

Cut-out yield and pork quality of hogs fed zero-tannin fababean, field pea or soybean meal as protein sources

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We have previously replaced soybean meal (SBM) with zero-tannin (ZT) fababean (up to 30%) in hog diets. Gilts but not barrows showed reduced carcass lean and index. This study was conducted to clarify the impact of ZT fababean on pork yield and quality; a negative effect would jeopardize Alberta's pork exports.

The present study utilized nearly 1000 Fast™ crossbred pigs to compare ZT fababean to locally-grown field pea, imported SBM or 50% ZT fababean and 50% SBM as dietary protein sources. A sub-sample of 12 barrows and 12 gilts per dietary treatment was slaughtered at Sturgeon Valley Pork (St. Albert, AB) and dissected at the Meat Lab at AAFC – Lacombe Research Centre.

Diet affected the colour (Japanese scale), pH and drip loss measured in the loin eye (L. thoracis muscle). Pork from pigs fed 50% ZT fababean and 50% SBM was slightly darker (0.37 points) than that of pigs fed either SBM alone or field pea. Muscle pH for pigs fed field pea was lower (0.065 points) than for pigs fed ZT fababean or 50% ZT fababean and 50% SBM. Drip loss in chops from pigs fed ZT fababean or 50% ZT fababean and 50% SBM was lower (1.18 percentage points) than that of pigs fed SBM alone or field pea. Diet did not affect the proportion of lean, fat or bone in each of the four leanest primal cuts (picnic, butt, loin, ham), all combined, adding the bacon piece and side ribs or the dissected lean as a proportion of carcass side weight.

Implications:

These results indicate that locally grown ZT fababean can fully or partially replace field pea or imported SBM as dietary supplemental protein source without a negative effect on pork yield. Feeding ZT fababean had a small benefit on pork quality, which will be of interest to local pork exporters.