

# 2007 Market Cow & Bull Audit

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In 2007, the third National Market Cow and Bull Beef Quality Audit was conducted to identify improvements made in problems identified in earlier audits and identify quality challenges for the future. Earlier audits were conducted in 1994 and 1999.

The 2007 audit was comprised of four phases:

**Phase 1. Plant Audits** Packing plant audits in six areas: receiving, holding pen, harvest floor, cooler, fabrication and traceability. Receiving and holding pen audits were visual audits observing cattle handling techniques and physical condition of the cattle including knots on the body, lameness, mud, brands and horns. Receiving pen audits indicated that downer cattle have been virtually eliminated. Since the 2003 finding of BSE, non-ambulatory disabled cattle were eliminated from entering packing plants for harvest. This ruling was probably responsible for the improved overall quality of market cows and bulls. Thirteen percent of the time, electric stock prods were used on over 25% of cattle on a load. Other driving aids such as canes, whips and paddles were used in an aggressive manner 14% of the time. Beef cattle had prods and driving aids used more frequently than dairy cattle. All trucks entering packing plants met American Meat Institute (AMI) guidelines for spacing.

Holding pen audits indicated 69% of cattle had no visible defects. Cancer eye was observed on 3% of the cattle, an improvement over the '94 and '99 audits. Producers are probably responding to the market being stricter and less likely to accept cancer eye cows. Lameness was observed in 16% of beef cows and 49% of dairy cows. In 2007, 17% of all cattle had horns, an improvement from 23% in 1999. Beef and dairy cows were light muscled 14% and 35% of the time, respectively. Beef and dairy cows were heavier muscled and in leaner condition than in 1999.

Harvest floor audits indicate that cattle had fewer bruises, fewer injection site lesions, and fewer arthritic joints in 2007 as compared to 1999. Bruising occurred on 64% of all carcasses, down from 88% in 1999. However, 14% of the rounds were bruised. Injection site lesions were observed in 6% of the carcasses. Prevalence of injection site lesions were 2% for beef and 11% for dairy carcasses.

In the cooler audits, average fat thickness was 0.22 inches, average muscle score was 2.06 and fat color score was 2.7. Muscle score is a five point scale with 1 equaling very light muscled. Fat color score is a six point scale with white equaling 1.

Fabrication audits indicate that whole muscle cuts are increasing in both the percentage of plants that are producing them and the total being produced. The audit indicated that 28% of the carcass was fabricated into whole muscle cuts from the hind quarter, 11% from the forequarter, and 58% is trim for grinding. The whole muscle cuts are more valuable than trim and has resulted in more dollars to the beef industry. In addition, many of these cuts are being marketed as quick-fix, ready-to-serve products, or through restaurants, which has improved demand for beef.

**Phase 2. Interviews** At each packing plant audited, one packing plant representative and one Food Service Inspection Service representative was interviewed. The interviews were conducted to gather the thoughts from their experience regarding improvements of carcass quality and future needs for improvement. The top quality challenges obtained from interviews include food safety, animal handling, antibiotic residue, bruises, hide damage, lameness, condemnation and injection site lesions. Many of the challenges identified during the 1999 audit were significantly improved upon.

**Phase 3. End User Audits** End-user audits were conducted by combining interviews and observing subprimal cuts. Top sirloin center-cuts and caps and bottom round flats were further processed looking for injection site lesions and other quality defects. The top five challenges derived from end-product user interviews were: 1) product uniformity; 2) product quality; 3) buck shot; 4) cattle availability; and 5) injection sites. They were also

concerned about primals being too dark or too light in color. Bottom rounds had 33% defects, mostly due to active lesions and woody calluses. Dairy cows had 46% bottom round flats defective due to injection site lesions and woody calluses.

**Phase 4. Strategy Workshop** Industry representatives met for a workshop to discuss audit findings. During the workshop, Four primary directives were identified: 1. Recognize and optimize the value of market cows and bulls. 2. Be proactive to ensure the safety and integrity of your product. 3. Use appropriate management and handling practices to prevent quality defects. Closely monitor herd health and market cattle timely and appropriately.

Significant improvements have been made in decreasing defects since the 1994 and 1999 audits Future educational needs and areas producers should concentrate on making improvements are in improving muscle quality by reducing injection site lesions, bruising and lameness. Potential exists for producers to improve carcass quality by feeding cattle to gain condition and muscle while improving fat color. Other future efforts need to concentrate on improving cattle handling practices and facility design. Key areas are transportation and packing plant facilities. Future research also needs to identify where bruising and lameness are occurring. The audit revealed that 49% of dairy cows showed signs of lameness, 11% had injection site lesions, and 46% of dairy round flats had injection site damage. Therefore, an effort to improve beef quality

assurance practices with dairy producers is critical.

If you would like an executive summary of the 2007 National Market Cow and Bull Beef Quality Audit, contact Frank Wardynski at 906-884-4386.