www.porkgateway.org (user registration is required) and the Checkoff's website at pork.org.

Decreasing feed and production costs is very complex. Small gains in several areas can produce significant savings. However, by only decreasing the cost of feed per ton, the cost of feed per pound of gain or total feed cost per pig to market weight may actually decrease profitability. Likewise, improving feed efficiency may decrease profitability if actual feed costs increase more than the return received on the increase in efficiency.

Producers need to focus on production practices that optimize feed costs and efficiencies while maximizing profitability. Contact your local Extension service, nutritionist or veterinarian for more information and regional recommendations. 🍷

Checkoff Research Shows Genetics Affects Feed Efficiency

Genetics play a big role in feed efficiency. The Pork Checkoff has funded research to identify genes that impact feed efficiency in pigs.

The research was designed to identify genetic markers for producers to use in marker-assisted selection programs to improve feed efficiency. Because feed-intake data is expensive to collect on individual finisher pigs, the Pork Checkoff made this investment so producers would have such trait data available to them.

About 10 years ago, Iowa State University (ISU) started selection for residual feed intake, which measures the difference between what an animal actually consumes and the average amount of feed required for that animal's maintenance and growth. To do this, ISU established two lines, a selection line for residual feed intake and a control by randomly splitting litters.

For this study, 730 animals from the first seven generations of these lines were genotyped. To improve the speed and reduce the cost of genotyping, a tool known as the PorcineSNP60 BeadChip (SNP chip) was developed with the assistance of ISU's Dr. Max Rothschild and other researchers. The single nucleotide polymorphism (SNP) chip simultaneously genotypes 64,232 genetic markers in a single pig at a cost of about 0.3 cents per genotype.

Study Yields Promising Results

The SNP chip works extremely well in many populations. Statistical analyses identified numerous genetic markers for residual feed intake, average daily feed intake, average daily gain and backfat. A currently unmapped genetic marker had a large effect on backfat, accounting for more than 3 percent of the genetic variance in the trait.

By selecting animals using genetic markers associated with residual feed intake, producers could reduce feed costs without the expense and difficulty of measuring feed intake and without reducing growth rates. Taken together, selection for the various markers identified in this study could reduce cost per pig produced in the near future.

Look for the full report soon on pork.org.

For More Information...

The Pork Checkoff's new 34-page guide, *Practical Ideas to Address High Feed and Production Costs*, is available online. Go to pork.org and search for the title or type <http://www.pork.org/filelibrary/FeedWeb1210.pdf>. For hard copies, go to the Pork Store site on pork.org.



"...the research funded by your Checkoff is finding new ways to reduce costs and make our animals more productive."

Dr. Steve Healy,
farrow-to-finish producer from
Statesboro, Ga., and Animal
Science Committee chair

Checkoff Research Pays

With the direction feed and other input costs have gone over the last six-plus months, you've probably checked out alternative feed ingredients, made multiple feeder adjustments and even reconsidered cull rates and genetics. You might not know, however, what the Pork Checkoff is doing to help find solutions to the challenges we currently face.

As chair of the Animal Science Committee, I can tell you that while it's sometimes hard to see, the research funded by your Checkoff is finding new ways to reduce costs and make our animals more productive. In this newsletter, you'll find examples of how America's pork producers are working with university and government researchers on vital research. While it takes time for research to yield direct benefits, we are the catalyst needed to get it done, and ultimately we are the beneficiaries of this investment. In the near-term, I'm optimistic about what researchers funded by the Checkoff are working on and how the entire industry is seeking out new tools to help make our animals more efficient in a safe and socially responsible way.

We've made tremendous progress over the years in finding ways to improve feed efficiency, average daily gain and make our sows and market pigs more productive. Some of this research is highlighted in the Checkoff's recently published booklet, *Practical Ideas to Address High Feed and Production Costs*, available at pork.org. This is another illustration of how your Checkoff dollars provide you with a good return on your investment.

Steve Healy



This is a special-topic newsletter sent periodically to you by the Pork Checkoff.

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Inside: Research and tips to combat high feed and production costs.