

Industry Handbook. In addition, current swine performance information from the central test station in New Ulm, Minnesota, is listed.

You may access MESUP with almost any computer capable of communicating with other computers. The MESUP systems's phone number is 612-373-7861, and its hours of operation are from 1530 to 1700 hours, Monday through Friday. If you need further instructions or have problems accessing or using the system, call 612-373-1166.

Male and Female Reproductive Trait Relationship

Several economically important traits, such as litter size, libido, and milk production, are expressed in only one sex. Selection for these traits is difficult, since selection pressure can only be applied in the sex expressing the trait.

There is evidence that some traits in one sex are controlled by similar genes in the other sex. Oklahoma data suggest that gilts with heavier weights at puberty had brothers with greater testicular size. Average conception rate was found to increase as littermate boar testicular weight increased. Boars who settled a greater percentage of females had brothers with heavier testes and greater sperm number. Since age and weight at puberty in gilts and testes size in boars can be evaluated, selection involving these traits may aid in improving sperm numbers and conception rate. Since these relationships are small, genetic improvement will be slow, and undue selection pressure is not warranted.

- Oklahoma Research Report, 1984 -

Increased Market Weight: Sex Influence on Performance and Carcass Traits

Recent industry changes regarding market hogs at heavier weights have raised questions as to efficiency of production, increased carcass fat, and management of gilts. An Ohio study was conducted to evaluate gilt and barrow performance responses from 130 to 300 pounds body weight.

Although body weights of both sexes at the beginning of the experiment were similar, barrows outgained gilts by approximately 0.1 pound per day. Gain differences narrowed at heavier weights. Therefore, it took gilts approximately 7 days longer to reach 220 pounds and about 10 additional days to attain 300 pounds. At about 260 to 280 pounds body weight, gilts began to exhibit estrus, resulting in pen disturbance and variable weekly weights. These results suggest that in order to keep animals uniform in body weight in finishing pens, the pigs should be sorted by sex.

Barrows consumed more feed than gilts and required 0.1 pound extra feed per unit of gain to 220 pounds body weight. Daily feed intake appeared to peak at 260 pounds for barrows and 280 pounds for gilts and then decline. Feed conversion became poorer with heavier weights because of the higher maintenance requirement and greater fat deposition.

Gilts were meatier than barrows, with larger loin eye areas and lower backfat thickness at 300 pounds body weight. Length and dressing percentage

were similar. Last rib backfat is currently used in most carcass grade buying programs and is important in determining carcass value. Barrows had 0.15 inch more fat at the last rib than did gilts weighing 300 pounds, indicating that gilts can probably be taken to heavier weights with less price penalty than barrows.

- Ohio Research Report -

Rapid Growth Selection Contributor to Efficiency

Growth rate is an important contributor to herd feed efficiency. Selection is effective for increasing growth rate of pigs and is utilized in all on-farm and central test station programs.

Two lines of pigs were established at the Oklahoma Experiment Station for rapid and slow growth rate. Duroc and Hampshire boars were selected on their rapid or slow growth rate from 9 weeks of age to 220 pounds and mated to crossbred gilts.

The rapid growth line had larger litters and had pigs which were heavier at birth, 21, and 42 days of age. This favorable relationship between growth rate and traits associated with sow productivity is encouraging.

These differences in pig growth occurred prior to birth and after 21 days of age. This suggests that preweaning growth may be due to the pig's own ability to grow and not to superior maternal ability of the rapid growth line sows.

Barrows and gilts from the rapid growth line grew faster during the growing and finishing phases. Although they were more efficient, they had a higher daily feed intake and yielded carcasses with more backfat.

The current accepted practice of selecting for increased growth rate and decreased fat thickness may not be the most efficient procedure for improving efficiency of lean tissue deposition. Other feeding regimes may be required so that we are not placing as much emphasis on increased feed intake while selecting for rapid growth rate.

- Oklahoma Research Report -

Weight and Backfat Key Factors in Marketing

Now that the National Pork Producers Council (NPPC) Task Force's proposal has been adopted as an industry guide to evaluating pork carcasses, several meat packers have developed changes in their buying programs. Among the first to change was Geo. A. Hormel & Co. Their buying program is based on grade, which is determined by last rib fat and yield (dressing percentage). The base price is set on hogs which weigh between 210 and 240 pounds live weight or 153 to 175 pounds carcass weight which have a 72.7 percent standard yield. The amount of last rib fat acceptable for an average hog is 1.21 to 1.40 inch. For every 0.2 inch more fat, the carcass is discounted \$2.00 per cwt. With a reduction of 0.2 inch of fat, the producer will receive \$0.50

per cwt. premiums. Those hogs with less than 0.80 inch of fat will get a \$2.00 per cwt. premium. Poor muscling plays a role in carcass value and can discount the carcass value as much as 12 percent.

Other meat packers, such as Wilson Foods, have implemented some of the NPPC guidelines, but each company has a different program. Wilson Foods' preferred range in weight is 216 to 242 pounds live weight, assuming a 74% dressing percentage. Since producers are selling carcasses under the new Wilson Foods program, the preferred carcass weights are in the range of 160 to 179 pounds. At this weight range, the last rib backfat would be 1.3 inches for the base price. If the pig is leaner, additional premium is given for each 0.1 inch of fat. Conversely, if the pig is fatter by 0.1 inch of fat, there is a discount. The desirable amount of fat is based on the carcass weight. For example, heavier weight carcasses at a 190- to 194-pound weight range would have a 1.4-inch last rib backfat, while a 150- to 154-pound weight range would require a 1.2-inch last rib backfat for the base price.

If a producer is planning to sell on the carcass basis, close sorting of hogs on their weight and backfat is essential to obtain premium prices. The investment in accurate scales for use in marketing and collecting performance records is essential in a good management program. A backfat probe or ultrasonic scanner can serve as a useful tool to identify when to sell butcher hogs or choose herd replacements. The selection of low-backfat, efficient gilts and herd boars is essential to maximize returns.

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