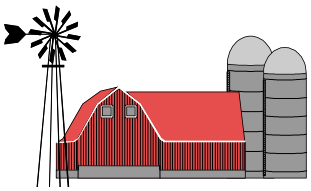

Dairy Keeper's Barn Report

June 26, 2009 Report #12

Reference Source: Illinois Department of Public Health, Richard L. Wallace

Barn Report Topic: Top 10 Considerations for Culling and Transporting Dairy Cattle

TAKE HOME MESSAGES

Culling and transporting decisions are an important part of dairy farming.

Occasionally, an animal that is ambulatory on the farm may not be suitable for transport to a packing or processing facility.

Consider the "Top 10 Considerations for Culling and Transporting Dairy Animals to a Packing or Processing Facility" to make appropriate decisions on the suitability of an animal to be shipped.

All production animals eventually become market animals.

Within the food production system, dairy producers wear several "hats." The largest and most obvious "hat" is the production of raw milk shipped from the dairy operation. The quality of the raw milk produced will not improve once it has been harvested from the cows. Every effort should be made to present the highest quality, most wholesome product to the milk processor. A less obvious "hat" that dairy producers wear is the generation of calves and cows for the beef market. Cull cows and bull calves can represent between 10-15 percent of the gross farm income. With proper management and timely marketing, the value of market cows and bull calves can be increased. This paper will focus on the considerations dairy producers must make when culling and transporting cattle from their operations.

The National Milk Producers Federation has published a document outlining the "Top 10 Considerations for Culling and Transporting Dairy Animals to a Packing or Processing Facility." Leaders in the dairy industry have been working on a dairy beef quality assurance program for years. The Humane Society of the United States release of the Heartland Packing Plant video showing inhumane treatment of dairy cattle, propagated the release of this document.

1. Do not move non-ambulatory animals to market under any circumstances. (Only allow ambulatory animals to be shipped to market).
2. Make the decision to treat, to cull, or to euthanize animals promptly. Sick and injured animals should be segregated from the herd.
3. Delay transport of an animal that appears to be exhausted or dehydrated until the animal is rested and re-hydrated.
4. Milk all cows that are still lactating just prior to transporting to a packing or processing facility.
5. Use a transportation company that is knowledgeable about your animal care expectations and provides for the safety and comfort of the animals during transport.
6. Do not transport animals to a packing or processing facility until all proper treatment withdrawal times have been followed.
7. Do not transport animals with a poor body condition, generally a Body Condition Score of less than 2 (1-5 scale).
8. Do not transport animals that require mechanical assistance to rise and are reluctant or unable to walk, except for veterinary treatment. When using any handling device, abuse must not be tolerated.
9. Do not transport animals with bone fractures of the limbs or injuries to the spine. Animals with a recent fracture unrelated to mobility should be culled and transported directly to a packing or processing facility.
10. Do not transport animals with conditions that will not pass pre-slaughter inspection at a packing or processing facility. If unsure, consult with your veterinarian before transporting an animal to a packing or processing facility.

The dairy industry needs to shift our thought processes regarding the classification of surplus animals. There are actually two classes of animals on dairy farms, **production** animals and **market** animals. **Production** animals would include lactating cows, dry cows, replacement heifers and potentially bulls for breeding. **Market** animals would include cull cows and bull calves. **All production animals eventually become market animals!** To that end, the dairy industry should discontinue using terms like cull, spent, salvage, junk and surplus, and begin using the term **market** when referring to animals that are no longer economically productive.

Market cattle, non-fed beef and dairy animals supply 20 percent of the total beef produced in the United States. In 1998, 2.5 billion pounds of market cow beef was produced in the U.S. with nearly half of that amount from dairy cows. Almost three quarters of the market cow beef is destined for processed beef products. Most dairy producers assume that the major product from market cows is ground beef sold as hamburgers through fast-food restaurants. In reality, ground beef is a very important product from market cattle, but it is only one of many products. Depending upon the operation, market cow packers utilize tenderloins, ribeyes and strip loins, particularly from younger cows as well as the hide and many other inedible products.

The decision to market a cow is a complex one. When making a marketing decision, dairy producers may consider many cow factors, such as age, stage of lactation, milk production, health status, disposition, and reproductive performance. Other economic factors such as current milk price, market cow price, as well as cost and availability of replacement heifers may have a role in determining whether or not to market a cow.

Dairy cow marketing decisions have an important influence on the financial success of the dairy. Marketing decisions can function as a component of genetic improvement programs designed for long-term gain and improved production efficiency (voluntary marketing). At the same time, marketing may also represent failure or limited success of health programs resulting in cows leaving the herd prematurely due to death, disease or health-related problems (involuntary marketing).

Annual market rates for DHIA Holstein herd herds in Illinois and the Midwest as of September 2008 are shown below. The data is averaged for the bottom, middle and top third of herds based on rolling herd average milk production.

Location/RHA	< 18,000	18,001-22,000	> 22,001
Illinois	33.4 (126)	36.4 (172)	36.1 (107)
Midwest	34.3 (1583)	35.2 (2508)	36.3 (2271)

Marketing decisions are important from several different perspectives. Costs for replacement heifers may represent up to 20 percent of the dairy operating budget (Fetrow 1988, AABP). Negative cash flows occur when a cow is sold for beef and a heifer is added to the lactating herd as a replacement. Cows retained in the herd represent capital investments, which are subject to various forms of risk that may alter the earnings from those investments. Cows have different risks of being marketed depending on their age. Although there is a tendency for increased marketing rates with advancing age, management constraints and biases can modify this relationship. The typical cow remains in the milking herd less than 4 years even though peak milk production related to maturity ordinarily does not decline until 8 or 9 years of age. The reluctance of some producers to market first calf heifers and choosing instead to give them a second chance is an example of management bias affecting marketing policy.

A recent study (Bascom and Young, JDS 1998) summarized the reasons dairies market cows and determined whether cows were marketed for multiple reasons. Dairy producers identified a secondary reason for marketing 35 percent of the time, and a tertiary reason for marketing 11 percent of the time. Unfortunately, DHIA data only provides the producer with one choice when categorizing marketing decisions. The most prevalent reason for marketing was reproduction. Producers may be unaware of the cost associated with reproductive marketing. In herds with less than optimal reproductive performance, dairy operators must find a balance between income loss caused by excessive days open and income loss caused by high marketing rates.

The second most prevalent reason for marketing was mastitis. High somatic cell count (SCC) was rarely used as the reason for marketing, however, clinical mastitis was the primary reason for 15 percent of the cows marketed in this study. How producers interpret the difference between mastitis and high SCC is unknown, and marketing for

mastitis may include both categories. Cows may be marketed for mastitis because they never recover from chronic infections or because of reduced milk production due to elevated SCC.

In 1994, the National Cattlemen's Association performed an audit of market beef cows, market dairy cows, and market bulls. This study was conducted to determine areas for improvement in the manner by which these classes of animals were marketed. In 1999, the study was repeated to see if the concerns found five years previously had changed. Slightly over 6 million head of market cows and bulls were assessed in the 1999 audit. In general, producers did a good job of
managing and marketing surplus animals. However, quality defects in only 1% of market cows and bulls indicate that thousands of cattle are below acceptable standards.

On average, 3 percent of all market dairy cows are condemned at USDA packing plants. Considering only emaciated and disabled cattle, over 40 percent of these market cows are condemned. Lameness and disabled cattle represent a problem to the industry from a public perception standpoint. Many lame cattle, however, are the result of failure to market animals before feet and leg problems progress. The packer is required to remove all tissue associated with an arthritic joint. More than 7 percent of cattle had at least one arthritic joint, and nearly 4 percent had two bad joints. With an average trim loss of 40 pounds, more than 37 million pounds of product would have been lost in 1999 due to joint problems alone. Packers listed arthritis as one of their top concerns.

Since lean muscle is the principal end product of market cattle, it is important that market animals do have adequate muscling and do not have excessive amounts of fat. However, the 1999 audit suggested that over 70 percent of dairy cows were inadequately muscled.
Certainly, dairy cows are not genetically designed for extreme muscling, but of greater concern is that the poor meat yield due to emaciation. Extremely thin cows amounted to 4.5 percent of dairy cows harvested in the 1999 audit. In many cases, the most valuable part of a thin cow is her hide. Emaciated cows are much more prone to bruising because they have no fat to serve as padding and they are more likely to be disabled upon arrival at the packing plant.

The primary concern of packers in the 1999 audit was the high incidence of bruising. Only 11.8 percent of cow carcasses did not have a bruise (down from the 1994 audit). Minor, medium, major and extreme bruises results in 0.69, 1.42, 4.78 and 15 pounds of trim loss, respectively. Using these estimates, more than 14 million pounds of product were lost due to bruising. Unfortunately, the bruises do not just occur on the lower-valued portion of the carcass. The 1999 audit revealed that trim loss was observed in the top sirloin, loin, rib, round and chuck. When a bruise is created on an animal, it takes time for the body to heal. Handling practices at the farm are very important in minimizing bruises. It is estimated that one-third of bruises occur on the farm and the other two-thirds occur in transport and marketing. Close scrutiny of handling facilities to eliminate sharp, protruding corners can help reduce bruising. Producers should also merchandise market cattle before they become emaciated and are more susceptible to bruises.

Another major concern of packers was the incidence of injection-site lesions and the potential for antibiotic residues. A recent study at Colorado State University revealed that approximately 29 percent of the rounds of market cows contain an injection-site lesion. Most of these lesions were detected in the upper portions of the hip. These lesions do not represent a food safety concern, but they are a beef quality problem. Scar tissue from intramuscular (IM) injections of antibiotics or vaccines causes the muscle tissue to be tougher, producing a product that may be unacceptable to the consumer.

Producers should carefully avoid marketing cattle that have been treated with antibiotics until the specified withdrawal time has ended. The USDA currently monitors the incidence of antibiotic residues in market cattle, and a trace-back system is already in place through the use of back tags at the auction barn. In the 1994 audit, dairy cows and veal calves were the two classes with the highest level of violative antibiotic residues, 1.5 and 1.8 percent, respectively. By 1999, the violation level in dairy cows had dropped to 1.1 percent (415 positives from 37,308 cattle tested). Inspectors at packing plants identify animals to be tested both ante mortem and post mortem. Nearly 85 percent of the residue violations were from post mortem-identified high risk cattle. The leading causes of antibiotic contamination included gentamycin (39%), penicillin (25%), sulfadimethoxine (12%), streptomycin (9%), tetracyclines (6%) and several others. Gentamycin may not be as commonly used as some of these other antibiotics, but the prolonged tissue retention may explain the reason this drug is at the top of the list.

When you look at the overall picture, the 1999 audit suggests that nearly $70 is lost in value for every market cow or bull that is merchandised. Most of this loss comes from merchandising thin, emaciated animals that are more susceptible to bruises and trim loss and have poor yields. Dairy Beef Quality Assurance (DBQA) addresses the day-to-day management practices that influence safety, quality, and wholesomeness of beef and beef products. Reducing the problem starts on the dairy and suggested changes involve seven steps.

1. Use the neck or shoulder as preferred injection site, when possible.
2. Read and understand injection product labels.
3. Avoid intramuscular (IM) injections when other labeled administration routes are available.
4. Products approved for subcutaneous injection should be done with the tenting technique by lifting animal hide between fingers and inject into the "tent."
5. Avoid mixing products as this causes more tissue damage, reduces product efficacy, and extends withdrawal times.
6. Ask your veterinarian about comparable tissue damage from different products.
7. Encourage promotion of tissue reaction information from pharmaceutical companies that produce inject able products.

The first step may be the biggest obstacle. Typically, large groups of dairy cows are not run through squeeze chutes like beef cattle. Injections in cows tossing their heads while in the stanchion can be dangerous. Is there an economic incentive from the buyer to justify the extra effort by the dairy personnel to reduce hindquarter injections? Tracing antibiotic residues is currently being pursued in dairy market cow carcasses. Tracing carcass quality (injection site lesions) back to the dairy would be needed to promote this type of quality assurance. Quality assurance is not an all or none situation and partial improvements could be beneficial.