

PRODUCER CODE OF CATTLE CARE

◆ Provide adequate food, water and care to protect the health and well-being of animals.

◆ Provide disease prevention practices to protect herd health, including access to veterinary care.

◆ Provide facilities that allow safe, humane, and efficient movement and/or restraint of livestock.

◆ Use humane methods to euthanize sick or injured livestock and dispose of them properly.

◆ Provide personnel with training to properly handle and care for cattle.

◆ Make timely observations of livestock to ensure basic needs are met.

◆ Provide transportation that avoids undue stress caused by overcrowding, excess time in transit, or improper handling during loading and unloading.

◆ Stay updated on industry advancements and changes to make decisions based on sound production practices with consideration for animal well-being, biosecurity and food safety.

◆ Persons who willfully mistreat animals will not be tolerated.



III-E. CATTLE CARE & HANDLING GUIDE

Training ♦ Feeding ♦ Housing Handling ♦ Transportation Health ♦ Biosecurity

Cattlemen have long recognized the importance of proper livestock management. Sound animal care, handling, and biosecurity practices -- based on practical experience, sound science, and animal behavior research -- impact cattle health, welfare, and productivity. At the same time, these practices enhance beef quality and producer profitability.

Because cattle are produced in diverse environments, geographic locations and management systems, there is not one specific set of production practices for all producers to implement. Personal experience, BQA training, and professional judgement are key factors in providing proper animal management.

Cattle Care Training & Education

Training for those who have supervisory roles should be prioritized because they become trainers of new employees. All employees who work with livestock should have a basic understanding of livestock handling techniques.

Training for those who care for and handle cattle should include:

- ▶ Basic feeding/nutritional management of beef cattle.
- ▶ How to properly diagnose common illnesses and provide proper care.
- ▶ Recognizing early signs of distress and disease.
- ▶ Administration of animal health products and how to perform routine animal health procedures.
- ▶ Recognizing signs associated with extreme weather stress and how to respond with appropriate actions.
- ▶ An understanding of the animal's flight-zone and point of balance.
- ▶ Proper use of handling and restraining devices.
- ▶ Knowledge to avoid sudden movement, loud noises, or other actions that may frighten cattle.
- ▶ Proper handling of aggressive/easily excited cattle to ensure the welfare of the cattle and people.



General Feeding Guidelines

Nutrition requirements vary according to age, sex, weight, breed or biological type, weather, body condition, and stage of production. Diets for all classes of beef cattle -- grazing or feeding -- should meet the recommendations of the National Research Council (NRC) and/or recommendations of a feed consultant.

Ruminants readily adapt to varying weather conditions. For this reason, they function well in outdoor environments. During periods of decreasing temperature, feeding plans should reflect increased energy needs.

Under certain circumstances (e.g., droughts, frosts, and floods), test feedstuffs or other dietary components to determine the presence of substances that can be detrimental to cattle well-being, such as nitrate, prussic acid, mycotoxins, etc.

Producers should become familiar with potential micronutrient deficiencies or excesses in their respective areas and use appropriately formulated supplements as recommended by a veterinarian.



Feeding Guidelines for Beef Cows

Beef cows must be fed to sustain health and reproduction. The nutrient requirements are found in the NRC Nutrient Requirements of Beef Cattle. If the cowherd is wintered in dry lot, it is desirable but not always possible, to separate cows into several groups according to age, size, and body condition -- to more precisely meet nutritional needs.

Body condition scoring of beef cows is a scientifically approved method to assess nutritional status. Body condition scores (BCS) range from 1 (emaciated, skeletal) to 9 (obese).

▶ **A BCS of 4-6 is most desirable for health and production in beef cows. (Dairy 2.5-3.5, depending on stage of lactation).** A BCS of 2 or under is not acceptable and immediate corrective action should be taken.

Feeding Guidelines for Feeder Cattle

The NRC Nutrient Requirements of Beef Cattle lists the dietary requirements of beef cattle (based on weight, weather, frame score, etc.) and the feeding value of various commodities included in the diet.

General guidelines include:

- ▶ Using the NRC guidelines, feed growing cattle to achieve desired weight gains and body condition.
- ▶ Understand that a small percentage of cattle on high concentrate rations in feed yards develop laminitis or founder (foot and leg trouble). Extreme cases should be provided appropriate care and marketed as soon as possible.





In artificial environments -- corrals, pens, and barns need to be clean and well-ventilated with good drainage to avoid standing water and excess manure accumulation. Facilities should be well maintained, resulting in better animal performance and a higher quality end-product in both beef and milk production.

► **SPACING:** In any type of facility, cattle should be offered adequate space for comfort and environmental management. The amount of space depends on body weight, rainfall, type of pen surface, slope, and presence of mounds. The amount of space allotted per animal will directly affect manure moisture content, which affects dust, runoff, and mud conditions.

In addition, spacing at the feed bunk and water supply is equally important to reduce competition for the essential nutrients required to promote maximum growth and optimum health.

Housing Considerations

► **SHELTER:** Cattle are produced in and adaptable to a wide range of production settings, from natural pasture and range environments to artificial dry lot and confinement facilities.

When physiological and behavioral characteristics of cattle (breed) are consistent with the **natural environment** provided, they can thrive in virtually any climate or environment in the U.S. without artificial shelter. However, during extreme weather conditions, cattle should have access to well-drained resting areas and/or natural or constructed shelter.



Besides the ethical issues, animal comfort is an economic issue. It affects herd health, reproduction, longevity, performance, and quality. In dairy operations for example, well-designed, comfortable stalls encourage cows to lie down. This is good for production and in preventing lameness. Much can be accomplished with improved management and modest renovation, for which the benefit-to-cost ratio is quite favorable. In confinement, observe cattle for signs of stress.

MOVEMENT: No more than 3% should be slipping if adequate traction is provided.

STALL USAGE: 80-90% or more of the animals with any part of their body in the stall, should be lying down properly in the stall.

COMFORT: Of cows lying down, at least 50-70% or more should be chewing their cud.

To further evaluate stall maintenance and use of adequate bedding, look for hock lesions and swelling, which indicate stalls are too short or 'hollowed out.' Scuffed or injured knees indicate insufficient bedding.

Large chain restaurants like McDonald's seek to influence how their beef is raised. The **National Council of Chain Restaurants** has developed an **Animal Welfare Audit** for how animals should be housed and treated on the farm. Details are available at: <http://www.awaudit.org>.

Cattle Handling

Cattle are gathered to perform routine husbandry procedures, such as: veterinary care; weighing; sorting; weaning; and transportation to and from pastures, feedlots, and livestock markets. Handling procedures must be safe for the cattle and caretakers, and cause as little stress as possible. Facilities should be designed and constructed to take advantage of cattle's natural instincts.

Understanding Cattle Behavior - Ways to Reduce Stress

► **VISION:** Cattle have a wide-angle vision field in excess of 300 degrees. Loading ramps and handling chutes should have solid walls to prevent animals from seeing distractions outside the working area. Seeing moving objects and people through the sides of a chute can cause cattle to balk or become frightened. Solid walls (photo, right) are especially important if animals are not completely tame, or if they are unaccustomed to the facility.

Handling facilities should also be designed to eliminate shadows that may prevent cattle from entering the chutes or working alleys. Cattle have a tendency to move from dark areas to lighter areas, provided the light is not glaring. A spot light directed onto a ramp or other apparatus will often facilitate entry. Handling facilities should be painted a uniform color because cattle are more likely to balk at a sudden change in color.

► **HEARING:** Loud noises should be avoided in cattle handling facilities. However, small amounts of noise can be used to assist in moving livestock. Placing rubber stops on gates and squeeze chutes, and positioning the hydraulic pump and motor away from the squeeze chute, will help reduce noise. It is also beneficial to pipe exhausts from pneumatic powered equipment away from the handling area.

► **CURVED CHUTES AND SOLID FENCES:** Curved single file chutes or working alleys are especially recommended for moving cattle into a truck or squeeze chute. A curved working system is more efficient for two reasons. First, it prevents the animal from seeing to the end of the chute until it is almost there. Second, it takes advantage of the natural tendency to circle around a handler moving along the inner radius. A curved chute provides the greatest benefit when animals have to wait in line for vaccination or other procedures. A curved chute with an inside radius of 15-16 ft. will work well for handling cattle.

Livestock will often balk when they have to move from an outdoor pen into a building. To combat this problem, animals should be lined up in a single file chute/working alley outside. Again, solid sides are recommended on both the handling facilities and the crowding pen that leads to a squeeze chute or loading ramp.



This cattle handling setup creates 'tunnel vision' to limit visual distractions that can cause animal stress. The clean angles and solid sides limit the animal's peripheral vision as an alternative to the preferred curved chute. Daylight at the headgate lures cattle forward. Balking and fear are reduced because the angled sides obscure the headgate until the cattle reach the end of the chute. Grooved non-slip flooring add to comfortable, confident movement of cattle through the chute.



► PATIENCE AND EXPERIENCE:

Experienced and trained personnel should operate restraining equipment in the processing of cattle. Processing should never be treated as a race. Avoid overcrowding the crowd pen, and refrain from pushing the crowd gate up on the cattle. Instead, allow them to move forward naturally.

Working cattle too quickly can lead to **bruises, injection site damage, human injuries, and incorrect records**. Stress caused by improper handling also **lowers conception rates, reduces vaccination effectiveness, and reduces immune and rumen functions**.

Besides bruising losses from improper cattle handling, **shipping fever and excess shrink (caused by the stress of mishandling) also leads to severe economic damage to the industry**. An understanding of cattle behavior will facilitate handling, reduce stress, reduce bruise defects, and improve both handler safety and animal welfare.

Handling is safer when animals are moved quietly. Handlers should not yell or flap their arms, because this may agitate the animals. Excessive use of electric prods increases animal agitation, as well as hazards to handlers.

When cattle become agitated and fearful, up to 20 minutes is required for their heart rate to return to normal. (Grandin.com) Agitated large animals are easier and safer to move if they are given an opportunity to calm down, perhaps while handlers are on a lunch or coffee break.

► **FLIGHT ZONE:** An important concept of livestock handling is the animal's flight zone or personal space. When a person enters the flight zone, the animal moves away. Understanding of the flight zone can reduce stress and help prevent accidents.

The size of the flight zone varies depending on how accustomed the cattle are to their current surroundings, people, etc. The edge of the flight zone can be determined by slowly walking up to the animals. If the handler penetrates the flight zone too deeply, the animal will either bolt and run away or turn back and run past the person.

The animal will most likely stop moving when the handler retreats from the flight zone. The best place for the person to work is on the edge of the flight zone. Cattle sometimes rear up and become agitated while waiting in a single file chute. A common cause of this problem is a person leaning over the chute.

Fig. 1 -- Flight Zone

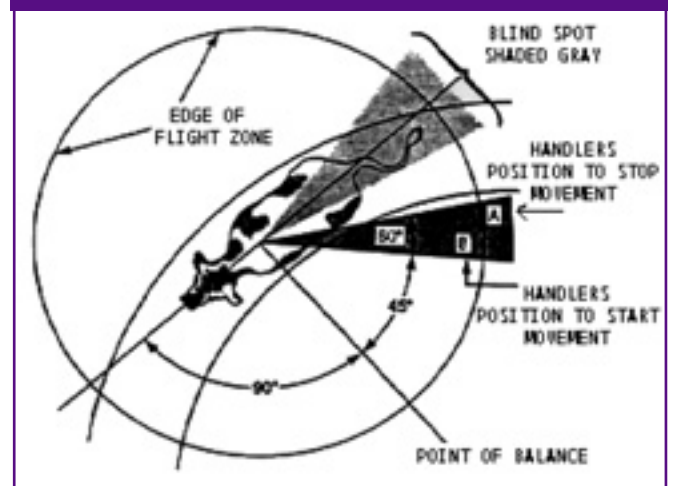


FIGURE 1. A handler must be behind the point of balance (line at animal's shoulder) to make an animal go forward.

Both veterinarians and handlers also need to understand the point of balance. **The point of balance is an imaginary line at the animal's shoulders.** To induce the animal to move forward, the handler must be behind the point of balance. To make the animal move backward, the handler must be in front of the point of balance. Animals move forward when a handler walks past the point of balance in the opposite direction of desired movement (Figs. 2 and 3).

Fig. 2 - Movement Pattern; Squeeze Chute

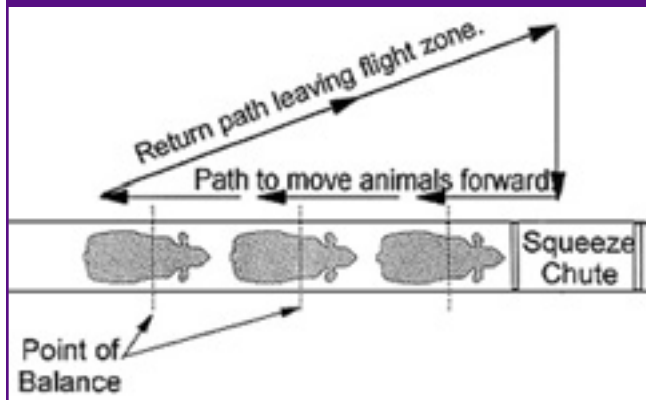


FIGURE 2. This movement pattern can be used to induce an animal to move into a squeeze chute. The handler walks inside the flight zone in the opposite direction of desired movement. The animal moves forward when the handler crosses the point of balance.

Fig. 3 - Movement Pattern; Curved Chute

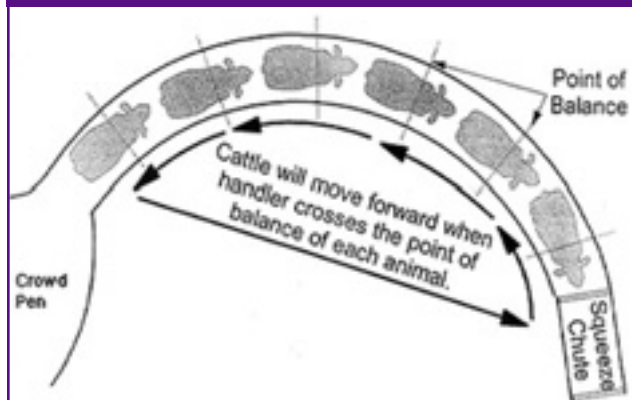


FIGURE 3. Handler movement pattern for use in a curved chute system. The techniques here and in Figure 2 make it possible to greatly reduce or eliminate electric prods.

<http://www.grandin.com/references>

Cattle Handling Facilities

Keep facilities and equipment in good condition to provide efficient movement and reduce stress when working cattle. Watch for nails, loose boards and other hazards that could tear the hide or cause bruises or infections.

Equipment to restrain cattle is needed on most beef and dairy operations. The equipment should quickly and securely restrain the animal and should allow for the quick release of the animal upon completion of the procedures. Corrals, pens, and chutes should be the proper size for the number of animals and the type of processing to be done. Keep equipment clean and in good repair.



Proper cattle handling requires the right facilities, equipment, and attitude.

Handling Facility Design

Proper design and quick recognition of problems that impede cattle flow are essential for safe, efficient cattle handling.

- ▶ Design and operate alleys and gates to **avoid impeding cattle movement**. When operating gates and catches, reduce excessive noise, which may cause distress to the animals.
- ▶ Hydraulic or manual restraining chutes should be **adjusted to the appropriate size of cattle to be handled**.
- ▶ **Regular cleaning and maintenance of working parts is imperative** to ensure the system functions properly and is safe for the cattle and handlers.
- ▶ **Avoid slippery surfaces**, especially where cattle enter a single file alley leading to a chute, or where they exit the chute. Grooved concrete, metal grating (not sharp), rubber mats or deep sand can be used to minimize slipping and falling.
- ▶ **Quiet handling is essential to minimize slipping**. Under most conditions, no more than 2% of the animals should fall outside the chute. A level of more than 2% indicates a review is needed, asking questions such as: is this a cattle temperament issue, has something in the handling area changed that is affecting cattle behavior, etc.
- ▶ Some cattle are naturally more prone to vocalize, but **if more than 5% of cattle vocalize** (after being squeezed but prior to procedures being performed) it may be an indication that chute operation should be evaluated.
- ▶ **If more than 25% of cattle jump or run out of the chute**, a review of the situation should address questions such as: is this a result from cattle temperament or prior handling, or is the chute operating properly, etc.
- ▶ **Properly trained dogs** can be effective for cattle handling. During chute-side cattle processing procedures, dogs that continually bark, impede cattle flow, or are unnecessarily rough with cattle should not be used.
- ▶ Provide a sound working knowledge of proper cattle handling techniques to all individuals who handle tasks with cattle on the farm. **Observe employees to ensure they are properly trained** and are using recommended techniques for the tasks at hand. Ongoing education should be part of the farm management plan, including the animal behavior concepts explained in this manual.



On dairy farms, cattle are sorted and handled frequently for tasks, which include: breeding, pregnancy checks, health checks, and routine or special treatments.



Some dairy farms utilize computerized ID systems to make this process more routine and reduce the stress involved for the cattle and the handlers. For example, some systems sort cattle as they exit the milking parlor. An overhead electronic reader (above right) identifies specific cows from a computerized list, and then sorts them to where they need to go as they move down the return lane to the freestall barn. Using a 2- or 3-gated system, the appropriate gate opens automatically (or by manual key-in) for the identified animals. In this manner, the cattle are guided to where a task will be performed (palpation rail or observation/treatment area). Stress to the animal is reduced because the sorting process is quiet, methodical and far less frustrating than chasing cows away from the group or out of the freestalls, for handling. The treatment sort area (above left) is equipped with headgates, which provide necessary restraint for administering injections properly in the neck region.

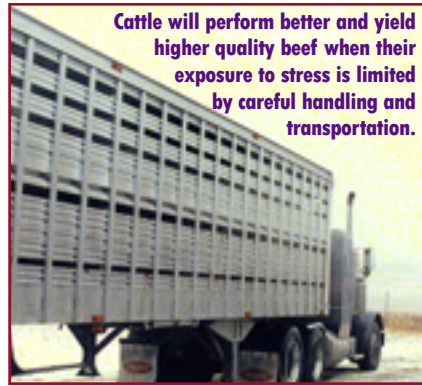
Transportation

The movement of cattle to and from farms, ranches, feedlots and marketing facilities is an important aspect of beef cattle production. In addition to promoting safety and animal welfare, proper handling while sorting, loading, and transporting also contributes to beef quality and producer profitability by reducing defects from bruising, injury, or stress.

Transportation Quality Assurance Guidelines:

Driver Attitude and Professionalism

- ▶ Act responsibly, showing concern for animal welfare.
- ▶ Use proper tone of voice and control emotions.
- ▶ Follow Humane Slaughter of Livestock Act and Code of Federal Regulations for Animal Welfare.



Cattle will perform better and yield higher quality beef when their exposure to stress is limited by careful handling and transportation.



Animal Handling Procedures

- ▶ Make safety a primary concern.
- ▶ Move animals in small groups, and separate them by size or gender prior to shipping. If possible, load different groups into separate compartments of the truck or trailer.
- ▶ Use proper sorting tools to move animals, such as brooms or paddles. Use electric shockers only under extreme conditions.
- ▶ Eliminate aggressive handling. Move cattle as quietly and patiently as possible to prevent stress or injury during loading and unloading.

- ▶ Work with the natural instincts of cattle -- understanding of flight zone and point of balance (described earlier).

Transit Precautions and Animal Evaluation

- ▶ Take precautions for extreme weather conditions -- providing appropriate ventilation and/or protection.
- ▶ Schedule loading and unloading times to minimize the amount of time animals spend in the trailer.
- ▶ During long-haul transit, stop occasionally to ensure cattle are well dispersed and still standing, and observe appropriate guidelines and regulations for long-haul transit.
- ▶ Evaluate animals for illness prior to loading and during long-haul transit.
- ▶ Do not load animals that should not be transported (i.e. borderline non-ambulatory/downer animals).
- ▶ Check for signs of stress and adjust stocking density to accommodate tired or stressed animals.
- ▶ Plan delivery schedules to minimize the number of stops made, and follow the schedule closely.
- ▶ To prevent livestock from falling, avoid sudden starts/stops and sharp turns.
- ▶ Have an emergency response plan of action for events (i.e. truck/trailer rollover, plant shutdowns).

Equipment Condition

- ▶ Be sure equipment is in good running order and use properly designed ramps/chutes.
- ▶ Consider stocking density and space requirements to avoid overcrowding, and use trailer dividers to limit animals to each section.
- ▶ Avoid slippery conditions by keeping floors clean and slip resistant. Ensure no sharp edges on loading chutes or trailer, and avoid shiny objects in the chute path/trailer, which may scare cattle from moving onto the trailer.
- ▶ Adhere to both federal and state weight limits and guidelines.
- ▶ Make sure drop gate is latched after trailer is loaded.

Biosecurity Practices

- ▶ Thoroughly clean and wash truck/trailer after unloading, prior to loading again, and disinfect regularly.
- ▶ Use clean bedding on trailer and chute area.
- ▶ Utilize disposable coveralls, boots and gloves to prevent possible disease cross-contamination.
- ▶ Deny entrance of animals exhibiting symptoms of disease onto trailer.

Questions to Ask

With the preceding **Transportation Quality Assurance Guidelines** in mind, when was the last time you asked your cattle hauler about cattle care and handling qualifications, practices, and sanitation protocols? If you don't ask, you won't know. The following survey responses provide a sampling of questions beef and dairy producers can ask of their transportation service providers. These highlights are adapted from "Managing the Haul" (July 12, 2005 *Beef Stocker Trends*).

According to a study conducted by Kansas State University (KSU) and the Kansas Motor Carriers Association (KMCA) last fall (2004) -- haulers responded to transportation survey* questions as follows:

- ◆ 16% reported washing trailers out after every load.
- ◆ 45% reported washing out once or twice each week
- ◆ 33% based wash-out frequency on number of loads and length of haul.
- ◆ 5% reported using disinfectant with washout.
- ◆ The vast majority reported using just cold water. (Hot water will remove 90% of pathogens)
- ◆ 80% of respondents reported no written protocol for trailer sanitation.
- ◆ More than half of the companies responding have a cattle handling training program for drivers.
- ◆ Nearly 80% require drivers to check cattle during the haul.
- ◆ 57% check cattle at every stop.
- ◆ 42% check based upon designated mileage or time intervals (generally less than six hours).

On-trailer stocking density (NCBA):

Average Weight	Head per running foot of truck (77-in. width)
200 lbs.	2.2
300 lbs.	1.6
400 lbs.	1.2
600 lbs.	0.9
800 lbs.	0.7
1,000 lbs.	0.6
1,200 lbs.	0.5
1,400 lbs.	0.4

Cattle transporters have many factors to think about before making a haul -- in addition to sanitation protocols. Preparation of the vehicle, and the cattle being transported, are very important considerations. Pre-transit planning will help drivers provide quality service that benefits both consumers and the cattle being hauled. Planning on the behalf of producers, will help them have healthier cattle delivered to the destination point.

(See Transportation Quality Assurance Guidelines page III-E-8.)

KSU and KMCA have developed useful transit and pre-transit guidelines for the Kansas Transport Initiative -- a project supported by the USDA FSIS Program for Animal and Egg Production Food Safety Initiatives and the Kansas Animal Health Department. This is a great resource for cattle transportation guidelines and is available at: <http://www.beefstockerusa.org/transportationfact.htm>.

**Survey confined to KCMA members, and to 50 companies providing transportation services to Excel Corporation. Additional information about truck and trailer sanitation and other practices is also available from the following organizations:*

Beef Stocker USA: <http://www.beefstockerusa.org>

Kansas Department of Agriculture: <http://www.accesskansas.org/kda>

Kansas Department of Health and Environment: <http://www.kdhe.state.ks.us>

National Cattlemen's Beef Association (NCBA): <http://www.beef.org>

National Institute of Animal Agriculture: <http://www.animalagriculture.com>

Temple Grandin: <http://www.grandin.com>

U.S. Department of Agriculture (USDA), Agricultural Marketing Service (AMS): [http://www.ams.usda.gov/tmd/livestock/Truck Guide](http://www.ams.usda.gov/tmd/livestock/Truck_Guide)

U.S. Department of Agriculture (USDA), Food Safety and Inspection Service (FSIS): <http://www.fsis.usda.gov>

National Pork Board-Trucker Quality Assurance: <http://www.porkboard.org>

Adult Cattle Care

- ▶ It is desirable for beef cows to have a BCS of at least 4 before the calving season. (Dairy 3.0-3.5)
- ▶ During calving season, cows should be checked regularly for calving difficulties. First-calf heifers may require more frequent observation and care.
- ▶ Cows and heifers should be allowed to calve on open pasture unless weather or possibility of calving difficulty dictates otherwise. If a calving barn is used, ample room for the cow/heifer to deliver her calf naturally must be provided.
- ▶ Fresh bedding should be provided and changed frequently to avoid soiling and disease transmission. Calving pens should be cleaned and disinfected between uses.
- ▶ Cattle with mild lameness, early eye problems such as ocular neoplasia (cancer eye), mastitis or loss of body condition should be examined to determine well-being and in some cases be promptly marketed.



Calf Care

- ▶ **Early castration** improves animal performance and reduces health complications. Castration prior to 120 days of age or when calves weigh less than 500 pounds is strongly recommended.
- ▶ When horns are present, it is strongly recommended that calves be **dehorned prior to 120 days of age**. Tipping of horns (removing the tip only) can be done with little impact on the well-being of individual animals.
- ▶ **Weaning can be less stressful** when castrating and dehorning of calves is performed early in life. Vaccinating against respiratory diseases prior to weaning and providing proper pre-weaning nutrition also reduces stress. Give other vaccinations and parasite treatments based upon risk assessment and the efficacy of available animal health products.
- ▶ Stress is decreased if calves are **weaned for approximately 45 days before shipment** to a stocker operation or feed yard.

Stocker and Feeder Cattle Care

- ▶ Weaning, commingling, marketing, and transportation predispose calves to disease -- primarily Bovine Respiratory Disease (BRD).
- ▶ **All incoming stocker and feeder cattle should be vaccinated against BRD.** Stocker cattle that will be grazing rangeland or pasture should be vaccinated against clostridial diseases. The use of other vaccines and parasite control should be based on risk assessment and efficacy of available animal health products.
- ▶ **Cattle should be checked at least daily** for illness, lameness, or other problems during the first 30 days following arrival.
- ▶ **Bullers should be promptly removed from the pen** to prevent serious injury. “Bulling” is a term to describe aggressive riding of a steer by one or more pen mates. This occurs both on pasture and in the feedlot, but is more commonly noticed in feedlot cattle.



FEEDER CATTLE PRODUCTION & SELECTION STANDARDS

◆ Known **FARM OF ORIGIN** w/documented **DATE OF BIRTH**

Mandatory as a condition of beef sales to Japan

◆ Individual **IDENTIFICATION** w/**HEALTH HISTORY FORMS**

for vaccination, deworming and implant documentation to follow the animals

◆ No more than **10%** weight variation on a load

◆ Known transportation and weight conditions

◆ Flesh condition < 5.0

◆ Feeder Grade **M-1** with range of **S+-1** to **L-1**

◆ Males castrated w/knife < 4 mos.of age; females open

◆ Favorable breed/genetics to target markets and premiums

◆ Calves thoroughly weaned

◆ Absence of horns, external parasites, active pinkeye infection



Healthy Calf Value

What is the economic impact of health on the ability of calves to express their genetic potential, and what is the economic cost associated with sick cattle, beyond cost of medicine?

Cattle health has a direct impact on feedlot performance and carcass quality. Table 1. shows the impact of sickness on the performance and profitability of over 800 cattle that have been evaluated in **New York's Feedlot and Carcass Value Discovery Program.**

► Cattle treated for sickness **gained 4% less** than those that remained healthy and did not require treatment.

► In the sick cattle, the combination of poor performance and the extra cost for treatment resulted in a **higher Total Cost of Gain (TCOG).**

► The impact of sickness carried on into the harvest phase, resulting in a **16% decrease** in the number of cattle reaching the **USDA Choice** quality grade and a more than five fold increase in the number of cattle that were stamped Standard.

► Increased cost of gain and lower quality ultimately cost the owner **\$35 in reduced profitability** compared with cattle that did not require treatment. This is in addition to increasing the risk of carcass damage from injection sites incurred as a result of treating for disease.

TABLE 1.

**Performance as affected by treatment for disease.
NEW YORK FEEDLOT AND CARCASS VALUE
DISCOVERY PROGRAM
1999-2004**

ITEM	SICK	HEALTHY
Number of head	203	607
ADG (lb)	3.51	3.65
Vet/Med (\$/hd)	\$17.09	\$ 0.00
TCOG ¹ (\$/lb)	\$ 0.56	\$ 0.53
% Choice	65.1	77.7
% Select	31.7	21.9
% Standard	3.1	0.5
P/L ² (\$/hd)	\$58.88	\$93.46

¹Total cost of gain

²Profit adjusted using uniform pricing to remove seasonal variation



Disease Prevention Practices and Health Care

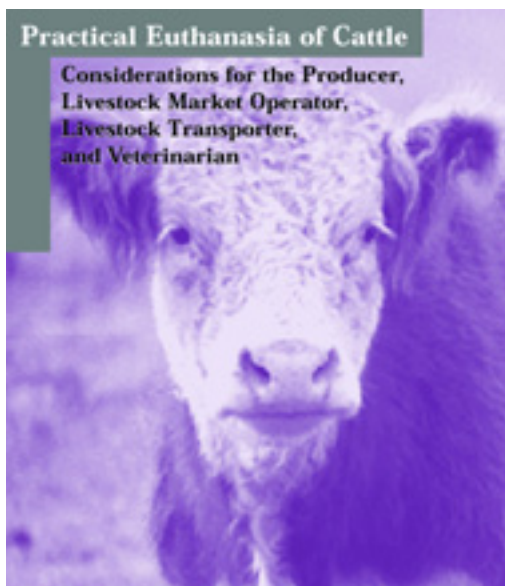
Like other species, cattle are susceptible to infectious diseases, metabolic disorders, toxins, parasites, and injury.

- ▶ The producer should work with a veterinarian and /or nutritionist to determine the risk of infectious, metabolic, and toxic diseases and to develop effective management programs when designing a herd health plan.
- ▶ Producers and their employees should have the ability to recognize common health problems and know how to properly utilize animal health products and other control measures.
- ▶ The use of a diagnostic laboratory to provide a definitive diagnosis is highly recommended for unusual or questionable cases.

Emergency Care Considerations

Non-Ambulatory (Downer) Cattle

- ▶ Cattle can become downers for several reasons, including injury, severe disease, and chronic emaciation. It is the responsibility of livestock owners and caretakers to make every effort to provide proper care for non-ambulatory livestock.
- ▶ A prompt diagnosis should be made to determine whether the animal should be humanely euthanized or receive additional care.
- ▶ Signs of a more favorable prognosis include the ability to sit up unaided, eating, and drinking.
- ▶ **Cattle that are non-ambulatory must NOT be sent to a livestock market or to a processing facility.** If the prognosis is unfavorable or the animal has not responded to veterinary care, it should be humanely euthanized.



EUTHANASIA is humane death occurring without pain and suffering. The producer may need to perform on-farm euthanasia because a veterinarian may not be immediately available to perform the service. The person performing the procedure should be knowledgeable of the available methods and have the necessary skill to safely perform humane euthanasia; if not, a veterinarian must be contacted.

When euthanasia is necessary an excellent reference is the *Practical Euthanasia of Cattle*. The guidelines were developed and published by the Animal Welfare Committee of the American Association of Bovine Practitioners (AABP). This booklet (pictured, left) is available on AABP's website at: <http://www.aabp.org/resources/euth.asp>.

Additional excellent resources, including desk cards and wall charts for posting, are offered by the University of Florida Department of Veterinary Medicine at: <http://www.vetmed.ufl.edu/lacs/humaneuthanasia>.

Producers should also use proper methods of disposing of deceased livestock in accordance with federal, state and local regulations. If utilizing a rendering service, keep deceased livestock in a screened area away from public view.

Quality Assurance Herd Health Plan

MINIMUM GUIDELINES



FOR ALL CATTLE AND PRODUCTION SEGMENTS

- ◆ Consult with your veterinarian to develop a herd health protocol, which outlines procedures appropriate for the your beef or dairy farm's location, management practices and assessed health risks.
- ◆ Provide appropriate nutritional feedstuffs.
- ◆ Handle cattle to minimize stress and bruising.
- ◆ All injections administered in the neck region.
- ◆ Individually identify treated animals to ensure proper withdrawal time.
- ◆ Always read and follow label directions.
- ◆ Keep records of all products administered including: product used, serial number, amount administered, route of administration, administrator, and withdrawal time.
- ◆ Make all records available to the next production sector.
- ◆ Consult with your veterinarian for additional health procedures.

HEIFERS AND PURCHASED BREEDING STOCK ENTERING THE COW HERD

- ◆ Vaccinate for viral and clostridial diseases in the neck region.
- ◆ Revaccinate according to manufacturer's label directions.
- ◆ Control external/internal parasites.



COW HERD

- ◆ Control external and internal parasites.
- ◆ Annual booster vaccinations should be administered in the neck region.

AT PRE-WEANING, WEANING AND/OR BACKGROUNDING

- ◆ If implanting, administer implants properly in a sanitary manner.
- ◆ Vaccinate in the neck region.
- ◆ Revaccinate according to manufacturer's label directions.
- ◆ Perform all surgeries, such as dehorning and castration, in a humane manner.
- ◆ Control external and internal parasites.
- ◆ Wean cattle (recommended 45 days prior to shipment) to ensure cattle health and producer return on health management investment.
- ◆ Maintain all current and previous ownership records to follow calves from farm of origin through slaughter. These records should include: individual date of birth, individual identification, and the premise identification for all farms of residence. These records include documentation of all products administered as detailed previously under guidelines for all cattle and production segments.



ANIMAL HEALTH SECURITY AREA



DO NOT ENTER WITHOUT PERMISSION

“Protecting America’s Food Supply”



About Biosecurity:

Biosecurity is a system of management procedures designed to prevent or greatly reduce the risk for introduction of new diseases to a cattle operation. It affects beef quality directly in the case of diseases that pose a **risk to public health**, and indirectly by reducing the potential of the **meat quality** being impacted by the disease or its treatment.

A biosecurity program is like an insurance policy for the health and productivity of the herd. Producers, with the help of a qualified veterinarian, must make decisions about the risk tolerance level they will accept, based on the chances of a disease occurring and the expected economic losses from the disease. When the risk tolerance level is determined, then appropriate risk management measures can be initiated.

Biosecurity levels and concerns will differ with production and marketing strategies: a seedstock producer’s plan may be different than a commercial producer’s plan, and a feedlot will have different concerns than cow/calf or dairy producers.



Many diseases of cattle cause decreased production and reproduction, sickness and death, loss of market options. For example, our increased understanding of Johnes is leading to greater liability in selling animals. The result ranges from altered or reduced cash flow to large loss of equity.

Sources of new disease

New diseases can be introduced to your cattle operation in a number of ways, including:

- ▶ Other cattle, including replacements from other herds, bulls, fence-line contact with neighboring herds, shows and fairs, and stray cattle.
- ▶ Feed, especially feed which could be contaminated with feces, urine, molds, or ruminant byproducts.
- ▶ Water, including pools of standing water, which animals may have access to.
- ▶ Humans, particularly those moving between herds, but also consider intentional acts against you.
- ▶ Non-livestock, including pets, birds, deer, coyotes, rodents, ticks, and other insects.
- ▶ Equipment and vehicles.
- ▶ Manure handling.

Typical ways to practice Biosecurity

The goal is to prevent disease from ever entering the operation, and to minimize the risk of infection if it does occur. You cannot exclude all wildlife and may not wish to exclude visitors, but you can take steps to greatly reduce the risk of them introducing a new disease.

ANIMALS NEW TO YOUR HERD:

- ▶ **Know the herd health status** of herds supplying replacements.
 - ◆ Obtain the health/vaccination history of new animals.
 - ◆ Have your veterinarian speak with their veterinarian.
- ▶ **Do not introduce** cattle that are:
 - ◆ Actively diseased.
 - ◆ Healthy but possibly incubating disease.
 - ◆ Healthy but recovered from a disease and potentially are carriers.
- ▶ **Isolate and observe** new animals for a period of time (3-4 weeks) before introducing to the herd.

ANIMALS WITHIN YOUR HERD:

- ▶ **Be a diligent observer** of your cattle.
 - ◆ Know signs of important diseases, which include:
 - Blisters around animals' mouths, noses, teats, or hooves.
 - Central nervous system disorders, such as staggering and falling.
 - Abortions or abnormal discharges.
 - ◆ Watch for and report any sudden, unexplained death loss.
 - Consider having your veterinarian necropsy every dead animal, unless you are certain of the cause of death.
 - ◆ Report to your veterinarian any severe illness affecting a high percentage of animals.



- ▶ **Dispose of dead animals properly.**
- ▶ **Minimize non-livestock traffic**, including pets, wildlife, rodents, birds, and insects.
- ▶ Keep **feed storage areas** free of all animals.

ANIMALS RETURNING FROM SHOWS OR FAIRS

- ▶ **Do not share** equipment with other exhibitors.
- ▶ **Change or wash clothing** and shoes worn at the fair before working with animals at home.
- ▶ **Isolate** returning animals a minimum of 14 days.
- ▶ Consider only participating in terminal shows.



VISITORS



- ▶ **Minimize the number of access routes** to your operation. Consider locking or obstructing alternative entry sites.
- ▶ **Minimize unnecessary visits.**
- ▶ **Place signs** describing visiting policies in clear view.
- ▶ **Keep a record** of visitors, including dates.
- ▶ Determine if visitors have been on other farms/ranches prior to visiting you. **Special care is needed if visitors have recently been in another country.**
- ▶ **Consider using footbaths or plastic boots.**
- ▶ **Report suspicious individuals** or abnormal activities.

VEHICLES AND EQUIPMENT

- ▶ **Designate parking** places for visitors.
 - ◆ Minimize their crossing tracks with feed suppliers/deliveries.
- ▶ **Minimize all vehicle traffic** in livestock and feed areas.
- ▶ **Do not contaminate feed with manure.**
 - ◆ Have separate equipment for feed and for manure handling, or
 - ◆ Clean and disinfect equipment used for handling manure and dead animals before handling feed.

Biosecurity Summary:

An effective biosecurity plan will involve your employees, veterinarian, and other specialists. It will provide reasonable protocols, which are more likely to be followed, to minimize introduction of new diseases. This will require education of farm visitors and may include physical barriers. The biosecurity plan and the actual adherence to the plan must be periodically reviewed, with adjustments made as needed.

Unfortunately, intentional acts against you and your animals are a possibility. The most important piece of advice is to **be alert**. Be aware of who is visiting your operation, what their activities are, and whether they might pose a potential risk. In other words, know what is happening at your operation at all times.

Biosecurity is a food safety related issue; it is a portion of BQA that benefits producers and consumers alike.