

Take a look back at 2019 topics in swine nutrition column

As we start 2020 and look forward to what is hopefully a more profitable time for swine production, let's review the past year's articles for the *Feedstuffs* Bottom Line of Nutrition: Swine. This review is meant to be a recap of the articles, with a reference to the date they were published as well. If you would like a reprint of an article, contact *Feedstuffs* or NutriQuest (sarah.weiland@nutriquest.com).

• **Jan. 14, 2019** — “**Methods of Feed Pathogen Mitigation on Swine Farms Evaluated,**” by Rob Musser.

This article provided an overview of the feed sanitation technologies available to the market at that time. Over the last 12 months, the industry has continued to research and develop new technologies that can be applied to feed and feed ingredients to minimize the risk of feed as a disease vector. However, producers, feed manufacturers and feed ingredient suppliers should be working aggressively to deal with the ever increasing need for biosecurity.

Producers should ensure that they ask for supportive data validating the effectiveness of a feed sanitation technology they are considering and work closely with their health and nutrition advisers to best understand their options in this rapidly evolving area of feed innovation.

• **Feb. 11, 2019** — “**How Best to Handle Formulation Ingredient Pricing Discussed,**” by Jeff Hansen, Steve Weiss and Clark Bergeman.

This article asserts that market replacement pricing is the most effective method for pricing products into a formulation matrix in order to maximize profitability. There are situations where one should consider the lower of ownership cost or market price, typically relating to pre-purchase positions that do not provide the opportunity for liquidity in the position. It is recommended that you consider maintaining the pricing relationship between key alternative ingredients and the major commodities they are replacing using futures positions, which can help ensure that you achieve the desired pricing relationship and ingredient usage.

Since this article was written, we have seen a great deal of fluctuation in ingredient prices as potential export customers are considering new purchases. This article resulted in some tough discus-

Bottom Line

with
ROB MUSSER*



sions at companies about what values they use for formulation. The goal of the Bottom Line articles is to, in part, challenge conventional thinking and consider alternatives ideas.

• **March 4, 2019** — “**Common Errors Made in Sow Field Research & How to Avoid Them,**” by Petra Chang and Gene Gourley.

The bottom line was that conducting sow field research is decidedly complex and difficult, and it is an onerous undertaking by the whole farm crew. To be successful at it, one must start with good people, followed by good training and plentiful communication. A lot of things can — and do — go wrong in a sow farm, but having the right people to communicate and document these mishaps can get you a lot closer to fulfillment with less wishful thinking.

This article was designed to ensure that organizations newer to field research consider the risks associated with conducting a proper trial. Consideration should be given to determine if you will gain better knowledge by conducting your additional supportive work versus the work being presented to you.

• **April 1, 2019** — “**Internal Auditing Can Be Helpful in Feed Manufacturing Settings,**” by Emily Melander.

Internal audits are not necessary for being in compliance with federal or state regulations, but they do provide a route to full compliance and continual improvement for feed manufacturing facilities. Internal audits are somewhat of a new concept for feed manufacturers but are commonplace functions for the human food industry. By no means do internal audits suggest that the animal food industry is the same as the human food industry, but we can learn from those functions and processes for having well-developed review systems and programs for providing customers with consistent product.

Consideration for different levels of internal evaluations can ensure quality above the needs of standard regulatory compliance measures.

• **May 6, 2019** — “**Considerations for Sow Lactation Diet as Summer Approaches,**” by Dustin Dean.

Based on the exceptional nutrient de-

mands of the modern high-producing sow, adjusting summer lactation diets to practical limits of soybean meal and added fat inclusions seems easily justified when trying to minimize body mass loss, reduce the wean-to-estrus interval and maintain weaning weights.

Utilizing a high-quality fat source at levels no greater than 4-5% to maintain feed flowability and limiting soybean meal to near 30% with the use of crystalline amino acids to achieve target lysine intakes can help reduce the negative effects of high summer temperatures on sow and litter performance. This article would be a good read for those starting to plan out their summer sow diet strategies.

• **June 3, 2019** — “**Testing, Cleaning Recommended as Grain Quality Can Change in Storage,**” by Sarah Weiland.

Mycotoxins can be caused by fungal growth both in the field and from inadequate storage conditions. Testing is the best way to monitor mycotoxin levels in grain and should be done frequently, especially when grain is going into and coming out of storage. Cleaning grain can help reduce the number of broken/susceptible kernels and has been shown to reduce the levels of certain mycotoxins.

Being aware of the toxin load can help determine the best next steps and usage options for that grain. Feed mills and livestock producers should keep in mind that the quality of grain going into storage is not necessarily equivalent to the grain quality coming out of storage. This article reminds us of the need to monitor grain quality as we move into spring and that many bins in the Upper Midwest start to run the risk of more mold growth.

• **July 1, 2019** — “**Options Available for Optimizing Corn Inclusion in Swine Diets,**” by Nick Shelton.

The bottom line is that there are opportunities to optimize corn usage through multiple pathways, including ingredient inclusions, dietary nutrient specifications, feed manufacturing optimization and proficient barn-level management. Producers should work to optimize corn usage within their system by engaging their production and nutrition teams to perform a cost/benefit analysis to determine the impact of each of the opportunities present for the particular system and employ those that make financial sense.

Due to a long fall harvest this year, expectations rise regarding the need to

*Rob Musser is director of technical sales and services at NutriQuest.

manage corn use from region to region, matching availability and price.

• **Aug. 5, 2019** — “**Why Do Swine Systems Value Gain So Differently?**” by **Rob Musser**.

Consideration of how swine producers value finishing space in their systems will greatly affect the potential value of a change in technologies or management to achieve heavier weights. It is important to fully understand how each system values gain in order to make the right economic decisions.

This is an area that will continue to be a challenge, and with the increasing cost of construction, it may need to be revisited more often. The big takeaway is not to assume but to talk with producers about their needs and demands, which may be different from their neighbor's.

• **Sept. 2, 2019** — “**Understand Grain Moisture Impact on Finishing Pig Feed Conversion,**” by **Jeff Hansen**.

Understanding the contributors to changes in feed conversion is important for many livestock producers. One of the true variations that can, and does, occur every year is related to changes in grain moisture content from one harvest until the subsequent harvest. It is possible to know and project the effects of grain moisture content on feed conversion, and it is important to recognize the time of these impacts to minimize surprises.

In the examples provided, finisher pigs sold just after harvest would be expected to experience the highest feed conversion of the year, at least in part due to large volumes of higher-moisture grain being fed. As we use the 2019 crop and factor in the impact of propane availability in the Midwest, higher-moisture corn may be coming out of bins. It is important to consider these varying moisture

levels when reviewing diet and closeout information as you obtain it.

• **Sept. 30, 2019** — “**Birth Weight Critical to Pig's Lifetime Success,**” by **Petra Chang**.

With continuing genetic improvement toward more prolific sows and improvements in embryonic/fetal mortality, piglet birth weight has increasing importance to the profitability of a system. It is fairly well established that increasing the number of piglets born alive typically will reduce average birth weight, meaning more and more pigs enter higher mortality risk categories.

THESE results clearly support the idea that early growth rate is crucial to a pig's lifetime success/performance, especially during the nursery period. Therefore, improving care and nutrition to maximize growth during this phase seems to be extremely important. Technologies that have been shown to increase birth weights can provide a high return on investment via their effects on preweaning livability and subsequent performance, allowing producers to remain competitive in the market.

This article is a good reminder of the importance of birth weight, and as stated previously, it is important to realize that a good start for pigs may mean fewer finishing days and better use of existing finishers.

• **Nov. 4, 2019** — “**Are Heavier Market Hogs on the Horizon for U.S. Pork Industry?**” by **Dustin Dean**.

This article discusses research demonstrating that modern swine genetics have growth curves that allow for relatively efficient growth to close to 340 lb. of live bodyweight, and this provides the opportunity to push hogs heavier if needed.

Many factors have to be considered for the industry to shift to heavier market weights, including packer equipment constraints and market acceptance of larger primal and retail cuts. Nonetheless, it seems probable that market opportunities in the near term relative to the African swine fever situation will motivate hog producers to push market weights heavier and, to the extent possible, to take advantage of incremental margins and maximize profit.

As we look at 2020, it may be harder to push weights up due to expansion of the sow herd and increases in litter size resulting in limited days available to finish out market pigs.

• **Dec. 1, 2019** — “**How Will Tough Planting, Harvest Affect Livestock Producers?**” by **Sarah Weiland**.

This year's planting and harvest conditions have been tough on farmers, and the challenges will continue as the corn comes out of the field. As high demands for drying are coupled with propane shortages, it's likely that some corn will be stored in suboptimal conditions that can result in decreased storage life and increased mycotoxin risk.

High variation in corn maturity at harvest will result in variable corn moisture and protein levels among sources. Livestock producers using this corn crop in feed need to aggressively monitor and adjust their corn nutrient specifications as well as their mycotoxin levels to ensure that corn is used appropriately and that optimal growth rates can be reached. As stated in the article, it will be important to monitor grain quality as corn starts to move out of bins in the late spring and summer. ■