

Swine Finishing Feed Cost Prospects

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Corn prices have been quite volatile in 2019. Corn prices in Indiana were approximately \$3.70 per bushel in April, \$4.55 in July, and \$3.90 in December. Given the uncertainty regarding what gets planted to large amount of acres that were not planted in 2019 (i.e., prevent plant acres), corn prices are likely to also be volatile in 2020. To address this uncertainty, this article examines the impact of different corn price projections on feed costs for a swine finishing enterprise.

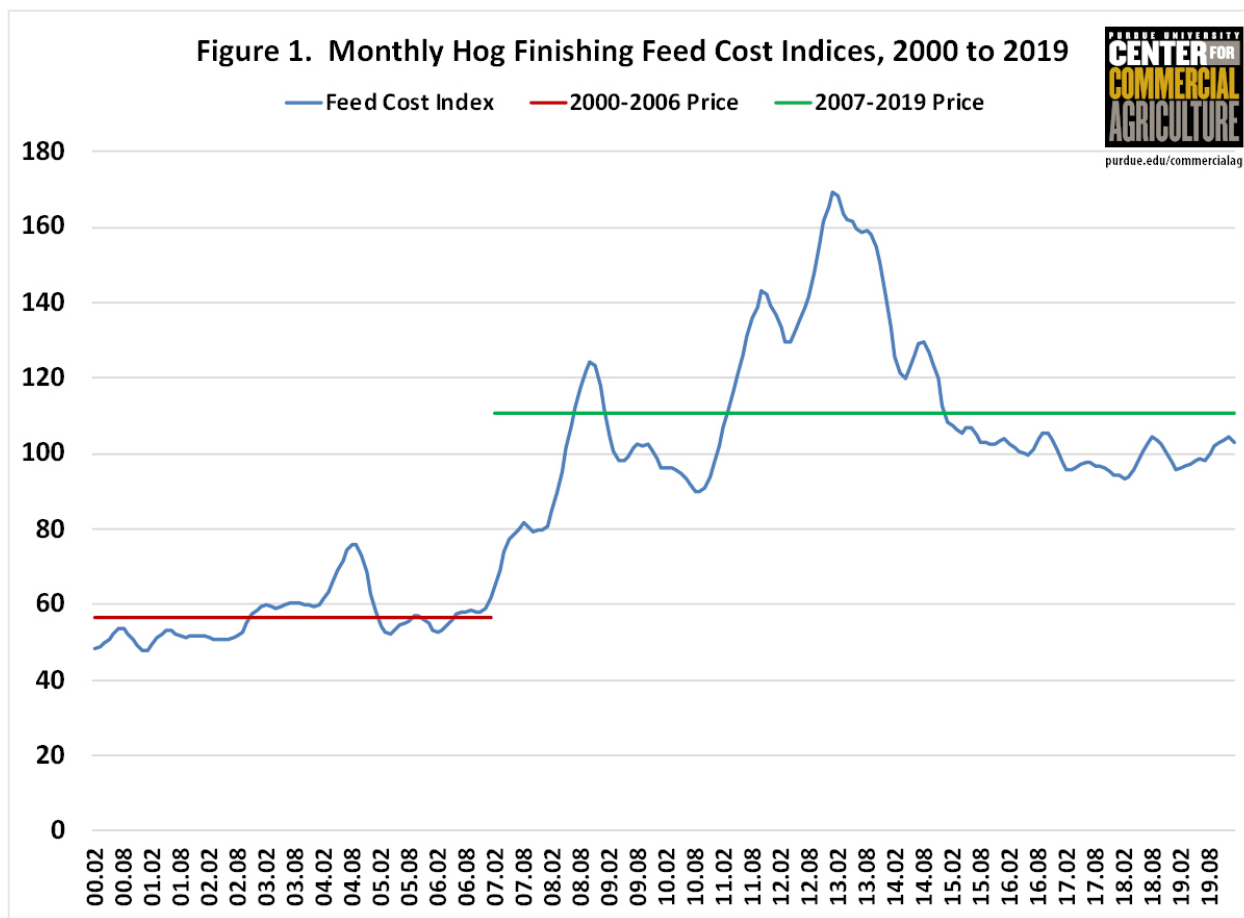
The swine finishing enterprise assumes the finishing of an early-weaned pig. The ration for this enterprise consists of corn, soybean meal, dry distillers' grain, and supplements. Corn prices represent averages for Indiana as reported by USDA-NASS. Soybean meal and distillers' grain prices are obtained from Feed Outlook, published monthly by USDA-ERS. Information from Agricultural Prices, a monthly USDA-NASS publication, was used to compute supplement prices. Future prices for corn and soybean meal are used to project feed indices through 2019. Feed cost indices are reported on a closeout month rather than a placement month basis.

Corn and Soybean Meal Prices

The average corn price since January 2007 was \$4.53 per bushel and average soybean meal price was \$351 per ton. With the exception of July 2019, corn price had not been above the average experienced during the 2007 to 2019 period since the first half of 2014. Soybean meal prices, on the other hand, were above the average from February through June of 2018. At the present time, corn prices have more upside potential than soybean meal prices.

Swine Finishing Enterprise

Indices were used to examine variability in swine finishing feed costs. Figure 1 illustrates monthly swine finishing feed cost indices for the January 2000 to December 2019 period. The latest full year of indices, 2019, has an index of 100 so all indices outside of this year are expressed in relative terms. Given the importance of the advent of ethanol industry, a distinction is made between the before and after 2007 periods. The average index for the 2000 to 2006 period was 56 while the average index for the period beginning in 2007 was 111.



Projections for 2020 used corn and soybean price estimates in early January. The projected feed cost index for 2020 is 101. This indicates that with current price projections, feed costs in 2020 will be similar to those experienced in 2019. However, given the uncertainty regarding corn acreage, corn prices could potentially be higher than current projections. The impact of a potential spike in corn prices is discussed below.

Sensitivity Analysis for Swine Feed Cost

Feed costs are very sensitive to changes in corn and soybean meal prices. Regression analysis was used to examine the relationship between hog finishing costs, and corn and soybean meal prices. Results are as follows: each 0.10 increase in corn prices increases feed cost per cwt. by \$0.44, and each \$10 increase in soybean meal prices increases feed cost per cwt. by \$0.32. Feed cost per cwt. in December was \$32.72. Using expected corn and soybean meal prices, feed cost per cwt. is expected to range from \$31 to \$33 in 2020.

In addition to using expected prices, it is often useful to examine feed cost per cwt. for a range of corn and soybean meal prices. Let's examine low and high price scenarios. A corn price of \$3.50 and a soybean price of \$275 would result in a feed cost per cwt. of \$28.25. In contrast, a corn price of \$4.50 and a soybean meal price of \$375 per ton would result in a feed cost of \$34.85 per cwt.

Conclusions

This article provided projections of feed cost indices and feed cost per cwt. for a swine finishing

enterprise. With current projections, feed costs are expected to remain similar to the levels experienced in 2019. However, a spike in either corn or soybean meal prices could increase costs 10 to 15 percent. Given the uncertainty pertaining to corn and soybean meal prices, it would be prudent to incorporate a relatively wide set of prices in swine finishing feed cost budgets.