Will You Profit From Feeding Hogs to Heavier Weights?

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Packers want heavier carcasses to spread costs over more kilograms of pork processed. Heavier carcasses mean that hogs stay longer in barns to reach heavier, market live weights. Housing hogs in barns longer implies reduced barn turnover rates (reduced asset utilization) and more kg of feed per hog sold. Producers question whether there is economic benefit to them especially at times when pork prices dip down. In this paper, I highlight issues regarding marketing heavier weight hogs and provide some suggestions that producers can consider to focus on profitability.

Stocking Density

The most important consideration producers should make regarding housing hogs in barns longer is pen stocking density to 1st pull to slaughter. Not only hogs need to stay longer in barns to reach heavier market live weights, but also modern sows produce more pigs than ever compounding the crowding issue. The space individual hogs need ($0.034 \times BW^{0.67}$) and how many hogs to house per pens can be calculated. Typical pens measuring 2.5 x 6 m (8 x 20 ft) should house 17 hogs to a market weight of 120 kg (265 lb). If filled with 22 hogs, as it is common commercial stocking density, hogs will be crowded for the last third of their stay in such pens. Learn how to calculate pen space allocation and at what weight pigs reach it.

Effects of Crowding on Pig Performance

Crowding hogs reduces feed intake (ADFI) and consequently weight gain (ADG). Limited floor space AND restricted feeder access have additive effects. Gonyou et al. (2006) found that for every 3% below the critical individual pen space allocation, there was 1% degradation in daily weight gain and 0.75% degradation in feed intake. An additional feeder per pen could be provided for the last third of the growout period. However, modifying feed lines and installing/removing feeders make the likelihood of that happening practically nil. Feed conversion is not generally affected feeding corn-soybean meal diets to crowded hogs. That might not be the case feeding fibrous feedstuffs (DDGS). Growth performance suffers after hogs become crowded and remains so until hogs are removed at 1st pull to slaughter.

Pig Flow Bottlenecks and Barn Utilization

According to the pressure of forthcoming lots of pigs to fill a growout barn, housing hogs for extra days per turn to reach heavier live market weights can become an animal flow issue. Cleaning and disinfecting can be rushed, but can repairs be completed on time? Pigs can become so crowded before 1st pull to slaughter that it is hard to predict their weight gain. It could take 12 d for tail-end gilts to grow the 7 kg live weight required to reach a 5-kg heavier carcass. Is there a greater return on feeding ractopamine (PayLean™) to tail-enders? Cost per pig place amortized over 15 years may not make much of a difference per barn turn. But pig flow bottlenecks can become critical if stalled, crowded pigs reduce barn utilization and repairs.

Feed Cost vs. Revenue to Achieve a Heavier Carcass

According to finishing diet cost and progressively worse feed conversion at heavier live market weight, it could cost $4 - 8 more to feed a hog to gain 6.5 kg to result in a 5-kg heavier carcass. Packers now prefer barrows instead of gilts because backfat somewhat correlates with greater loin marbling. If crowding hogs results in a progressive feed restriction that reduces backfat, hogs may grade at a yield class discourage by packers. For a common AB packer grid, I calculated that a producer would not earn $5 if hogs lost 2 mm of backfat kept longer in crowded conditions to yield a 5-kg heavier carcass. In other words, pen crowding can demote hogs in yield class. Not earning the $5 extra revenue also implies that the producer won't recover his feed cost of taking such hogs to a heavier carcass weight. *So... double whammy from crowding hogs kept to heavier weights!*

Topping Out Strategy
Hogs are marketed with little weight variation and are removed from pens at the target market weight. But the fastest growing hogs are not always removed until a truck load can be completed unless marketing from other barn at the same time. A proportion of these 1st-pull hogs therefore index poor because of exceeding the upper carcass weight within the grid core. The crowding pressure is relieved in pens where hogs are 1st-pulled, but not in all. This fact may explain why gilts are affected more by crowding than barrows. Wouldn't it be better to pull the X heaviest hogs from every pen to complete the 1st-pull truck load? Wouldn't ALL remaining hogs in the barn grow better instead of only those from pens where the fastest growing hogs were 1st-pulled? Crowding is most critical before the fastest growing hogs are pulled.

Reduce Breeding Herd, Sell Weaners or Build More Finishing Space?
To alleviate crowding a group of US scientists modelled 1) selling hogs as they reached market weight, 2) selling hogs within pen to maintain the required space allocation, even if that meant selling them light (1, 2 or 4 hogs to complete a truck load), 3) selling weaners, 4) reducing sow breedings, or 5) constructing additional finishing space. The results differed somewhat according to packer grid (Tyson or Hormel). But they concluded based on return on equity (ROE) that reducing sow breeding was the least preferred (underutilized sow crates are the most costly asset), followed by selling weaners. Selling underweight hogs to maintain within-pen space allocation was intermediate. The best option was to construct additional finishing space as it would be amortized over the long term, followed by marketing hogs as they reached target market weight. This comprehensive study (Buhr et al, University of Minnesota) gives producers a good starting point to consider what to do to alleviate overcrowding long term.

Dressing Percentage
Producers can lose revenue not considering both the effect of diet on dressing percentage and not fasting hogs long enough before slaughter. Feeding barley instead of wheat or corn and worse yet high feed inclusions (>10%) of DDGS can reduce dressing by as much as 2%-points equivalent to ~$3/hog. Increasing live weigh to achieve the same carcass weight could cost $4 more on feed. The best is to reduce the fibre content of the finisher diet. One common strategy is to entirely withdraw DDGS from the finisher diet when producers start feeding PayLean™ close to market weight.

Feed Withdrawal
According to diet cost up to $3 worth of undigested feed can be found in the stomach and guts of pigs taken directly from their home pen with uninterrupted feed access to the truck destined to the abattoir. Hunger-related drinking can reduce dressing percentage. But not fasting hogs long enough (12 – 24h including lariage) can affect pork quality and the proportion of pork that meets export grade. So not fasting hogs, producers not only reduce their revenue, but also can impact the packer and Canada's pork exports. If one considers building additional finishing space, prioritize an in-barn lariage area near the loadout shut.

So… Will You Profit from Feeding Hogs to Heavier Weights?
Several strategies will lead producers towards profitability marketing heavier live weight hogs:
Short-term:
  ✓ Withdraw fibrous feedstuffs from the finisher diet
  ✓ Implement proper fasting/lariage on-farm before loading hogs to slaughter
  ✓ Top out 1st-pull of hogs a bit light within the grid core to provide more space sooner to remaining
  ✓ Adjust feeders as pigs are removed from pens to minimize feed wastage
Mid-term:
  ✓ Constantly compare scenarios: extra feed cost (Paylean™?) vs. extra revenue of heavier carcasses
  ✓ Consider marketing a portion of hogs on a light weight grid. Can you ship to a small local abattoir?
Long-tem:
  ✓ Consider building more on-site finishing space, but prioritize in-barn lariage space
  ✓ Focus on minimizing 'crowding days' to 1st pull to slaughter to maximize ADFI and ADG