

Guide to a Beef Quality Assurance (BQA) Feedyard Assessment

The BQA Feedyard Assessment

The BQA Feedyard Assessment is an on-site educational tool that allows for assessing and benchmarking key indicators of animal care and well-being as well as feedyard conditions. The Feedyard Assessment focuses on three main areas – Animals, Records, Protocols and Facilities and Equipment.

The Feedyard Assessment may be utilized as a self-assessment, completed by a second-party (i.e. consulting veterinarian, nutritionist, feedyard staff, extension personnel, BQA coordinator, etc.) or conducted by a third-party assessor. The real key, regardless of who conducts the assessment, is that the assessment be repeated on a periodic basis so that comparisons may be made, trends observed, and management actions be taken to maximize animal care and well-being *and* feedyard efficiency.

The Feedyard Assessment consists of multiple assessment points grouped into nine main categories. This assessment is about continuous improvement. However, it can help identify items and create benchmark points that may need to be improved including animal handling, facility/equipment maintenance, and recordkeeping/BMPs among other items. Repeating the assessment on a regular basis can help a feedyard identify trends and take appropriate management action as necessary.

Assessor's Guide

This Assessor's Guide is written to help the individual(s) conducting a feedyard assessment complete the assessment and associated assessment form(s) accurately and efficiently. The complete assessment form is included in this guide; however due to individual operational needs there are multiple variations of the assessment form available. The form(s) used depends upon the individual assessor and the operation being assessed. All forms have a common framework, they list the following:

- Major category (ex: BMPs/Records)
- Category Point, a specific component of a major category, (ex: Training)
- Measure, how the category point is evaluated (ex: Is there a protocol in place?)
- Result, (4 choices, select one)
 - Acceptable/Yes – This point/measure was satisfied appropriately
 - Requires action – This point/measure was somewhat satisfied but could use improvement, requires the comment field to be filled out
 - Unacceptable/No – This point/measure was not met satisfactorily, requires the comment field to be filled out
 - Not Applicable – This point does not apply in this operation/situation, comment section may be completed to explain why
- Comments, area for comments on that category point including commentary on why a measure was recorded as it was and advice for improving that point in the future (Optional for “Acceptable” result)

The content of this guide includes all assessment categories and points as well as a short explanation of how to complete the measure for category points. If the version of the assessment form the assessor is using is not the complete version, simply skip over the areas in the guide that do not apply to the situation.

Scheduling

If a third-party assessment is to be conducted, adequate notice should be provided so that biosecurity protocols are known and can be observed by an off-site assessor. Additionally, advance notice will provide time for copies of any required records that may be stored off-site to be made available at the feedyard site.

When should operations be assessed?

An assessment should only be conducted when the site is operating under normal conditions. For example, do not perform an assessment during a period of disease-outbreak or when another serious factor or factors may be impacting the operation creating “abnormal” conditions whereas the feedyard is not exhibiting “normal” operational conditions (ex: extreme weather conditions, natural disaster, etc.). Additionally, an assessment should not be conducted if doing so would force animals to be handled or moved during conditions which may be detrimental to animal well-being. Minimally, an assessment should be conducted every three years. Some operations may decide to conduct an assessment more frequently.

Assessment Forms

The assessment forms have been designed in an assessment-flow pattern to help the assessor eliminate backtracking and/or moving inside/outside/inside, etc. However, these forms cannot account for all situations and the assessment-order is only a suggested order, the assessment may be completed in any order as deemed appropriate by the assessor.

Choosing Pens/Animals to Assess

Efforts should be made to randomly select pens, water troughs, feed bunks and cattle for the assessment. This could include use of the feedyard’s “yard sheet” or drawing numbers from a hat or box to identify pens that will be subject to the assessment prior to driving/walking around the feedyard. The yard sheet will also help ensure that pens being assessed are currently occupied with cattle. A minimum of ten pens should be assessed. If a feedyard has less than ten pens with cattle in them, all pens with cattle present should be assessed.

Additionally, the assessor should make an effort to assess pens, water troughs, feed bunks and cattle in areas such as the receiving/shipping pens and hospital(s). The number of those areas assessed will be feedyard-specific and dependent upon the size of the feedyard and types of facilities available.

Recordkeeping and Documentation

The Feedyard Assessment guide contains references to many types of records including documentation of protocols. You may call protocols, Best Management Practices (BMPs) or standard operating procedures (SOPs). A set of customizable, fill-in-the-blank, sample/template forms is provided as part of this guide. If you do not already have one or more of the documents referenced as part of the Feedyard Assessment, you are encouraged to use these provided forms “as-is” or make modifications to fit your operation.

BQA Feedyard Assessment

Operation Name:
 Date:
 Assessors Name/Phone:

Location:
 Operation contact Name/Phone:

	Category Point	Measure	Acceptable/Yes	Requires Action ▲	Unacceptable/No ▲	Not Applicable
Abuse/Neglect	<p>Willful abuse of animals will not be tolerated. Willful abuse is defined as acts outside of accepted BQA production practices that intentionally cause pain, injury or suffering including, but not limited to: Intentionally applying any type of driving aid to a sensitive part of the animal including, but not limited to: eye, ear, nose, rectum or genitalia</p> <p>Malicious hitting or beating of an animal</p> <p>Movement of non-ambulatory cattle in a manner inconsistent with BQA recommendations</p> <p>If no abuse was witnessed, mark Acceptable/Yes. If not, make an appropriate mark and fill out the comments section.</p> <p><i>If abuse is observed, assessor should report the abuse to Feedyard Management immediately.</i></p>					
	Animal Abuse	No animal abuse was observed during assessment.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Comments:					
<p>Animal neglect will not be tolerated. Animal neglect is defined as purposely not providing adequate amounts of feed, water or other necessary care, which results in significant harm to or death of an animal.</p> <p>If an adequate amount of feed, water and other necessary care was provided mark Acceptable/Yes. If not, make an appropriate mark and fill out the comments section.</p> <p><i>If neglect is observed, assessor should report the neglect to Feedyard Management immediately.</i></p>						
Animal Neglect	Feed, water and other necessary care was available during assessment.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:						

▲ "Requires Action" or "Unacceptable" items require a description to be placed in the "Comments" field (Comments are optional for "Acceptable" markings.)

	Category Point	Measure	Acceptable/Yes	Requires Action ▲	Unacceptable/	Not Applicable
Withdrawal/Residue Avoidance	<p>Management techniques must be in place, and currently utilized, to prevent treated cattle that have been treated from being marketed until the withdrawal time has been completed and there is no risk of an animal being marketed with a violative residue level.</p> <p>If management techniques to avoid violative residue are in place and are being utilized, mark Acceptable/Yes. If not, make an appropriate mark and fill out the comments section.</p>					
	Residue Avoidance					
	Comments:					
Protocols (BMPs/SOPs/Records)	<p>Protocols, BMPs, procedures or SOPs must be provided and documented for the following category points, and, when specifics are described, that protocol must contain each of the item(s) noted within the measure.</p> <p>If the measure is fully met, mark Acceptable/Yes. If not, make an appropriate mark and fill out the comments section.</p>					
	Training	<p>Employee training is accomplished by utilizing one of the following: online BQA training platform (<i>bqa.org</i>), face-to-face meetings, on-site training at the feedyard, or other means of training that meet the BQA training requirements as determined by the national BQA standards and state BQA program.</p> <hr/> <ul style="list-style-type: none"> • Manager/key employee - BQA training/re-training a minimum of every three years is documented. • Demonstrate that employees and contractors receive BQA training in their respective area(s) of work, prior to conducting job duties in an unsupervised capacity. <p>BQA certification is encouraged for all employees and contractors.</p>				
	Pen Surface Maintenance	Is a documented protocol in place for pen surface maintenance?				
	Euthanasia	Is a documented euthanasia protocol in place that meets American Association of Bovine Practitioners (AABP) guidelines?				
	Non-ambulatory Cattle	Is a documented protocol in place for dealing with non-ambulatory cattle?				
	Comments:					

▲ "Requires Action" or "Unacceptable" items require a description to be placed in the "Comments" field (Comments are optional for "Acceptable" markings.)

	Category Point	Measure	Acceptable/Yes	Requires Action ▲	Unacceptable/No ▲	Not Applicable
Protocols (BMPs/SOPs/Records)	BMPs [Protocols or Standard Operating Procedures (SOPs)] must be provided and documented for the following category points, and when specifics are described, that protocol must contain each of the item(s) noted within the measure. If the measure is fully met, mark Acceptable/Yes. If not, make an appropriate mark and fill out the comments section.					
	Herd Health	Are documented herd health protocols in place that address disease prevention, management, and treatment?				
	Antibiotic Stewardship	Have treatment protocols for diseases, lameness, digestive disorders and other cattle health and well-being issues been developed with the feedyard veterinarian, in accordance with current FDA guidance and BQA guidelines for the judicious use of antibiotics?				
	Biosecurity	Is a documented biosecurity protocol in place that addresses visitor logs, staff training, physical security and a current biosecurity plan?				
	Carcass Disposal	Is a documented carcass disposal protocol in place that meets federal, state and local disposal regulations?				
	Medication Receiving, Storage, Handling	Are documented protocols available for receiving, handling and storing pharmaceuticals including inventory records, expiration dates, and disposal?				
	Broken Needles	Is a documented broken needle protocol in place?				
	Medicated Feed	Is a documented protocol in place for medicated feed and are feed delivery records available?				
	Feed Quality	Is a documented protocol in place for feed quality which includes consultation with a nutritionist, and, the need to collect, store and analyze feed samples, especially related to potential quality issues such as aflatoxin and/or pesticide residue?				
	Receiving/ Processing	Is a documented protocol available for receiving/processing cattle including processing crew responsibilities, number of cattle received, proper use of implants, processing map and animal/group ID?				
	Shipping	Is a documented protocol available for shipping cattle including withdrawal verification and safe-to-ship documents?				
	Emergency Action Plan (EAP)	Is an Emergency Action Plan in place (completed and available)?				
	Supplements	Is there documentation that no ruminant-derived proteins were received or fed?				
	Veterinary/ Client/ Patient Relationship (VCPR)	Is there documentation of a valid VCPR? Documentation may include items such as visit reports, billing records, or other proof documents. <i>*In the BQA Feedyard Assessment, all references to feedyard veterinarian are within the context of a valid VCPR.</i>				
	Comments:					

▲ "Requires Action" or "Unacceptable" items require a description to be placed in the "Comments" field (Comments are optional for "Acceptable" markings.)

	Category Point	Measure	Acceptable/Yes	Requires Action ▲	Unacceptable/No ▲	Not Applicable
CATTLE	Evaluate a minimum of 100 head of cattle; if the pen does not contain 100 head evaluate all cattle in the pen. Evaluate a minimum of 10 pens; if the site has less than 10 pens then evaluate all pens on the site.					
Chutes	<p>Use* of electric prods should be minimized. Record the number of cattle on which an electric prod is used. Calculate the percentage that are prodded and record the percentage. Number of cattle prodded ÷ Total cattle observed x 100 = ____% prodded</p> <p>*Use is defined as discharging electric current while in contact with the animal.</p> <p>If 10% or more of the cattle are prodded, mark Unacceptable/No and complete the comments section.</p>					
	Driving aides	Is an electric prod used on < 10% of cattle? ____% (Acceptable is <10.0%)				
	Comments:					
	<p>Cattle should not fall* upon release from the chute. Record the number of cattle that fall. Calculate the percentage that fall and record the percentage. Number of cattle that fall ÷ Total cattle observed x 100 = ____% falling</p> <p>*Falling is defined by the animal's torso/belly touching the ground.</p> <p>If 2% or more of the cattle fall, mark Unacceptable/No and complete the comments section.</p>					
	Cattle falling	Falling ____% (Acceptable is <2.0%)				
	Comments:					
	<p>Cattle should not stumble/trip* upon release from the chute. Record the number of cattle that stumble following release from the chute. Calculate the percentage that stumble/trip and record the percentage. Number of cattle that stumble ÷ Total cattle observed x 100 = ____% stumbling/tripping</p> <p>*Stumbling/tripping is defined as an animal contacting the ground with a knee.</p> <p>If 10% or more of the cattle stumble/trip, mark Unacceptable/No and complete the comments section.</p>					
	Cattle stumbling/tripping	Stumbling/tripping ____% (Acceptable is <10.0%)				
	Comments:					
	<p>Most cattle will not vocalize when in the chute, following restraint but prior to occurrence of a procedure. Record the number or cattle that vocalize following restraint but prior to occurrence of a procedure. Calculate the percentage that vocalize and record the percentage. Number of cattle that vocalize ÷ Total cattle observed x 100 = ____% vocalizing</p> <p>If 5% or more of the cattle vocalize following restraint but prior to occurrence of a procedure mark Unacceptable/No and complete the comments section.</p>					
Cattle vocalizing	Vocalizing ____% (Acceptable is <5.0%)					
Comments:						

▲ "Requires Action" or "Unacceptable" items require a description to be placed in the "Comments" field (Comments are optional for "Acceptable" markings.)

	Category Point	Measure	Acceptable/Yes	Requires Action ▲	Unacceptable/No ▲	Not Applicable
Chutes	<p>Most cattle will not jump or run* out of the chute following release. Record the number or cattle that jump or run upon release. Calculate the percentage that jump or run and record the percentage. Number of cattle that jump or run ÷ Total cattle observed x 100 = ____% jumping or running</p> <p>*Do not count trotting as running.</p> <p>If 25% or more of the cattle jump or run upon release from the chute, mark Unacceptable/No and complete the comments section.</p>					
	Cattle jumping or running	Jumping or running ____% (Acceptable is <25.0%)				
	Comments:					
Chute Operation	<p>Chutes should be operated such that the position of the animal is readjusted if it is improperly caught*. Record the number of cattle that are miscaught. Calculate the percentage that are miscaught and record the percentage. Number of cattle that are miscaught ÷ Total cattle observed x 100 = ____% miscaught</p> <p>*Miscaught is defined as the animal being in any position other than with its head fully outside of the chute and the balance of the body within the chute, or if an animal is caught in the tail/back gate and not released.</p> <p>If any cattle are miscaught and not readjusted, mark Unacceptable/No and complete the comments section.</p>					
	Chute operation / Miscaught	Miscaught ____% (Acceptable is 0.0%)				
	Comments:					
Stocking Rate/Space	<p>Is space available for cattle to be able to stand up, lie down, move freely and allow for feedyard environmental management? Evaluate a minimum of 10 pens of cattle and evaluate the stocking (if feedyard has less than 10 pens, evaluate all pens). Calculate the percentage that have sufficient space and record the percentage. Number of pens that have sufficient space ÷ Total pens observed x 100 = ____% with sufficient space</p> <p>If all of the pens have sufficient space, mark Acceptable/Yes. If not, mark Unacceptable/No and complete the comments section.</p>					
	Stocking rate / space	Cattle can stand up, lie down and move freely?				
	Comments:					

▲ "Requires Action" or "Unacceptable" items require a description to be placed in the "Comments" field (Comments are optional for "Acceptable" markings.)

	Category Point	Measure	Acceptable/Yes	Requires Action ▲	Unacceptable/No ▲	Not Applicable
Mud Score	<p>Cattle should have a dry area to lie down and rest. Additionally, they should be able to get to feed and water without being required to wade through mud more than four inches above their fetlock or mid cannon bone. Evaluate a minimum of 10 pens of cattle and review the pen including the cattle and the pen/mud conditions (if feedyard has less than 10 pens, evaluate all pens). Calculate the percentage of pens where pens are maintained to help cattle have a dry resting area and eliminate wading through mud and record the percentage.</p> <p>Number of pens maintained as noted above ÷ Total pens observed x 100 = ____% pens maintained to help cattle have a dry resting area and eliminate wading through mud.</p> <p>If 70% or more of pens are maintained in a manner to help cattle have a dry resting area and eliminate wading through mud, or mud is present yet there are obvious preparations or current efforts underway to manage muddy conditions, mark Acceptable/Yes. If not, mark Unacceptable/No and complete the comments section.</p>					
	Mud score	Are pens maintained in a manner to help cattle have a dry resting area and eliminate wading through mud?				
	Comments:					
FEEDING/WATER						
Water	<p>Clean and clear water should be available at all times. Tanks should not have manure, excessive buildup of algae, or other foreign material. Evaluate a minimum of 10 tanks (if the site has less than 10 tanks then evaluate all tanks). Calculate the percentage that have clean and clear water and record the percentage. Number of tanks with clean and clear water ÷ Total tanks observed x 100 = ____% with clean and clear water.</p> <p>If 70% or more of the tanks have clean and clear water, mark Acceptable/Yes. If not, mark Unacceptable/No and complete the comments section.</p>					
	Water access / cleanliness	Adequate, clean and clear water supply (i.e. no long-term build-up of manure, algae, etc.)				
	Comments:					
Feeding	<p>Feed bunks should be accessible for cattle and they should be clean and free of spoiled, moldy, sour, packed, or unpalatable feed. Evaluate a minimum of 10 bunks (if the site has less than 10 bunks then evaluate all bunks). Calculate the percentage that are clean and free of spoiled, moldy, sour, packed or unpalatable feed and record the percentage. Number of bunks clean ÷ Total bunks observed x 100 = ____% clean bunks.</p> <p>If 70% or more of the bunks are clean and free of spoiled, moldy, sour, packed or unpalatable feed, mark Acceptable/Yes. If not, mark Unacceptable/No and complete the comments section.</p>					
	Feed bunks	Are feed bunks clean and accessible?				
	Comments:					
MAINTAINANCE						
Feeding	<p>The unloading area should be well-maintained, have non-slip footing, and be free of distractions and potentially harmful items.</p> <p>If the unloading area meets the above criteria, mark Acceptable/Yes. If not, mark Unacceptable/No and complete the comments section.</p>					
	Unloading area	Well-maintained, non-slip footing, no broken gates/fencing/etc.				
	Comments:					

	Category Point	Measure	Acceptable/Yes	Requires Action ▲	Unacceptable/No ▲	Not Applicable
Maintenance	<p>The loading area should be well-maintained, have non-slip footing, and be free of distractions and potentially harmful items.</p> <p>If the loading area meets the above criteria, mark Acceptable/Yes. If not, mark Unacceptable/No and complete the comments section.</p>					
	Loading area	Well-maintained, non-slip footing, no broken gates/fencing/etc.				
	Comments:					
	<p>The processing area should be well-maintained, have non-slip footing, and be free of distractions and potentially harmful items.</p> <p>If the processing area meets the above criteria, mark Acceptable/Yes. If not, mark Unacceptable/No and complete the comments section.</p>					
	Processing area	Well-maintained, non-slip footing, no broken gates/fencing/etc.				
	Comments:					
	<p>The hospital area should be well-maintained, have non-slip footing, and be free of distractions and potentially harmful items.</p> <p>If the hospital area meets the above criteria, mark Acceptable/Yes. If not, mark Unacceptable/No and complete the comments section.</p>					
	Hospital area	Well-maintained, non-slip footing, no broken gates/fencing, feed and water readily available, etc.				
	Comments:					
	<p>Euthanasia equipment should be maintained in good repair and available to trained personnel at all times or ready access to veterinary services should be available.</p> <p>If primary and secondary euthanasia tools are in good repair and accessible to trained personnel or veterinary access is readily available, mark Acceptable/Yes. If not, mark Unacceptable/No and complete the comments section.</p>					
	Euthanasia area	Are primary and secondary euthanasia tools in good repair and accessible for use by trained personnel, or is veterinary access readily available?				
	Comments:					
<p>Machinery should be cleaned and disinfected when different materials are to be contacted (i.e. use for dead animals vs. manure vs. feed).</p> <p>If machinery is cleaned and disinfected when use is changed, mark Acceptable/Yes. If not, mark Unacceptable/No and complete the comments section.</p>						
Machinery	Is machinery, including trucks and loaders, cleaned and disinfected to maintain biosecurity?					
Comments:						



Each box represents 1 observed animal. If a “criteria” item listed is observed, place each corresponding letter in the box for that animal. If none are observed the box will remain blank. For example, if the 5th animal observed is prodded with an electric prod and the animal jumped when exiting the chute, then Box 5 would have an “E” and “J” entered in it.

Cattle Handling Observation Scoresheet

TO - Total Observed _____	Max. less than	P/F
E - Electric Prod used _____ / TO x 100 = _____%	10%	P/F
F - Fell upon release from chute _____ / TO x 100 = _____%	2%	P/F
S - Stumbled / Tripped when released _____ / TO x 100 = _____%	10%	P/F
V - Vocalized in chute before procedures _____ / TO x 100 = _____%	5%	P/F
J - Jumped or Ran when released _____ / TO x 100 = _____%	25%	P/F
M - Miscaught and not readjusted _____ / TO x 100 = _____%	0%	P/F

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Comments:

Pen/Equipment Observation Scoresheet

TO - Total Observed _____	Min. =	P/F
S - Stocking Rate/Space is o.k. _____ / TO x 100 = _____%	0%	P/F
PM - Pen/Mud is o.k. _____ / TO x 100 = _____%	70%	P/F
W - Water is accessible _____ / TO x 100 = _____%	70%	P/F
F - Feedbunks accessible/clean _____ / TO x 100 = _____%	70%	P/F

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30

Comments:

THE CATTLE INDUSTRY'S GUIDELINES FOR THE CARE AND HANDLING OF CATTLE

INTRODUCTION

Cattlemen have long recognized the need to properly care for livestock. Sound animal husbandry practices, based on decades of practical experience and research, are known to impact the well-being of cattle, individual animal health and herd productivity. Cattle are produced in very diverse environments and geographic locations in the United States. There is not one specific set of production practices that can be recommended for all cattle producers. Personal experience, Beef Quality Assurance (BQA) training and professional judgment can serve as a valuable resource for providing proper animal care. The following information is to be used as an educational resource, all production practices should be adapted to specific needs of individual operations.

FEEDING AND NUTRITION

Diets for all classes of beef cattle should meet the recommendations of the National Research Council (NRC) and/or recommendations of a nutritional consultant. For local recommendations and advice, contact your state agricultural extension as a potential resource.

- Cattle must have access to an adequate water supply. Estimated water requirements for all classes of beef cattle in various production settings are described in the National Academy of Sciences NRC Nutrient Requirements of Beef Cattle.
- Provide adequate feed. Avoid feed and water interruption longer than 24 hours.
- Feedstuffs and feed ingredients should be of satisfactory quality to meet nutritional 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 nitrates, prussic acid, mycotoxins, etc.
- Producers should become familiar with potential micronutrient deficiencies or excesses in their respective geographical areas and use appropriately formulated supplements.
- Use only USDA, FDA and EPA approved products for use in cattle. These products must be used in accordance with the approved product use guidelines.

Feeding Guidelines for Beef Cows

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

- A BCS of 4-6 is most desirable for health and production. A BCS of 2 or under is not acceptable and immediate corrective action should be taken.
- During periods of prolonged drought and widespread shortages of hay and other feedstuffs, the average BCS of cows within a herd may temporarily decline. This is not desirable, but may be outside the cattle owner's control until drought relief is achieved.
- During periods of decreasing temperature, feeding plans should reflect increased energy needs. See *additional Cold Stress procedures* (pg. 20)

Feeding Guidelines for Stocker Cattle

- Stockers are raised on a wide variety of forages (native pasture, annuals, improved pasture) with minimal additional nutrient supplementation.
- On growing forages, stocking rates should be established that meet production goals for growth and performance.
- On dormant pastures, supplement cattle as needed to meet maintenance or growth requirements for the animal's weight, breed, and age as established by NRC guidelines and targeted production goals of the operation.

Feeding Guidelines for Feeder Cattle

Feedyard cattle can eat diverse diets, but the typical ration contains a high proportion of grain(s) (corn, milo, barley, grain by-products) and a smaller proportion of roughages (hay, straw, silage, hulls, etc.). The NRC 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.

- Consult a nutritionist (private consultant, university or feed company employee) for advice on ration formulation and feeding programs.
- Avoid sudden changes in ration composition or amount of ration offered.
- Monitor changes in weight gain, feces, incidence of digestive upsets (acidosis or bloat) and foot health to help evaluate the feeding program.

- A small percentage of cattle in feedyards develop laminitis or founder. Mild cases do not affect animal welfare or performance; however, hooves that are double their normal length compromise movement. In these instances, the individual animal should be provided appropriate care and marketed as soon as possible.

DISEASE PREVENTION, HEALTH CARE, AND CATTLE MANAGEMENT PRACTICES

Like other species, cattle are susceptible to infectious diseases, metabolic disorders, toxins, parasites, neoplasia and injury. Control programs should be based on risk assessment and efficacy of available products. Economic losses are reduced by early intervention through health management programs. Healthy herds are more productive. Management programs should be science-based and common-sense driven.

The producer should work with a veterinarian to determine the risk of infectious, metabolic and toxic diseases and to develop effective management programs when designing a herd health plan. A Veterinary/Client/Patient Relationship (VCPR) is strongly encouraged.

Producers and their employees should have the training and ability to recognize common health problems and know how to properly utilize animal health products and other control measures.

When prevention or control measures are ineffective, the producer should promptly contact a veterinarian for a diagnosis and treatment program to reduce animal suffering and animal losses.

A Producer's Guide for Judicious Use of Antimicrobials in Cattle

1. **Prevent Problems:** Emphasize appropriate husbandry, management, hygiene, routine health examinations, and vaccinations.
2. **Select and Use Antibiotics Carefully:** Consult with your veterinarian on the selection and use of antibiotics. Have a valid reason to use an antibiotic. Therapeutic alternatives should be considered prior to using antimicrobial therapy.
3. **Avoid Using Antibiotics Important In Human Medicine As First Line Therapy:** Avoid using, as the first antibiotic, those medications that are important to treating strategic human or animal infections.
4. **Use the Laboratory to Help You Select Antibiotics:** Cultures and susceptibility test results should be used to aid in the selection of antimicrobials, as necessary.
5. **Combination Antibiotic Therapy Is Discouraged Unless There Is Clear Evidence The Specific Practice Is Beneficial:** Select and utilize an antibiotic to affect a cure.
6. **Avoid Inappropriate Antibiotic Use:** Confine therapeutic antimicrobial use to appropriate clinical indications, avoiding inappropriate uses such as for viral infections without bacterial complication.
7. **Treatment Programs Should Reflect Best Use Principles:** Regimens for therapeutic antimicrobial use should be optimized using current pharmacological information and principles.
8. **Treat the Fewest Number of Animals Possible:** Limit antibiotic use to sick or at risk animals.
9. **Treat for the Recommended Time Period:** This will minimize the potential for bacteria to become resistant to antimicrobials.
10. **Avoid Environmental Contamination with Antibiotics:** Steps should be taken to minimize antimicrobials reaching the environment through spillage, contaminated ground run off or aerosolization.
11. **Keep Records of Antibiotic Use:** Accurate records of treatment and outcome should be used to evaluate therapeutic regimens and always follow proper withdrawal times.
12. **Follow Label Directions:** Follow label instructions and never use antibiotics other than as labeled without a valid veterinary prescription.
13. **Extra-label Antibiotic Use Must follow FDA Regulations:** Prescriptions, including extra label use of medications must meet the Animal Medicinal Drug Use Clarification Act (AMDUCA) amendments to the Food, Drug, and Cosmetic Act and its regulations. This includes having a valid Veterinary/Client/Patient Relationship (VCPR).
14. **Subtherapeutic Antibiotic Use Is Discouraged:** Antibiotic use should be limited to prevention or control disease.

Cows

- It is desirable for cows to have a BCS of at least 4 before the calving season.
- During the calving season, cows should be checked regularly for calving difficulties. First-calf heifers may require more frequent observation and care.
- Producers should consider contacting a veterinarian for advice or assistance if cows or heifers have calving difficulties that cannot be corrected by the producer within a reasonable amount of time.
- Cows with mild lameness, early eye problems, mastitis or loss of body condition should be examined to determine well-being and promptly marketed as appropriate.

Calves

Castration and dehorning are done for the protection of the animal, other cattle in the herd and people who handle the cattle. In all cases producers may seek guidance from a veterinarian and advisability of analgesia or anesthesia for castration and dehorning of beef cattle, particularly in older animals, where development is more advanced.

- Where practical, cattle should be castrated before the age of 3 months (90 days), or at the first available handling opportunity beyond this age.
- Where practical, cattle should be dehorned while horn development is still at the horn bud stage, or at the first available handling opportunity beyond this age. This is because at this stage in development the procedure involves less tissue trauma. The selection of polled cattle is an alternative for horn management.
- Weaning can be less stressful by castrating and dehorning calves early in life, vaccinating against respiratory diseases prior to weaning, and providing proper pre-weaning nutrition.

Stocker and Feeder Cattle

- In all cases producers may seek guidance from a veterinarian on the advisability of vaccination protocols for incoming stocker and feeder cattle based on environmental and rearing conditions. The use of vaccines and parasite control should be based on risk assessment and efficacy of available animal health products.
- Producers may seek guidance from a veterinarian on the availability and advisability of analgesia or anesthesia for dehorning of beef cattle, particularly in older animals, where horn development is more advanced.
- A local anesthetic should be used when heifers are spayed using the flank approach.
- High risk cattle should be checked at least daily for illness, lameness or other problems during the first 30 days following arrival.
- Pregnancy in immature heifers can result in calving difficulties and subsequent trauma to the birth canal, paralysis or death of the heifer. For these reasons it is often more humane to abort pregnant heifers. This should be done under the direction of a veterinarian.
- If heifers in the feedyard or a stocker operation deliver a full-term, healthy calf, it should be allowed to nurse to obtain colostrum. At all times, these calves must be handled humanely and provided proper nutrition. Compromised calves or fetuses should be promptly euthanized and disposed of according to local regulations.
- “Bulling” is a term to describe aggressive riding of a steer by one or more penmates. Bullers should be promptly removed from the pen to prevent serious injury.
- Tail docking is not recommended. Increasing space per animal and proper bedding are effective means in preventing tail tip injury and necrosis.

IDENTIFICATION

Branding, ear-tagging, ear-notching, and radio frequency identification devices (RFID) are methods of identifying cattle.

- If cattle are hot iron or freeze branded, it should be accomplished quickly, expertly and with the proper equipment. BQA guidelines recommend branding on the hip area.
- Feeder cattle should not be re-branded when entering a feedlot unless required by law.
- Brands should be of appropriate size to achieve clear identification.
- Cattle should never be branded on the face or jaw.
- Ear notching may be used to identify cattle.
- Wattling, ear splitting and other surgical alterations for identification are strongly discouraged.

SHELTER AND HOUSING

- Cattle in backgrounding facilities or feedyards must be offered adequate space for comfort, socialization and environmental management.
- Pen maintenance, including manure harvesting, will help improve pen conditions.
- Mud is more of a problem in the winter with low evaporation rates or improper drainage conditions. Accumulation of mud on cattle should be monitored as a measure of pen condition and cattle care in relation to recent weather conditions.
- Feedyards should use dust reduction measures to improve animal performance.

- Floors in housing facilities should be properly drained and barns and handling alleys should provide adequate traction to prevent injuries to animals and handlers.
- Handling alleys and housing pens should be free of sharp edges and protrusions to prevent injury to animals and handlers.
- 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.
- Adjust hydraulic or manual restraining chutes 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.
- Mechanical and electrical devices used in housing facilities should be safe.

CATTLE HANDLING

Abuse of cattle is not acceptable under any circumstances.

- Cattle should not be whipped or hit with objects that could cause injury, pain, or harm.
- Kicking, prodding, or any other forceful actions should not be used on non-ambulatory cattle.
- The use of sharp or hard solid objects to move cattle is not acceptable.
- 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 of the process may be of value, including asking questions such as: is this a cattle temperament issue, has something in the handling area changed that is affecting cattle behavior, etc.?
- Take advantage of cattle's flight zone and point of balance to move them. For safety and welfare reasons, minimize the use of electric prods. Non-electric driving aids, such as plastic paddles, sorting sticks, flags or streamers (affixed to long handles) should be used to quietly guide and turn animals. When cattle continuously balk, cattle handlers should investigate and correct the reason rather than resort to overuse of electric prods.
- Under desirable conditions, 90% or more of cattle should flow through cattle handling systems without the use of electric prods.
- When cattle prods must be used, avoid contact with sensitive areas including the eyes, rectum, genitalia and udder.
- Driving aids powered by AC current should never be used unless manufactured and labeled specifically for that purpose.
- 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 there should be a review of the situation and questions asked such as: is this a result from cattle temperament or prior handling issue, was the chute operating properly, etc.?
- Properly trained dogs can be effective and humane tools for cattle handling. Insure that barking or impeding cattle flow is minimized.
- Cattle handling facilities can be evaluated using the BQA Assessment tools provided at bqa.org

MARKETING CATTLE

The overwhelming majority of cattle are marketed in good health and physical condition. Compromised cattle should not enter intermediate marketing channels because of animal welfare concerns. Depending upon the severity of the condition, processing plant policy, and state or USDA regulations, cattle healthy enough to enter the food supply should be sold directly to a processing plant. Non-ambulatory animals should be humanely euthanized (see Humane Euthanasia section).

TRANSPORTATION

- Knowingly inflicting physical injury or unnecessary pain on cattle when loading, unloading or transporting animals is **not acceptable**.
- Cattle sorting and holding pens should allow handling without undue stress, be located near the loading/unloading facility and be suitable for herd size.
- Provide properly designed and maintained loading facilities for easy and safe animal movement. Proper design of loading chutes as well as personnel that are knowledgeable of their proper use can assure the safety of both cattle and cattle handlers. Ramps and chutes should be strong and solid, provide non-slip footing, and have sides high enough to keep cattle from falling or jumping off. A ramp angle of 25 degrees or less will improve cattle movement.
- All vehicles used to transport cattle should provide for the safety of personnel and cattle during loading, transporting and unloading.
- Strictly adhere to safe load levels with regard to animal weight and space allocation.
- Producers hauling cattle in farm and ranch trailers must ensure that adequate space is provided so that cattle have sufficient room to stand with little risk of being forced down because of overcrowding.
- Cattle that are unable to withstand the rigors of transportation should not be shipped.
- When the vehicle is not full, safely partition cattle into smaller areas to provide stability for the cattle and the vehicle.
- No gap which would allow injury to an animal should exist between the ramp, its sides, and the vehicle.
- Vehicle doors and internal gates should be sufficiently wide to permit cattle to pass through easily without bruising or injury.
- Cattle should be loaded, unloaded, and moved through facilities with patience and as quietly as possible to reduce stress and injury.

NON-AMBULATORY (DOWNER) CATTLE

- Marketing cattle promptly before this issue occurs will promote better quality of life for the animal and be more efficient for the operation.
- A prompt diagnosis should be made to determine whether the animal should be humanely euthanized or receive additional care.
- Provide adequate feed and water to non-ambulatory cattle at least once daily.
- Move downer animals very carefully to avoid compromising animal welfare. Acceptable methods of transporting downers include a sled, low-boy trailer or in the bucket of a loader. Dragging downer animals is unacceptable. Likewise, animals should not be lifted with chains onto transportation conveyances. Animals should not be “scooped” into a frontloader bucket, but rather should be humanely rolled into the bucket by caretakers.
- When treatment is attempted, cattle unable to sit up unaided (i.e. lie flat on their side) and which refuse to eat or drink should be humanely euthanized within 24-36 hours of initial onset.
- **Even though signs of a more favorable prognosis may exist, cattle that are non-ambulatory must not be sent to a livestock market or to a processing facility.**

HUMANE EUTHANASIA

Euthanasia is humane death occurring without pain and suffering, it should be utilized when an animal's condition is such that additional treatment options will not be effective. The decision to euthanize an animal should consider the animal's welfare. The producer will most likely perform on-farm euthanasia because a veterinarian may not be immediately available to perform the service. Persons who perform this task must be technically proficient and have an understanding of the relevant anatomical landmarks and the protocols used for humane euthanasia of animals. When euthanasia is necessary, an excellent reference is the BQA Euthanasia of Cattle and Calves guidelines.

Reasons for euthanasia include:

- Fractures of the legs, hip or spine that are not repairable and result in immobility or inability to stand
- Emergency medical conditions that result in excruciating pain that cannot be relieved by treatment
- Animals that are too weak to be transported due to debilitation from disease or injury
- Paralysis from traumatic injuries or disease that result in immobility
- Disease conditions where no effective treatment is known, prognosis is terminal, or a significant threat to human health is present.

Methods of Euthanasia in Cattle

Acceptable methods for conducting euthanasia in cattle include gunshot and penetrating captive bolt with a secondary step to insure death.

Firearms for Conducting Euthanasia in Cattle

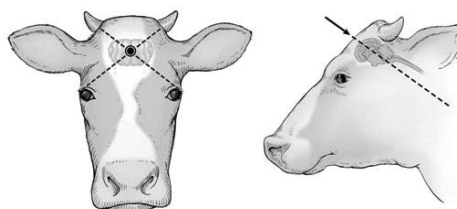
Gunshot is the most common method used for on-farm euthanasia of cattle. Effectiveness depends upon selection of the appropriate caliber of firearm, type of bullet or shot/shell, and accuracy of aim.

Animal/ Firearm	Handgun	Rifle	Shotgun
Calves	.32 to .45 caliber Solid-point bullet	.22 LR caliber or larger Solid-point bullet	.410 to 12 gauge #4-6 birdshot or slug
Adult	.38 to .45 caliber Solid-point bullet	.22 magnum or higher caliber ¹ Solid-point bullet	20 to 12 gauge #4-6 birdshot or slug (within 3 feet)

¹ .22 LR is discouraged for use in euthanasia of adult cattle because it lacks sufficient ballistic energy to yield consistent results. Higher caliber rifles should be avoided as bullets may exit the body and place by-standers in danger.

Penetrating Captive Bolt for Conducting Euthanasia of Cattle

Captive bolt guns are designed to cause damage to the brain sufficient to cause an immediate loss of consciousness. However, death is not certain in all cases. Therefore use of penetrating captive bolt should be followed with a secondary step to assure death. Methods used to assure death include a second or third shot if necessary, exsanguination (bleeding out), or use of a pithing rod.



Anatomical Landmarks

Current information for adult cattle and calves indicates that the point of entry of the projectile should be at (or slightly above) the intersection of two imaginary lines, each drawn from the outside corner of the eye to the center of the base of the opposite horn. If a firearm is used it should be used within 3 feet of the target when possible and positioned so that the muzzle is perpendicular to the skull to avoid ricochet. When using penetrating captive bolt, operators are advised to restrain the head so that the captive bolt may be held flush with the skull.

Indications of Unconsciousness

When conducting euthanasia procedures one should always observe animals for the following behaviors:

- Animal collapses immediately when shot and makes no attempt to right itself
- Body and muscles become rigid immediately upon collapse followed by relaxation of the body, brief tetanic spasms and eventually uncoordinated hind limb movements
- An absence of vocalization
- An absence of eye reflexes and eyelids remain open facing straight forward
- Immediate and sustained cessation of rhythmic breathing

These signs should be observed and monitored in all animals for which euthanasia procedures have been applied. Animals that attempt to right themselves, vocalize, blink with their eyes or begin rhythmic breathing are likely returning to a conscious state. In these cases one should immediately recheck the anatomical site used and re-shoot or re-apply the captive bolt.

Confirmation of Death Criteria to be used for confirmation of death include lack of pulse, breathing, lack of corneal reflex, response to firm toe pinch (as with a hoof tester), failure to detect/hear respiratory sounds or heart beat by use of a stethoscope, graying of the mucous membranes, and rigor mortis. None of these signs alone, with exception of rigor mortis, confirms death. Rechecking of the animal for these parameters after a period of 20 minutes is a very useful method for confirmation of death.

HEAT STRESS PROCEDURES

- During periods of high heat and humidity and little wind, actions should be taken to minimize the effects of heat stress as cattle are processed and managed.
- Provide adequate water.
- If possible, avoid handling cattle when the risk of heat stress is high. The final decision must consider temperature, humidity, wind speed, phenotype and cattle acclimation. If cattle must be handled, a general rule is to work them before the Temperature Humidity Index (THI) reaches 84, if possible.

As an example, when the temperature is 98° F and the humidity is 30%, the THI is 83. At a constant temperature, the THI increases as the relative humidity increases. Each one mile per hour increase in wind speed decreases the THI by approximately one point.

- Work cattle more prone to heat stress first, earlier in the day or later if conditions moderate. For example, larger cattle should be processed during periods of lower THI.
- Limit the time cattle spend in handling facilities where heat stress may be more significant.
- Heat management tools, such as shades and sprinklers, should be considered if sufficient natural shade is not available.

When heat stress is extreme

- Ensure adequate drinking water is available.
- Move or process cattle during the cooler part of the day.
- Heat management tools, such as shades and sprinklers, should be considered if sufficient natural shade is not available.

COLD STRESS PROCEDURES

Cattle exposed to cold require more energy for maintenance, and performance will be reduced if action is not taken to provide for it. Some suggestions for reducing winter stress and maintaining production in cold weather are:

- Adjust feed and energy rations to match performance requirements when cattle reach low critical temperature.
 - Provide wind breaks and shelters to reduce wind, moisture, and mud.
 - Construct feedlots and buildings in a manner that reduces winter stress due to temperature and moisture.
 - Provide bedding in severe conditions to allow cattle to lie down without direct contact with frozen ground.
- Cattle will voluntarily seek protection from severe weather conditions if it is available. Modest protection by either natural or manmade structures can greatly reduce effects of extreme cold by allowing exposure to be intermittent rather than continuous.

Beef Cattle Temperature Humidity Index

		Relative Humidity (%)											
		30	35	40	45	50	55	60	65	70	75	80	85
Temperature (°F)	100	84	85	86	87	88	90	91	92	93	94	95	97
	98	83	84	85	86	87	88	89	90	91	93	94	95
	96	81	82	83	85	86	87	88	89	90	91	92	93
	94	80	81	82	83	84	85	86	87	88	89	90	91
	92	79	80	81	82	83	84	85	85	86	87	88	89
	90	78	79	79	80	81	82	83	84	85	86	86	87
	88	76	77	78	79	80	81	81	82	83	84	85	86
	86	75	76	77	78	78	79	80	81	81	82	83	84
	84	74	75	75	76	77	78	78	79	80	80	81	82
	82	73	73	74	75	75	76	77	77	78	79	79	80
	80	72	72	73	73	74	75	75	76	76	77	78	78
	78	70	71	71	72	73	73	74	74	75	75	76	76
	76	69	70	70	71	71	72	72	73	73	74	74	75

Temperature Humidity Index (THI)

Normal <75	Alert 75-78	Danger 79-83	Emergency >84
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TRAINING AND EDUCATION

Management practices should be informally assessed every day to ensure that animal welfare is not compromised. Regardless, producers are encouraged to implement a system to verify efforts directed towards animal care and handling. This can be accomplished by:

- Establishing a network of resources on cattle care
- Following the *Cattle Care and Handling Guidelines*
- Record training and education activities
- Conducting self-audits or external audits of animal care and handling procedures
 - Self-assessment guides are available online at bqa.org
- BQA training and certification programs
 - For more information go to bqa.org
- Informal self-reviews should be periodically conducted by those involved with cattle feeding and care.

Training of those who handle cattle should include:

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

SAMPLE PROTOCOLS

Preventive Herd Health Protocol

Every effort should be made to prevent disease and infection in the cattle herd. The most effective way to reduce the potential for antibiotic residues and bacterial resistance is to control the need to use antibiotics – and healthy cattle do not need antibiotics.

Preventive herd health plans will consist of herd management and immunization recommendations. One herd health plan will not fit every operation; a herd health plan needs to be developed for each individual operation. Work with the feedyard veterinarian to develop a herd health program and review/revise it at least annually.

_____ will develop and implement a herd health program in consultation with _____.

A preventive herd health plan should include:

1. An existing, valid Veterinarian-Client-Patient-Relationship (VCPR) (see AABP)
2. Target disease syndromes
3. Recommended vaccine(s), feed additives (if any), and parasiticides (if any)
4. Medication receiving, storage and handling protocol
(see page 25 of the *Feedyard Assessment Guide*)
5. Appropriate time frame to protect (vaccinate) against targeted pathogens
6. Management considerations to aid in the prevention or reduce the spread of target pathogens
7. Management and treatment protocols for use if prevention efforts fail, including an outline of treatment protocols specified by the feedyard veterinarian
8. Nutritional management protocols developed by the feedyard nutritionist based on the health risk of the cattle.

Management and treatment considerations will need to be discussed and developed for each operation. The feedyard veterinarian will need to develop the treatment protocols with the operation's management so that both are comfortable with the recommendations.

Sample information that may be used in a herd health plan, as developed with the feedyard veterinarian:

For all cattle and production segments

- Provide appropriate nutritional feedstuffs
- Handle cattle to minimize stress and bruising
- Administer all injections in front of the shoulder
- Identify any animals treated to ensure proper withdrawal time
- Make records available to the next production sector
- Always read and follow medication label directions
- Keep records of all products administered including: date, animal identification, product used, serial/lot number, amount administered, route of administration, person administering and withdrawal time
- Consult with feedyard veterinarian for additional health procedures appropriate to your area

Animal Health Product Receiving, Storage and Handling Protocol

Animal health products utilized to protect and improve the health of cattle are vital to cattle feeding operations. It is important to record information that describes how and when products were received and stored by the feedyard.

It is important to maintain a record of lot numbers of products purchased by the feedyard in the event of recall or holding of cattle if a situation arises. Proper storage and handling are important to ensure that the efficacy of the products is not compromised. Products utilized must not be expired. Products that are out of date should be returned or properly discarded. Through proper recordkeeping, storage and handling, animal health products remain a vital piece of a comprehensive cattle health and well-being program.

_____ has a Veterinarian-Client-Patient-Relationship (VCPR) established with _____. _____ is responsible for writing our treatment guidelines and protocols, processing protocols, prescriptions and a list of withdrawal times for products used in our cattle health program.

_____ receives biological and pharmaceutical products from _____.

When products arrive records are entered _____ by _____. Record date product was received, quantity of product received, unit size that products are packaged, lot/serial numbers for each product and the expiration date. This information is kept _____.

All products are stored and handled as outlined by the manufacturer label, or as recommended by the feedyard veterinarian.

Inventory of products is conducted every _____ by _____.

_____ work with the doctoring and processing crews to insure proper handling of biological and pharmaceutical products during day-to-day activities through employee training. It is important to the operation that products are protected from high/low ambient temperatures and UV light, such as direct sunlight, during the working day and at all other times.

Out of date or expired products are _____.

Receiving, Acclimation and Processing Cattle Protocol

Receiving, acclimating and processing incoming cattle is a key component in management of beef cattle. Successful receiving and processing protocols depend on an accurate designation of low- or high-risk cattle. The health risk of cattle entering the feedlot varies considerably, and is influenced by such factors as age, time weaned, source, backgrounding, commingling, prior vaccination, nutrition, and fetal programming. Receiving, acclimation and processing protocols should be developed and reviewed by your veterinarian and nutritionist to address specific health-risk levels.

Receiving Cattle Protocol

Cattle will be unloaded promptly by _____.

All cattle will be inspected for disease or injury after they are unloaded by _____.

Cattle will be allowed to rest _____.

Cattle will be placed in a receiving pen that meets their well-being requirements while resting. In times of rain, snow or extreme cold, bedding may be placed in the receiving pens for the cattle to lie down and rest.

Cattle will have free access to water immediately after being unloaded.

Cattle will have free access to _____ that has been placed in the bunk just prior to the cattle entering the pen.

Processing Cattle Protocol

All processing activities will be delayed until the rest period has elapsed except in the case of impending weather conditions which may decrease cattle well-being.

Proper cattle handling and facilities are imperative to cattle health and performance.

_____ will check processing barn, alleys, flooring and handling equipment every _____ to ensure proper and safe operability.

Any processing equipment malfunctions or issues that may cause animal or human injury should be reported to the _____ immediately.

The _____ will be responsible for ensuring that all employees have been properly trained on the operation of the equipment that they are using.

Processing will be planned to avoid processing during weather extremes (*see decision support tools and other weather related management information on page 19 of the Feedyard Assessment Guide.*)

Cattle will not be processed when the Temperature Humidity Index is _____.

Non-electric driving aids may be used to assist with the movement and handling of cattle. When other methods are ineffective, electric prods may be used to encourage an extremely resistant animal to move in a manner that also helps to ensure the safety of people and animals. If electric prods are used on greater than 10% of the cattle _____ will be required to evaluate and correct the cause of over-use. When electric prods must be used, avoid contact with sensitive areas including the eyes, rectum, genitalia, and udder.



All processing crew members will be trained by the _____ on the proper Beef Quality Assurance Guidelines regarding injections, injection techniques, and injection locations.

All injections will be given in front of the shoulder _____.

All processing procedures will be recorded using _____.

Each lot of cattle will be processed according to receiving and processing protocols developed and reviewed by _____.

Medicated Feed Additives Protocol

The term “medicated feed” refers to supplements, concentrates, premix feeds, base mixes, and complete feeds that contain feed additives.

Feed manufacturers are responsible to ensure that the feed produced - whether medicated or non-medicated - meets all legal and intended specifications.

Medicated feeds must contain the proper drug concentrations and be fed at an appropriate rate.

Product Use

Only FDA-approved medicated feed additives can be used in rations. Exercise caution when calculating rates for medicated feeds, and feed only at FDA approved rates.

If the wrong feed additive is mixed into the ration or added at an unapproved rate contact _____
_____.

If improper diet has NOT yet been fed, dispose of feed in accordance with label instructions. If improper diet HAS been fed, contact _____.

If drugs have been fed at an improper rate, contact _____
_____. All medicated feed additives will be used in accordance with the FDA-approved label. If a medicated feed additive arrives at the feed mill without a label, request one immediately from the supplier. Extra-label use of feed additives is strictly prohibited by federal law. No one has the authority to adjust the dose/concentration as labeled, including veterinarians. All directions for the use of a medicated feed additive/supplement will be on the label attached to the bag or will be supplied with a bulk order.

Ensure that all medicated feeds are withdrawn at the proper time to avoid a violative residue. If cattle are shipped prior to the proper withdrawal time as stated on product label, contact _____
_____. The packer should be contacted as soon as possible, to avoid the possibility of improperly treated cattle entering the food chain.

For feedyards formulating and mixing rations on site, medicated feed additives will be used in accordance with the FDA current Good Manufacturing Practices (cGMPs). These include a formula record of all medicated feed rations produced and production records of all batches of feed produced that contain medicated feed additives. Production records must include additive used, the feed additive’s unique LOT number used in each batch, date run, ration name or number, the name of the person adding the additive or responsible for mixing the feed and amount produced. Records must be kept for a minimum of two years. Use separate mixers for mixing medicated feeds and non-medicated feeds, or clean mixers between batches. The protocol for avoiding cross contamination of non-medicated feeds from medicated feeds must be on file.

Pre-mixed or formulated supplements typically used by many smaller beef operations and most cow-calf operations do not require FDA registration of any type. Larger beef operations that use certain highly concentrated medications may be required to register with the FDA and obtain a medicated feedmill license.

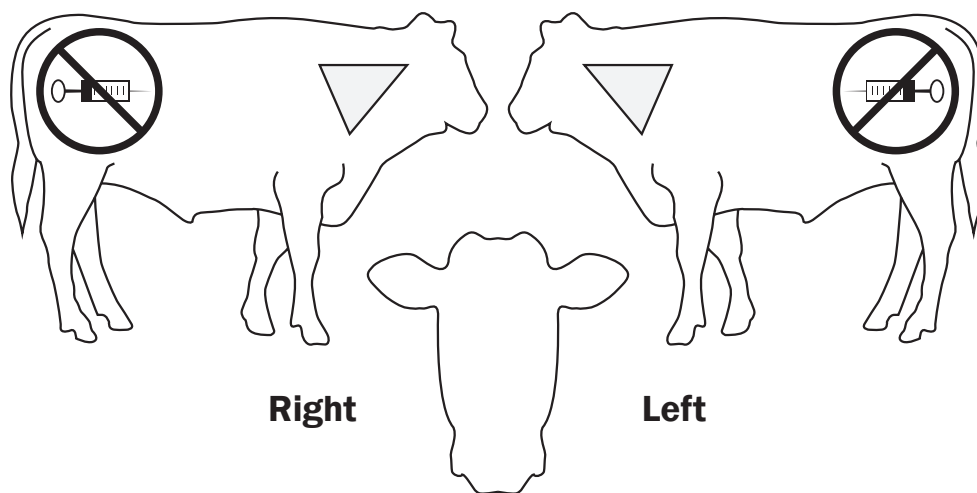
Identify individuals or groups of animals which are being fed medicated feed, particularly if the medication requires a period of withdrawal prior to slaughter. Pens should be uniquely marked or identified (ex: colored ribbon) to avoid shipping cattle prior to appropriate, required, withdrawal period. In the case of an improper medicated ration being fed to the incorrect pen, contact _____
_____ ; and _____. If cattle are shipped prior to the proper withdrawal time as stated on the product label, contact _____
_____.

Treatment Protocol

Never forget the four “S’s” of safety: safety of the person treating the cattle, safety of the people working around the cattle, safety of the cattle, and safety of the beef products. Caution should be a focus at all times, but especially when handling sharp instruments and needles, working with scouring cattle (Salmonella can infect you and the cattle), and working around cattle with central nervous system disease. Your feedyard veterinarian can review risks caused by sick or injured cattle and develop safety measures to protect you and your employees.

Treatment protocols should be developed for all common health issues. This includes infectious diseases, lameness and digestive disorders. As many of the medications used in cattle require a prescription (Rx), ask the feedyard veterinarian to help develop treatment protocols. A treatment protocol book can serve as use instructions for Rx medications prescribed by the feedyard veterinarian. The FDA mandates that medication orders for Veterinary Feed Directives (VFD) will have an expiration not longer than six months. Have the feedyard veterinarian review the treatment protocol at least every six months. Antibiotic selection should consider the BQA “Producer’s Guide for Judicious Use of Antimicrobials in Cattle” (see *page 35 of the Feedyard Assessment Guide*).

Health conditions to consider outlining treatment and/or management of include diseases or disorders of the following body systems: respiratory, musculo-skeletal, gastro-intestinal, eye-ear-skin, reproductive, renal, and the central nervous system.



Dealing with Non-performing Cattle

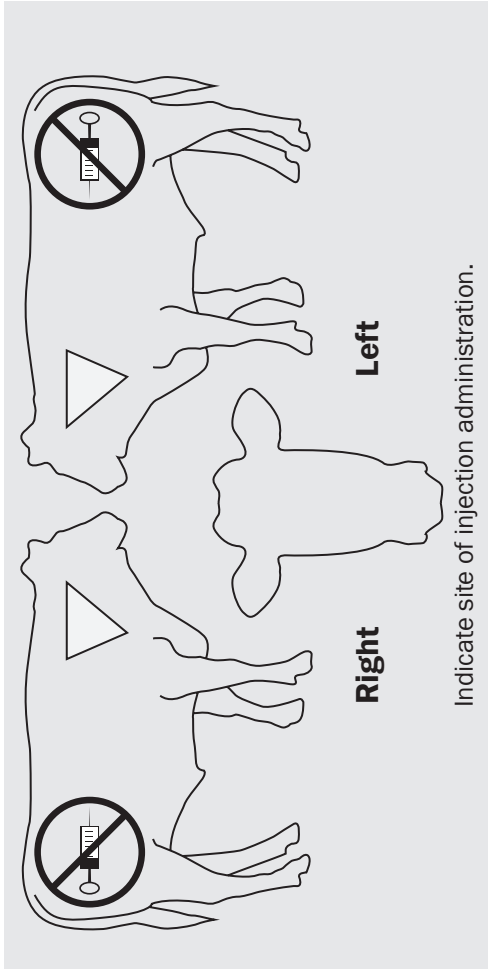
Non-performing cattle might be a HIGH RISK for causing a violative residue problem. Non-performing cattle should have records carefully reviewed by both the feedyard veterinarian and manager before being released for salvage. Establish a minimum withdrawal (WD) time that reflects the longest WD for any of the products administered. Animals recovering from illness may have organ damage that interferes with the normal clearing of medications. Marketing decisions should not be made solely on the results of a pre-marketing residue screening test. Critical factors to avoid a violative residue include medication selection, dosage, route of administration, volume per injection site and adherence to prescribed withdrawal times.

In accordance with FDA regulations for use of prescription animal health products, a treatment protocol must be written (hard copy or electronic) and signed by the feedyard veterinarian,

_____.

Processing, Vaccination and Treatment Record

Date: _____ Cattle Lot #: _____
 Number of Head: _____ Pen #: _____
 Steers Heifers (circle what applies) Safe to Ship Date: _____
 Average Animal Weight: _____ Broken Needles? Yes ___ No ___
 Processing Foreman (Print): _____
 Processing Foreman (Sign): _____



Item #	Side of Injection L or R	Product and Manufacturer	Lot/ Serial # Exp date	Dose in mL	Route of Administration (SQ, IM, IV, EAR)	Person Administering	Slaughter Withdrawal

A Producer's Guide for Judicious Use of Antibiotics in Cattle

1. **Prevent Problems:** Emphasize appropriate husbandry, management, hygiene, routine health examinations, and vaccinations.
2. **Select and Use Antibiotics Carefully:** Consult with your veterinarian on the selection and use of antibiotics. Have a valid reason to use an antibiotic. Therapeutic alternatives should be considered prior to using antimicrobial therapy.
3. **Avoid Using Antibiotics Important In Human Medicine As First Line Therapy:** Avoid using, as the first antibiotic, those medications that are important to treating strategic human infections.
4. **Use the Laboratory to Help You Select Antibiotics:** Cultures and susceptibility test results should be used to aid in the selection of antimicrobials, as necessary.
5. **Combination Antibiotic Therapy Is Discouraged Unless There Is Clear Evidence The Specific Practice Is Beneficial:** Select and utilize an antibiotic to affect a cure.
6. **Avoid Inappropriate Antibiotic Use:** Confine therapeutic antimicrobial use to appropriate clinical indications, avoiding inappropriate uses such as for viral infections without bacterial complication.
7. **Treatment Programs Should Reflect Best Use Principles:** Regimens for therapeutic antimicrobial use should be optimized using current pharmacological information and principles.
8. **Treat the Fewest Number of Animals Possible:** Limit antibiotic use to sick or at risk animals.
9. **Treat for the Recommended Time Period:** This will minimize the potential for bacteria to become resistant to antimicrobials.
10. **Avoid Environmental Contamination with Antibiotics:** Steps should be taken to minimize antimicrobials reaching the environment through spillage, contaminated ground run off or aerosolization.
11. **Keep Records of Antibiotic Use:** Accurate records of treatment and outcome should be used to evaluate therapeutic regimens and always follow proper withdrawal times.
12. **Follow Label Directions:** Follow label instructions and never use antibiotics other than as labeled without a valid veterinary prescription.
13. **Extra-label Antibiotic Use Must follow FDA Regulations:** Prescriptions, including extra-label use of medications must meet the Animal Medicinal Drug Use Clarification Act (AMDUCA) amendments to the Food, Drug, and Cosmetic Act and its regulations. This includes having a valid Veterinary/Client/Patient Relationship (VCPR).
14. **Sub-therapeutic Antibiotic Use Is Discouraged:** Antibiotic use should be limited to disease prevention or control

Broken Needles

Broken needles are classified as an emergency event. Broken needles can migrate through the animal very quickly and are considered an adulterant of the beef product. A broken needle found in a beef product could cause serious repercussions for the feedyard and the beef industry. Proper animal handling is necessary to ensure the safety of beef products.

Protocol for Broken Needles

Ensure needles are not bent or broken before and after each injection is administered and prior to releasing the animal.

If a needle breaks off in an animal, STOP everything and attempt to locate and remove the needle.

Firmly, but carefully, rub your hand over the injection area to locate the needle. If it is found remove it ensuring that the entire needle is retrieved.

If the needle cannot be immediately located, mark and record the area where the injection was given with paint or by clipping the hair in that area, sort the animal off by itself, and contact the feedyard veterinarian. The contact information is: _____

If the veterinarian cannot remove the needle surgically then the animal will be identified by _____ and placed in _____ and cannot be marketed.

Remember these suggestions to help prevent broken needles:

1. Consult with the feedyard veterinarian when making needle purchasing decision
2. Follow label instructions for needle selection
3. Select needle size to fit the size of the animal
4. Restrain animals properly
5. A bent needle is a broken needle
6. Replace dull, bent, burred or damaged needles immediately

General Guidelines for Needle Selection

Injectable Viscosity	Route of Administration								
	SQ (1/2 to 3/4 inch needle)			IM (3/4 to 1 inch needle)			IV (1 to 1-1/2 inch needle)		
	Cattle Weight			Cattle Weight			Cattle Weight		
	< 300	300-700	> 700	< 300	300-700	> 700	< 300	300-700	> 700
Thin Example: Most Vaccines	18 gauge	18-16 gauge	16 gauge	20-18 gauge	18-16 gauge	18-16 gauge	18-16 gauge	18-16 gauge	16-14 gauge
Thick Example: Thick Antibiotics	18-16 gauge	18-16 gauge	16-14 gauge	18-16 gauge	18-16 gauge	16 gauge	18-1 gauge	18-16 gauge	16-14 gauge

Select the needle to fit the cattle size (use the smallest practical size with out fear of bending).

Management of Non-Ambulatory Cattle

A non-ambulatory animal (commonly referred to as a “downer”) is unable to stand up or walk, even if assisted. All procedures conducted at _____ feedyard will be designed to prevent cattle from becoming non-ambulatory; however in the event an animal becomes non-ambulatory it will be managed and cared for in a humane manner.

DO NOT DO ANY OF THE FOLLOWING AT ANY TIME TO A NON-AMBULATORY ANIMAL!

- NEVER use an electric prod to stimulate an injured or disabled animal to get up unless essential to prevent further injury or death.
- NEVER use chains, rope, or cables to lift, suspend, or move the animal unless necessary to prevent further injury or death, if allowed by state law.
- NEVER let a non-ambulatory animal go without feed, water and proper shelter.
- NEVER let a non-ambulatory animal remain in any area where they may get walked on or trampled.
- NEVER ship a non-ambulatory animal.

Protocol for Handling of Non-ambulatory Cattle

Assess whether the animal is in a safe place or needs to be moved. If moving is required move it to _____.

Only trained employees are authorized to move non-ambulatory cattle.

If the animal is in its home pen, it should be moved to _____.

Movement will be facilitated via use of the _____.

The animal will be gently rolled into the bucket, being careful to not get kicked while rolling the animal into the bucket. Do not scoop, force against a fence/gate, or drag the animal into the bucket.

Move the non-ambulatory animal to _____ and gently roll the animal out of the bucket. If weather conditions are adverse (snow, very cold or wet), place the animal on a _____ or other bedding.

Every effort will be made to provide feed, water and proper footing for traction to the animal. _____ is responsible for monitoring feed and water availability _____ time(s) daily. _____ will evaluate the animal daily and provide proper treatment. Herd health plan treatment protocol _____ is recommended. Consult the feedyard veterinarian for additional guidance.

If improvement is noted, continue to follow treatment _____ and be sure feed and water is being supplied. When treatment is attempted, cattle unable to sit up unaided (i.e. lie flat on their side) and which refuse to eat or drink should be humanely euthanized following the Humane Euthanasia Protocol within 24-36 hours of initial onset.

Humane Euthanasia of Cattle

Euthanasia should be utilized when an animal's condition is such that additional treatment options are unlikely to offer sufficient remedy. In many cases euthanasia is the only practical way to prevent unnecessary suffering. To that extent, it is the responsibility of all who own or work with livestock to have the proper equipment and knowledge to conduct this procedure effectively. "Euthanasia" is a Greek term meaning "good death". In this context, its objectives are met when death is induced which causes a minimum of pain and/or distress to an animal. Avoidance of pain and distress requires that euthanasia techniques cause immediate loss of consciousness followed by cardiac and respiratory arrest that ultimately results in loss of brain function. Persons who perform this task must be technically proficient and have an understanding of the relevant anatomical landmarks and the protocols used for humane euthanasia of animals.

For information regarding proper euthanasia please refer to BQA and AABP guidelines regarding Humane Euthanasia (see page 18 of the Feedyard Assessment Guide).

Protocol for the Humane Euthanasia of Cattle

_____ is/are the person(s) responsible for the euthanasia of cattle, and making the final determination of the need to euthanize a particular animal.

_____ has/have been trained in proper euthanasia techniques by _____. These include: the anatomical landmarks used for proper euthanasia and signs used for confirmation of the death of cattle.

Confirmation of death includes:

- Checking for a lack of heartbeat
- Checking for a lack of respiration, and
- Checking for a lack of corneal reflex by the animal

Our feedyard will utilize the _____ for euthanizing cattle. The _____ is stored in _____. If the primary tool for euthanasia fails or does not work properly use the _____ which is stored in _____.

Maintenance of the euthanizing equipment is done by _____.

Animal (Carcass) Disposal

Carcass disposal is an important consideration for any feedyard. Federal, state and local regulations concerning the disposal and handling of the carcasses from animal mortalities should be reviewed as they vary between locations. An often overlooked aspect of carcass disposal is employee safety. Employees should be trained in the operation of equipment used to move a carcass. If possible, do not use the same loader for carcass movement as is used for handling of feed. If this is unavoidable, the carcass should be moved without use of the bucket and the loader should be washed and disinfected immediately after moving the carcass. Consideration should be given to the manner in which carcasses are moved and the location where carcasses are placed should be minimally visible.

Protocol for Animal Disposal

Any employee of the feedyard must notify _____ as soon as a suspected dead animal is found.

_____ will confirm that the animal is dead. If the animal is alive, the decision to treat or humanely euthanize should be made immediately (see Handling of Non-Ambulatory Cattle protocol or Humane Euthanasia protocol).

The _____ will be notified to retrieve the dead animal within a reasonable amount of time.

The dead animal will be moved from the pen using _____
_____ the carcass pick-up area.

_____ will be in charge of determining the cause of death as is outlined for them by _____
_____ and recording it in the feedyard's animal health records.

_____ will be responsible for recording the pen number, ear tag number and description/cause of death of the animal in the feedyard's animal health records and notification of the office manager prior to removal of ID for rendering or carcass disposal.

_____ should then contact _____ for final removal (rendering) or burial/
composting of the mortality. Contact information: _____.

Protocol for Shipping Cattle

There are several factors to consider when determining cattle fitness for transport, such as health status, lameness, or injury. Additionally, when shipping cattle for slaughter adherence to FDA mandated withdrawal times must be verified. During the shipping process cattle should be handled calmly and quietly. Proper cattle handling at this time will reduce stress which will improve the quality of the beef products produced. Parties responsible for arranging cattle transport should encourage the driver(s) to be trained in proper cattle transport, such as the Master Cattle Transporter program.

Shipping Cattle Protocol

The _____ will be responsible for informing employees of the time, pens and head counts that will be loaded out.

The _____ will be responsible for examining all treatment and processing records to ensure that all cattle being shipped for slaughter have cleared all withdrawals. Withdrawal times for cattle health products will be supplied by _____.

The _____ will inform the _____ of the ID and pen location of any animals that have not cleared cattle health product withdrawal times. Animal(s) not cleared for shipment must be placed in _____.

The _____ will be responsible for recording the lot and pen numbers, head count of cattle, time, date, number of trucks and trucking company.

All cattle will be shipped calmly and quietly yet efficiently to avoid undue stress and potential injury such as muscle bruising.

Non-electric driving aids may be used to assist with the movement and handling of cattle. When other methods are ineffective, electric prods may be used to encourage an extremely resistant animal to move in a manner that also helps to ensure the safety of people and animals. If electric prods are used on greater than 10% of the cattle _____ will be required to evaluate and correct the cause of over use. When electric prods must be used, avoid contact with sensitive areas including the eyes, rectum, genitalia, and udder.

The _____ is responsible for ensuring that only cattle fit for transport are loaded. Cattle not fit for transport must be removed and placed in _____.

Some considerations for determining fitness for transport at time of loading at the feedyard:

- Cattle appear in good health with no signs of injury, illness or respiratory distress;
- Cattle must not have mobility issues that could compromise them during loading, transportation and unloading; Injured or compromised cattle that are ambulatory should be separated and shipped with special consideration.
- Non-ambulatory cattle must be managed according to Management of Non-Ambulatory Cattle Protocol. (See page 39 of the *Feedyard Assessment Guide*)

Exercise caution if logistics require cattle shipment when Temperature Humidity Index (see *decision support tools and other weather related management information on page 20 of the Feedyard Assessment Guide*) is _____. If this occurs the following actions will be implemented:

The _____ will be responsible for inspection of all load out facilities at least _____ to ensure the safety of the employees and to protect cattle from injury.

The _____ will be responsible for ensuring that all cattle handlers have been trained in and demonstrate proper cattle handling.

Protocol for Security, Biosecurity and Biocontainment

Security practices in feedyards are aimed at controlling access to the facility in an effort to protect everything within it from theft, damage, or contamination. Biosecurity refers to reducing risk associated with the entry of disease-causing agents to a feedyard. Biocontainment is used to reduce the transmission of disease-causing agents among cattle within a feedyard. These practices attempt to control risk from intentional and unintentional introduction of disease agents or toxins as well as the risk of an individual or group carrying out an act of terrorism or vandalism against the feedyard.

Security, Biosecurity and Biocontainment Protocol

General

Security, Biosecurity, and Biocontainment Protocols will be reviewed by _____ on a _____ basis.

All employees will be trained on the Security, Biosecurity and Biocontainment Protocols when they are hired.

Update/refresher training on the Security, Biosecurity and Biocontainment Protocols will be provided to employees at least every _____.

Security

_____ will be responsible for feedyard security including: _____.

Visitors must sign in at _____. Visitor logs will be kept with the name, address, company, and date of visit. The following procedures will be taken during visits: _____.

Background checks will be performed on new hires prior to their start date.

Employees will be trained to politely challenge visitors that are not following outlined procedures and escort them to the _____ to sign in.

Employees will be trained to recognize and report suspicious behavior to _____.

Biosecurity

Unload and visually inspect all incoming cattle during daylight hours, if possible. Maintain isolation until inspection is completed. If cattle are unloaded at night they should be maintained in the receiving area and inspected the following morning.

Rendering company vehicles should avoid driving through the feedyard and/or contaminating the direct delivery path of feed trucks.

Biocontainment

The _____ is responsible for proper cleaning and disinfection of hospital equipment and tools per feedyard veterinarian's directions.

Equipment and facilities will be cleaned with the high pressure water hose prior to disinfecting with _____.

The hospital crew is responsible for _____ cleaning of the hospital facility.

The yard _____ is responsible for weekly cleaning of the receiving and processing facility. Trucks and loaders used to clean pens, move manure or dead animals will not be used for handling feed without first being thoroughly cleaned and disinfected by _____ with _____.

The _____ crew is responsible for maintaining an ongoing bird, rodent, fly/insect, other pest and feral animal control program.

Feedyard Pen Surface Management (Outdoor)

Feedyard pen surface management can have a significant impact on cattle health and performance. Excessive mud in the pen has been shown to decrease cattle ADG (25 to 37%), DMI (15 to 30%), and FE (20 to 33%)^{1,2}. Respiratory problems occur more frequently and treatment costs increase under very dusty conditions. Thus, it often becomes a balancing act between conditions that are too wet and those that are too dry. Pens with excessive mud can be a challenge to both animal welfare and employee safety. Additionally, principle-based animal husbandry practices such as appropriately drained and maintained pens have been shown to reduce mud and/or dust on cattle sent to slaughter, which may reduce potential carcass contamination from the hide. Maintaining records of pen floor management activity can be a useful tool for feedyard management when making decisions on long term infrastructure improvement plans by identifying chronic problem areas.

General guidelines for pen floor management are:

- Mud depth should not consistently be deeper than the ankles of cattle in pens.
- Slopes of pens should be maintained to allow water to run off away from the feed bunks and not pool excessively in the pens.
- If slope is not sufficient to facilitate proper drainage, an elevated area may be constructed to allow cattle to have a place to lie down.
- All bunk aprons should be scraped/cleaned as needed so cattle do not have to stand in mud to eat from the bunk.
- The pen floor- bunk apron interface should be maintained so that cattle do not have an excessive step up to the apron.

Protocol for Feedyard Pen Surface Management

1. _____ will be responsible for ensuring that pen floor conditions are acceptable.
2. _____ will be responsible for ensuring that every pen is scraped/cleaned at least _____ per year, and if applicable each pen will be scraped/cleaned after each “turn” of cattle.
3. _____ will monitor the areas where the larger equipment cannot reach around the water tanks, bunks, shades and other structures to prevent excessive build-up of manure and dirt.
4. _____ will use _____ to scrape/clean pens and they will not be used for feed handling unless thoroughly cleaned and disinfected prior to handling feed.
5. If pen surface management records are kept, _____ will be responsible for maintaining records.



During periods of excessive snowfall:

During periods of excessive rainfall:

During periods of excessive heat:

During periods of excessive cold:

- 1 Bond, T.E., W.N. Garrett, R.L. Givens and S.R. Morrison. 1970. Comparative effects of mud, wind and rain on beef cattle performance. Paper No. 70-406. Annu. Meeting A.S.A.E.
- 2 National Research Council. 1981. Effect of environment on nutrient requirements of domestic animals. National Academy Press, Washington, DC.

Feedyard Pen Surface Management (Indoor)

Feedyard pen surface management can have a significant impact on cattle health and performance. Excessive mud in the pen has been shown to decrease cattle ADG (25 to 37%), DMI (15 to 30%), and FE (20 to 33%)^{1,2}. Respiratory problems for both cattle and humans occur more frequently and treatment costs increase under compromised air quality environments, including too wet and those that are too dry and the presence of increased ammonia concentrations. Proper management of an indoor feeding system should be devoted to suppress dust and/or ammonia volatilization. Additionally, pens with excessive manure can be a challenge to both animal welfare and employee safety. Principle-based animal husbandry practices such as appropriately maintained pens have been shown to reduce mud/manure and/or dust on cattle sent to slaughter, which may reduce potential carcass contamination from the hide. Maintaining records of pen surface management activity can be a useful tool for feedyard management when making decisions on long term infrastructure improvement plans by identifying chronic problem areas.

General guidelines for indoor pen surface management are:

- Manure depth should not consistently be deeper than the ankles of cattle in pens.
- An elevated area within the pen may be constructed to allow cattle to have a place to lie down in an indoor feeding operation.
- All bunk aprons should be scraped/cleaned as needed so cattle do not have to stand in manure while eating at the bunk.
- The pen surface-bunk apron interface should be maintained so that cattle do not have an excessive step up to the apron.

Protocol for Feedyard Pen Surface Management of Deep-Bedded Structures

1. Since natural ventilation is used in all these facilities, it is recommended to have high roofs to increase the air space and allow warm, moist air to rise and escape from the building.³
2. _____ will be responsible for ensuring that pen aprons are scraped/cleaned at least _____ per week (or when pen surface conditions warrant) to reduce wet manure, and if applicable each pen will be scraped/cleaned after each “turn” of cattle.
3. _____ will monitor the areas where the larger equipment cannot reach around the water tanks, bunks, and other structures to prevent excessive build-up of manure.
4. _____ will be responsible to provide bedding that ensures pen surface conditions are acceptable.
5. _____ will use _____ to scrape/clean pens, and they will not be used for feed handling unless thoroughly cleaned and disinfected prior to handling feed.
6. If pen surface management records are kept, _____ will be responsible for maintaining records.

Protocol for Feedyard Pen Surface Management of Deep-Pitted Structures

1. _____ will be trained in the proper precautions and hazards associated with the management of deep-pit systems.*
2. _____ will be responsible for ensuring that pen aprons are scraped/cleaned at least _____ per week (or when pen surface conditions warrant) to reduce wet manure and each pen will be scraped/cleaned after each "turn" of cattle or yearly.
3. _____ will monitor the areas where the larger equipment cannot reach around the water tanks, bunks, and other structures to prevent excessive build-up of manure.
4. _____ will be responsible for ensuring that the pit(s) is/are cleaned at least _____ per year, and properly land applied.
5. _____ will use _____ to scrape/clean pens and they will not be used for feed handling unless thoroughly cleaned and disinfected prior to handling feed.
6. If pen surface management records are kept, _____ will be responsible for

*** Special care should be taken to never enter a deep-pit due to the risks of toxic and deadly gases, such as hydrogen sulfide, ammonia, and others that may be present and accumulate, causing asphyxiation. To ensure safety, extreme caution should be exercised near and around pitted systems.**

maintaining records.

- 1 Bond, T.E., W.N. Garrett, R.L. Givens and S.R. Morrison. 1970. Comparative effects of mud, wind and rain on beef cattle performance. Paper No. 70-406. Annu. Meeting A.S.A.E.
- 2 National Research Council. 1981. Effect of environment on nutrient requirements of domestic animals. National Academy Press, Washington, DC.
- 3 Iowa State University, 2015. Beef Feedlot Systems Manual

Water Tanks

Water is the most important nutrient for general animal well-being. If water or water tanks are not clean, cattle may refuse to drink from them. Cattle that don't use the water tank will be stressed, dehydrated and have decreased feed intakes. This is a preventable problem through the regular monitoring and cleaning of water tanks. The receiving period is often a critical time to ensure the adequate supply of fresh water as calves are often dehydrated when they arrive.

Water Tank Protocol

_____ will ensure that in the receiving pens there is sufficient water tank space and adequate water flow rate to supply the cattle's daily water requirement.

Acclimation may require the addition of supplemental tanks to be located _____ of the pen.

Ensure that the water in the tank is accessible to calves. _____ will monitor all tanks in receiving pens _____ to ensure a clean water tank and will fill them by _____ as needed.

_____ will make sure that water tanks are functional and filled with clean water before cattle are placed in any pen.

If necessary, _____ will _____ in the permanent water tanks to help new cattle find the water tank.

_____ will be responsible for cleaning all permanent tanks at least every two weeks and before a new set of cattle are placed in a pen.

A scrub brush with hard bristles should be utilized in a back and forth motion across all sides and bottom of the tank to remove debris buildup.

When the tank is properly clean the walls should be smooth. The color of the rim of the tank should be seen throughout the entire tank.

The scrub brush should be washed and returned to the maintenance area when finished cleaning tanks. The hospital pen should have its own scrub brush and be cleaned last. The hospital pen water tanks should be cleaned at least _____.

_____ will monitor water tank function and cleanliness daily by visually inspecting the tanks and reporting any problems immediately to _____.

Feed and Water Analyses

Feed ration formulation and sampling protocol should be developed in consultation with a ruminant nutritionist. Analyses of feedstuffs and complete mixed rations is the means of quality control for the nutritional program. Timely, proper sampling is key. Frequency of sampling and analyses of feed commodities will depend, among other things, on the varied origins of commodities, frequency of delivery of commodities to the operation, and stability (i.e. moisture content) of the commodities. Frequency of sampling complete diets will depend on how often ingredients change, stability of ingredients, and confidence in ration mixing and delivery procedures. Additional sampling guidelines can be found in the Appendix.

Water is also a key nutrient. Periodic sampling to monitor water quality can reveal possible issues with mineral levels, nitrates, and other factors that can influence consumption, nutrient absorption and performance.

Sampling and Analyses

Harvested and purchased hay

Hay sources are sampled at harvest at delivery when utilized
 Hay sources are sampled once only repeated, if so please describe

Analyses include: moisture crude protein fiber energy minerals
 Other, please list _____

Harvested and purchased silage

Silage sources are sampled at harvest at delivery when utilized
 Silage sources are sampled once only repeated, if so please describe

Analyses include: moisture crude protein fiber energy minerals
 Other, please list _____

Concentrated feed commodities

Grain commodities are sampled at harvest at delivery when utilized
 Grain commodities are sampled once only repeated, if so please describe

By-product feeds

Analyses include: moisture crude protein fiber energy minerals
 Other, please list _____

By-product feeds at delivery when utilized
 are sampled: once only repeated, if so please describe

Analyses include: moisture crude protein fiber energy minerals
 Other, please list _____

Supplements rely on manufacturer's specifications
 sample and analyze, if so, once only repeated, if so please describe

Total mixed rations

Mixed rations are sampled at mixer from the bunk
 Mixed rations are sampled daily weekly other, please describe

Analyses include: moisture crude protein fiber starch energy minerals
 additive assays Other, please list _____

Cattle Water

Water sources sampled monthly semiannually annually
 other, please describe _____

Analyses include: TDS/Conductivity sulfates nitrates salt
 Other, please list _____

Emergency Action Planning

The threat of emergencies always exists in agriculture – everything from a severe weather event, a trailer rollover or traffic accident involving cattle, to an animal disease outbreak, or other emergencies and accidents involving fire or machinery.

Beef producers have, intuitively and with direction from a multitude of agencies, generally prepared themselves well to deal with these infrequent but often dangerous situations.

Feedyards should have a written emergency action plan. It doesn't have to be a set of complex documents – depending on the size of an operation, it could be as simple as filling out this form.

Operations may choose to add information such as a site map/layout of the operation and a diagram that shows where equipment, controls, and potentially hazardous items such as medicines, chemicals, and fuel are located. These details will be valuable to emergency response teams.

Emergency Action Planning Information

Site Name: _____ Premises ID Number (PIN): _____
 Owner/Operator Name: _____ Farm Services (FSA) Number: _____
 Site Phone: _____ Home Phone: _____
 Other Emergency Contact: _____ Mobile Phone: _____
 GPS Coordinates: _____
 Site Physical Address (Including 911 Address): _____

 Directions to Site: _____

Important Telephone Numbers & Contact Information

Organization/Person	Name/Notes	Phone Number	Organization /Person	Name/Notes	Phone Number
Feedyard Personnel			Utilities		
Feedyard Owner			Electric Company		
Feedyard Manager			Water Company		
Herd Manager			Natural Gas / Propane Supplier		
Cattle Handler			Plumber		
Cattle Handler			Boiler Service Company		
Cattle Handler					
			Equipment / Feedmill		
Animal Health			Millwright		
Feedyard Veterinarian			Co-Op Manager		
District Veterinarian			Manure Applicator		
State Veterinarian			Equipment Dealer		
Nutritionist			Agrochemical Dealer		
Law Enforcement			Government		
Local Police Department			Brand Inspector		
Sheriff			Center for Agricultural Security		
Highway Patrol			Department of Transportation		
State Police			County Road Department		
			Department of Natural Resources (DNR)		
Emergency Management Services			Other County/Township Offices		
Local Doctor's Office					
Local Emergency Room			Miscellaneous		
Rescue/Ambulance			Schools		
Local Poison Control			Other		
			Other		
Fire/Rescue			Other		
Fire Department			Other		
County Emergency Management Coordinator			Other		



Notes:

Notes:

BQA Feedyard Assessment Working Group

Bob Smith, DVM – Co-Chair

Consulting Feedyard Veterinarian and
BQA Advisory Board
Veterinary Research and Consulting Services, OK

Doug Bear

Director of Industry Relations (BQA) and BQA
Advisory Board
Iowa Beef Industry Council, IA

Ben Weinheimer – Co-Chair

Vice President
Texas Cattle Feeders Association, TX

Lora Wright

Division Manager, Beef Supply Chain
Tyson Fresh Meats, SD

Anne Burkholder

Owner/Producer and BQA Advisory Board
Will Feed Inc., NE

Lily Edwards Callaway

Operations and BQA Advisory Board
Crystal River Meats, CO

Clayton Huseman

Executive Director, Feedlot Division
Kansas Livestock Association, KS

Mike Siemens, Ph. D.

Global Leader, Animal Welfare and Husbandry and
BQA Advisory Board
Cargill Meat Solutions, KS

Dan Kniffen, Ph. D.

Assistant Professor of Animal Science and BQA
Advisory Board
Penn State University, PA

Nathan Meyer

Staff Veterinarian
JBS Five Rivers Cattle Feeding, CO

Dee Griffin, DVM

Feedlot Production Management Veterinarian and
Professor and BQA Advisory Board
University of Nebraska, Great Plains Veterinary
Educational Center, NE

Ted McCollum

Professor and Extension Beef Cattle Specialist and
BQA Advisory Board
Texas A&M Agrilife Extension, TX

Reviewed and Endorsed by:

National Beef Quality Assurance Advisory Board

