

# Cattle Producer's Handbook

Quality Assurance Section

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## Beef Quality Assurance for Marketed Cows and Bulls

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The retail competition among beef, swine, and poultry products is strong. Added to the mix is a consumer concern for the total amount of meat in their total diets. Further, there are lingering concerns among consumers about the safety of some meat products.

These concerns and perceptions need attention to assure the beef consumer that the industry is meeting the high standards of quality and safety. Researchers conceived the beef quality assurance idea as a way to enhance the image of beef in the consumer's mind.

Every producer must realize they are growing animals that are destined for human consumption. A healthy old cow is certain to become food when she is placed on the to-be-sold list. A bull has the same fate when he fails to meet the breeding demands of the owner.

Meat products from mature cows and bulls represent about 20 percent of total U.S. beef production. Contrary to the popular belief that they convert nearly all non-fed cattle to ground beef, packers save and sell 89 percent of the rounds and 40 percent of the top sirloin butts from non-fed cattle. Also, revenues from sales of cows and mature bulls may account for 30 percent of a producer's annual income.

Choices of marketed animals are based on the individual production capacity and/or utility in relation to overall producer goals and expected economic return. Given the importance to beef markets and individual producers, decisions on marketing cows and mature bulls can have an impact on both.

### Quality Assurance for Animals Marketed When They Are Fully Mature

Beef quality assurance programs address several details that are important to the non-fed animal market including drug and chemical residue-avoidance, reduction of injection-site damage in back and rump muscles, reduction of tissue damage from bruises, and excessive

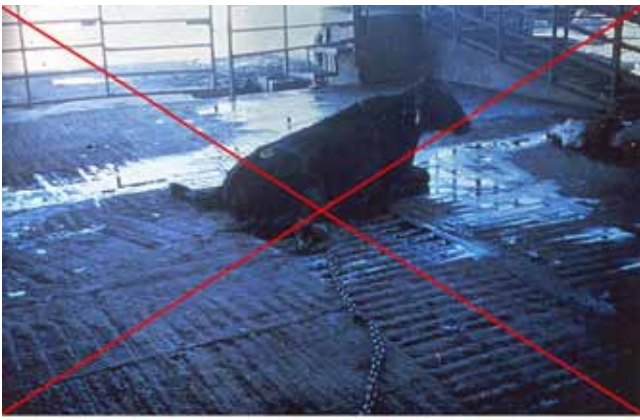
fat trim. Many quality deficits in mature cows and bulls such as advanced lameness, inadequate muscling in cows, heavy live-weights, and low dressing percentages in bulls are also considered here. See 200, "The Cattle Producer's Role in Beef Quality Assurance," for more recommendations on beef quality assurance goals.

Two extremes in carcass defects account for the greatest revenue losses and are the most frequent findings for the mature non-fed cattle presented at slaughter: too thin or too fat. Inadequate muscling, or low muscling scores, were found in 67 percent of cows and 15 percent of bulls at slaughter. Researchers detected excess external fat or too high carcass weights in 62 percent of bulls and 28 percent of cows at slaughter. Combined, these defects accounted for \$233 million in revenue lost to the beef industry from the uncorrected quality defects in non-fed cattle.

To help solve this area of quality inconsistencies, cattle producers are encouraged to consider various strategies for marketing their adult cattle. Prices for slaughter cows and bulls are traditionally lowest in October to December and highest in February to April. For thin, inadequately muscled cows, one marketing option is to develop a feeding plan that improves their body condition before selling.

Short team feeding plans range from 30 to 100 days. For thin cows detected in the fall, one suggestion is to feed a ration developed for maximum gain for 30 days and market animals in better condition and higher weight. Another option is to feed thin animals for minimum gain through the winter followed by a maximum gain ration and market them during the early spring when prices usually increase.

Of course, the economic returns from feeding cows depend on feed costs and price at selling, so there is some amount of risk to the producer choosing to raise value in their animals through holding and feeding.



**Fig. 1. Downer cow presented for slaughter.**

For cattle of excessive carcass size/weight (e.g., mature bulls), the marketing strategy should be to sell sooner. The same is true for cattle with excessive external fat, such as the open cow that lost her calf or who was missed being sold the previous year. In many areas they have paid producers less money for these animals than they receive for better conditioned cattle. Depending on the price deduction for these cattle, an option could be to hold fat cattle over on inexpensive feed until they have attained a more balanced condition.

### **Downer or Non-Ambulatory Animals Presented for Slaughter**

The concerns in presenting downer animals (primarily cows and bulls) for slaughter involve beef quality plus potential animal well-being. Also, the down animal presents a picture to any viewing public that affects their perception of meat quality overall (Fig. 1).

In view of the beef industry's effort to enhance product quality and public perceptions, we should discourage sending non-ambulatory animals through public slaughter channels. For animals that are down before shipment, the veterinarian's examination should determine whether the animal is suitable for human consumption. If it is not, it should be euthanized at once and the carcass disposed properly. For those down animals that are acceptable for human consumption, arrange for private butchering or discrete commercial processing immediately.

What about animals that go down while in transit to a processor? Producers are encouraged to take preventative actions on this issue by recalling or learning about factors that cause animals to go down in transit. Sometimes, we can avoid the situation. Other times a producer may be unaware of factors that may lead to this predicament but with good advice can make more informed decisions. A planned discussion with your veterinarian about the factors will be helpful.

Thoughtful producers can plan to market animals before they become so weak, thin, or lame that they are

at high risk of going down in transit. Separating aggressive animals from each other (e.g., bulls) or excessively large animals from smaller ones while in transit may also reduce the risk.

When planning details, do not overlook other contributing factors such as proper loading before and careful driving while transporting animals. In cases of doubt, an appropriate examination of animals by a veterinarian before shipment may detect those at high risk of going down during subsequent transportation. After detection of high risk animals, one may explore other options.

### **Cancer Eye, Lumpy Jaw, and Severe Lameness Defects**

About 8 to 9 percent of adult beef cattle are presented at slaughter with a cancer eye (extreme to severe), lumpy jaw, or a disabling lameness (Table 1). These quality defects result in more than \$5 million in losses from carcass and partial tissue removal at processing.

As described for non-ambulatory animals, cattle with advanced diseases present an image at auction markets and processing plants that affect the viewer's perception of quality, wholesome meat. Much of this loss and negative public impact is avoidable.

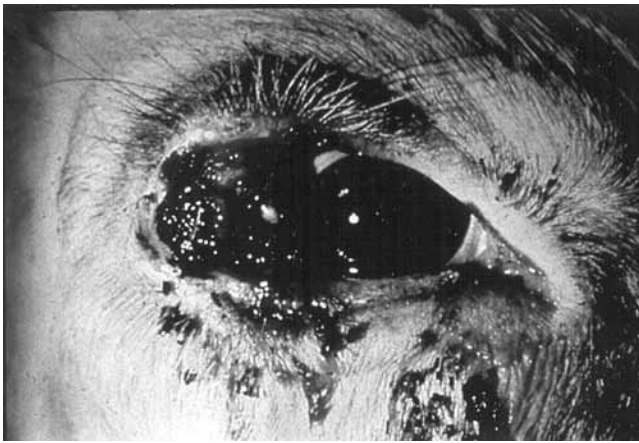
For cancer eye problems, disease prevention programs need to consider sire and dam combinations that meet production goals plus reduce the risk of cancer eyes for the herd. Producers with their veterinarian could design monitoring and treatment protocols to detect cancer eyes earlier (Fig. 2). Then perhaps effective therapy could extend the productive life of the affected animal or at least provide the opportunity for earlier marketing of animals with minimal eye lesions.

Although prevention of lumpy jaw infections may not be very effective, a well-designed disease monitoring program could detect the disease at an earlier stage where drug therapy is more effective. Also, there may be the opportunity for early disease detection and marketing before chronic infection causes excessive weight loss and/or before the infection becomes so invasive.

Quality deficiencies from severe lameness should be considered at two levels—lameness with infection and lameness without infection. Sometimes non-infected injuries such as joint dislocation and tendon or muscle injury may be treated conservatively until the severity of swelling and lameness subsides. If the animal has had access to an adequate ration, one could reduce weight loss as well. With the effects of its injury reduced, the

**Table 1. Percent of defects found in beef cattle at slaughter plants.**

Muscling score too low	82.0%
Fatness score too high	49.0%
Disabled cattle	4.3%
Cattle with cancer eye	3.6%
Cattle with lumpy jaw	1.9%



**Fig. 2. Advanced cancer eye condition.**

animal is a better market prospect in quality and profit. Where medically and economically feasible, these cases should receive appropriate therapy and nutrition before being marketed.

In situations where therapy is not possible, or is economically infeasible, your veterinarian should be called to help determine if the animal's injury would prevent its sale as food for human consumption. If, in the veterinarian's assessment, the animal is found acceptable for human consumption, it should be butchered immediately to reduce suffering and further deterioration of quality. Again, keeping public perception in mind, custom or on-the-farm slaughter might be the best decision. If your veterinarian has deemed the animal unfit for consumption, it should be humanely and immediately euthanized.

Animals with lameness involving an infectious process, such as foot or joint abscesses and most compound fractures, should not be sent to slaughter with the expectation of being found acceptable for human consumption. From a quality assurance and animal welfare point of view, the animal should be medically treated to remove the infectious agent or humanely euthanized.

All the issues raised by this topic require and encourage the participation of a competent and confident bovine veterinarian. These scenarios will demand crucial decisions that need to be made timely and/or planned for in advance. The bovine practitioner is the vital key in the cattle producer's overall quality assurance program for success.

### **Quality Assurance Recommendations for Mature Cattle**

In consideration of overall quality, including food safety, a quality assurance program should follow these recommendations in marketing non-fed cattle:

1. Prevent residues and injection-site lesions by using responsible administration and withholding times for all animal health products.

2. Reduce risk for the development of antibiotic resistance by prudent and discretionary use of antibiotics.
3. Plan for high quality products by monitoring and managing non-fed cattle and marketing them before they are too fat or too thin.
4. Reduce risk for carcass condemnations and a poor public image for beef products by monitoring the herd's health and marketing cattle with physical disorders in a timely manner.
5. Decrease hide damage through strategic parasite control methods and using non-brand methods for cattle identification. When branding is necessary, use sites that reduce hide damage and discourage the use of multiple brands on one animal.
6. Reduce bruises by dehorning or tipping, correcting deficiencies in facilities, transportation and equipment, and improving cattle-handling skills.
7. Humanely euthanize disabled cattle and those with advanced cancer eyes.

### **Conclusions**

Producers are encouraged to join in and/or direct the efforts to enhance the quality of the meat product they produce. Good management and vigilance will help in this work by:

- Remembering to observe drug and chemical withdrawal times,
- Directing and/or encouraging discretionary use of drugs,
- Using sanitary injection techniques, and
- Using recommended injection sites and recommended dosage loads per site.

Develop good management plans that allow herd health monitoring for early stages of debilitating diseases plus cow and bull body condition with an eye toward future marketing of selected animals. Keep in mind that all cattle are born to be human food.

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