

Effects of Triticale-based Diets for Finishing Pigs in Deep-Bedded Hoop Barns: Preliminary Results

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Triticale is a hybrid small grain produced by crossing durum wheat with rye. The high crude protein and digestibility of wheat and the hardness and protein quality of rye are traits of triticale. Triticale has higher lysine content and more available phosphorus than corn and has potential as a practical, economical, and environmentally sound swine feedstuff. The objective of this study was to determine the effects of triticale-based diets on the growth, performance and meat quality of finishing pigs in deep-bedded hoop barns. Finishing pigs (120 barrows, 120 gilts) were started on experiment at approximately 70.5 kg and fed for seven weeks. The study consisted of four blocks (two summer, two winter). Each block contained six pens of ten pigs (five barrows, five gilts). Pens were randomly assigned one of three dietary treatments: 1) corn-soybean meal control, 2) 40% triticale diet (by weight), or 3) 80% triticale diet. Corn and soybean meal constituted remainder of triticale-based diets. Diets were isolysin. Prior to random allotment, pigs were fed corn-soybean meal diets as part of a larger group in a deep-bedded hoop barn (9.1 x 18.3m). Pigs were then moved to experimental pens in smaller hoop barns. Each test pen had one water space and two feeder spaces. Triticale straw was used as bedding. Pigs were given a two-week adjustment period to adapt to treatment diets and smaller pens. Feed intake was recorded. Feed efficiency and average daily gain were calculated. Pigs were weighed at the beginning, day 28 and the end of the trial and harvested at Farmland, Denison, IA. A certified ultrasound technician scanned pigs at the end of the trial to measure backfat and loin eye area. Loins from barrows from one winter block were used to measure percentage lean, intramuscular fat, pH, Japanese color score, and water-holding capacity.

Preliminary review of the data showed that, overall, the pigs fed triticale performed similarly to pigs fed corn. However, some trends were evident. Average daily feed intake increased as triticale inclusion rate increased. Growth rate was similar for all diets. Gain:feed decreased as triticale inclusion rate increased. Backfat thickness was similarly more and loin eye area was similarly less for pigs fed triticale. The pigs fed triticale had slightly lower percentage of lean. Pork quality measures were similar. Further analysis of data will be conducted. Further research in this area is warranted.