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Evaluation of Alternative Fabrication Specifications to Increase Gross Value of Pork Carcasses

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Objectives

Modifying fabrication specifications in domestic processing facilities to reflect specifications in key export markets may increase demand for U.S. pork abroad. Changes in specifications may also yield value-added cuts to increase total domestic value. The objective was to evaluate differences in economic value of carcasses fabricated using either U.S cutting specifications, or specifications derived from those used in South Korea.

Materials and Methods

Paired sides (30 sides total; $n = 15$) were weighed and fabricated into primals and subprimals according North American Meat Processors (NAMP) or Korean-style specifications. Korean carcasses were separated into shoulder (4th/5th rib separation), loin, belly, and ham (sirloin-on) primals. For Korean carcasses, the butt-tender was partially removed, and the ham was separated from the loin with a saw-cut through the last lumbar vertebrae, perpendicular to the long axis of the spine. The loin, belly, and ham of Korean carcasses were further fabricated into subprimals corresponding with NAMP specifications. Korean shoulders were fabricated into a cellar-trimmed (CT) butt, cushion, boneless picnic, and into a pork brisket (Kalbi). Individual primals and subprimals were weighed to calculate cutting yield. Fabricated carcass value was calculated using the AMS Carlot Report values from the week of 19 to 25 March, 2017. Value for the pork brisket was estimated based on relative value of the beef brisket compared to the beef shoulder clod primal resulting in a value of \$112.83/cwt. Comparisons between yields and value of analogous primals and subprimals from each side and total carcass value were conducted using a Paired t test. Means were considered different at $P \leq 0.05$.

Results

Whole Bone-in (BI) loin yields of Korean carcasses were 6.23 units less ($P < 0.0001$) than NAMP carcasses, with 5.20, 1.62, 0.50, and 0.35 unit reductions ($P < 0.01$) in 1/4 trim BI loin, boneless (BNLS) strap-on, BNLS strap-off, and backrib yields, respectively. However, tenderloin and sirloin yields of Korean carcasses were increased ($P < 0.01$) by 0.14 and 0.82 units compared to NAMP carcasses. Similarly, yields of whole belly (spareribs-in), natural fall belly (rind-on), skinned natural fall, and trimmed and squared bellies of Korean carcasses were reduced compared with NAMP carcasses by 1.43, 1.10, and 0.83 units, respectively. There was no effect ($P > 0.08$) of fabrication specifications on ham subprimals with the exception of inside hams where NAMP carcasses had 0.14 units greater ($P = 0.04$) yield than Korean carcasses. The pork brisket cut fabricated from the shoulder of Korean carcasses represented 3.97% of carcass weight and the CT butt represented 4.82% of carcass weight. Despite reductions in the yield of loin and belly subprimals, Korean carcasses had 2.7% more added value based on subprimal values reported in the Carlot Report.

Conclusion

Using Korean-style specifications reduced the yield, and therefore the value of the loin and belly, with minimal effect on the ham. However, added value from the pork brisket and CT butt adds sufficient value to the shoulder to offset lost value from the loin and belly. These data suggest that using fabrication methods based on Korean cutting specifications increases carcass value for export markets and may yield novel cuts like the pork brisket from the shoulder to increase the value of domestic pork sales.