Beef Quality Assurance℠

On-Farm Training

BEEF®

Funded by
The Beef Checkoff

A SAFE, WHOLESOME AND HEALTHY BEEF SUPPLY

History of BQA

In 1982, the United States Department of Agriculture – Food Safety Inspection Service (USDA-FSIS) began working with the U.S. beef industry to develop the Pre-Harvest Beef Safety Production Program. In a proactive role to avoid government regulatory programs, the beef industry adopted the term Beef Quality Assurance (BQA).

In 1985, after three years of careful analysis and adjustment of production practices at three participating feedlots, they were certified by the USDA-FSIS and called the process Verified Production Control feedlots.

What was learned during those three years now serves as the foundation for the industry's BQA program established in 1987.

Cattlemen's involvement with BQA practices is an important key for avoiding additional government regulation. USDA's FSIS has commended the national BQA program. All states can be involved in this voluntary, producer led program.

For additional information about your BQA program, visit www.bqa.org and click on your state.

To become BQA certified go to www.animalcaretraining.org

Dear Beef Producer,

Today, your role of working cattle on the farm has never been more important. While we have always made our living off the land producing safe, healthy, and wholesome beef, we must improve and adapt to the changing demands within our beef industry.

The animals we raise on our farms must continue to meet our customers' expectations for both food safety and eating satisfaction. If not, this loss of consumer confidence in beef can cause a significant change in their eating habits and impact the future of our industry. Your role on the farm today for our industry is simple, but critical: Do your absolute best because "it's the right thing to do!"

Every task you perform today impacts the quality of beef produced for our consumers, who purchase the beef we raise and ultimately sign our paychecks. Producing high quality beef requires attention to detail, observation of the animals in their environment, and low-stress handling of animals.

Included at the end of this booklet are tear out cards that will assist you while performing important on-farm tasks. These cards can serve as general reminders of important best management practices.

Table of Contents

Animal Husbandry and Proper Care

Ensure that cattle have access to a clean and adequate water supply, as well as proper feedstuffs. All feedstuffs and feed ingredients should be of satisfactory quality for livestock feed to meet their nutritional needs. Make sure to avoid feed and water interruption longer than 24 hours. Use only United States Department of Agriculture (USDA), Food and Drug Administration (FDA), and Environmental Protection Agency (EPA) approved products for use in cattle. All products fed to cattle must be used in accordance with the approved product use guidelines.

Producers should become familiar with potential micronutrient deficiencies or excesses in their geographical areas and use appropriately formulated supplements. During certain environmental 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. For assistance, consult your local veterinarian.

Body Condition Scoring

One tool to assist producers ensuring cattle are properly cared for and in proper condition is body condition scoring (BCS). Body condition scoring of beef cows is a scientifically approved method to assess nutritional status with scale ranges from 1 (emaciated, skeletal) to 9 (morbidly obese). Use the below photos and tear out cards to assist with your on-farm assessment of cattle. Specifically evaluate cattle for fat cover over the **last half of the rib cage, vertebrae along the edge of the loin, and from hook bones to pin bones (tail head)**.

- BCS of 2 or under is unacceptable and immediate corrective action should be taken.
  - BCS 2 – emaciated, but not weakened. Immediate risk for animal to become compromised!

    Immediate corrective action should be taken!
  - BCS 3 – very thin with no excess fat on ribs, brisket, backbone.
- A BCS of 4-6 is most desirable for proper herd health, nutrition, and breeding/rebreeding longevity of your herd.
  - BCS 4 – ribs and backbone visible, muscle tissue not depleted in shoulders and hindquarters.
  - BCS 5 – moderate/thin, may still see last two ribs, but fat is present along vertebrae & tail head.
  - BCS 6 – smooth appearance, contains adequate fat along ribs and over tail head.
- A BCS of 7-9 requires a greater amount of feedstuffs to be fed to maintain these animals and results in the least economic on-farm returns to producers.
  - BCS 7 – 9 appears to be in good flesh, ribs very smooth and fat cover is apparent.
  - **Fat cover increases from moderate to extremes in BCS 7 to 9**

BCS 4

BCS 6

BCS 5

BCS 7

Compromised Cattle

An at risk or compromised animal is one with a reduced capacity to withstand the stress of living or transportation due to injury, fatigue, infirmity, poor health, distress, very young or old age, impending birth or any other cause.

The BQA program requires that livestock be handled in a manner that will result in the highest quality product for our consumers. Remember, at the end of the day, our consumers sign the paycheck. Well developed transportation practices can result in higher quality beef, less trim loss, fewer cattle and personnel injuries and ultimately, a more profitable operation.

In order for cattle to be loaded, all cattle must appear healthy and have no lameness or foot injuries. Cattle being transported for slaughter must not have cancer eyes, be debilitated, thin, and/or otherwise appear sick. An animal that has passed all of the previous requirements, but is still questionable and must be loaded, this animal should only be loaded on the back of the trailer (last on, first off). If an animal is compromised and cannot make the trip to the next sector of the production chain or to slaughter, immediately consult your local veterinarian. **USDA prohibits non-ambulatory animals from being marketed for slaughter. Non-ambulatory animals cannot be offloaded at a facility.**

Decision making steps to prevent cattle from becoming compromised

The following steps will assist you in early detection of problems and to properly address them in a timely manner. Should an animal ever become compromised, all decisions must be made promptly.

- ❑ **Prevent** – Facility designs, choice of equipment, low-stress handling, implementation of herd health programs and biosecurity protocols will help to prevent many cattle health problems.
- ❑ **Observe** – Cattle should be observed at least once a day, especially at feeding. Early detection of sickness and timely treatment are keys to minimizing animal discomfort.
- ❑ **Treat** – Treatment should be administered as soon as possible to prevent the animal's condition from deteriorating. Consult with your veterinarian to develop a treatment protocol and herd health program.
- ❑ **Separate** – Segregate sick or compromised cattle into designated "hospital" pens to allow close observation and treatment of the animal. Also, sort off cows too thin for transport and provide additional feed resources.
- ❑ **Transport** – Once it is determined animals are fit for transport decide where and when to ship them, ensuring all withdrawal times have been met.

Euthanasia

Should an animal be unfit for transport or unfit for human consumption it must be euthanized on farm. Do not send these animals to auction markets or slaughter facilities.

Correct site for euthanasia by gunshot or captive bolt.

To euthanize, the firearm should be held at least 2 inches from the intended point of impact, and the bullet should be directed perpendicular to the front of the skull to prevent ricochet. The point of entry should be at the intersection of two imaginary lines, each drawn from the corner of the eye to the top of the opposite ear (or the base of the opposite horn).

Confirmation of death is absolutely critical regardless of what method of euthanasia is chosen. Keep personal safety in mind when confirming death because animals can make sudden involuntary limb movements. The following can be used to evaluate consciousness:

- Lack of heartbeat - the presence of a heartbeat can be best evaluated with a stethoscope placed under the left elbow of the animal.
- Lack of respiration - movement of the chest indicates respiration. (Note: breathing can be very slow and erratic in unconscious animals).
- Lack of corneal reflex - the corneal reflex can be tested by touching the eyeball and noting whether the animal blinks. Lack of heartbeat and respiration for three to five minutes should be used to confirm death.

Effective Low-Stress Cattle Handling

Properly handling cattle impacts the quality of product we produce for our customers and limits defects in the carcasses; improves herd health, and ultimately, helps ensure producer and worker safety. The key to low-stress handling is creating and managing movement. Proper movement depends on correctly identifying and applying where and when to apply the correct amount of pressure on cattle.

Understanding an animal's flight zone (**Figure 1**) is very important to determine the correct amount of pressure to place on an animal. Each animal has a flight zone and will vary based on position of the cattle handler and location within a pen.

Once cattle movement is initiated and is moving in the direction you want, release pressure on an animal's flight zone and cattle will continue to flow in the direction in which they are headed. The key is for the handler to position themselves so that once cattle begin movement; cattle are headed in the general direction that you want for them to go.

General cattle behavior

There are three basic principles of cattle behavior that when used properly can improve the ease and efficiency of working cattle while reducing stress. These include:

1) **Cattle want to see you**

   When working cattle, make sure to start at the front of the herd. Starting from the front of the herd and not the rear, allows the handler to be in an animal's direct line of sight. Because cattle only have a 300° field of vision, the blind spot directly behind them hinders them from seeing you when working from the back of the herd. Cattle cannot properly respond to your pressure when they cannot see you.

2) **Cattle want to go around you**

   Position yourself that when cattle go around you (**Figure 2**), they are pointed at the destination in which you determine. For example (**Figure 3**), when animals are in the chute, simply walk by in the opposite direction you want them to go and they will naturally respond by moving forward.

3) **Cattle want to be with and will go with other cattle**

   Due to the natural predator-prey response, cattle often find safety in numbers. Utilize this gregarious behavior when handling cattle to create movement in the pasture, feedyard, or alleyways. Prior to handling cattle each time, closely observe the group to identify the more cautious and flighty animals to assist with worker safety while working cattle.

One of the most important concepts of effective low-stress cattle handling is to get cattle used to you but not afraid of you. There is a major difference: fear. Once an animal becomes stressed and all worked up, it may take an additional 30 minutes to get them calmed down before the animal will properly respond to pressure. Each time working cattle, we have an opportunity to create an experience – it is our role as producers to ensure this experience is a positive one to get our cattle properly conditioned.

Figure 1

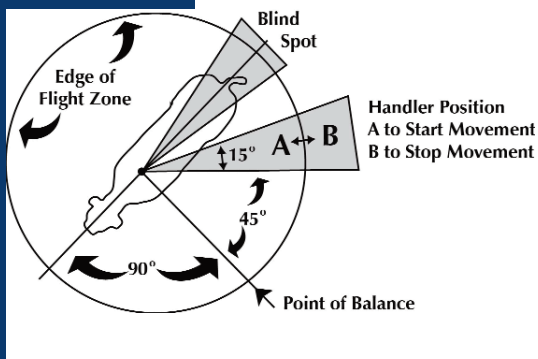


Figure 2

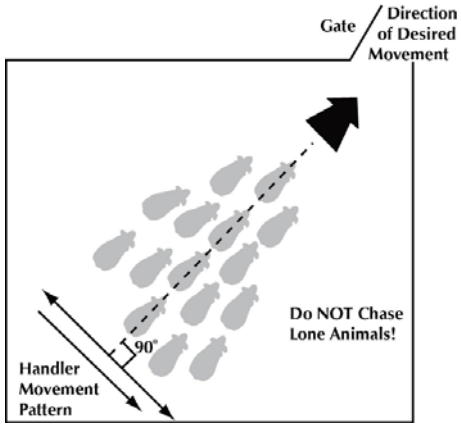
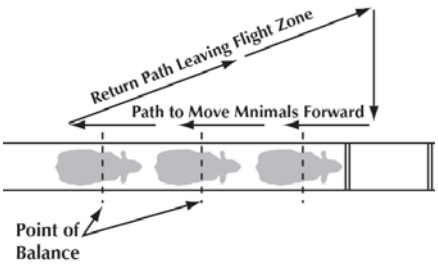


Figure 3



Proper Moving Aids

The use of persuaders, such as flags, plastic paddles, or sticks with plastic ribbons should replace electric prods as much as possible on the farm. These devices can be used for creating movement while minimizing noise. **Electric prods should NEVER be a person's primary driving tool because of the adverse affects (fear and stress) on cattle.**

> **"Working cattle fast is truly working cattle slow."**
> **Curt Pate, Stockmanship and Stewardship Presenter**

Loading and Unloading Livestock

Handling cattle in low-stress manner results in higher quality beef for our consumers, prevents animals from getting excited and lessens shrink experienced by livestock, and resulting in greater on-farm returns for you as a beef producer. Make sure as you handle cattle today, you create a low-stress environment. As Curt Pate, national cattle handling expert, is known for saying, "Working cattle fast is truly working cattle slow." This decreases the risk of mistakes made chute side, handling, and especially while loading and unloading of livestock.

Avoid the use of electric prods and aggressive use of canes, whips and sorting sticks while loading and unloading cattle. Because of eye placement, cattle have a wide area of peripheral vision (300°) with a small blind spot (60°) directly behind the animal as well as impaired depth perception. This impaired depth perception causes an animal to naturally stop at a change in footing, elevation, and at shadows or other external factors. Providing a couple extra moments for cattle in these circumstances and the overall flow of the system will increase.

One tool that may prevent livestock from slipping when exiting a chute is a chute mat. One example shown here is where tire treads create solid contact for the cattle's hooves upon exiting the working chute. This allows cattle to feel secure and are easier to handle when in the process of loading. When unloading livestock, ensure all the loading/unloading cleats are clean and free of debris to prevent cattle from slipping when exiting the trailer.

Checklist for Loading Cattle

- ❑ Prior to use, ensure the trailer has been properly cleaned out to prevent transmission of diseases.
- ❑ All loading gates and ramps are set up before backing to the loading chute.
- ❑ Before loading cattle, ensure all gates on the trailer are properly secured.
- ❑ Walk in all areas cattle have access to while being loaded to ensure there are no sharp edges or protrusions that could cause harm to cattle.
- ❑ Trailer is backed up to load-out chute squarely and evenly.
- ❑ Before pulling off the premise, ensure health records of the animals are obtained and in-hand.

Checklist for Unloading Cattle

- ❑ Upon arrival, make contact with individuals at the facility before unloading.
- ❑ Trailer is backed up to load-out chute squarely and evenly.
- ❑ Make sure the gates to the destination pen are open and the path is clear, before unloading cattle from trailer.
- ❑ Use good, low-stress handling techniques while unloading. Avoid the use of hot shots.
- ❑ Provide all documents to the recipient of the cattle (health certificates, inspection papers, brand paper, and prior feed and health records.)
- ❑ Make sure all unloaded cattle arrived safely and are content.
- ❑ Before pulling away from the chute, be sure the holding pen gate is shut.

Environmental Factors – Heat & Cold Stress Impacts

Avoid hauling cattle during extreme weather conditions (periods of hot and cold) as it may have a severe impact on the health of cattle. The two reference charts below show the environmental impacts experienced by cattle during certain ambient temperatures and relative humidity (Heat Index) and wind speeds (Wind Chill Index). Please utilize these charts to minimize the environmental conditions experienced by cattle while working, transporting, feeding, or breeding duties on your farm. Also, make sure to have an emergency action plan in place if transportation breakdowns occur while transporting cattle.

Hot Weather Factors

- Handling cattle gently and patiently is especially critical in extreme heat condition:
  - When cattle are stressed in extreme heat conditions, they are more likely to become non-ambulatory, sick and even die.
- Because summer time temperatures and high humidity are stressful on cattle, if possible, only haul cattle during the early morning hours.
- Attempt to avoid hauling and handling cattle between 11:00am and 4:00pm, which is most often the hottest time of the day. If cattle must be hauled at times of high temperature and humidity, avoid stopping the vehicle.
- If stopping along the way is absolutely necessary:
  - Make stop durations as short as possible.
  - Try stopping during cooler parts of the day if at all possible.
  - Pick shaded areas if you have to stop.
- During extreme periods of heat stress, make sure that animals have access to an increased supply of water.
  - An animal's water requirements will nearly double during periods of heat stress compared to their normal thermo-neutral requirements.
- During high temperatures, mow vegetation around the outside of pens to allow the greatest amount of airflow, when possible.

Use the charts provided to ensure it is safe to transport cattle during certain environmental conditions. The highlighted boxes show the temperature experienced by cattle during transport. Avoid hauling cattle in emergency level conditions.

Heat Index Chart

High temperature (°F)

Relative Humidity	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
90	91	95	98	102	105	109	113	117	122	126	131	136	141	147	152	158	164	170	176
85	90	93	96	99	102	106	110	113	117	122	126	130	135	140	145	150	155	161	167
80	89	91	94	97	100	103	106	110	113	117	121	125	129	134	138	143	148	153	158
75	88	90	92	95	97	100	103	106	109	113	116	120	124	128	132	136	141	145	150
70	86	88	90	93	95	98	100	103	106	109	112	116	119	123	126	130	134	138	143
65	85	87	89	91	93	95	98	100	103	105	108	111	114	118	121	125	128	132	136
60	84	86	88	89	91	93	95	97	100	102	105	107	110	113	116	119	123	126	129
55	84	85	86	88	89	91	93	95	97	99	101	104	106	109	112	114	117	120	124
50	83	84	85	86	88	89	91	93	95	97	99	101	103	105	108	110	113	115	118
45	82	83	84	85	87	88	89	91	92	94	96	98	100	102	104	106	109	111	114
40	81	82	83	84	85	87	88	89	91	92	94	95	97	99	101	103	105	107	109
35	81	82	83	84	85	86	87	88	89	90	92	93	95	96	98	100	102	104	106
30	80	81	82	83	84	85	86	87	88	89	90	92	93	94	96	97	99	101	102
25	80	81	82	82	83	84	85	86	87	88	89	90	91	93	94	95	97	98	100

Emergency Levels

Wind Chill Index Chart

Low temperature (°F)

Wind Speed	-10	-8	-6	-4	-2	0	2	4	6	8	10	12	14	16	18	20	22	24	26
25	-59	-56	-53	-50	-47	-44	-41	-38	-35	-32	-29	-26	-23	-20	-17	-14	-12	-9	-6
23	-57	-54	-51	-48	-45	-42	-39	-36	-33	-30	-28	-25	-22	19	-16	-13	-10	-7	-4
21	-54	-51	-49	-46	-43	-40	-37	-34	-31	-28	-26	-23	-20	-17	-14	-11	-8	-5	-3
19	-52	-49	-46	-43	-40	-37	-35	-32	-29	-26	-23	-21	-18	-15	-12	-9	-6	-4	-1
17	-48	-46	-43	-40	-37	-35	-32	-29	-26	-24	-21	-18	-15	13	-10	-7	-4	-2	1
15	-45	-42	-39	37	-34	-31	-29	-26	-23	-21	-18	-15	-13	-10	-7	-5	-2	1	4
13	-41	-38	-36	-33	-30	-28	-25	-23	-20	-17	-15	-12	-9	-7	-4	-2	1	4	6
11	-36	-33	-31	-28	-26	-23	-21	-18	-16	-13	-11	-8	-6	-3	-1	2	4	7	9
9	-30	-28	-26	-23	-21	-18	-16	-14	-11	-9	-6	-4	-2	1	3	6	8	10	13
7	-24	-21	-19	-17	-15	-12	-10	-8	-5	-3	-1	1	4	6	8	10	13	15	17
5	-15	-13	-11	-9	-7	-5	-3	0	2	4	6	8	10	12	14	16	18	21	23
3	-4	-2	0	2	4	6	7	9	11	13	15	17	19	21	22	24	26	28	30

Emergency Levels

Cold Weather Factors

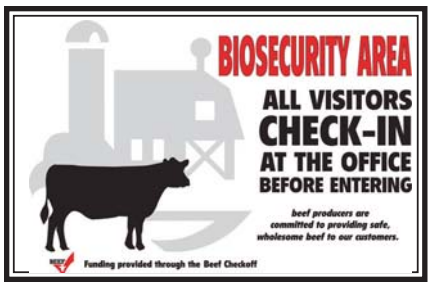
- In the winter try to avoid working cattle and/or hauling livestock during the coldest part of the day. Remember to account for wind chill when driving as unprotected cattle hauled at highway speeds can be subject to dangerous wind chills. If cattle are wet, the danger is even greater.
- If cattle must be transported in cold and windy conditions, avoid stopping if at all possible. It is critical to deliver cattle as quickly, but responsibly, as possible.
- Avoid hauling cattle during icy conditions.
- During periods of extreme wind and/or temperatures, wind breaks may be beneficial to reduce the environmental impact experienced by cattle.

Biosecurity

Maintaining a biosecurity program is the cheapest, most effective way to control disease, and no disease prevention program will be effective without it. The goal of biosecurity is to prevent, minimize or control cross-contamination of body fluids (feces, urine, saliva, etc.) between animals, between animal/s to feedstuffs, and between animal/s to equipment that may directly or indirectly contact animals. Biosecurity is essential to protect your farm, livestock and personnel by preventing introduction of infectious diseases into an operation to produce a safe and wholesome food product on consumer's plate. Biosecurity is also critical to maintain herd health for your livestock while keeping production cost low.

Checklist for establishing a biosecurity plan on your farm:

- ❑ Establish a valid Veterinarian-Client-Patient-Relationship (VCPR) with your local veterinarian.
- ❑ Maintain a written biosecurity plan and update it regularly with your veterinarian.
- ❑ Purchase feed from reputable sources.
- ❑ Clean equipment, boots, and change clothing between animal groups with different health status.
- ❑ Post signs at the farm entrance to inform visitors of procedures to follow.
- ❑ Maintain fences to keep your animals in and others out.
- ❑ Minimize fence line contact with neighboring animals.
- ❑ Vaccinate your cattle against all endemic diseases.
- ❑ Know the herd history of all incoming animals or reintroduced animals and quarantine for at least 30 days.
- ❑ Plan on only purchasing tested animals.
- ❑ Educate yourself and employees to recognize and report diseases.
- ❑ Monitor and inspect animals daily for signs of illness and isolate all sick animals – designate a hospital pen.
- ❑ Promptly euthanize animals that are not going to recover and remove dead animals from your operation.
- ❑ Place animal delivery and load-out facilities on the perimeter of your farm.
- ❑ Keep detailed records (written or electronic) of all disease occurrences and treatments.



Posting check-in signs at entry points can aid a farm's biosecurity plan.

Working with your Veterinarian

The Food and Drug Administration (FDA) recognizes that certain conditions may arise in which a drug will need to be used in an Extra-Label manner (Extra-Label Drug Use, ELDU) and recognizes the professional judgment of veterinarians in making those recommendations. Any ELDU of a FDA approved drug is by definition a prescription drug and requires the involvement of a licensed veterinarian. In order for ELDU to occur, a valid Veterinarian-Client-Patient Relationship (VCPR) must exist.

The following must be met regarding a **valid Veterinarian-Client-Patient Relationship (VCPR)** and for a food animal veterinarian to prescribe the **Extra Label Drug Use (ELDU)** of a medication:

1) There is no approved animal drug labeled for a particular condition or the animal drug is clinically ineffective.
2) The licensed veterinarian has assumed the responsibility for making medical judgments regarding the health of the animal/s and need for medical treatment.
3) The licensed veterinarian has sufficient knowledge of the animal/s to initiate at least a general or preliminary diagnosis of the medical condition.
4) The licensed veterinarian is available for a follow-up in case of adverse reactions or failure of the regimen of therapy.

5) The licensed veterinarian establishes an extended withdrawal period based on appropriate scientific evidence prior to marketing the animal or product.
6) The treated animal/s must be properly identified and identity is carefully maintained. Records need to be kept for at least 3 years.
7) The owner of the animal/s must agree to follow the veterinarian's instructions.

ELDU is limited to circumstances when suffering or death may result from failure to treat or when the health of the animal is threatened. ELDU is not permitted for production (growth, reproduction) enhancement or for reducing the treatment costs. **Extra-label drug use is only valid in the context of a VCPR.**

Proper Feed Management

Feedstuffs Management

- Maintain records of pesticide, herbicide, and insecticide use on pasture crops that could cause a violative residue in grazing or feedlot cattle for at least 3 years.
- Adequate quality control program(s) are in place for incoming feedstuffs. Program(s) should be designed to eliminate contamination from molds, mycotoxins or chemicals of incoming feed ingredients. Supplier assurance of feed ingredient quality is recommended. All feeding programs must maintain records of all feed ingredients for at least 2 years.
- Any feed ingredient suspected of contamination should be analyzed at a laboratory prior to usage.
- Ruminant-derived protein sources cannot be fed per FDA regulations.

Feed Storage

- Never store chemicals, petroleum products or other potentially hazardous materials in areas where feed is stored, mixed or processed.

Feed Additives and Medications

- All feed additives and medicated feeds must only be used at the FDA-approved label rates.
- Extra-label use of feed additives is illegal and strictly prohibited.
- **No one has the authority to adjust the usage &/or dose as labeled on feed additives or medications, including your veterinarian.**

Vaccine Handling

- Store vaccines in a cool environment (between 35° F and 45° F), but not frozen.
- Always purchase bottle sizes that will be completely used (upon mixing) in less than 1 hour.

Note: If you can only work 30 head within an hour, opt to purchase the 25 dose bottle or 3 - 10 dose bottles.

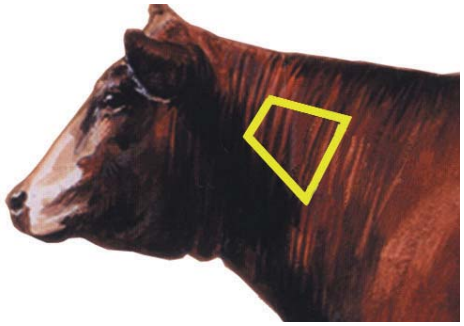
- Use an insulated cooler with frozen ice packs to transport vaccines to maintain product integrity and viability.

CAUTION: Never transport any vaccines without being properly stored in a cooler.

- Only mix modified-live virus (MLV) vaccines immediately before use.
- **At chute side**: keep the insulated container in the shade, with the lid on to minimize sunlight and dust contamination of the filled syringes. This protects the unused vaccines and filled syringes from sunlight and heat because ultraviolet light impairs a vaccines' effectiveness, particularly modified-live virus (MLV) products.
- Make sure syringes are properly labeled to avoid mixing vaccines when refilling because it could inactivate the whole syringe or make it less effective. Different colored electrical tape is a good way to keep syringes and products segregated.

Administering an injection

- **Change needles often** (every 10-15 head).
- All products cause tissue damage when injected intra-muscular (IM). Therefore IM use should be avoided, if possible.
- Products labeled for subcutaneous (SQ) administration should be administered SQ in the neck region (ahead of the shoulders). Use a 16- or 18-gauge B-Bevel needle 1/2- to 3/4-inch long.
- All products labeled for (IM) use shall be given in the neck region only (no exceptions, regardless of age). Use a 16- or 18-gauge B-Bevel needle 1-inch long.
- Products cleared for SQ, IV or oral administration are recommended to minimize tissue damage.
- Products with low dosage rates are recommended and space injections at least 4" apart (hand width).
- No more than 10 cc of product administered per IM or SQ injection site.



Needle Know How (see chart below)

- Gauge – diameter of the needle, adjust to match cattle weight
- Length – fit the route of administration, adjust to cattle weight

Change needles immediately:

- If the needle bends
- If the needle point is damaged, burr develops, and/or becomes dull (every 10-15 head)
- If the needle becomes contaminated with feces, dirt, or irritating chemicals
- Between cattle with known blood-borne infectious disease

	Route of Administration								
	SQ (1/2 to 3/4 inch needle)			IV (1 1/2 inch needle)			IM (1 to 1 1/2 inch needle)		
	Cattle Weight			Cattle Weight			Cattle Weight		
Injectable Viscosity	<300	300-700	>700	<300	300-700	>700	<300	300-700	>700
Thin Example: Saline	18 gauge	18-16 gauge	16 gauge	18-16 gauge	16 gauge	16-14 gauge	20-18 gauge	18-16 gauge	18-16 gauge
Thick Example: Oxytetracycline	18-16 gauge	18-16 gauge	16 gauge	16 gauge	16-14 gauge	16-14 gauge	18 gauge	16 gauge	16 gauge
SELECT THE NEEDLE TO FIT THE CATTLE SIZE (THE SMALLEST PRACTICAL SIZE WITHOUT BENDING)									

Syringe Care

- Clean the external syringe surface with soap, water and a brush.
- Rinse the inside components of the syringe with only hot water (at least 212° F), but never use soap or disinfectants.
- Allow the syringe to completely air dry.
- After syringe is dry, store syringe in a dust free, dry (low humidity) environment like a zip lock bag and place in freezer.
- Upon preparation for the next use, allow the syringe to warm to room temperature before adding vaccines.

Maintain records for at least 2 years and ensure all animals have cleared withdrawal periods before marketing.

1) Keep all the records you create today for a minimum of two years from the date of sale or transfer.
2) Fill out a processing map before you work cattle. This will help everybody involved with processing understand what, where, and how you want things done.
3) Treatment records should include information:
    a. Treatment date
    b. Individual animal or group ID
    c. Product used
    d. Product lot number
    e. Withdrawal time
    f. Dose administered
    g. Route of administration
    h. Location of injection, and
    i. Name of person who administered the injection.

Checklist before working cattle:

- ❑ Have a pre-established valid Veterinarian-Client Patient Relationship (VCPR) for administration of all vaccines and medications.
- ❑ Check all working areas where cattle have access to ensure surroundings are clean, safe and usable.
- ❑ All medications (vaccines, antibiotics, etc.) to be used are transported in a <45°F container with cold packs.
- ❑ Syringes have been properly cleaned (using no detergents)

  CAUTION: Detergent residue inactivates MLV vaccines & renders vaccine ineffective

- ❑ Adequate supply of needles to replace every 10-15 head of cattle through the chute.
- ❑ Have sharps container available to properly dispose of all used needles.
- ❑ Record sheets are prepared for individual animals treated or vaccinated.

Use the provided tear out cards on the next few pages to ensure the best management practices on your farm. Every task you perform today impacts the quality of beef produced for our consumers, who purchase the beef we raise. Producing high quality beef requires attention to detail, observation of animals in their environment, and low-stress handling of animals.

Importance of your role for BQA

Body Condition Scoring

BCS 4

BCS 6

BCS 5

BCS 7

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www.cowbcs.info/photogallery.html

Cattle Care and Husbandry Practices

- Cattle should have access to adequate quality and quantity of fresh, clean water and feed.
- Provide shelter during extreme weather conditions including dry resting areas.
- Make sure all withdrawal dates are met before the animal is sent to slaughter.
- Cattle unfit for transportation or human consumption should be humanely euthanized on the farm following the guidelines established by the American Veterinary Medical Association (AVMA) and the American Association of Bovine Practitioners (AABP).

Importance of your role for Beef Quality Assurance

- **Be a team player and understand that each animal carries the reputation of your business and beef industry.**
- **Maintain a valid Veterinarian-Client-Patient-Relationship(VCPR) so that your vet knows you, your herd, and management practices.**

Personal Veterinarian -

Office Phone: _____ Cell Phone: _____

State Veterinarian - Phone: _____

Local Auction Market - Phone: _____

Feedmill Manager - Phone: _____

Body Condition Scoring

One tool to ensure cattle are properly cared for and in proper condition is body condition scoring (BCS). Body condition scoring of beef cows is a scientifically approved method to assess nutritional status with scale ranges from 1 (emaciated, skeletal) to 9 (morbidly obese). Use the previous side of this card with the photos to assist with an on-farm assessment of your cattle. Specifically evaluate cattle for fat cover over the **last half of the rib cage, vertebrae along the edge of the loin, and from hook bones to pin bones (tail head)**.

- BCS of 2 or under is unacceptable and immediate corrective action should be taken.
  - BCS 2 – emaciated, but not weakened. Immediate risk for animal to become compromised!

    Immediate corrective action should be taken!
  - BCS 3 – very thin with no excess fat on ribs, brisket, backbone.
- A BCS of 4-6 is most desirable for proper herd health, nutrition, and breeding/rebreeding longevity of your herd.
  - BCS 4 – ribs and backbone visible, muscle tissue not depleted in shoulders and hindquarters.
  - BCS 5 – moderate/thin, may still see last two ribs, but fat is present along vertebrae & tail head.
  - BCS 6 – smooth appearance, contains adequate fat along ribs and over tail head.
- A BCS of 7-9 requires a greater amount of feedstuffs to be fed to maintain these animals and results in the least economic on-farm returns to producers.
  - BCS 7 – 9 appears to be in good flesh, ribs very smooth and fat cover is apparent.
  - **Fat cover increases from moderate to extremes in BCS 7 to 9.**

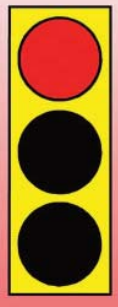
Low Stress Cattle Handling

TRANSPORT CANDIDATE

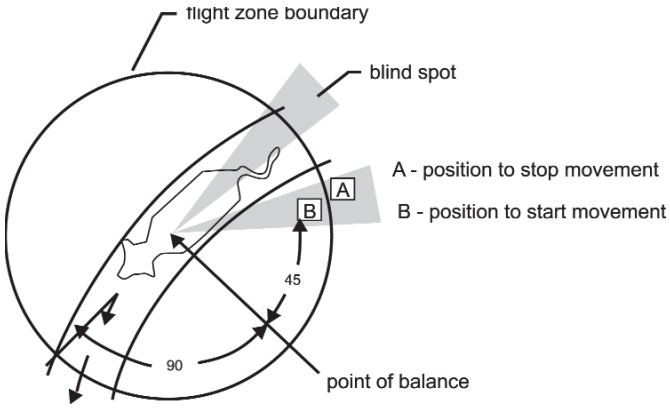
- Walks easily- not lame
- Healthy
- All withdrawal times met
- Body condition score of 2.5 or higher

DOWNER CANDIDATE

- Sick- fever greater than 104°
- Withdrawal times not met
- Thin- body condition score less than 2.5
- Cancer eye, blind in both eyes
- Animal can not be humanely loaded and transported
- Broken leg, lameness



Handling Cattle



- Have a plan before beginning to move cattle.
- Make sure facilities are set up and ready to be used.
- Understand cattle behavior patterns. If not please review effective low-stress cattle handling on page 6.
- Minimize noise level as much as possible including yelling, slamming gates, etc.
- Avoid sudden movements and slowly enter animals blind spots to avoid being kicked.
- Avoid excessive and forceful hitting of cattle. This could potentially damage the carcass reducing the value of the animal.
- Reduce amount of visual distractions for cattle including changes in lighting.
- Avoid overcrowding and isolating individual animals.
- Eliminate the use of electrical prod and use plastic paddles or sticks with flags that are easier for cattle to see.

Minimizing stress on cattle will reduce sickness and be less likely to alter animal performance and carcass quality. It will make it easier to handle cattle at the next stage of production.

Non-ambulatory animals

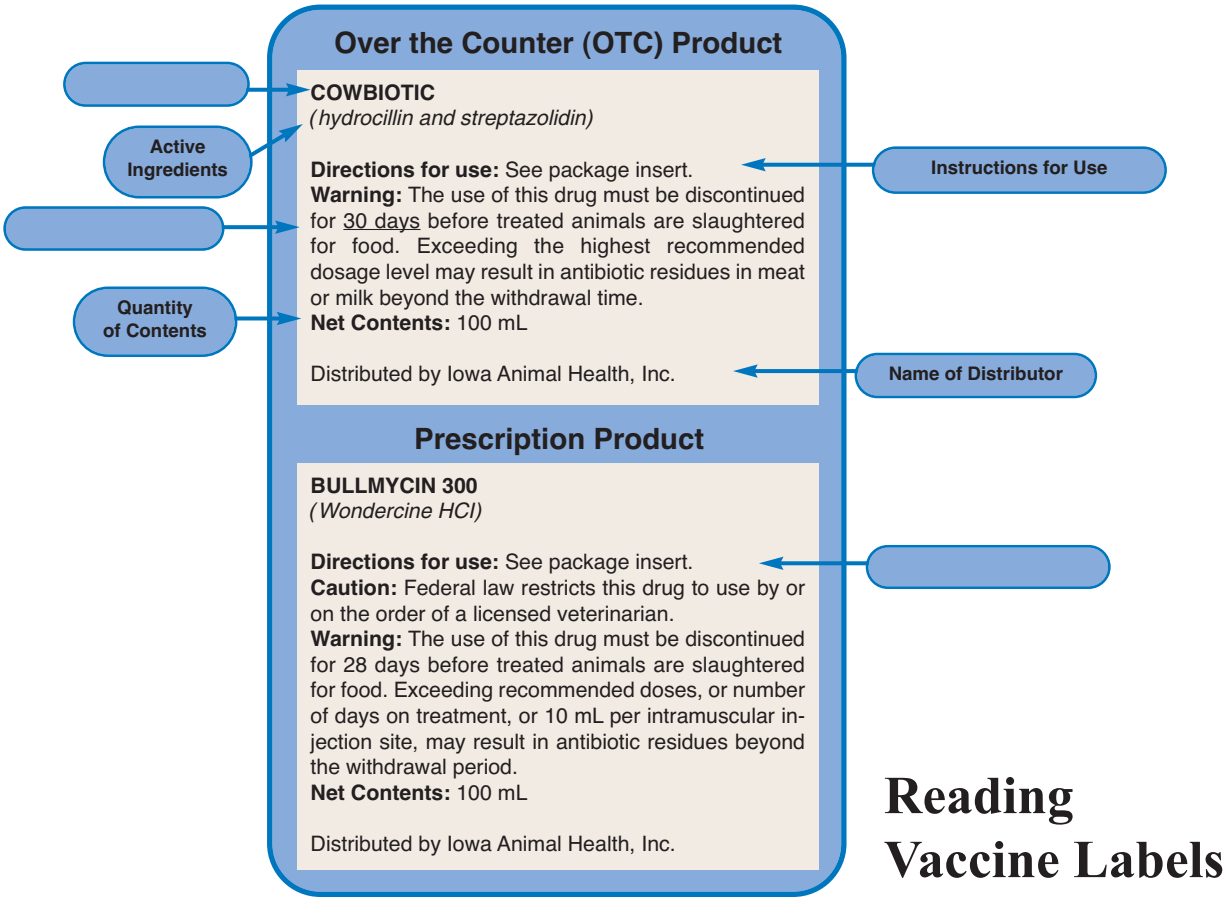
If cattle become non-ambulatory, which means they cannot rise from a recumbent position or cannot walk – they cannot be slaughtered. This includes animals that become non-ambulatory at the point of sale, on the way to the slaughter plant or which become non-ambulatory at the plant prior to slaughter. This applies to:

- Federally-inspected plants
- State-inspected plants
- Custom-exempt plants
- Imported cattle

Never do any of the following to a non-ambulatory animal:

- Never use an electric prod to stimulate the animal to get up.
- Never use chains or cables to pick-up or suspend an animal.
- Never let a non-ambulatory animal go without feed, water, and proper shelter.
- Never let a non-ambulatory animal stay in an area where they may get walked on or trampled.
- Never send a weak or severely lame animal to an auction market or on to slaughter.

Make a prompt decision with your veterinarian about the proper action to take should an animal become non-ambulatory!



Reading Vaccine Labels

Vaccine Handling & Refilling

Safety and Storage

- Always try to buy bottle sizes that will be used up quickly.
- Keep vaccines refrigerated at proper temperature (< 45°F) until use.
- Check fridge temperature regularly to make sure it's maintained at 35-45° F.
- Use an insulated cooler and multiple ice packs for transporting vaccines to work cattle.
- Avoid direct sunlight because ultraviolet light can impair vaccines' effectiveness, particularly modified-live virus (MLV) products.

Chute Side Handling

- Keep your insulated container in the shade, with the lid on to minimize sunlight and dust contamination.
- Only mix the amount that will be completely administered within one hour.
- Make sure syringes are properly labeled or marked to avoid mixing vaccines when refilling because it could inactivate that whole syringe or make it less effective. Different colored electrical tape is a good way to keep syringes and products segregated.

Reading vaccine labels

1. Choose low-dose, low-irritant, subcutaneous (SQ) products whenever possible.
2. **ALWAYS** read the label first!
3. Protect vaccines from exposure to heat and UV light.
4. Calculate the proper dose based on label directions.
5. Administer all vaccines as directed according to the label, especially vaccines that require a booster.
6. **NEVER** mix products.
7. Modified live vaccine begins to lose effectiveness 60 minutes after mixing.
8. Determine the weight of the animal to administer the correct amount of product.

Needle Know How

Gauge – diameter of the needle, adjust to match cattle weight.
Length – fit the route of administration, adjust to cattle weight.

Change Needles Immediately:
- If the needle bends
- If the needle point is damaged, burr develops and/or becomes dull (every 10-15 head)
- If the needle becomes contaminated with feces, dirt or irritating chemicals
- Between cattle with known blood-borne infectious disease

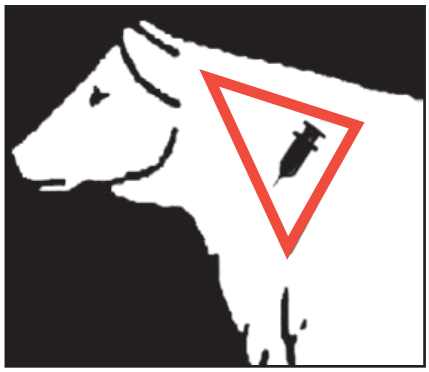
	Route of Administration								
	SQ (1/2 to 3/4 inch needle)			IV (1 1/2 inch needle)			IM (1 to 1 1/2 inch needle)		
	Cattle Weight			Cattle Weight			Cattle Weight		
Injectable Viscosity	<300	300-700	>700	<300	300-700	>700	<300	300-700	>700
Thin Example: Saline	18 gauge	18-16 gauge	16 gauge	18-16 gauge	16 gauge	16-14 gauge	20-18 gauge	18-16 gauge	18-16 gauge
Thick Example: Oxytetracycline	18-16 gauge	18-16 gauge	16 gauge	16 gauge	16-14 gauge	16-14 gauge	18 gauge	16 gauge	16 gauge
SELECT THE NEEDLE TO FIT THE CATTLE SIZE (THE SMALLEST PRACTICAL SIZE WITHOUT BENDING)									

Needles and Syringes

1. Use only quality, sterile needles and syringes.
2. Change needles every 10-15 head.
3. For subcutaneous (SQ) injections: use a 16- or 18-gauge B-Bevel needle 1/2- to 3/4-inch long.
4. For intra-muscular (IM) injections: use a 16- or 18-gauge B-Bevel needle 1-inch long.
5. **NEVER** use a bent or contaminated needle, **change immediately!**
6. Mark syringes and keep separate: modified live products in one, bacterins or killed products in another.

	Route of Administration								
	SQ (1/2 to 3/4 inch needle)			IV (1 1/2 inch needle)			IM (1 to 1 1/2 inch needle)		
	Cattle Weight			Cattle Weight			Cattle Weight		
Injectable Viscosity	<300	300-700	>700	<300	300-700	>700	<300	300-700	>700
Thin Example: Saline	18 gauge	18-16 gauge	16 gauge	18-16 gauge	16 gauge	16-14 gauge	20-18 gauge	18-16 gauge	18-16 gauge
Thick Example: Oxytetracycline	18-16 gauge	18-16 gauge	16 gauge	16 gauge	16-14 gauge	16-14 gauge	18 gauge	16 gauge	16 gauge
SELECT THE NEEDLE TO FIT THE CATTLE SIZE (THE SMALLEST PRACTICAL SIZE WITHOUT BENDING)									

Vaccine Administration & Site Placement



- Always read vaccine labels before use and follow directions. Look at expiration dates, injection dose, route of administration, etc.
- Give injections only in the neck region. Never in rump, top loin, or back leg.
- Never exceed more than 10 cc per injection site and space injections at least 4 inches apart (hand width).
- Records should be kept each and every time an animal is treated or processed.

Needles and Syringes

- Change needles every 10 to 15 head.
- Use only hot water to clean syringes. Never use disinfectants.
- Use proper needle size for situation. Consider route of administration, size of animal, location of injections, and product administered.
- Always use a new needle to remove vaccine from bottle.
- Make sure syringes are properly labeled to avoid mixing vaccines when refilling which could result in inactivating vaccines or making them less effective.
- Provide proper restraint to avoid breaking needles in animal tissue.

PROCESSING/TREATMENT MAP

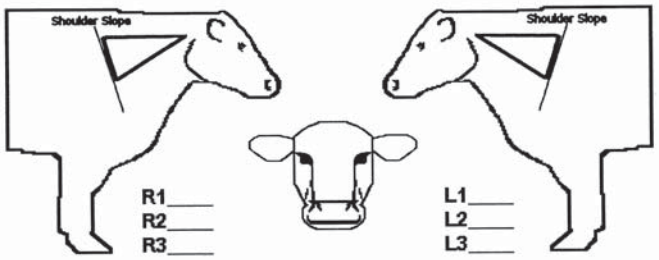
When possible select SQ products, and give all injections in the neck region.

DATE:_____ **TIME:** _____ **No. of Head :** _____

In Weight: (average/variation): _____ **Breed:** _____

Sex: S, H, Bulls, mixed **Frame Size:** S, M, ML, L **Air Temperature:**_____

ID: Right Ear or Left Ear/ Group Number: _____/Individual_____



Loading Recommendations of Cattle

Recommended maximum number of cattle* for trailers of different lengths.**

Trailer size (Inside Dimension)	Cattle weight, Lbs 400	600	800	1000	1200	1400	1600	Total Wt.***
	Number of head							
16 ft x 6 ft	18	12	9	7	6	5	5	< 7400
18 ft x 6 ft	21	14	10	8	7	6	5	< 8400
20 ft x 6 ft	23	15	12	9	8	7	6	< 9300
24 ft x 6 ft	28	18	14	11	9	8	7	< 11100
20 ft x 7 ft	27	18	13	11	9	8	7	< 10800
24 ft x 7 ft	32	22	16	13	11	9	8	< 13000
32 ft x 7 ft	43	29	22	17	14	12	11	< 17300

* This chart represents the maximum number of polled/dehorned cattle for trailers of different lengths; when hauling horned/tipped cattle reduced the number of cattle by 5%.

**The number of cattle loaded during hot conditions should be reduced.

***The maximum weight of cattle for each trailer size with these calculations. Do not exceed the Gross Vehicle Weight Rating for your truck and stock trailer.

Beef Quality Assurance™

BEEF

Funded by The Beef Checkoff

Record Keeping

- Keep all records for a minimum of **two years** from date of sale or transfer.
- Record use of all products including vaccines, antibiotics, dewormers, etc.
- Records should be kept each and every time an animal is treated or processed including:
  - Individual or group identification
  - Date treated
  - Product administered and manufacturer's lot/serial number
  - Dosage Used
  - Route, location, and person administering product
  - Earliest date animal(s) will have cleared withdrawal period
- **Transfer all written or electronic records of your cattle to the next stage of production!**
- Inform prospective buyers of any cattle who have not met withdrawal times.
- Check records regularly and update as often as appropriate.

Treatment Record for Individual Cattle

Animal ID: _____ **Home Group/Pen** _____ **Color** _____

(Rx = medication name, WD = withdrawal time)

Date	Product Used (Rx)	Lot or Serial #	Dosage used	Route of Adminstration	Person Administering Product	WD	Comments

Transportation of Cattle

- Clean trailer inside to outside, top to bottom, front to back.
- Make sure trailer is properly clean before and after each load.
- Driver should know specific locations and times of load pickups and drop-offs, have phone numbers for producers and destination contacts, and other important information such as head count.
- Ensure that all cattle are fit to be loaded. No animal should have a major injury, illness or health disorder, and all withdrawal times have been met if going to slaughter.
- Minimize transporting cattle between the hours of 11 am and 4 pm on hot, humid days and during extreme cold and windy conditions.
- Minimize stopping when cattle are loaded. If stops are necessary, make stop durations as short as possible, avoid stopping during extreme heat or cold conditions, and pick shaded areas on warm days.
- On long hauls, cattle should be checked after 2 hours on the road, and every 4 hours after.
- Reduce the amount of stress put on the animal while loading, hauling, and unloading.

---See Low-Stress Cattle Handling for more details---

Producer Code of Cattle Care

All beef cattle producers take pride in their responsibility to provide proper care to cattle. The Code of Cattle Care below is a checklist to follow for proper care and handling of cattle:

- ❑ **Provide necessary 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 appropriate methods to humanely euthanize terminally sick or injured livestock and dispose of them properly.**
- ❑ **Provide personnel with training/experience to properly handle and care for cattle to produce a wholesome beef product.**
- ❑ **Minimize stress when transporting cattle.**
- ❑ **Keep updated on advancements and changes in the industry to make decisions based on sound production practices and consideration to animal well-being.**
- ❑ **<u>PERSONS WHO WILLFULLY MISTREAT ANIMALS WILL NOT BE TOLERATED.</u>**

A contractor to the beef checkoff

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9110 East Nichols Ave, Suite 300
Centennial, Colorado 80015
303.694.0305 - BQA.org