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ST. PAUL, MINNESOTA
UNITED STATES OF MINNESOTA

The Veterinarian's Role in Dairy Beef Quality

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Dairy men often don't consider themselves "beef producers". That's why state beef councils in key dairy states are implementing a new educational program for veterinarians and the dairy men they serve.

A recent study completed by the National Cattlemen's Beef Association showed that roughly one-half of all cows processed for beef in the United States are dairy cattle. The Non-Fed Quality Audit completed in 1994, showed that about one-third of domestic non-fed beef production comes from dairy cows. The roast beef sandwich served at a fast food restaurant may very well have come from a dairy cow. That's why veterinarians and the dairy men they serve, should be concerned with issues that affect beef quality, consistency and safety.

Contrary to popular belief, beef derived from cull cows and bulls is not just used solely for hamburger production. In fact, almost all of the "middle meats" from the rib and loin (ribeye rolls, shortloins, striploins, tenderloins) and subprimals of the round (inside, outside and gooseneck) are removed and marketed as higher quality beef cuts. Examples of primal and subprimal usage from non-fed beef carcasses include:

- Ribeye rolls which are often "shaved" and used to make Philly Steak sandwiches.
- "Flats" (outside rounds) are often sold in pressed form, or cooked and marketed as "deli" items.
- Ribeyes/Strip tenderloins are generally sold to "family" steakhouses such as Bonanza and Ponderosa.
- The beef industry is attempting to create value added products from under-utilized cuts from the rounds of dairy and beef cows. These products are sold as pre-cooked, microwaveable "convenience" beef items.

The Dairy Beef Quality Assurance program now being implemented throughout the US, focuses on five key issues:

- Encouraging veterinarians and dairy men to move all injections given to cattle to the neck or shoulder in order to eliminate blemishes to valuable cuts of beef.
- Reducing the amount of antibiotics used in herd health programs and encouraging alternatives treatments when practical and earlier culling when the value of treatment is of questionable value.
- Early culling to reduce the incidence of disabled or "downer" cattle.
- Following label recommendations with animal health products to prevent residue and potential antibiotic resistance problems.
- Humane handling of cattle to avoid bruises and injury.

Injection-site lesions

Beef Checkoff funded research has shown that injections given in the flank and top butt of cattle causes severe damage to muscle tissue. This results in lack of tenderness in the final product and economic losses due to trimming that is required to remove damaged tissue. Not only must the lesion be cut out of the meat, but the area around the lesion usually becomes too tough for a good eating experience thereby contributing to inconsistency problems that are of great concern to the beef industry. Fluid-filled lesions (abscesses) are especially troublesome for the meat industry. Processing lines must be shut down for thorough cleaning when equipment becomes contaminated with fluids from previously undetected lesions.

Injection-site lesions were identified as one of the top quality defect concerns in the NCBA audit. One of the largest non-fed cattle packers indicated that approximately one in every four rounds fabricated at their facility had an injection-site blemish that required trimming. A subsequent audit by Colorado State University personnel determined that 28.9% of rounds had injection-site lesions/scars and 2.2% of the rounds contained fluid-filled lesions. Average trim loss per lesion was 9.2 ounces, while the average trim loss for fluid-filled lesions was in excess of a pound (17.2 ounces). Data collected by the NCBA in July 1998, shows an alarming injection-site lesion incidence rate of 71.3% in the "rounds" of cull dairy cows and a 45.1% rate with beef cows. A study at Colorado State University in 1994 determined that significant tenderness problems result from injection site lesions. Researchers rated cooked steaks with and without lesions, on the Warner-Bratzler shear force scale. At the center of the lesion, shear force value was 30.6 lbs., compared to 8.8 lbs. for a similar steak with no lesion. Three inches away from the lesion, shear force value was 12.8 lbs., compared with 8.6 lbs. for a non-lesion steak. Steaks acceptable for the restaurant trade should have a shear force value under 10 lbs.

Calf injections also cause lesions

And if you think the injection you give in the rear leg of a two-month-old calf won't turn up at the packer, think again. A 1993 Colorado State University study showed large lesions were still present in the meat 380 days after an injection was given to young calves.

Animal welfare issues

Bruising of cattle during transportation results in a huge economic loss to the industry. In fact bruising costs the non-fed cattle industry a whopping \$22.9 million annually according to the NCBA audit. Eighty percent of cows evaluated in the NCBA audit had at least one bruise. At least half (51.5%) of all cows had a "minor" bruise-which on the average- resulted in about two-thirds (0.66) of a pound of trim loss. Most alarming; however, were the 30% of cows (30.7%) which exhibited a "major" bruise, and more than 3 pounds (3.19) of trim loss associated with each bruise.

All bruises are not caused by rough handling on the farm, but assuming that producers, truckers and packers are each responsible for one-third of the damage caused by bruising, the Non-Fed Quality Audit determined that producer-controllable losses equate to \$3.91 per head.

Lameness and Associated Defects

Lameness represents a major cost to producers, packers and others involved in the production, marketing and slaughter of non-fed cattle. The Dairy Beef Quality Assurance program encourages producers to cull dairy cattle earlier so that they arrive at terminal markets in better physical condition. Surprisingly, lameness also contributes substantially to quality problems in end products. Carcass yield is severely reduced when packers trim around and through infected joints. That also increases labor costs and decreases industry competitiveness.

Generally, two types of lameness exist: posterior paralysis and stifling. Some paralysis problems occur at the farm, but these cattle tend not to enter the commercial market. Some weak and emaciated cows become paralyzed after cattle are marketed. Most problems with stifling, however, occur during transport and marketing. Cows with sore feet spend less time eating and more time lying down, usually in unclean areas- thus exposing them to greater bacteria loads and decreasing their nutrient intake. Lameness cows become weak and more susceptible to injury during transportation. Stress and commingling also cause these animals to become non-ambulatory, bruised or stifled.

Many of these problems can be overcome fairly easily if producers and others evaluate the way they manage their cattle. Older cattle tend to show lameness problems more frequently than younger ones- so it's best to get cattle to market before they're too advanced in age. Concrete floors, poor bedding and slippery stalls also cause sore feet and joints.

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