

ECONOMIC CONSIDERATIONS FOR REDUCING GROWTH RATES AND FEED INTAKE IN FINISHING PIGS

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THE RATIONALE

Many pork producers are in a situation where they cannot market or deliver market ready pigs to packing plants due to plant closures and slowdowns resulting from COVID-19 issues. In looking for options to keep pigs on feed longer to delay marketing, faculty with the Iowa Pork Industry Center have [proposed strategies to slow down growth of market hogs](#) and are [currently testing the efficacy of several diet formulations](#) as well. All of these resources, including a recorded webinar, can be found on our website: www.ipic.iastate.edu.

While the preliminary data suggests these short-term strategies will be effective, producers must also consider potential economic trade-offs of feeding longer and switching to diets that may slow growth. In a normal operating environment, the economic decision point for the optimal weight at which to market hogs is where marginal cost of the last pound of gain equals marginal revenue from that last pound of gain. The concept is simple. Putting it into practice can be difficult because both marginal costs and marginal revenue change as pigs grow. *In the current situation, if pigs can't be delivered, producers need to consider least expensive holding methods and how the holding period weight gain may affect final value.*

ECONOMIC CONSIDERATIONS

Cost and returns are determined by three main drivers: the marginal cost of gain during the holding period, the amount of weight gained, and the final market price at which those pigs can be sold. These drivers are inter-related but are each considered individually.

- The marginal cost of gain or the cost of the last pound of gain will likely increase as pigs are less efficient when they reach market weights. Switching to a lower cost or lower intake diet will reduce feed cost per day and for the total time hogs are in a holding strategy, but would also likely reduce gain and increase marginal cost of gain as compared to an average cost of gain. Switching to a more costly diet that also limits gain could increase cost of gain even more, depending on feed intake. Having knowledge of what diet costs are, expected intake, and gain are important critical considerations in determining the marginal cost of gain.
- The projected length of time of t holding pigs on feed and the expected average daily gain will determine how much weight is gained during the holding period. Those additional pounds are important in determining a gross revenue for the pig.
- The other piece of information is expected market price, which is harder to determine. In the current situation if pigs can't be delivered now and they could be in the future that is the main benefit and how the market price changes is not a main driver. If however, carcass discounts come into effect as pigs get heavier the net price received influences the effectiveness of the holding strategy. Considering different pricing scenarios is important.

EXAMPLE LIMITED GROWTH SCENARIO

Let's compare a normal corn soybean diet to an all corn no soybean diet ([these are diets #1 and #5 in the ongoing trial](#)): Feed intake and expected gain are based on the preliminary research results in the trial.

- Current live weight of pigs is 290 lbs and projecting to limit additional growth for 3 weeks.
- The normal diet cost is \$0.08 per lb. and expected intake per pig is 6.98 lbs per day. Projected gain is 2.8 lbs per day or 59 lbs for the 21 day holding period to end at a final live weight of 349 lbs and projected carcass weight of 262 lbs.
- The all corn diet cost is \$0.055 per lb with expected intake per pig of 6.25 lbs per day. Projected gain is 1.1 lbs per day or 23 lbs for a 21 day holding period to end in a final live weight of 313 lbs and projected carcass weight of 235 lbs.
- The feed cost of gain with the normal diet is lower at \$0.20 per lb of gain versus \$0.31 per lb of gain for the all corn diet due to differences in gain. However, due to a lower cost diet and less intake, total feed cost for the 21 days is lower for the all corn diet at \$7.22 versus \$11.23 for the normal diet.
- Market price is an unknown but assume the base price stays the same during the holding period. Also assume that there would be an additional \$5/cwt weight discount for 262 lb carcasses versus a 235 lbs carcass or \$5 less per cwt for the heavier carcass.
- Even though both strategies result in a net loss during the holding period, the total net per head difference after subtracting additional costs from total revenue **is a \$7 per head advantage or less loss for the all corn diet.**
- If the additional weight discount was \$2.50 per cwt instead of \$5 per cwt the net loss is about equal between the two diets.
- This example provides a timely broad approximation for context as the industry proceeds forward. Individual situations can be different.

ADDITIONAL CONSIDERATIONS:

- In the current situation, the main goal is to limit weight gain or slow growth during the holding period to maximize opportunities for marketing and avoid culling/euthanasia.
- Facility space can also drive decisions. Ability to double stock with smaller pigs or find other temporary facility space can increase flexibility with market hogs.
- The benefit of limiting growth is that you can potentially minimize larger market price discounts for heavier pigs when they can be sold but the negative aspect is that you have fewer pounds as compared to normal weight gain to cover the additional cost.
- Knowing what premiums and discounts apply at what weights and how long pigs can be held before larger discounts for weight apply is important.
- Projecting the time period that pigs will be held and projecting a daily gain during the period is needed to determine a final marketing weight.
- The live weight of the hogs at the time of diet implementation may alter the results.

OTHER THOUGHTS

- In most cases producers will be undertaking a limit weight gain or slow growth strategy to help mitigate further losses versus making a profit. If the market price does increase of course that is a positive but to improve the bottom line the price increase needs to cover additional costs incurred during the holding period. If market prices stay the same or go down any holding strategy would result in additional losses.

Iowa Pork Industry Center and Iowa State University Extension Swine Field Specialists have developed tools to help project costs of holding market pigs and look at different market pricing scenarios. Contact emails and phone numbers can be found here: <https://www.extension.iastate.edu/ag/swine>