

Weanling Barrows and Gilts Grow at Different Rates

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Have you ever checked the biggest pig in the litter at weaning to see if it is a barrow or a gilt? Surprisingly, quite often it is a gilt.

For many years, we assumed that barrows and gilts did not differ in their growth rate, feed intake, or efficiency of feed utilization until they reached 75 to 100 pounds. At that time, the estrogenic hormones in gilts kick in and differences begin to show up. During the finishing period, gilts grow slower than barrows, but they are more efficient in converting feed to weight gain, they deposit less fat in their carcass, and they are leaner when they reach market weight.

Recent research at the University of Kentucky now shows that the barrows and gilts are different as early in their life as 3 to 4 weeks of age. We summarized 58 starter experiments conducted at UK between 1987 and 1996 to determine if barrows and gilts grew at different rates during the postweaning period. The pigs had been weaned at 3 to 4 weeks of age and most of the experiments from which data were obtained were 4 weeks in duration.

Barrows and gilts were mixed in pens (generally four to eight per pen), so only initial and final weights and growth rates were obtainable from the records. Both sexes were treated identically prior to the experiments, except that barrows were castrated at 10 to 14 days of age.

The data set involved 7,146 pigs (3,621 barrows and 3,525 gilts). Although initial age was essentially the same (25.7 days) for both sexes, barrows were slightly heavier at the start of the experiments than gilts (15.64 vs 15.48 lb). Overall, gilts grew about 4.7% faster than barrows (.782 vs .747 lb/day), and they averaged about a pound more in weight at the end of the experiments (36.5 vs 35.7 lb). Both of these differences were highly significant ($P < .0001$) from a statistical standpoint.

Interestingly, the gilts gained numerically faster than barrows in 43 experiments and gained slower than barrows in only 14 experiments. Gilts outgained barrows by 10% or more in 12 of the 58 experiments, and outgained barrows by 5% or more in 27 of the experiments. Barrows did not outgain gilts by 10% or more in any of the experiments, and outgained gilts by 5% in only 1 of the 58 experiments.

These results clearly indicate that gilts outgain barrows during the postweaning period, although admittedly, the difference is not very great. Whether the gilts simply consume more feed, or are more efficient in converting feed to weight gain is not known. Whether this difference in performance during the starter period merits penning the two sexes separately during the postweaning period remains to be determined.

The differences between barrows and gilts during the finishing period, however, justifies penning the two sexes separately during the finishing stage and feeding them different diets. The reduced feed intake, more efficient gains, and leaner carcasses of gilts means that they will respond to higher dietary protein (lysine) levels than will barrows. Research at UK shows that gilts should be fed approximately 2 percentage points more protein (or .15 of a percentage point more lysine) than barrows during the

finishing stage, from 100 pounds to market weight.