

Title: Precision nutrition for pork niche markets: Characterizing feed intake, growth rate, and fat deposition of purebred Berkshire pigs housed in Iowa hoop barns – **NPB #12-116**

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Scientific Abstract

The primary purposes of this study were to characterize growth, feed intake, feed conversion, and, fat and lean deposition rates in purebred Berkshire pigs housed in hoop barns in Iowa over summer and winter seasons. With the high cost of feed and the history of challenging feed conversion in purebred Berkshires it is very important to have accurate estimates of these parameters in order to formulate rations and feeding programs to minimize feed costs.

Barrows grew faster (2.04 versus 1.78 lb/day), reached targeted sell weight of 270 lb pen average at an earlier age (108 versus 119 days), consumed more feed (6.73 versus 5.70 lb/day) and were heavier than gilts for both trials averaging 275 versus 265 lb. Gilts were more efficient in converting feed to gain than barrows (3.20 versus 3.31) across both trials. Growth rates were similar between seasons; however, more feed was consumed during the winter than the summer period by both sexes.

Even though gilts averaged less backfat than barrows in both trials at first and last scanning (.34 versus .43 inches; .90 versus 1.26 inches respectively), there were differences between the two trials from the initiation to the finalization of the studies. There was little difference between initial LEA scans of barrows and gilts for both trials, but at the end gilts averaged larger LEA (6.56 in²) than barrows (6.19 in²). As expected Berkshire hogs are not as lean as commercial lines, but the relative difference between barrows and gilts in percent lean were consistent with gilts averaging 50.5% versus 46.2% for barrows.

Barrows consumed 18% more feed than gilts across the seasons. While this is in agreement with traditional research, the difference is quite important as it pertains to ration formulation and feed program development. Growth rates were similar across seasons, but feed conversion was poorer in the winter replicate compares to the summer.

When feed intake, growth rate, and, fat and lean deposition curves were examined, the differences between the sexes were also seen.

These research results were submitted in fulfillment of checkoff-funded research projects. This report is published directly as submitted by the project's principal investigator. This report has not been peer-reviewed.

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