



# FEEDYARD ASSESSMENT

**Assessor's Guide**  
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The Beef Checkoff

**A SAFE, WHOLESOME AND  
HEALTHY BEEF SUPPLY**



## **Assessor's 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 and Best Management Practices (BMP), and Facilities and Equipment.

The Feedyard Assessment may be utilized as a self-assessment 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.

## Forms

The 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.

## Emergency Action Plan

In case of an emergency it is important for communication to occur quickly and efficiently. The operation should have a written emergency action plan (EAP) that can be implemented for a variety of situations. The EAP should be posted at various locations throughout the operation and include, at a minimum, telephone numbers of the owner, veterinarian, equipment suppliers and fire and police departments.

## 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 tens 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 best management practices (BMPs). You may call BMPs standard operating procedures (SOPs) or protocols. 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. Sample content, in light gray font, is provided in light gray to help you understand the type of content that you should enter to complete each blank of the customizable forms.

## BQA Feedyard Assessment

Operation Name:

Location:

Date:

Operation contact Name/Phone:

Assessor Name/Phone:

Category Point	Measure	Acceptable/Yes	Requires Action▲	Unacceptable No▲	Not Applicable	
<b>ADMIN</b>						
Abuse/Neglect	Animal Abuse	No animal abuse was observed during assessment.				
	Willful abuse is defined as acts outside of accepted BQA production practices that intentionally cause pain, injury or suffering including, but not limited to: <ul style="list-style-type: none"> <li>• 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</li> <li>• Malicious hitting or beating of an animal</li> <li>• Movement of non-ambulatory cattle in a manner inconsistent with BQA recommendations</li> </ul>					
	If no abuse was witnessed, mark Acceptable/Yes. If not, make an appropriate mark and fill out the comments section.					
	Comments:					
Withdrawal/Residue Avoidance	Animal Neglect	Feed, water and other necessary care was available during assessment.				
	Animal neglect is defined as purposely not providing adequate amounts of feed, water or other necessary care, which results in significant harm or death of an animal.					
	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.					
	Comments:					
<b>BEST MANAGEMENT PRACTICES (BMP)</b>						
BMPs (Protocols/Records)	BMPs [Protocols, procedures 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.					
	Training	Is a documented training program in place that follows BQA Animal Care and Handling Guidelines and includes: Animal handling, non-ambulatory animals, euthanasia, hospital management, medication and treatment, castration, dehorning and residue avoidance? When applicable				
	Pen Maintenance	Is a documented protocol in place for pen maintenance? (Example Page 19)				
	Euthanasia	Is a documented euthanasia protocol in place that meets AABP guidelines? (Example Page 21)				
	Non-ambulatory Cattle	Are documented protocols in place for dealing with non-ambulatory cattle? (Example Page 23)				
	Comments:					

<sup>▲</sup> "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
BMPs (Protocols/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.				
Health	Are documented health protocols in place that address disease prevention, management and treatment? (Example Page 25)				
Biosecurity	Is a documented biosecurity protocol in place that addresses: visitor logs, staff training, physical security and a current biosecurity plan? (Example Page 27)				
Animal Disposal	Is a documented animal disposal protocol in place that meets federal, state and local disposal regulations? (Example Page 29)				
Medication Receiving, Storage, Handling	Are documented protocols available for receiving, handling and storing pharmaceuticals including: inventory records, expiration dates, and disposal? (Example Page 31)				
Broken Needles	Is a documented broken needle protocol in place? (Example Page 33)				
Medicated Feed	Is a documented protocol in place for medicated feed? (Example Page 35)				
Feed Quality	Is a documented protocol in place for feed quality which includes consultation with a nutritionist, the need to collect, store and analyze feed samples, especially related to potential quality issues such as aflatoxin and/or pesticide residue? (Example Page 37)				
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? (Example Page 39)				
Shipping	Is a documented protocol available for shipping cattle including withdrawal verification, safe-to-ship documents and staff-verified shipping records? (Example Page 43)				
Emergency Action Plan (EAP)	Is an Emergency Action Plan readily accessible? (Example Page 45)				
Feed Delivery Records	Are feed delivery records available?				
Supplements	Is there documentation that no ruminant-derived proteins are being received or fed?				
Veterinary/ Client/ Patient Relationship (VCPR)	Is there documentation of a VCPR? Documentation may be items such as visit reports, billing records, etc.				
Comments:					
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	Driving aides	Is an electric prod used on < 10% of cattle? ____ % (Acceptable is <10.0%)			
	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				
	*Use is defined as discharging electric current while in contact with the animal.				
	If 10% or more of the cattle are prodded, mark Unacceptable/No and complete the comments section.				
	Comments:				
	Cattle falling	Falling ____ % (Acceptable is <2.0%)			
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					
*Falling is defined by the animal's torso/belly touching the ground.					
If 2% or more of the cattle fall, mark Unacceptable/No and complete the comments section.					
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	Cattle stumbling/tripping	Stumbling/tripping ____ % (Acceptable is <10.0%)				
	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					
	*Stumbling/tripping is defined as an animal contacting the ground with a knee.					
	If 10% more of the cattle stumble/trip, mark Unacceptable/No and complete the comments section.					
	Comments:					
	Cattle vocalizing	Vocalizing ____ % (Acceptable is <5.0%)				
	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					
	If 5% more of the cattle vocalize following restraint but prior to occurrence of a procedure mark Unacceptable/No and complete the comments section.					
	Comments:					
	Cattle jumping or running	Jumping or running ____ % (Acceptable is <25.0%)				
Chute Operation	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					
	*Do not count a trotting/loping as running.					
	If 25% or more of the cattle jump or run upon release from the chute, mark Unacceptable/No and complete the comments section.					
	Comments:					
Stocking Rate/Space	Chute operation / Miscaught	Miscaught ____ % (Acceptable is 0.0%)				
	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					
	*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.					
	If any cattle are miscaught and not readjusted, mark Unacceptable/No and complete the comments section.					
Comments:						
Stocking Rate/Space	Stocking rate / space	Cattle can stand up, lie down and move freely?				
	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. 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					
	If all of the pens have sufficient space, mark Acceptable/Yes. If not, mark Unacceptable/No and complete the comments section.					
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	Mud score	Are pens maintained in a manner to help cattle have a dry resting area and eliminate wading through mud?				
	<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 canon bone. Evaluate a minimum of 10 pens of cattle and review the pen including the cattle and the pen/mud conditions. 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>					
	Comments:					
	<b>FEEDING/WATER</b>					
Feeding/Water	Water access / cleanliness	Adequate, clean and clear water supply (i.e. no long-term build-up of manure, algae, etc.)				
	<p>Clean and clear water should be available at all times. Tanks should not have manure or buildup of algae. 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. (Example Page 49)</p>					
	Comments:					
	Feed bunks	Are feed bunks clean and accessible?				
	<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>					
	Comments:					
<b>MAINTENANCE</b>						
Maintenance	Unloading area	Well-maintained, non-slip footing, no broken gates/fencing/etc.				
	<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>					
	Comments:					
	Loading area	Well-maintained, non-slip footing, no broken gates/fencing/etc.				
	<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>					
	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
Maintenance	Processing area	Well-maintained, non-slip footing, no broken gates/fencing/etc.				
	The processing area should be well-maintained, have non-slip footing and be free of distractions and potentially harmful items.					
	If the processing area meets the above criteria, mark Acceptable/Yes. If not, mark Unacceptable/No and complete the comments section.					
	Comments:					
	Hospital area	Well-maintained, non-slip footing, no broken gates/fencing, feed and water readily available, etc.				
	The hospital area should be well-maintained, have non-slip footing and be free of distractions and potentially harmful items.					
	If the hospital area meets the above criteria, mark Acceptable/Yes. If not, mark Unacceptable/No and complete the comments section.					
	Comments:					
	Euthanasia area	Is euthanasia equipment available and in good repair, or veterinary access is readily available?				
	Euthanasia equipment should be maintained in good repair and available to trained personnel at all times or ready access should be available to veterinary services.					
	If euthanasia equipment is in good repair and accessible, or veterinary access is readily available, mark Acceptable/Yes. If not, mark Unacceptable/No and complete the comments section.					
	Comments:					
	Machinery	Is machinery, including trucks and loaders, cleaned and disinfected between each use?				
	Machinery should be cleaned and disinfected when different materials are to be contacted. (i.e. use for mortalities vs. manure vs. feed)					
	If machinery is cleaned and disinfected when use is changed, mark Acceptable/Yes. If not, mark Unacceptable/No and complete the comments section.					
	Comments:					

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

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 be marked with a dash "-". 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 _____	<u>Max. less than</u>	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	100	100	100	100	100	100	100	100	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 = %	100%	P/F
PM - Pen/Mud is o.k. _____ /TO x 100= %	70%	P/F
W - Water is accessible/clean _____ /TO x 100 %	70%	P/F
F - Feedbunks accessible/clean _____ /TO x 100= %	70%	P/F

Pen #									
Stocking Rate									
Pen/Mud									
Water									
Feedbunks									

**Comments:**

## Background information

The following section provides selected content taken from *The Cattle Industry's Guidelines for the Care and Handling of Cattle* to provide additional background material for the assessor and/or assessment team as well as a reference and review opportunity for interactions with the feedyard operator(s).

## 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, training and professional judgment can serve as a valuable resource for providing proper animal care.

### Producer Code of Cattle Care

Beef cattle producers take pride in their responsibility to provide proper care to cattle. The Code of Cattle Care below lists general recommendations for care and handling of cattle:

- Provide necessary food, water and care to protect the health and well-being of animals.
- Provide disease prevention practices to protect herd health, including access to veterinary care.
- Provide facilities that allow safe, humane, and efficient movement and/or restraint of cattle.
- Use appropriate methods to humanely euthanize terminally sick or injured livestock and dispose of them properly.
- Provide personnel with training/experience to properly handle and care for cattle.
- Make timely observations of cattle to ensure basic needs are being met.
- Minimize stress when transporting cattle.
- Keep updated on advancements and changes in the industry to make decisions based upon sound production practices and consideration for animal well-being.
- Persons who willfully mistreat animals will not be tolerated.

### 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 feed consultant.

- 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 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., drought, frost, and flood), test feedstuffs or other dietary components to determine the presence of substances that can be detrimental to cattle well-being, such as nitrate, prussic acid, mycotoxins, etc.
- Producers should become familiar with potential micronutrient deficiencies or excesses in their respective geographical areas and use appropriately formulated supplements.
- Use only USDA, FDA and EPA approved products for cattle. These products must be used in accordance with the approved product use guidelines.

### 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 feces, incidence of digestive upsets (acidosis or bloat) and foot health to evaluate the feeding program.
- A small percentage of cattle in feedyards develop laminitis or founder. Mild cases do not affect animal well-being or performance; however, hooves that are double their normal length compromise movement. Extreme cases should be provided appropriate care and marketed as soon as possible.

## Disease Prevention Practices and Health Care

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.

- The producer should work with a veterinarian and/or nutritionist to determine the risk of infectious, metabolic and toxic diseases and to develop effective management programs when designing a herd health plan.
- Producers and their employees should have the ability to recognize common health problems and know how to properly utilize animal health products and other control measures.
- 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.

## ***Stocker and Feeder Cattle***

- All incoming stocker and feeder cattle should be vaccinated against bovine respiratory disease (BRD). Stocker cattle that will be grazing rangeland or pasture should be vaccinated against clostridial diseases. The use of other vaccines and parasite control should be based on risk assessment and efficacy of available animal health products.
- 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 and 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.
- Castration and dehorning are done for the protection of the animal, other cattle in the herd and people who handle the cattle. Castration prior to 120 days of age or when calves weigh less than 500 pounds is strongly recommended.
- When horns are present, it is strongly recommended that calves be dehorned prior to 120 days of age. Dehorning should be done before the diameter of the horn base grows to one inch in diameter or more.
- **It is strongly recommended that a local anesthetic (cornual nerve block) be used when the horn base is one inch or more in diameter.**
- 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.

## **Identification**

- If cattle are branded, it should be accomplished quickly, expertly and with the proper equipment.
- Feeder cattle should not be re-branded when entering a feedyard unless required by law.
- Brands should be of appropriate size to achieve clear identification.
- Jaw brands should not be used.
- 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. Cattle should have access to feed and water without being required to wade through mud above mid canon bone (metacarpus/metatarsus). Accumulation of mud on cattle can be monitored but may relate 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 traction to prevent injuries to animals and handlers.
- Handling alleys and housing pens must 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 must be safe.

## **Cattle Handling**

- Abuse of cattle is not acceptable under any circumstances.
- 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 greater 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 well-being 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, ninety percent 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 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 of cattle temperament or prior handling issues? Was the chute operating properly? etc? Evaluate procedures to determine if cattle handling practices need to be improved.
- Properly trained dogs can be effective and humane tools for cattle handling. Ensure that rough handling, barking, or impeding cattle flow is minimized.

## **Marketing Cattle**

The overwhelming majority of cattle are marketed in good health and physical condition. Some compromised cattle should not enter intermediate marketing channels because of animal well-being concerns. Instead, these cattle should be sold directly to a processing plant or euthanized (see Euthanasia section), depending upon the severity of the condition, processing plant policy, and applicable state and USDA regulations.

## Transportation

- 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.
- Knowingly inflicting physical injury or unnecessary pain on cattle when loading, unloading or transporting animals is not acceptable.
- 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

- A prompt diagnosis should be made to determine whether the animal should be humanely euthanized or receive additional care.
- Provide feed and water to non-ambulatory cattle at least once daily.
- Move non-ambulatory animals very carefully to avoid compromising animal well-being. Dragging non-ambulatory animals is unacceptable. Likewise, animals should not be lifted with chains onto transportation conveyances. Acceptable methods of transporting non-ambulatory animals include a sled, low-boy trailer or in the bucket of a loader. Animals should not be “scooped” into the 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 refuse to eat or drink should be humanely euthanized within 24-36 hours of initial onset.
- **Cattle that are non-ambulatory must not be sent to a livestock market or to a processing facility.**
- Marketing cattle promptly, before this issue occurs, will promote better quality of life for the animal and economic benefit for the operation.

## Euthanasia

Euthanasia is humane death occurring without pain and suffering. The decision to euthanize an animal should consider the animal's well-being. The producer will most likely perform on-farm euthanasia because a veterinarian may not be immediately available to perform the service. When euthanasia is necessary, an excellent reference is the *Practical Euthanasia of Cattle* guidelines developed and published by the American Association of Bovine Practitioners (AABP).

Reasons for euthanasia include:

- Severe emaciation, weak cattle that are non-ambulatory or at risk of becoming downers
- Non-ambulatory cattle that will not sit up, refuse to eat or drink, have not responded to therapy
- Rapid deterioration of a medical condition for which therapies have been unsuccessful
- Severe, debilitating pain
- Compound (open) fracture
- Spinal injury
- Central nervous system disease
- Multiple joint infections with chronic weight loss

## 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.
- 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. More information can be found in NebGuide G00-1409-A ([www.gpvec.unl.edu](http://www.gpvec.unl.edu)).
- 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 lower stress times of the day.
- 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.

## Pasture Cattle Heat Stress Procedures

- During the summer the THI in the southeastern United States can be high.
- Breeding programs in the southeast consider cattle's heat tolerance and ability to adapt to their regional environment.
- Trees are abundant on most farms and ranches in the southeast, providing natural shade and relief from heat. Cattle instinctively use shade and ponds for cooling when the THI is high.
- When heat stress is extreme:
  1. Ensure adequate drinking water is available.
  2. 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.

## Training and Education for Maintaining and Improving Cattle Care and Handling Implementation and Review Programs

Management practices should be informally assessed every day to ensure that animal well-being 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
- Keeping track of training and education activities
- Conducting self-assessments of animal care and handling procedures

Informal self-assessment 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 movement, loud noises or other actions that may frighten cattle
- Proper handling of aggressive/easily excited cattle to ensure the well-being of the cattle and people
- Proper use of handling and restraining devices
- Recognizing early signs of distress and disease
- How to properly diagnose common illnesses and provide proper care
- Administration of animal health products and how to perform routine animal health procedures
- Recognizing signs associated with extreme weather stress and how to respond with appropriate actions
- Basic feeding/nutritional management of beef cattle

Management programs should be science-based and common-sense driven.

**EXAMPLE**

**BEST MANAGEMENT PRACTICES**

**TEMPLATES**



## Antibiotic Residue Avoidance Strategy

1. Identify all animals treated.
2. Record all treatments: Product, date; animal ID; dose given; route of administration; the person who administered the treatment; withdrawal time (WD).
3. Strictly follow label directions for product use.
4. Use antibiotics with an improved efficacy against microorganisms of clinical importance when possible.
  - A. Reduce unwanted depot effect. Select low volume products when available.
  - B. Select generic medications and vaccines with EXTREME CAUTION.
  - C. Avoid inferior products. They may cause performance loss or damage quality.
5. Select with short WD when antibiotic choice is equivalent.
6. Never give more than 10 cc per IM injection site.
7. Never give subsequent SQ or IM doses closer than 4 inches from previous medication doses.
8. Avoid Extra-Label Drug Use (ELDU) of antibiotics.
  - A. Use label dose and route of administration.
9. Avoid using multiple antibiotics at the same time.
10. Don't mix antibiotics in the same syringe, especially if given IM or SQ.
11. Check ALL medication/treatment records before marketing.
  - A. Don't market cattle with less than 60 WD without examining the treatment history.
  - B. Extend the WD time if the route or location of administration is altered.
    - i. Example; the WD for ear route of administration ceftiofur will be over 120 days if given SQ in the neck.
    - ii. Example; tissue irritation will cause the WD for Banamine® to be over 30 days if given IM or SQ instead of IV.
  - C. Extend the WD for all penicillin given at doses which exceed the label dose.
    - i. Example; the WD for Procaine Pen G given at 3 cc per CWT IM or SQ is over 30 days
    - ii. Example; the WD for Procaine Pen G given at 4 cc per CWT IM or SQ is over 30 days
    - iii. Example; the WD for Long Acting Pen G given at 3 cc per CWT IM or SQ is over 120 days
    - iv. Example; the WD for Long Acting Pen G given at 4 cc per CWT IM or SQ is over 180 days
      - a. Testing urine may not detect injection site residues that may test positive by the USDA-FSIS.
  - D. Never inject gentamicin or neomycin. The estimated WD is longer than 24 months.
    - i. Testing urine may not detect a kidney that may test positive by the USDA-FSIS.
  - E. Don't market cattle that have relapsed without examining the treatment history.
  - F. Don't market cattle with suspected liver or kidney damage without examining the treatment history.

### **BQA: All injections should be given in front of the shoulder slope and if possible avoid products that require IM use**

Intramuscular (IM) injections not only increase soreness compared to subcutaneous (SQ) injections, many of the products given IM cause significant muscle damage which subsequently causes a significant amount of expensive carcass trim. Knots or blemishes from SQ injections are much easier to find, examine and remove at the packers. Because of these, the national Beef Quality Assurance program adopted a policy that ALL injections (antibiotics, vaccines, parasiticides, vitamins, prostaglandins, hormones, and all other injectables) be given in front of the slope of the shoulder, that products with SQ labeling be selected in preference to products labeled for IM use only, and that IM injections if required, be limited to not more than 10 cc per injection site. These injection site guidelines have been adopted by all state BQA programs. Almost all of our pharmaceutical and biological product suppliers and government agencies responsible for those product approvals have worked diligently to design and label products to meet the national BQA program injection guidelines. Every antibiotic developed and approved by the FDA-CVM for our use in the last two decades has included use approval other than for IM, including the development of injectables that may be given in the SQ space of the ear and around the head. It is important to remember the safety of the operator, other bystanders, the animal and the food supply must never be jeopardized. Change the injection needle between every 15 animals maximum or if it becomes contaminated, or damaged. **Never, never, never straighten a bent needle and use it again.** Animals that have an un-retrieved injection needle broken off in them CAN NOT be marketed through normal market channels.

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

1. **Prevent Problems:** Emphasize appropriate husbandry and 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, whenever possible.
5. **Combination Antibiotic Therapy Is Discouraged Unless There Is Clear Evidence The Specific Practice Is Beneficial:** Select and dose an antibiotic to affect a cure.
6. **Avoid Inappropriate Antibiotic Use:** Confine therapeutic antimicrobial use to proven 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:** To 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 (UCPR).
14. **Subtherapeutic Antibiotic Use Is Discouraged:** Antibiotic use should be limited to prevent or control disease.

### Withdrawal (WD) Time Considerations-Cattle Animal Health Products

- ✓ All WD times must be figured from the last day of treatment and for the longest WD of the list of products used.
- ✓ Withdrawal times for the products used should be followed as listed on the approved FDA, EPA and USDA labels or as directed by the veterinarian servicing the operation. Off-label use of non-feed additive medications requires a veterinary prescription and the withdrawal time must be extended to ensure no violative residues will be present.
- ✓ Injecting greater than 10 cc per IM site will increase the potential for a violative residue.
- ✓ Generally, the extended withdrawal a veterinarian may assign will be at least an additional 60 days greater than the label withdrawal.
- ✓ Off-label use of medicated feed additives violates federal law and is strictly forbidden.

## Feedyard Pen Floor Management

Feedyard pen floor management can have a significant impact on a feedyard's profitability. Excessive mud in the pen has been shown to decrease cattle ADG (25 to 37%), DMI (15 to 30%) and FE (20 to 33%)<sup>1,2</sup>. 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.

### Protocol for Feedyard Pen Floor Management

1. \_\_\_\_\_ will be responsible for ensuring that pen floor conditions are at acceptable levels.
2. \_\_\_\_\_ will be responsible for ensuring that every pen is cleaned at least \_\_\_\_\_ per year, and if applicable each pen will be 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 clean pens and they will not be used for feed handling unless thoroughly cleaned and disinfected prior to handling feed.
5. General guidelines for pen floor management are:
  - a. Mud depth should not consistently be deeper than the ankles of cattle in pens.
  - b. Slopes of pens should be maintained to allow water to run off away from the feed bunks and not pool excessively in the pens.
  - c. If slope is not sufficient to allow for proper drainage, a mound should be constructed in each pen to allow cattle to have a dry place to lie down. This means the slope of the mound should be steep enough to allow water runoff but not too steep that cattle will not lay on it.
  - d. Pens should be thoroughly cleaned after each "turn" of cattle and as often as conditions warrant. Each pen will be thoroughly cleaned \_\_\_\_\_ per year.
  - e. All bunk aprons should be cleaned as needed so cattle do not have to stand in mud to eat from the bunk.
  - f. The pen floor- bunk apron interface should be maintained so that cattle do not have to step up to the apron.
6. During periods of excessive snowfall:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

7. During periods of excessive rainfall:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

8. During periods of excessive heat:  
\_\_\_\_\_  
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\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

9. During periods of excessive cold:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

<sup>1</sup>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.

<sup>2</sup>National Research Council. 1981. Effect of environment on nutrient requirements of domestic animals. National Academy Press, Washington, DC.



## 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 it 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.

### Protocol for the Humane Euthanasia of Cattle

1. \_\_\_\_\_ is/are the person(s) responsible for the euthanasia of any cattle, and making the final determination of the need to euthanize a particular animal.
2. \_\_\_\_\_ has/have been trained in proper euthanasia techniques by \_\_\_\_\_.
3. Our feedyard will utilize \_\_\_\_\_ for euthanizing cattle. The \_\_\_\_\_ is stored in \_\_\_\_\_. Maintenance of the euthanizing equipment is done by \_\_\_\_\_.
4. \_\_\_\_\_ has/have been shown by \_\_\_\_\_ the anatomical landmarks used for proper euthanasia and have demonstrated this competence on cadavers.
5. \_\_\_\_\_ has/have been trained on the signs used for confirmation of the death of cattle by \_\_\_\_\_.
6. \_\_\_\_\_ has/have been informed that if they are unable to complete this task for any reason to contact \_\_\_\_\_ immediately.



## Handling of Non-Ambulatory Cattle (Downers)

All procedures conducted at \_\_\_\_\_ feedyard will be designed to prevent cattle from becoming injured; however in the event that any livestock becomes non-ambulatory, the cattle will be handled and cared for in a humane manner.

A non-ambulatory animal (commonly referred to as a “downer”) is unable to stand up or walk, even if assisted. A “cripple” is an animal which is obviously lame on one or more limbs but still able to get up unassisted and move about. Animals become downers or cripples due to things such as broken limb(s), back injury, calving paralysis, or metabolic/infectious conditions.

### Protocol for Handling of Non-ambulatory Cattle

1. Assess whether the animal is in a safe place or needs to be moved. If moving is required move it to \_\_\_\_\_.
2. If the animal is in its home pen, it should be moved to \_\_\_\_\_.
3. Movement will be facilitated via use of the \_\_\_\_\_.
4. If you are not trained to use the \_\_\_\_\_, ask \_\_\_\_\_ or find someone in the \_\_\_\_\_ department to assist you and to drive the \_\_\_\_\_.
5. Once the \_\_\_\_\_ is by the down animal, the bucket will be placed on the ground.
6. 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.
7. 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.
8. Feed and water will be supplied once the animal is moved to the hospital pen. A fresh supply of water and feed should be supplied at all times.
9. Have \_\_\_\_\_ evaluate the animal and provide proper treatment. Herd health plan treatment protocol \_\_\_\_\_ is recommended.
10. Reevaluate the non-ambulatory animal in 24 hours. If improvement is noted, continue to follow treatment \_\_\_\_\_ and be sure feed and water is being supplied. If not significantly improved and the chance of recovery is very low, or the condition worsened at any time, the animal may require euthanasia. Follow the Euthanasia protocol to humanely conduct this process.
11. Reevaluate the non-ambulatory animal the next day. If not significantly improved and the chance of recovery is very low, or the condition worsened at any time, the animal may require euthanasia. Follow the Euthanasia protocol to humanely conduct this process.

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

1. NEVER use an electric prod to stimulate the animal to get up. (Unless its use is to prevent eminent death from suffocation or to prevent other injury. Example: An animal goes down in a chute and is choking/breathing restricted; an electric prod may be a life-saving device.)
2. NEVER use chains or cables to pick up or suspend the animal. DEFINITELY, DO NOT USE CHAINS OR CABLES TO PICK UP AND MOVE THE ANIMAL.
3. If animals are weak and are having trouble walking, do not move them towards the processing barn and never attempt to send these weak or severely lame animals to slaughter.
4. NEVER let a non-ambulatory animal go without feed, water and proper shelter.
5. NEVER let a non-ambulatory animal stay in their home pen or in any area where they may get walked on or trampled.



## Preventive Herd Health Plan

Every effort should be made to prevent disease and infection in the cattle herd. An additional benefit from disease prevention, in addition to healthy cattle, is that the most effective way to reduce the potential for antibiotic residues 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 herd veterinarian to develop a herd health program and review/revisit it at least annually.

A preventive herd health plan should include:

1. Target pathogen(s)
2. Recommended vaccine(s)
3. Recommended feed additives (if any)
4. Appropriate time frame to protect (vaccinate) against targeted pathogens
5. Management considerations to aid in the prevention or reduce the spread of target pathogens
6. Management and treatment protocols for use if prevention efforts fail, including an outline of treatment protocols specified by the herd veterinarian

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

The preventive herd health plan, treatment protocols and veterinary drug orders need to be developed together to complete a herd health program.

Some sample information that may be used on a herd health plan, as developed with your herd veterinarian, is shown here:

### For all cattle and production segments

- Provide appropriate nutritional feedstuffs
- Handle cattle to minimize stress and bruising
- All injections administered 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 herd veterinarian for additional health procedures appropriate to your area



## 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 particular feedyard and 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 SOP

#### General

1. A Security, Biosecurity and Biocontainment plan will be reviewed by \_\_\_\_\_ on a \_\_\_\_\_ basis.
2. All employees will be trained in aspects of the Security, Biosecurity and Biocontainment plan when they are hired.
3. Update/refresher training on the Security, Biosecurity and Biocontainment plan will be provided to employees at least every \_\_\_\_\_.

#### Security

1. The \_\_\_\_\_ will be responsible for maintaining a perimeter fence, lockable gates and lighted entryways in good condition.
2. \_\_\_\_\_ will be responsible to lock gates at night and make sure lights are on at entryways.
3. All visitors must sign in at \_\_\_\_\_. Visitor logs will be kept with the name, address, company, and date of visit. Visitor identification issued to all visitors.
4. Background checks will be performed on all new hires prior to their start date.
5. Employees will be trained to politely challenge all visitors that do not have visitor identification and escort them to the \_\_\_\_\_ to sign in.
6. Employees will be trained to recognize and report all suspicious behavior to \_\_\_\_\_.

#### Biosecurity

1. 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.
2. Cattle delivery trucks should be washed and disinfected, inside and out, prior to pick-up of cattle for delivery to the feedyard.
3. All pickups by a rendering company should be at the periphery of the yard and rendering trucks should not drive through the lot or contaminate the delivery path of feed trucks.

#### Biocontainment

1. The \_\_\_\_\_ is responsible for cleaning and disinfection of all treatment equipment between each animal.
2. The \_\_\_\_\_ crew is responsible for \_\_\_\_\_ cleaning of the hospital facility.
3. The \_\_\_\_\_ crew is responsible for \_\_\_\_\_ cleaning of the receiving and processing facility.
4. Equipment and facilities will be cleaned prior to disinfection with \_\_\_\_\_.
5. Trucks and loaders used to clean pens, move manure or mortalities (deads) will not be used for handling feed without first being thoroughly cleaned and disinfected.
6. The \_\_\_\_\_ crew is responsible for maintaining an ongoing bird, rodent, fly/insect, and other pests and feral animal control program.



## Animal (Carcass) Disposal

Carcass disposal for dead cattle is an important, and legal, 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 familiar with equipment used to move a carcass. If possible, do not use the same loader for carcass disposal as you use for feed. If this is unavoidable, the carcass should be moved without use of the bucket (as possible) and the loader should be washed and disinfected immediately after removing the carcass.

### Protocol for Animal Disposal

1. Pen riders or any employee of the feedyard should notify \_\_\_\_\_ as soon as a mortality (dead animal) is found.
2. Be prepared to give the pen number and the tag number of the deceased animal.
3. The \_\_\_\_\_ crew will be notified and dispatched to retrieve the mortality with \_\_\_\_\_ within \_\_\_\_\_ of being given the location of the dead animal.
4. The \_\_\_\_\_ is to be brought in through \_\_\_\_\_ with the gate shut while the mortality is being loaded to prevent animals from leaving the pen.
5. The dead animal will be moved from the pen \_\_\_\_\_ or by using a chain that is wrapped around both hind legs between the ankle and the hock \_\_\_\_\_.
6. The mortality is then to be hauled to \_\_\_\_\_ located \_\_\_\_\_ of the feedyard.
7. \_\_\_\_\_ 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.
8. \_\_\_\_\_ 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.
9. \_\_\_\_\_ should then contact \_\_\_\_\_ for final removal (rendering) or burial/composting of the mortality. The contact information is \_\_\_\_\_.

### REMEMBER

1. Safety first when operating large equipment. Know your equipment and what is around you.
2. When animals have been dead for a prolonged period of time, especially during warm weather, carcasses can decompose rapidly and become fragile to move.
3. Do not use the same loader to move carcasses that is used for feed if possible.



## Medication Receiving, Storage and Handling Protocol

Medications and vaccines 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 by the feedyard.

It is important to maintain a record of lot numbers of products received on the facility in the event of recall or holding of cattle if a problem arises resulting from a quality failure by the manufacturer. Proper storage and handling are also important to insure that the viability and effectiveness of the products are not compromised. Also, it is important for producers to make sure that all products utilized are in date (not expired) and return or properly discard products that are out of date. Through proper recordkeeping, storage and handling, animal health products remain an important piece of a comprehensive cattle health and well-being program.

1. \_\_\_\_\_ has a Veterinary/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.
2. \_\_\_\_\_ receives biological and pharmaceutical products from \_\_\_\_\_.
3. When products arrive they 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 date in which the products become out of date. These data are kept \_\_\_\_\_.
4. All products are stored as recommended by the manufacturer.
5. Inventory of products is taken every \_\_\_\_\_ by \_\_\_\_\_.
6. \_\_\_\_\_ 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.
7. Out of date products are \_\_\_\_\_.



## Broken Needles

Broken needles are classified as an emergency event. Broken needles can migrate 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. **The most common cause of broken needles is improper animal restraint.** Proper animal handling is necessary to ensure the safety of beef products.

### Protocol for Broken Needles

1. As soon as a needle breaks off in an animal STOP everything and attempt to locate and remove the needle.
  - A. 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.
2. If the needle is not able to be immediately located, immediately 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 \_\_\_\_\_ immediately. The contact information is:  
\_\_\_\_\_
3. If \_\_\_\_\_ cannot remove the needle surgically then the animal will be identified by \_\_\_\_\_ and placed in \_\_\_\_\_ and will not be allowed to be marketed with the rest of the lot.
4. At the time of harvest this animal should be processed by a small processor that has been made aware of the presence of a needle and where it is located and is able to trim a large area of that meat to ensure the needle is retrieved.

### Remember

1. Restrain Animals Properly
2. A Bent Needle is a Broken Needle
3. Replace Bent or Damaged Needles Immediately



## Medicated Feed Additives Protocol

The term “medicated feed” includes all medicated feed included in the diet of an animal. The term includes products commonly referred to as supplements, concentrates, premix feeds, and base mixes, and is not limited to complete feeds.

An important responsibility of feed manufacturers is to ensure that the feed produced - whether medicated or non-medicated - meets all legal and intended specifications.

Medicated feeds must contain the proper drug level and be fed at appropriate levels.

### Product Use

1. Only FDA-approved medicated feed additives can be used in rations. In the case of an improper drug being added to the incorrect ration, contact \_\_\_\_\_. If improper diet has NOT yet been fed, dispose of feed in accordance with label instructions. If improper diet HAS been fed, contact \_\_\_\_\_.  
\_\_\_\_\_.
2. Feed only at recommended rates. Exercise caution when calculating rates for medicated feeds. If drugs have been fed at an improper rate, contact \_\_\_\_\_.  
\_\_\_\_\_.
3. 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 drug supplier. Extra-label use of feed additives is strictly prohibited by federal law. **No one has the authority to adjust the dose as labeled, including veterinarians.** All directions for the use of a medicated feed additive will be on the label attached to the bag or will be supplied with a bulk order.
4. Ensure that all additives 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.
5. For operations 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, 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 one year. Use separate mixers for mixing medicated feeds and non-medicated feeds, or clean mixers between batches of each.
6. 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 via a FD-1900 permit.
7. Identify individuals or groups of animals which are being fed medicated feed, particularly if the medication requires a period of withdrawal prior to harvest/slaughter. Pens can be flagged with 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 \_\_\_\_\_. If cattle are shipped prior to the proper withdrawal time as stated on the product label, contact \_\_\_\_\_.  
\_\_\_\_\_.



## Feed Sampling SOP

Feed sampling is critical to proper nutritional management of cattle. The following is a list of standard practices to ensure an accurate, representative sample of stored forages and mixed diets.

### Sampling Requirements

- Forage probe/silage probe (silage probe requires greater diameter than hay probe)
- Clean five gallon bucket
- Heavy plastic, sealable one gallon-size bags
- Permanent marker

### General recommendations:

- Keep different kinds of feed separate for analysis and label bags clearly so that the laboratory can identify samples for the final report.
- Label sample bags prior to sampling so writing is legible for the laboratory.
- After sampling, squeeze excess air from bags prior to sealing to reduce shipping volume.
- Sample and store “high risk feedstuffs” until after cattle have shipped. High risk feedstuffs are those that contain any ingredient such that a single delivery could contaminate a large number of cattle over a significant part of the feeding period if it contained toxic or violative compound(s). Examples would include “tallow or fat”. Visit with your nutritionist about these type feeds.

#### Hay

When sampling from bales, it is best to use a commercially-available forage probe which will reach the center of the bale. Sample large round bales from the curved side of the bale. This ensures an even distribution of hay from the entire length of field the bale came from. When sampling large or small square bales, insert the probe into the end of the bale for the same reasons.

Sample a minimum of 10 bales or 10% of the stack yard, whichever is larger. For larger stack yards (> 200 bales) 5% may be acceptable. Make sure to sample bales which represent the total area of the hay field or fields. Bale cores from a given stack yard should be composited into a single sample. But if different sources of feed will be used for different animals, different times of the year, or different stages of production, make sure to analyze the samples separately.

#### Silage

A silage bunker does not lend itself to accurate, representative sampling as well as hay bales do. Typically the easiest and most expedient way to get an accurate sample of forage quality throughout the bunker is to get samples from each load when it is unloaded from the field, prior to packing. Take 4-6 handfuls of greenchop material from each load and composite, either across the entire bunker, or by longitudinal area (front to back of bunker) within the bunker.

If silage has already been packed and sealed, a commercially-available silage probe can be used to core the bunker (or silage bags). This is more appropriate for sealed bunkers than open bunkers or piles. In open bunkers, the exposed, spoiled surface of the silage will make up a disproportionately large percentage of the total core sample. Take 6 – 12 cores from the top of the bunker, depending on the size of the bunker. These cores should be composited across the entire bunker if all silage came from a similar crop, field, and stage of maturity. If silage is taken from different crops or stages of maturity from front to back of the bunker, it may be necessary to composite within a silage type.

#### Total mixed ration (TMR)

Samples can be taken either from the feed bunk prior to cattle eating or they can be taken directly from the feed spout. Place grab samples (3-5 per load) in a five-gallon pail. When sampling, do not shake grab samples prior to depositing in bucket. Samples should be taken from all parts across a load of feed and from multiple loads. Combine subsamples from within a load as a single sample for analysis. Mix composite sample thoroughly in the pail. Pour contents out onto a clean, flat surface. Physically divide the pile of feed into four quadrants and subsample from two of the quadrants on opposing sides. These

subsamples can be further mixed and subsampled using a similar procedure to reduce the total sample size for analysis. Keep samples from different loads and different diets/rations separate for analysis.

### Nutrients of Interest

Typical, basic, feed analyses for ruminant diets include:

- Moisture
- Crude Protein
- Acid Detergent Fiber or Crude Fiber
- Calcium
- Phosphorus

In addition, feeds can be analyzed for many other nutrients. Available protein may be of interest if ensiled feed has undergone any appreciable heating. Trace elements such as Copper (Cu), Zinc (Zn), and Manganese (Mn) are of interest when hay makes up a substantial portion of the diet, such as wintering cows or starting/backgrounding calves.

## Receiving and Processing Cattle Protocol

Receiving and processing incoming cattle is a key component in the life and management of beef cattle. Cattle are going through many adjustments during this period. Many times cattle are transitioning from a forage-based diet to a concentrate diet along with changing their social structure by gaining and losing herd/pen mates. This is a stressful period both psychologically and physically. The receiving and processing protocol's success will depend on accurate designation of low- or high-risk cattle. The following guidelines will aid in the designation of risk for each group of cattle. The protocols for receiving and processing should be reviewed regularly by your veterinarian and animal health teams.

### Receiving Cattle SOP

1. Cattle will be unloaded once the loaded truck has been weighed and proper health papers or shipping orders have been received by \_\_\_\_\_.
2. All cattle will be inspected for disease or injury as they are unloaded from \_\_\_\_\_ by \_\_\_\_\_.
3. Cattle will be allowed to rest \_\_\_\_\_.
4. 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 will be placed in the receiving pens for the cattle to lie down and rest.
5. Cattle will have free access to water immediately after being unloaded.
6. Cattle will have free access to \_\_\_\_\_ that has been placed in the bunk just prior to the cattle entering the pen.
7. All processing activities will be delayed until after the rest period has elapsed except for in the case of impending weather conditions which may decrease cattle well-being. Care will be taken to prevent cattle from slipping due to ice. Also, cattle will not be processed during times of extreme heat to help prevent heat stress in the cattle.

### Processing Cattle SOP

1. Proper cattle handling and facilities are imperative to cattle health and performance.
2. \_\_\_\_\_ will inspect the \_\_\_\_\_ every \_\_\_\_\_ to ensure proper and safe operability.
3. Any processing equipment malfunctions or issues that may cause animal or human injury should be reported to the \_\_\_\_\_ immediately.
4. Processing is a quality, not quantity, driven task.
5. The \_\_\_\_\_ will be responsible for ensuring that all employees have been properly trained on the operation of the equipment that they are using.
6. Processing will be planned to avoid processing during weather extremes.
7. Cattle will not be processed when the Temperature Humidity Index is \_\_\_\_\_.
8. Electronic prods will not be used unless the animal is extremely resistant. If the electronic prods are used on \_\_\_\_\_ of the cattle \_\_\_\_\_ will be required to \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_.
9. All processing crew members will be trained by the \_\_\_\_\_ on the proper Beef Quality Assurance Guidelines on injections, injection techniques, and injection locations.

10. No injections will be given anywhere but in the neck of cattle \_\_\_\_\_.
11. All processing tasks will be recorded \_\_\_\_\_.
12. Each lot of cattle will be processed according to instructions given \_\_\_\_\_. Instructions will be adjusted according to the risk status of each lot of cattle.
13. A protocol for the processing of high- and low-risk cattle will be established by \_\_\_\_\_ and applied accordingly to the cattle.

### Assessing the Risk Level of Cattle

Factors Associated with Higher Risk	Considered High Risk	Considered Low Risk
Average In Weight	<500 lbs	>700 lbs
Weight Spread of Load/Pen	>200 lbs	< 200 lbs
Bulls	> 10% of load/pen	< 10% of load/pen
Pregnant Heifers	> 10% of load/pen	< 3% of load/pen
Geographic Source of Cattle	SouthEastern	Northern
Marketing Method	Auction	Ranch Direct
Previous Management or Non-management	Non-vaccinated Balling Calves	Preconditioned
Time in Transport	> 12 hours	< 12 hours
Time to Establish Load/Pen	> 3 days	< 3 days
Season	November	Any but November

(Note for graphics and others – Grey areas are the areas that the “user” fills in, the current data is for the “Example” version.)

## Processing Map & Vaccination Log

Date: \_\_\_\_\_ Cattle Lot #: \_\_\_\_\_ Number of Head: \_\_\_\_\_

Pen #: \_\_\_\_\_ Signature of Processing Foreman: \_\_\_\_\_



Side of injection L or R	Product and Manufacturer	Lot/ Serial # Exp date	Dose in cc	Route of Administration	Person Administering	Date of Treatment	Slaughter Withdrawal



## Protocol for Shipping Cattle

Two factors determine the effectiveness of fed cattle transport – qualification and quiet. Qualified cattle are ones that have been purchased and that are free of any drug or vaccination withdrawal times. Quiet describes the desired approach to handling cattle during the shipping process. It has been documented that 50% of stress from transporting animals occurs during loading. Proper cattle handling at this time will reduce stress which will improve the quality of the beef products produced.

### Shipping Cattle SOP

1. The \_\_\_\_\_ will be responsible for informing the cowboy crew of the time, pens and head counts that will be loaded out.
2. The \_\_\_\_\_ will be responsible for examining all treatment and processing records to ensure that all cattle to be shipped are free from any withdrawal periods. Withdrawal periods for cattle pharmaceutical and biological products will be supplied by \_\_\_\_\_.
3. The \_\_\_\_\_ will inform the \_\_\_\_\_ of the ID and pen location of any animals that are not free of drug or processing withdrawal times so the animal(s) can be removed from the pens of cattle to be shipped and placed in \_\_\_\_\_.
4. The \_\_\_\_\_ will be responsible for recording the lot and pen numbers, head count of cattle, time, date, number of trucks and trucking company after shipping the cattle.
5. All fat cattle will be shipped quietly yet efficiently to avoid undue stress and potential injury such as muscle bruising.
6. Electric prods should not be used on the cattle \_\_\_\_\_.
7. The \_\_\_\_\_ is responsible for ensuring that only healthy cattle are transported and that any cattle that are not healthy enough to be shipped be removed and placed in \_\_\_\_\_.
8. Cattle should NOT be shipped when the Temperature Humidity Index is \_\_\_\_\_.
9. The \_\_\_\_\_ will be responsible for inspection of all load out facilities at least \_\_\_\_\_ to ensure the safety of the employees and animals and to help ensure no facility-induced hide or carcass defects occur.
10. The \_\_\_\_\_ will be responsible for ensuring that all members of the cowboy crew have been trained in and demonstrate proper cattle handling.



## Emergency Action Planning

The threat of emergencies has always existed in agriculture – everything from a severe weather event, to an animal disease outbreak, to 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.

Some operations, especially the larger ones, may choose to add some additional 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 and chemicals are located.

A more comprehensive plan will include information about the buildings and areas of the farm where livestock are kept (and the purpose of that location, such as receiving or processing). This level of detail will be invaluable to emergency response teams should they be required to come to your site.



## ***Emergency Action Information***

Site Name: \_\_\_\_\_ Premises ID Number (PIN): \_\_\_\_\_

Owner/Operator Name: \_\_\_\_\_ Home Phone: \_\_\_\_\_

Site Phone: \_\_\_\_\_ Cell Phone: \_\_\_\_\_

Other Emergency Contact: \_\_\_\_\_

Site Physical Address (Including 911 Address): \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Directions to Site: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

### ***Important Telephone Numbers***

Organization/Person	Name/Notes	Number
Rescue/Ambulance:		
Fire Department:		
Sheriff:		
Highway Patrol:		
Police:		
Hospital/Clinic:		
County Emergency Management Coordinator:		
Local Poison Control Center:		
Center for Agricultural Security:		
Herd Veterinarian:		
State Veterinarian:		
DNR:		
Manure Applicator:		
Equipment Dealer:		
Agrichemical Dealer:		
Electric Company:		
Water Company:		
Natural Gas/Propane Supplier:		
School(s):		
County road department:		
Other county/township offices:		
Other:		
Other:		
Other:		



## 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

1. \_\_\_\_\_ will ensure that in the receiving pens there is \_\_\_\_\_ of water tank space per head and with sufficient water flow rate to supply the cattle's daily water requirement.
  - a. This may require the addition of \_\_\_\_\_ to be located \_\_\_\_\_ of the pen.
  - b. Ensure that the water in the tank is accessible by the calves (ex. Too tall of sides on tank for baby calves to reach the water)
2. \_\_\_\_\_ will make sure that water tanks are functional and filled with water before cattle are placed in any pen.
3. \_\_\_\_\_ will monitor all portable tanks in receiving pens \_\_\_\_\_ and will fill them by \_\_\_\_\_ as needed.
4. \_\_\_\_\_ will \_\_\_\_\_ in the permanent water tanks to help cattle find the water tank.
5. \_\_\_\_\_ will be responsible for cleaning all permanent tanks at least every \_\_\_\_\_ 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, disinfected, and returned to the maintenance area when finished cleaning tanks.
  - The hospital pen should have its own scrub brush. The hospital pen water tanks should be cleaned at least \_\_\_\_\_.
6. \_\_\_\_\_ will monitor water tank function and cleanliness daily by visually inspecting the tanks and reporting any problems immediately to \_\_\_\_\_.





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