



The banner features a background image of a man in a cowboy hat standing in a field with a herd of cattle. In the top left corner, there is a small logo with a red checkmark and the text "Mississippi Beef Quality Assurance Program". The main title "Mississippi Beef Quality Assurance Program" is written in large, bold, blue letters. Below the title, the subtitle "Training and Certification" is written in a smaller, bold, dark red font. At the bottom of the banner, there is a dark red horizontal bar containing four logos: the Mississippi State University logo, the Mississippi State University Extension Service logo, the Mississippi Cattlemen's Association logo (featuring a silhouette of a longhorn), and the Farm Bureau Mississippi logo. Below these logos, the text "Mississippi Beef Quality Assurance Program" is written in a white, italicized font.

Welcome to the Mississippi Beef Quality Assurance web training modules sponsored by the MSU College of Veterinary Medicine, MSU Extension Service, Mississippi Cattleman's Association, and the Mississippi Farm Bureau Federation. Before proceeding through the web based modules please download a pdf copy, or request a copy of the BQA Program manual.



What is Beef Quality Assurance?

- Beef Quality Assurance (BQA) is a program to ensure that beef and dairy cattle are maintained in a manner, which will result in a safe and wholesome beef product for the consumer.
- The BQA Certification program is based on recommended national guidelines and scientific research.
- **The purpose of BQA is to protect consumer confidence in beef safety and quality.**

Mississippi Beef Quality Assurance Program

Beef Quality Assurance is a program that ensures beef and dairy cattle are maintained in a manner which will result in a safe and wholesome beef product for our consumer. BQA certification program is based on recommended national guidelines and scientific research. The overall purpose of the BQA program is to protect consumer confidence in beef safety and quality.

Quality Assurance Challenges

Information Sharing Throughout the Production Chain

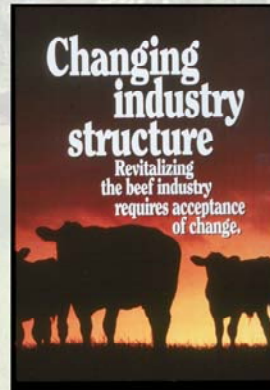
Reaching All Beef and Dairy Producers With Important Educational Quality Assurance Information

Mississippi Beef Quality Assurance Program

Some of the challenges in Quality Assurance come from the nature of the beef industry being segmented. Information sharing throughout this production chain is sometimes difficult. Another challenge is reaching all beef and dairy producers with this important educational Quality Assurance information.

Quality Assurance is part of an Industry Philosophy

Quality Assurance unites animal scientists, veterinarians, feed suppliers, animal health companies and beef producers to increase awareness of practices, that influences the safety, wholesomeness and quality of beef and beef products.



Mississippi Beef Quality Assurance Program

Beef Quality Assurance is truly a part of an industry philosophy. This Quality Assurance program unites animal scientists, veterinarians, feed suppliers, animal health companies, and beef producers to increase awareness of practices that influence safety, wholesomeness, and quality of the beef products that we produce.

What is Certification?

- Process by which **producers accept responsibility** for actions under which cattle on their production unit are produced.
- Process allowing the beef industry to **maintain its independence from regulatory agencies**.

Mississippi Beef Quality Assurance Program

What is Certification in the Beef Quality Assurance program? This is the process by which producers accept responsibility for actions under which cattle on their production unit are produced.

The reason Beef Quality Assurance participants are certified is because it allows the beef industry to maintain its independence from regulatory agencies by addressing important scenarios before they become a concern to the public.

Mississippi Beef Quality Assurance Certification Program

- Targeted Breeding
- Responsible Culling
- Proper Management



Mississippi Beef Quality Assurance Program

By participating in this online version of the Mississippi Beef Quality Assurance program, you will be trained in targeted breeding, responsible culling, and proper management practices all that affect cattle and beef products. After reviewing these modules, complete the online test and the producer contract, and send those to the Beef Quality Assurance program coordinator. After that has been reviewed, you will receive a certificate of completion and a Beef Quality Assurance number. Thank you very much for participating in this program.

TARGETED BREEDING

Equals Customer Satisfaction



Mississippi Beef Quality Assurance Program

This is the Targeted Breeding section of the Mississippi Beef Quality Assurance Program. This module discusses making breeding decisions and genetic selection decisions that impact consumer satisfaction with beef end product. One of the important things to think about in this section is that cattle producers actually produce a protein product that enters the food chain. So, consider being not only a cattle producer, but also a beef producer. Remember that targeted breeding equals consumer satisfaction.

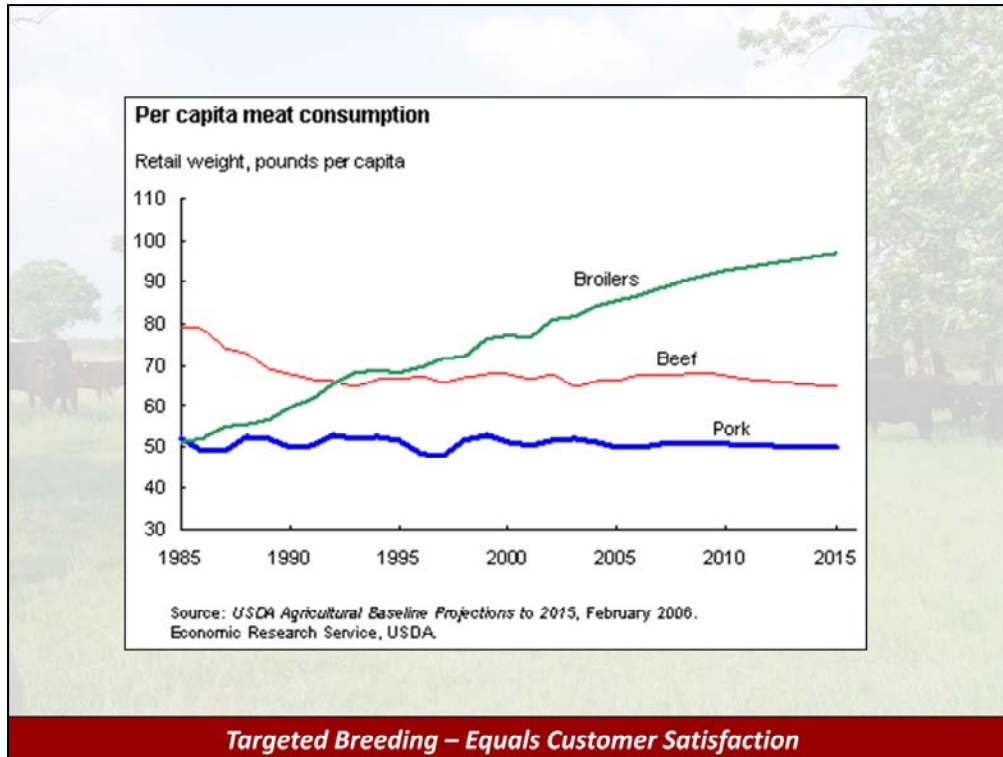
Consistency and Uniformity

Ideal Carcass Characteristics

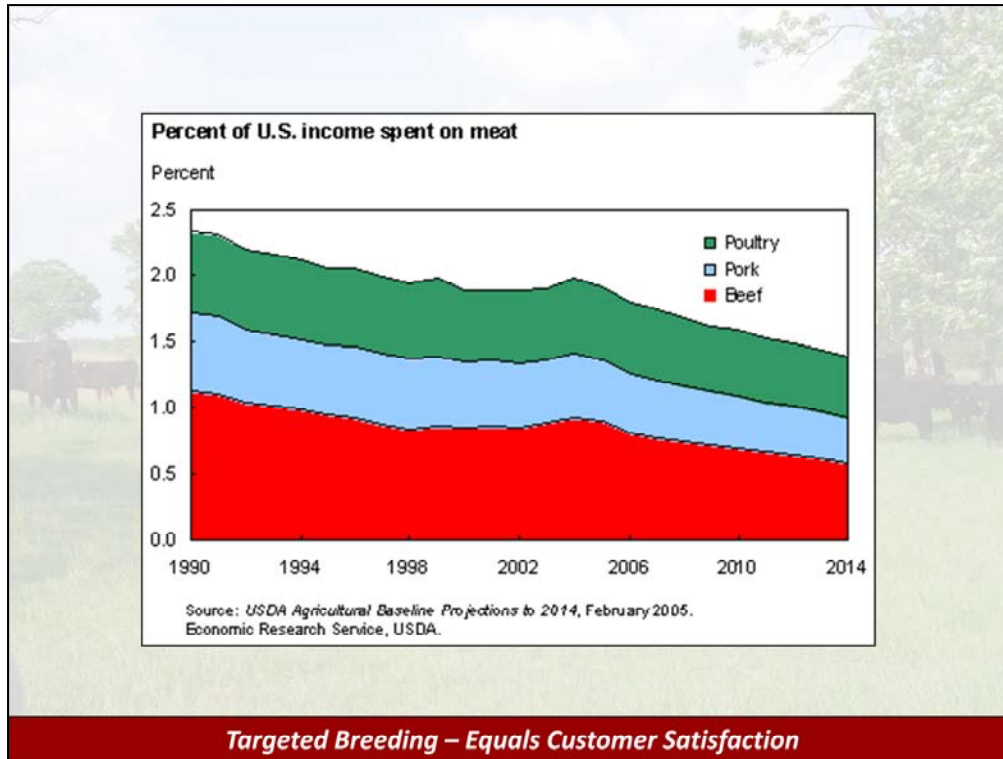
- | | |
|------------------|----------------------|
| • Carcass Weight | 650 to 850 lbs |
| • Back fat | .25 to .49 in |
| • Rib Eye Area | 11 to 15 sq in |
| • Yield Grade | less than 3.0 |
| • Quality Grade | Select + to Choice + |

Targeted Breeding – Equals Customer Satisfaction

Make targeted breeding decisions based on live cattle evaluations, and evaluate the carcasses that these cattle yield. Define the target beef end product and market considering windows of acceptability for carcass characteristics. The industry window of acceptability for carcass weight is between 600 and 850 pounds. By adhering to the live weight standard for finishing cattle between 1000 and 1350 pounds with a Yield Grade of 1 or 2, this 600- to 850-pound carcass should result. A ribeye area target is between 11 to 15 square inches, as that will be a desirable portion size, as determined by surveys in the 2005 National Beef Quality Audit of beef product consumers. Fat thickness over the ribeye should be between .25 and .50 inch. Again, this is desired by the people that consume beef products. Target a USDA Yield Grade of less than 3 as indicated by live animal evaluation and carcass evaluation and a USDA Quality Grade of Select+ to Choice+ depending on marketing strategy. For more information on beef carcass grades and related information, refer to Mississippi State University Extension Service publication 2522, *Beef Grades and Carcass Information*.



By targeting the production of optimum carcass characteristics, beef cattle producers affect the amount of beef end product consumed in relation to other protein sources. The price per capita meat consumption of pounds of boneless beef has declined in recent years and is currently projected to continue its decline. Broiler (poultry) products are taking over a portion of that beef share with pork remaining stable. By adhering to the production of carcass characteristic targets identified, beef that purveyors desire can be produced and these trend lines changed to benefit beef and cattle producers.



Consider the percent of U.S. income that is spent on meat. Poultry takes up more than 2% and almost 2.5% of this income. Pork falls in behind poultry followed by beef in terms of percentage of U.S. income that is spent on meat. Again, by continuing to strive to produce what meat consumers want, these trend lines can be changed and beef can take over a larger market share of protein products.

Beef Quality Challenges

2005 National Beef Quality Audit

1. Insufficient marbling
2. Cuts too large for foodservice and restaurant trade
3. Lack of uniformity in cuts
4. Inadequate tenderness
5. Excessive fat cover

Targeted Breeding – Equals Customer Satisfaction

In making targeted breeding decisions with regard to live animal evaluation and carcass evaluation, producers must know what changes to make to improve beef products. The 2005 National Beef Quality Audit is a survey that produced by the National Cattlemen's Beef Association and cooperating Universities and funded by Beef Checkoff dollars that provides guidance to the beef industry. In this national beef quality audit beef quality challenges were identified by the purveyors of our product, the packers and consumers. One of these top five challenges is insufficient marbling, and we have discussed how to address that with genetic selection and carcass evaluation. A second top quality challenge is that the cuts are too large for the foodservice and restaurant trade. Often cattle are too large, finish at a very large frame size, and do not "fit the box" for packing and shipping. A third top quality challenge is the lack of uniformity in cuts. This refers back to the variation in many individual cow herds and the national cow herd in general. A fourth top quality challenge is inadequate tenderness. Palatability can be changed through tenderness improvements using genetic tools. Pre- and post-harvest management practices that can also change tenderness. A fifth top quality challenge is excessive fat covering. Address this through live animal evaluation and carcass evaluation, relating that information back to the cows and bulls that produced those calves each time.

What Makes a Good Eating Experience?

SPECIFYING EATING QUALITY

- Portion size
- Tenderness
- Palatability
- Minimum excess fat
- Consistency and uniformity



So what can cow-calf producers do?

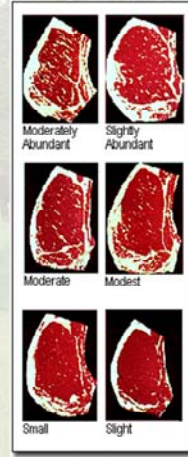
Targeted Breeding – Equals Customer Satisfaction

Consider what makes a good eating experience. Specifying eating quality has to do with: portion size, tenderness, palatability, minimum excess fat on the cuts, consistency, and uniformity of the product presented to consumers. Think about what cow-calf producers can do to affect the quality of beef end product. As these genetic and selection changes in targeted breeding are made, consider the time it takes for these changes to impact beef end product. Essentially, two years will pass from the time a breeding decision is made, cows go through gestation, and their calves go through all the production phases of the beef industry until that final protein product is presented to consumers. Be very diligent and thoughtful about breeding decisions.

Customer Satisfaction

USDA Quality Grade

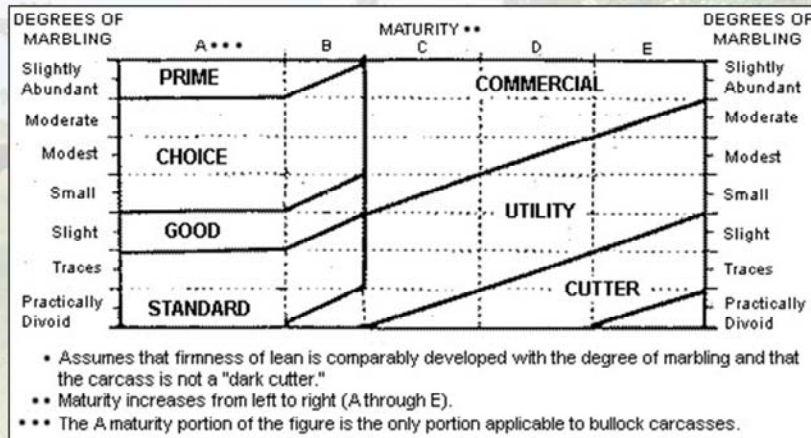
- Marbling
- Maturity
- Color & Texture



Targeted Breeding – Equals Customer Satisfaction

Try to make targeted breeding decisions to address consumer needs. One of those consumer needs is a desire for high quality beef. This is assessed through the USDA Quality Grade assigned to a carcass at harvest. The USDA Quality Grade is determined by marbling score (assessment of intramuscular fat percentage) and carcass maturity. This intramuscular fat is the amount and distribution of marbling in the ribeye when evaluated at the split of the carcass at the 12th and 13th ribs. In these pictures, the differences in intramuscular fat deposited in a ribeye is evident. As intramuscular fat percentage and marbling score increase, so does the Quality Grade in relation to the maturity of the carcass.

Marbling score and intramuscular fat are closely associated with carcass quality grade



Targeted Breeding – Equals Customer Satisfaction

This chart demonstrates increasing abundance of marbling in the ribeye with increasing maturity of the carcass and the resulting Quality Grades. A carcass with a slightly abundant amount of marbling in the rib split and an A maturity, which is 9 to 30 months of age, is Quality Graded as Prime. Moving down the chart to moderate or modest amounts of marbling and remaining in the A and B maturity indicates Choice carcasses. As the amount of marbling decreases and the maturity of the carcass increases, as determined by bone and dentition, then the Quality Grade is reduced.

USDA Yield Grade

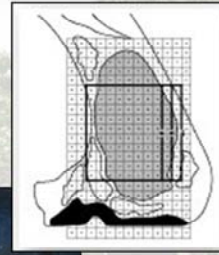
YIELD GRADE	% LEAN YIELD
1	>52.3%
2	52.3 – 50.0%
3	50.0 – 47.7%
4	47.7 – 45.4%
5	<45.4%

Targeted Breeding – Equals Customer Satisfaction

Another tool to evaluate beef carcasses is the USDA Yield Grade. The Yield Grade indicates the amount of closely trimmed boneless lean that will come out of a carcass, such as the primal cuts and amounts of closely trimmed boneless primal cuts that come from a carcass. Yield Grades go from 1 to 5 with a lower numerical Yield Grades indicating a higher percent lean yield. A Yield Grade 1 would be 52% percent or more lean from the carcass. At a Yield Grade 5, a less desirable Yield Grade, the carcass yields less than 45% lean meat.

USDA Yield Grade

- Fat thickness
- Carcass weight
- % Kidney, pelvic, and heart fat
- Ribeye area



Targeted Breeding – Equals Customer Satisfaction

Determine Yield Grade by examining the backfat thickness just opposite to the ribeye at the 12th and 13th rib split. Then adjust that measurement for carcass weight and also for the percent of kidney, pelvic, and heart fat. This is determined by looking at the side of the carcass at the deposition of fat in the internal cavity. Finally, adjust for the ribeye area. Basically, this is just a dot matrix that is laid over the lean part of the ribeye and measured in square inches. The preliminary Yield Grade is then adjusted to the amount of lean meat that is present in the rib split.

Cattle Size and Type

Marketing Window of Acceptability

- Optimal Live Cattle Characteristics
 - Live weight between 1000 and 1350 pounds at maturity.
 - Classified with a USDA muscling score of 1 or 2.
 - Maximum backfat thickness over 12th and 13th rib of .30 to .45 inches

Targeted Breeding – Equals Customer Satisfaction

First consider the size and type of cattle to be produced. Think about marketing to a window of acceptability with regard to live cattle characteristics. The most important live cattle characteristic is that they be between 1000 and 1350 pounds at maturity. This produces beef carcasses within the optimal size range of consumer acceptability. Cattle should be classified as a USDA muscling score of 1 or 2, and they should have a maximum backfat thickness over the 12th and 13th ribs between .30 and .45 inches at the end of finishing.

Cattle Size and Type

Strive for Consistency

TARGET SIZE

- ◆ WEIGHT
- ◆ FRAME SIZE
- ◆ BODY TYPE



Targeted Breeding – Equals Customer Satisfaction

When making changes to cattle size and type, set target size as a tangible goal to work towards with regard to weight, frame size, and body type. Strive for consistency within cow herds. That, in turn, translates to consistency within calf crops.

USDA Feeder Cattle Grades Frame Size

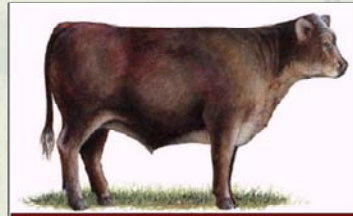


LARGE

- Indicates growth
- Related to slaughter weights at which cattle should attain a given amount of fat thickness



MEDIUM

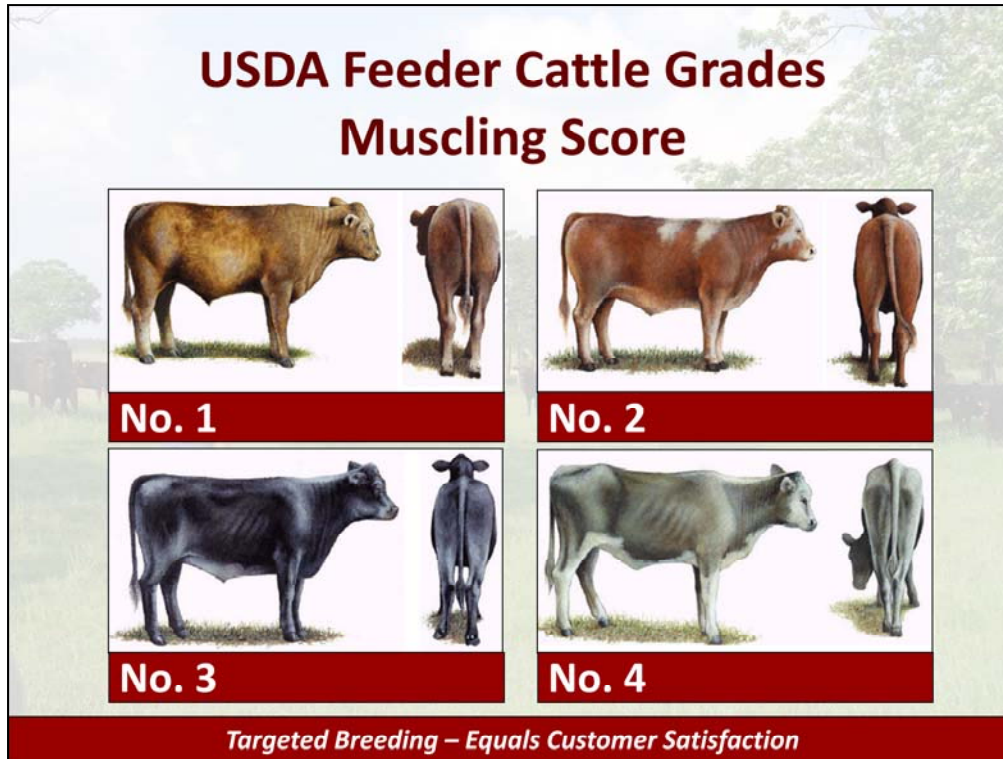


SMALL

Targeted Breeding – Equals Customer Satisfaction

When evaluating cattle size and type, a couple of tools are available to use for live cattle evaluations. One of these tools is the USDA frame size grade, and the other is the USDA muscle scoring grade.

The frame score basically indicates a growth pattern of the cattle and is related to the slaughter weights at which cattle will obtain the target amount of backfat thickness. Considering a marketing to the window of acceptability for fat thickness over the 12th and 13th ribs being between .30 and .45 inches, a smaller framed calf will reach that target at a smaller weight and size than a larger framed calf. The larger framed calf will take a longer time in the feeding phase to reach that endpoint, will reach it at a heavier weight, and will yield a heavier carcass. A medium frame score will be an intermediate of those two.



The other live cattle evaluation tool is the USDA is muscle score. Basically, this is just the evaluation of the amount of muscle on a calf. This can be evaluated at weaning, yearling, or right before marketing. Also, this can be related back to the cow that produced the calf. When evaluating calves for muscle score, look for the amount of muscle from the rear view through their quarters. Look at the center portion of the quarter as this should be where the muscle is the thickest. Think about a human bicep as being thickest at the center part, and that concept relates to the calf quarter as well. Muscle scoring goes from very heavy muscling to very light muscling. Again, the marketing window of acceptability targeted is a muscle score of 1 to 2. These calves display heavy muscling to very heavy muscling.

Genetic Selection

- Cow Herd
 - Uniformity
- Bull Selection
 - Avoid Extremes
- Replacement Females
 - Maternal traits, performance
- Calving Interval
 - Shorten calving season



Targeted Breeding – Equals Customer Satisfaction

Another tool for producing a consistent and palatable product for the consumer is genetic selection. This goes hand in hand with the evaluation of the live animal.

- Uniformity in cow herds is needed to help achieve genetic selection goals.
- With bull selection, avoid extremes in any one trait and target moderation. This is important for efficient production of a desirable product. Consider industry changes and the time lag between implementation of the genetic change to when the product reaches the consumer.
- With regard to replacement females, evaluate maternal traits as well as performance because good brood cows are needed.
- Also, manage calving interval by shortening the calving season to better manage and produce a more uniform product.

EPDs

- Expected Progeny Differences are used to estimate how the offspring of an individual will compare to the offspring of other animals within a breed.

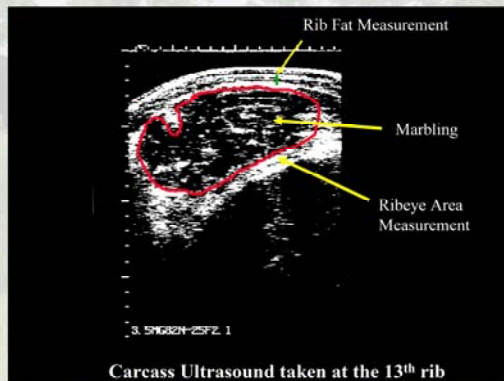


Targeted Breeding – Equals Customer Satisfaction

One of the most powerful tools available for genetic selection decisions is Expected Progeny Differences, often referred to as EPDs. These are used to estimate how the offspring of an individual will compare to the offspring of another individual or group of individuals within a breed. Use EPDs to directly compare cattle within a breed and identify traits needing genetic changes. Then implement genetic changes using EPDs. For more information on EPDs and genetic selection, refer to Mississippi State University Extension Service publication 2491, *Expected Progeny Differences and Selection Indices for Beef Cattle Selection*.

Ultrasound

- Ultrasound is a tool that can help evaluate heritable traits such as marbling and ribeye area.



Targeted Breeding – Equals Customer Satisfaction

Another useful tool is live animal ultrasound. This technology provides an indication of the carcass characteristics of an animal without having to first harvest it. Use live animal ultrasound evaluation of yearling cattle to examine the amount of marbling in the ribeye muscle and at the 12th and 13th ribs. Use it to look at the size of that ribeye and also to estimate the fat measurement over the 12th and 13th ribs. This information can then be applied in targeted breeding decisions to change the beef product presented to consumers. For more information on ultrasound, refer to Mississippi State University Extension Service publication 2509, *Ultrasound Scanning Beef Cattle for Body Composition*.

MS Farm to Feedlot Program

- Educational program
- Retained ownership of MS raised cattle
- Feedlot and carcass data feedback
- Information interpretation

Targeted Breeding – Equals Customer Satisfaction

Mississippi beef cattle producers have the opportunity to evaluate the live animal performance and carcass characteristics of the calves that they produce through the Mississippi Farm to Feedlot Program. This is a retained ownership program that is managed by the Mississippi State University Extension Service and the State Beef Cattle Specialists. It facilitates data collection on Mississippi-raised calves through the finishing phase and through harvest so producers can evaluate the performance of their cattle in the feedlot and the performance of the carcasses yielded from those cattle on the rail. Those results can then be related back to the cows and bulls that produced those calves so that needed genetic changes within herds to address consumer acceptability can be made.

Breeding Goals

- Know the market
- Produce a calf that most closely fits the needs of the market

*Meeting optimal targets
will ensure
customer satisfaction!*



Targeted Breeding – Equals Customer Satisfaction

Beef cattle producers need to establish breeding goals. In doing this, know the market and what the purveyors of beef products want. Then produce a calf that fits the needs of that market. If this is done and optimal targets are met, beef industry participants help ensure customer satisfaction.



This is the responsible culling module of the Mississippi Beef Quality Assurance Program. This module discusses improving herd productivity and efficiency. It discusses products from non-fed cattle.

Products from Non-fed Cattle

- Beef produced from cows and bulls is an **increasingly important food item** in America's kitchens and restaurants
 - Roasts, steaks, fajitas, hamburgers, and more
- **15 to 20% of producer income** results from the sales of market cows and bulls



Cows generate 70% to 75% of non-fed beef

Responsible Culling – Improves Herd Productivity and Efficiency

Non-fed cattle are market cows and bulls. These cattle are often considered cull animals, but they are truly market animals that are a part of the food supply. The beef produced from market cows and bulls is an increasingly important food item in America's kitchens and restaurants. Important food items are produced from market cows and bulls including roasts, steaks, fajitas, and hamburger. In addition, market cows and bulls are very important to producer profitability, accounting for about 15 to 20% of producer income. A significant proportion of producer income that results from the sale of market cows and bulls. Also, market cows and bulls generate about 70 to 75% of non-fed beef. For more information on market cow and bull management and marketing, refer to Mississippi State University Extension Service publication 2520, *Market Cow and Bull Management and Marketing*.

Top Market Cow and Bull Quality Challenges

- Food safety
- Animal welfare/handling
- Poor condition/nutrition
- Antibiotic residues
- Bruises
- Hide damage
- Lameness/soundness
- Condemnation rates/downers
- Injection-site prevalence



2007 National Market Cow and Bull Beef Quality Audit

Responsible Culling – Improves Herd Productivity and Efficiency

The National Beef Quality Audit conducts a market cow and bull quality audit on a routine basis. The last one was conducted in 2007. Top quality challenges for market cows and bulls are identified in this audit. These include:

- Improving food safety
- Improving animal welfare and handling through proper animal husbandry
- Improving cattle condition and nutrition
- Reducing the incidence of antibiotic residues,
- bruises,
- hide damage,
- and lameness and making an effort to produce cattle that are sound on their feet and legs
- Reducing condemnation rates and reducing the incidence of downers in the food supply altogether
- Reducing the incidence of injection site lesions

These checkpoints are all a part of responsible culling and an important part of improving herd productivity and efficiency.

Give the Herd their “Performance Review”

- Check Eyes
- Check Mouth
- Check Feet and Legs
- Check Udder
- Check BCS
- Check Disposition
- Practice Reproductive Management
- Practice Disease Control



Responsible Culling – Improves Herd Productivity and Efficiency

A good way to start responsible culling is by giving the herd a performance review. Consider cattle as employees, and review these employees on a regular basis. Start with different checkpoints. There are eight checkpoints highlighted in the BQA program. These checkpoints are:

- Eyes
- Mouth
- Feet and legs
- Udder
- Body Condition Score or proper nutrition
- Disposition
- Reproductive management
- Disease control

Culling Management Points that can Impact Public Perception

Cancer Eye



Lumpy Jaw



Downers



Lameness



Responsible Culling – Improves Herd Productivity and Efficiency

Many culling management points can impact public perception. For example, cancer eye is something very visible to the public that can be identified when checking eyes. Lumpy jaw is another very visible example when checking the mouth. With regard to feet and legs, lameness is important to check to make sure cattle are sound and can properly function. Of utmost importance, do not allow downer cattle to continue in cattle marketing channels.

Check Eyes

“Cancer Eye”

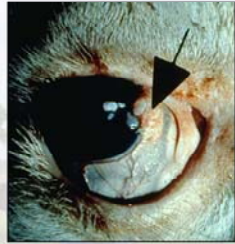
- No 1 reason cows are condemned
- Cows with any indication of cancer eye are put in suspect pen
- Treatable condition early



Responsible Culling – Improves Herd Productivity and Efficiency

A good place to start with responsible culling is by checking eyes. Eye problems are the number one reason why market cows and bulls are condemned at harvest facilities. Cows and bulls with any indication of cancer eye are put in a suspect pen. It is important to this culling point through careful, regular inspection, because many eye conditions can be treated early.

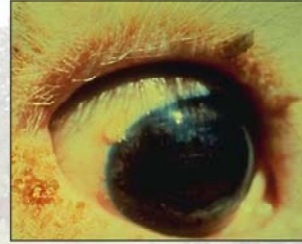
Recognize Cancer Eye Early



On the cornea



On the 3rd eyelid



As a small plaque



On the eyelid

Responsible Culling – Improves Herd Productivity and Efficiency

Closely observe several locations on the eyes. Look on the cornea, on the 3rd eyelid, and also on the eyelid. Look for small plaques. It is very important to find an ocular neoplasia (cancer eye) before it progresses to a readily noticeable condition. It may start out as something that is very difficult to see, but as it progresses a small plaque develops and later becomes a larger plaque on the eyelids. Eventually, the growths may begin to look like warts. Address cancer eye early, and market cattle with this condition for harvest in a timely manner. During cattle handling be sure to closely inspect both eyes, and manage any eye problems identified.

Check Mouth

- Bad teeth can result in poor conditioned cows
 - Mature, full-mouth
 - Older cows, “necks”
 - Broken mouth
 - Stumps



Responsible Culling – Improves Herd Productivity and Efficiency

A second important market cow and bull checkpoint as part of responsible culling is to check cattle mouths. Again, this is a point that can be readily checked any time cattle move through animal handling facilities. It is very important to check the teeth of cattle in poor body condition when they come through the chute. Bad teeth can result in poor-conditioned cows. Healthy sets of teeth are full at the base, full at the top, and do not have gaps between them. As cattle mature, teeth may start to neck. This means that teeth start to narrow at the base, and gaps in the teeth begin to appear. This occurs as a natural process through wear on the incisors. In evaluating the mouths of older or injured cattle, missing teeth may even be seen. Teeth wear down to stumps over time. Smooth-mouth cows and no-mouth cows have very little tooth matter remaining. Some of these cattle will be effective grazers, but it is extremely important to check the body condition on these cows and bulls to make sure that is actually the case. If cattle begin to lose body condition because of poor mouths, it is important to go ahead and market them in a timely manner.

Lumpy Jaw



- Caused by bacterial infection of jaw bone
- Small injury in mouth can start it

Responsible Culling – Improves Herd Productivity and Efficiency

Another condition related to the mouth to be sure to check is lumpy jaw. Lumpy jaw is caused by a bacterial infection of the jaw bone. Sometimes a small injury can start it. It is something that can become progressively worse, so make sure to address this as early as possible.

Check Feet and Legs

- Lameness results in poor performance
 - Identify cause
 - Treat if possible
 - If not treatable, cull as soon as possible



Stifled cow



Foot rot –
treatable if
found early



Screw claw –
may be
hereditary

Responsible Culling – Improves Herd Productivity and Efficiency

A third checkpoint as part of responsible culling is to examine feet and legs. Lameness is a condition that results in poor performance. Go ahead and market cattle while they are sound and capable of moving with ease. Identify any potential causes of lameness, and remove any risks that we see in the pastures or pens where the cattle are housed and handled. Treat lameness conditions when possible, and if not treatable, market affected cattle for harvest as soon as possible. Specific conditions to observe include screw claw. This condition has a genetic component, so its important to remove these animals from the breeding population when feasible. Abscesses can also occur in the feet and legs. Treat abscesses in a timely manner. Swollen stifles are another leg condition that cause concern. Make sure that cattle can adequately cover their tracks and move properly and easily in pastures or pens. Select cattle for proper conformation. Poor conformation can lead to structural problems and conditions with feet and legs that are difficult to address.

Downers

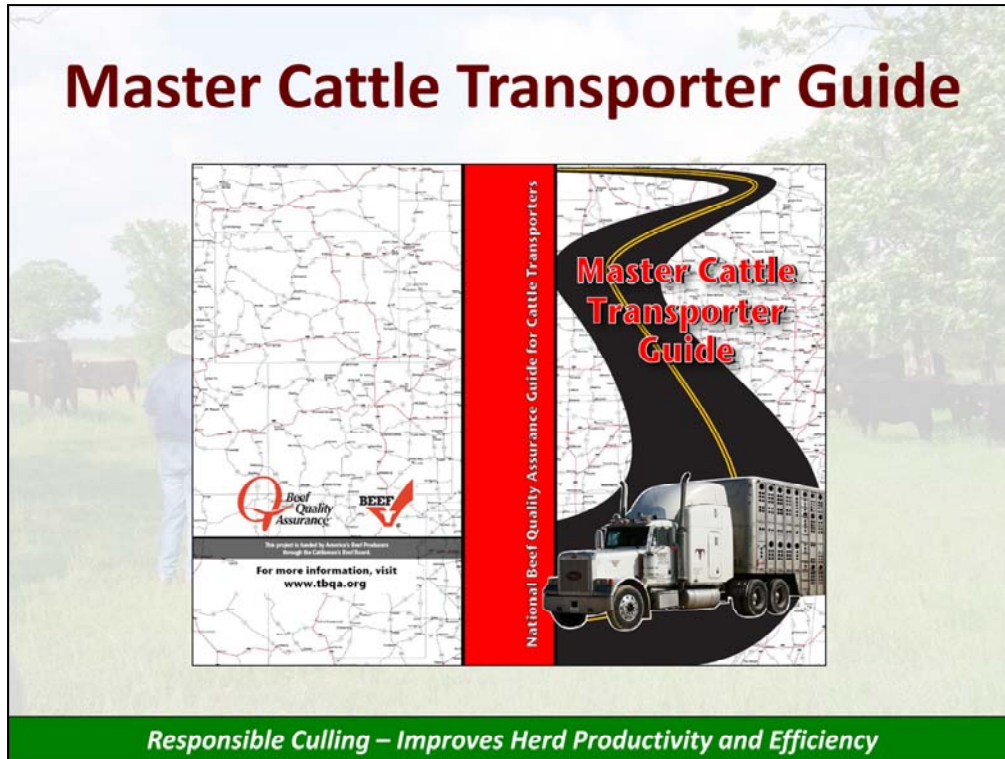


Downer cows should be euthanized on the farm

Responsible Culling – Improves Herd Productivity and Efficiency

When checking feet and legs is to make sure that if cattle progress to a condition where they are downer cattle (non-ambulatory and not able to get up) to go ahead and humanely euthanize those animals on the farm. It is critical that these animals not enter the food supply. This is a very important part of Beef Quality Assurance.

Master Cattle Transporter Guide



It is very important to have structurally sound cattle. As cattle move through marketing channels, they have to be transported from the ranch of origin to multiple locations throughout the production chain and finally the harvest point. This involves road and sometimes barge or rail transit. One program that Beef Quality Assurance has in place to address transportation management of cattle is the Master Cattle Transporter Program. A Master Cattle Transporter Guide has been developed as a resource manual for persons involved in cattle transport. Cattle transportation is something that not only involves truckers but also involves everyone who handles cattle throughout the marketing channels. Make sure that cattle are transported in a proper manner and handled efficiently and effectively.

Check Udder

A good udder helps produce a good calf

- Pendulous teats are difficult to nurse
- Mastitis destroys milk-producing tissue
- Poor udder structure can effect calf performance



Responsible Culling – Improves Herd Productivity and Efficiency

A fourth checkpoint in responsible culling to improve herd productivity and efficiency is to check udders. For cow calf operations, make sure that lactating females adequately milk so that they can produce big, strong, and healthy calves that will gain weight rapidly. Several udder conditions cause concern, with one being pendulous teats. Pendulous teats are difficult for calves to get a hold of with their mouths to nurse. Similarly, a large balloon teat is difficult for a calf to nurse. Mastitis, an infection that destroys milk producing tissue, leads to udder hardening in affected quarters. Check all quarters of the udder for mastitis. Again, mastitis destroys milk producing tissue and can reduce overall milk production. Poor udder structure can reduce calf performance. In addition to checking for pendulous teats, make sure an udder has a level floor and adequate suspension. A tight and level udder is important for calf nursing ease. The bottom image is an example of poor udder structure where the udder is pendulous and a balloon teat is present. Checking udder is important not just for Beef Quality Assurance but also for cow-calf operation profitability.

Check Body Condition

AVOID EXTREME BODY CONDITIONS

- 62% of bulls and 28% of cows are too big or too fat
- Select for moderate mature size
- Market extremely fat cows and bulls sooner



BCS 1-9: 1=emaciated 5=moderate 9=obese

Responsible Culling – Improves Herd Productivity and Efficiency

A fifth aspect to check as part of responsible culling is body condition score (BCS). In beef cattle, BCS is scored on a scale of one to nine. A BCS 1 is a very emaciated animal. The image on the left shows an example of an emaciated animal that has lost muscle in addition to fat losses. A BCS 9 is a very fat or obese animal. Targets a BCS 5 for a mature cow at calving. For a heifer that is still growing, target a BCS 6. This is a high moderate condition score. Avoid extreme body conditions. About 62% of bulls and 28% of cows are either too big or fat. Excess fat requires trimming. Fat cows are also economically inefficient. At the other extreme, cows and bulls that are in poor body condition are likely to become disabled, more prone to bruising, and also less likely to breed back on time. Body condition score is closely tied to reproduction, so it is important to manage cows for good body condition to achieve good reproductive rates. Look in several key places on the animal to determine body condition score. Look over the hooks (hips). Look for fat pones around the tail head. Look over the ribs and the spinal processes of the back bone. As an animal moves to a higher body condition score it develops a smoother, more blocky appearance. Cattle in extremely fat condition have a very square, blocky appearance with large fat pones over the tail head. Body condition scoring can be performed in the pasture. Cattle do not have to be in a working facility to monitor body condition. It is important to note the condition that target market outlets desire. Some markets desire white fat, offering an economic advantage to add condition to market cows and bulls. Also, as market cows add weight, the price per pound also increases, in contrast to market calves. It is important to monitor body condition from reproduction and marketing standpoints as well as for Beef Quality Assurance. For more information on body condition scoring, refer to Mississippi State University Extension Service publication 2508, *Body Condition Scoring Beef Cattle*.

Check Disposition

Eliminate Bad Actors

- Poorer gains and Quality Grades
- Jeopardize human safety
- More prone to be dark cutters

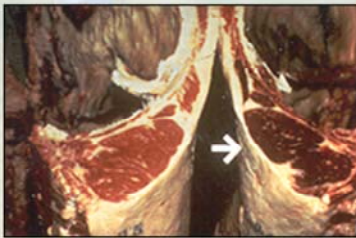


Responsible Culling – Improves Herd Productivity and Efficiency

A sixth market cow and bull checkpoint is disposition. This is very important because it impacts human and animal safety. Bad actor cows are those with poor temperaments, bad dispositions, that can hurt other animals, and can even hurt their human handlers. Again, it is very important to check cattle disposition. Bad actor cows and bulls are also apt to produce bad actor calves. Eliminate and market these cattle as soon as possible. From an economic standpoint, cattle that have a poor disposition have poorer weight gains. Through stocker and feeding phases, the average daily gains of these high-headed cattle are typically lower, and they have lower Quality Grades on average. Many of these temperamental cattle also tend to be dark cutters.

Dark Cutters

- Results from **PRE-HARVEST stress** on the animal, depleting muscle glycogen stores.
- **Meat is dark, firm and dry**, and unacceptable to consumers.



Factors affecting dark cutting beef:

- Handling
- Disposition
- Genetics
- Weather
- Aggressive implants late in the feeding period



Responsible Culling – Improves Herd Productivity and Efficiency

Dark cutting beef is a condition impacting the color of the beef lean tissue. This can impact consumer acceptance. Bad temperament cattle are more likely to produce dark cutting beef. Regular color of the lean is bright cherry red, while dark cutting beef is darker in color, more of a purple or maroon color. Dark cutting results from pre-harvest stress on the animal that depletes muscle glycogen stores. This meat is dark, firm, and dry. Consumers find dark cutting beef unacceptable. Factors that affect dark cutting beef include: animal handling, disposition, genetics, weather, and even aggressive implant protocols late in the feeding period. To reduce the incidence of dark cutters, improve animal handling practices, select for improved disposition, and use less aggressive implant protocols during finishing.

Check Reproductive Efficiency

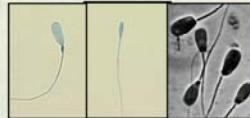
Pregnancy Checking

- Monitor disease
- Plans for marketing
- Grouping of non-feds



Breeding Soundness Exams

- Physical examination
- Scrotal circumference
- Semen evaluation



Responsible Culling – Improves Herd Productivity and Efficiency

A seventh checkpoint in responsible culling is to practice reproductive management. Viewing cows and bulls as employees, fire or remove the non-productive employees before they cause a problem. Cattle that are open (non-pregnant) hurt the profitability of cow-calf operations. Pregnancy status can be checked relatively easily through a pregnancy determination. Someone who is trained in cattle pregnancy determination can check cattle for pregnancy status through rectal palpation. They can also do this early in gestation using ultrasound technology. Do not wait too long in the production cycle to pregnancy check herds. Check this in a timely manner, and remove non-pregnant cattle from breeding herds.

Practice proper reproductive management of bulls by performing breeding soundness evaluations. Do this before every breeding season. A proper breeding soundness evaluation consists of a physical examination, an evaluation of scrotal circumference, and a semen evaluation (consisting of analysis of semen morphology and motility). Its important that a bull passes in all three of these areas to be a potential, satisfactory breeder. Again, its important to check this prior to every breeding season. Practicing good reproductive management is very important from both profitability and Beef Quality Assurance perspectives.

Check Performance

Poor performance

- Viable reason for culling
- Evaluate all groups of cattle
- Collect performance data

Timely marketing

- Improve profitability
- Enhances herd productivity
- Part of genetic improvement



Responsible Culling – Improves Herd Productivity and Efficiency

An eighth checkpoint in responsible culling is to check performance. Poor performance is a viable reason for culling cattle. Evaluate both cow and calf performance when making culling decisions. Implement performance data collection programs, and use the resulting information to make herd improvement. Timely marketing of poor performing cattle can improve profitability of the operation and the productivity of future calf crops. It is also a critical part of animal selection and genetic improvement efforts.

Cows and Bulls are Part of the Beef Supply

1. Consider injection sites
2. Adhere to withdrawal times
3. Feed cows and bulls correctly; bruising occurs easier on emaciated cattle



Responsible Culling – Improves Herd Productivity and Efficiency

After reviewing several checkpoints on responsible culling to improve herd productivity and efficiency, remember that cows and bulls are a very important part of the beef supply. These non-fed cattle are truly market cows and bulls. It's important to properly manage things like injection sites, the way vaccines and medicines are administered, and adherence to proper withdrawal times. Always adequately feed cows and bulls, because bruising occurs more readily on emaciated cattle.

Quality Assurance Marketing Code of Ethics

I will only market cattle that:

- ✓ Do not pose a known public health threat
- ✓ Have cleared proper withdrawal times
- ✓ Do not have a terminal condition
- ✓ Are not disabled
- ✓ Are not severely emaciated
- ✓ Do not have uterine/vaginal prolapses with membranes
- ✓ Do not have advance eye lesions
- ✓ Do not have advanced Lumpy Jaw

Responsible Culling – Improves Herd Productivity and Efficiency

Look to the National Beef Quality Audit for a marketing code of ethics. It is very important that this Quality Assurance Marketing Code of Ethics be followed by producers. In it, it states “I will only market cattle that:”

- Do not pose a known public health threat
- Have cleared proper withdrawal times
- Do not have a terminal condition
- Are not disabled
- Are not severely emaciated
- Do not have uterine/vaginal prolapses with membranes
- Do not have advance eye lesions
- Do not have advanced Lumpy Jaw

Quality Assurance Marketing Code of Ethics

Furthermore, I will:

- ✓ Humanely gather handle and transport cattle in accordance with accepted animal husbandry practices.
- ✓ Humanely euthanize cattle when necessary to prevent suffering and to protect public health.

Responsible Culling – Improves Herd Productivity and Efficiency

Furthermore, I will:

- Humanely gather, handle, and transport cattle in accordance with accepted animal husbandry practices.
- Humanely euthanize cattle when necessary to prevent suffering and to protect public health.

Would you eat what you produce?



All cattle should be raised with the intent that they will eventually be consumed as a **food product**.

Responsible Culling – Improves Herd Productivity and Efficiency

Consider this: “Would you eat what you produce?” After considering Beef Quality Audit results, responsible culling and how it improves herd productivity and efficiency, think about this question. Then raise all cattle with the intent that they will eventually be consumed as a food product. Responsible culling is an important part of the Mississippi Beef Quality Assurance Program.

PROPER MANAGEMENT

Enhances Beef Quality and Product Value



Mississippi Beef Quality Assurance Program

This is the Proper Management module of the Mississippi Beef Quality Assurance Program. This module addresses how proper management enhances beef quality and product value.

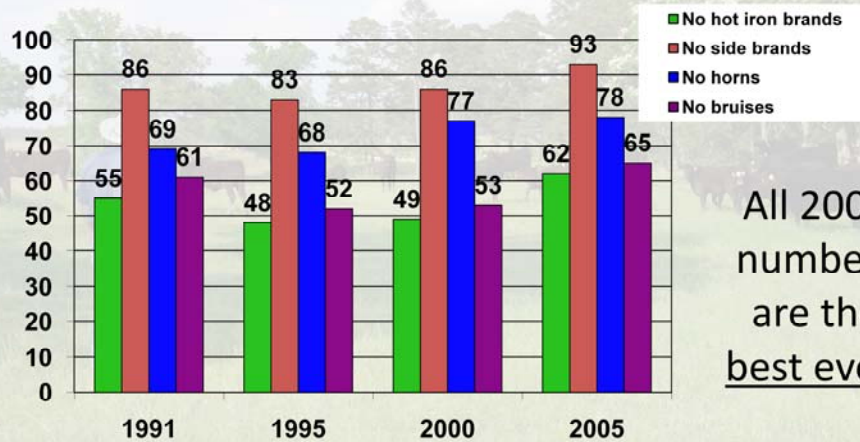
Management and BQA

- The HACCP approach (Hazard Analysis Critical Control Point)
- Basically:
 - “What can go wrong?”
 - “How do we head it off?”
- Surveys have shown what can go wrong. BQA teaches producers how to prevent these things from happening.

Proper Management – Enhances Beef Quality and Product Value

When implementing proper management, use the HACCP approach. HACCP stands for Hazard Analysis and Critical Control Points. Basically, HACCP is intended to identify what can go wrong with beef production and tries to head off problems before they happen. Surveys such as the National Beef Quality Audit and the National Market Cow and Bull Quality Audit reveal some of the management points where things can go wrong in ways that affect beef end product. Beef cattle producers can use this information to prevent future problems.

Comparison of Past Audits: Brands, Horns, and Bruises



All 2005
numbers
are the
best ever!

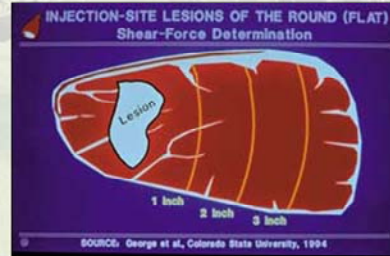
Source: National Beef Quality Audit -- 2005

Proper Management – Enhances Beef Quality and Product Value

Since the implementation of the first National Beef Quality Audit in 1991, the U. S. beef industry has made drastic end product improvements by identifying key points where management changes can be made. Incidences of hot iron brands, horns, and bruises decreased drastically from 1991 to 2005 as a result of Beef Quality Assurance efforts implemented by cattle producers.

Avoid Injection Site and Bruise Damage

- Top butt injections decrease beef quality and tenderness
- Any injection in the muscle decreases meat quality and tenderness



Proper Management – Enhances Beef Quality and Product Value

One of the most widely recognized points associated with the BQA program is trying to avoid or reduce injection site tissue damage. Injection site damage in the high-end beef cuts, such as the top of the butt or loin, are very apparent to the consumer and one of the first issues addressed by the BQA program. The beef industry has made significant advances in reducing these lesion sites. Avoid giving injections in the high dollar beef cuts. Specifically, avoid top butt injections. Injections can produce lesions in beef cuts that will decrease consumer acceptance of the product. Injection site damage can also influence tenderness throughout a cut as far as 3 inches away from an injection site.

Avoiding Injection Site Damage

- Proper restraint and facilities
- All injections in front of the shoulders
- Use products labeled for SubQ administration
- Use proper needle size
- Use sharp needles
- 10 cc/site – less for calves
- At least 4 inches apart

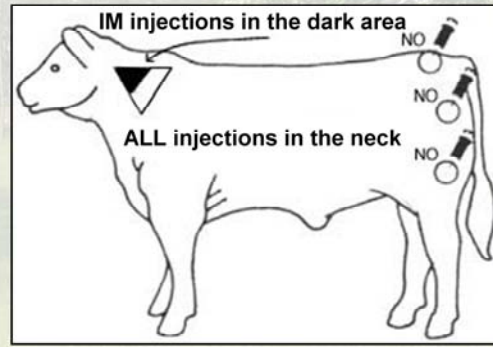


Proper Management – Enhances Beef Quality and Product Value

One of the best ways to avoid injection site damage is through proper restraint and facilities. Good cattle handling facilities make it easier to administer injections in the neck while keeping animal handlers safe. Administer all injections in the neck in front of the shoulder. Use products labeled for subcutaneous (SubQ, under the skin) administration when possible so as not to damage muscles in the neck. Use proper needle size and sharp needles that are rotated frequently while working cattle. Administer only 10 cc per injection site, and keep injection sites at least 4 inches apart.

NECK: preferred site for all injections

**BQA Guidelines
require all injections
be given in the neck
in the location
shown here.**



Proper Management – Enhances Beef Quality and Product Value

Again, Beef Quality Assurance guidelines state that the neck is the preferred site for all injections. Post injection site reminders beside the working chute for people handling cattle to reference. This reminds them that whenever they are administering an injection it should be given in the triangle that is delineated by the slope of the shoulder, the neck line, and the top of the neck. Administer subcutaneous injections in the triangle area outlined in the neck. Reserve the smaller, darker triangle area for intramuscular (IM) injections. Intramuscular injection is exactly as it sounds. It is an injection directly into the muscle of the neck. Some vaccines and medicines are labeled specifically for this use.

Sub-Q Injections



Proper Management – Enhances Beef Quality and Product Value

When at all possible choose an animal health product with the activity desired that can be administered subcutaneously. Subcutaneously simply means under the skin. The best way to give a subcutaneous injection is a method called “tenting.” Grab the skin of the neck, pull it away from the animal so it makes a tent, put the needle into the skin parallel to the neck and not in the muscle, inject the material, pull out the needle, and release the tent. Use caution not to let the needle enter a finger or hand during this process.

Needle Selection

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

SELECT THE NEEDLE TO FIT THE CATTLE SIZE (THE SMALLEST PRACTICAL SIZE WITHOUT BENDING)

Proper Management – Enhances Beef Quality and Product Value

Proper needle selection is important for avoiding injection site damage. Select a needle that fits the size of the cattle but with the smallest practical size of needle that resists bending. The route of administration, whether its SubQ, IV (intravenous, in the vein), or IM, indicates the length of the needle needed. Subcutaneous injections require a ½ to ¾ inch needle. An intravenous injection requires a 1½ inch needle. Intramuscular injections require a 1 to 1½ inch needle to deposit an animal health product into the muscle tissue of the neck.

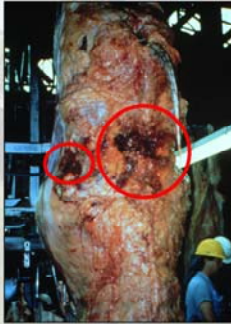
Choose the needle gauge by the viscosity of the material being injected, whether its thin like saline solution or viscous (thick) like oxytetracycline. Also, needle gauge should correlate to the weight of the cattle and the route of administration.

For example, an IM injection of a thick substance should be 1 to 1½ inch needle of 16 gauge. A SubQ injection, which is preferred, in cattle weighing 300 to 700 lbs should be administered using a ½ to ¾ inch needle of 16-18 gauge for a very viscous material.

Ask a veterinarian for a needle selection chart.

Improving Management

Losses from bruised meat totals more than 27 million pounds and \$61 million.



Handle cattle gently through chutes, remove any protruding objects, and dehorn calves while young.

Proper Management – Enhances Beef Quality and Product Value

Another type of tissue damage that can be reduced through proper management is bruising. Losses from bruised meat total more than 27 million pounds annually and represent a revenue loss of at least 61 million U.S. dollars. Bruising requires the damaged tissue be removed from carcasses via cutout or trimming. A good way to reduce carcass bruising is to handle cattle gently through handling and transport facilities, remove protruding objects in areas where cattle are housed or handled, and dehorn calves while they are young. Removing horns and horn nubs reduces bruising risk when cattle are housed or handled together. Horns can be removed by physical dehorning or through use of polled (hornless) genetics.

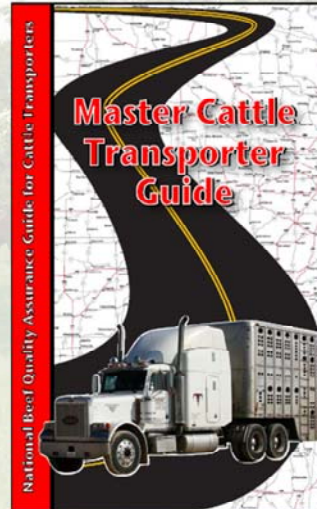
Tips on Cattle Handling

HELP WANTED

- No bruises
- No abscesses
- No dark cutters



Cattle handlers
Cattle facilities
Cattle truckers



Proper Management – Enhances Beef Quality and Product Value

All cattle handlers must be educated on proper handling techniques. Proper cattle handling helps to reduce bruises, abscesses, and dark cutters. Also, establish and maintain cattle facilities that reduce bruising, abscesses, and stress on the cattle. Make sure cattle transporters and other persons handling cattle are educated in proper cattle handling methods. One good way to do this is to use truckers certified as a Master Cattle Transporter. A link to the Beef Quality Assurance Master Cattle Transporter training program website is located on the Mississippi BQA website: <http://msucares.com/livestock/beef/bqa/>.

Tips on Cattle Handling

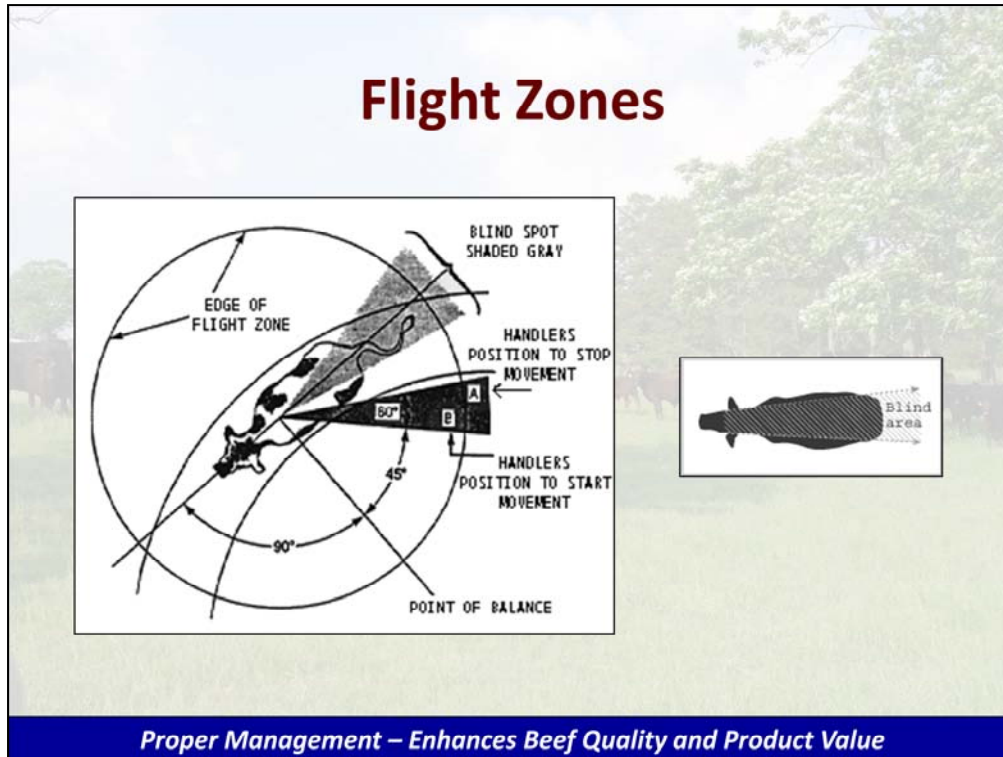
THINK ABOUT

- ☑ How cattle see and hear things
- ☑ Use light to help (move cattle from dark to light areas)
- ☑ Avoid visual distractions
- ☑ Herd behavior
- ☑ Work in a curve
- ☑ Use their flight zone
- ☑ Consider working surface (footing)

Proper Management – Enhances Beef Quality and Product Value

In using proper management for cattle handling to reduce bruises, abscesses, and stress on the cattle:

- Consider how cattle see and hear things. They see and hear things differently than humans.
- Use light to help move cattle. Cattle like to move from dark areas into light areas.
- Eliminate visual distractions like flashing lights. Also, remember that cattle have poor depth perception.
- Use herd behavior to move cattle together so that cattle that are more willing to move can be leaders for the herd.
- Work cattle in curved facilities. Cattle like to keep moving if all they can see in front of them is the animal that is moving in front of them.
- Use the cattle flight zone concept in moving cattle.
- Use a good working surface. Make sure that cattle have good footing and do not slip. Do not ship downer cattle.



The cattle flight zone is the area around the animal that when penetrated causes the animal to move away from the person or object approaching. With calmer cattle, the flight zone is closer to the animal, so a cattle handler has to move closer to the animal before it moves away. With more skittish or high-headed cattle, cattle handlers can get further away and these cattle still like to move away from them. Do not to put too much pressure on these temperamental cattle. Use as little movement incentive as possible to still move these cattle without causing undue stress.

The angle of approach to the flight zone determine which way cattle move. When applying pressure from behind the point of balance or at the point of the shoulder, a calf generally moves forward and away from the handler. When applying pressure in front of the point of balance and coming into the flight zone, a calf typically turns and moves in the opposite direction. Consider that cattle can see almost all the way around them except for a blind spot directly behind them. Entering the flight zone in that blind spot and then abruptly let cattle know this can cause a lot of stress and force cattle to move quickly. Consider the flight zone, angle of approach, and handling ease to move the cattle in the desired direction with as little stress as possible.

Bruising and Handling Cattle

- **Methods to decrease bruising**

- Dehorning

- Trucks and loading chutes

- Low hanging bars

- Slick floors

- Slick and damaged decks

- End gates

- Prudent use of prods

Proper Management – Enhances Beef Quality and Product Value

Proper management techniques and methods for decreasing bruising include the following:

- Dehorn all cattle. When cattle are handled in groups and horns are present, there is a greater possibility for bruising.

- Plan ahead for loading chutes and trucks. Any low hanging bars, slick floors, and slick and damaged decks or end gates present a danger or bruising risk. These should be eliminated before handling cattle.

- Make slight and prudent use of prods. Prods can be effective for moving cattle but should be used in a limited and careful manner to decrease bruising. Avoid striking cattle, particularly over the back, loin, or other high-value beef cut areas.

Use Proper Management Techniques

- Design a vaccination program with a veterinarian to prevent disease
- Castrate and dehorn young calves
 - Dehorning is less stressful on baby calves
 - A castrated young calf is healed by weaning
- Practice proper vaccine handling
- Use proper implant timing and locations
- Follow drug and vaccine labels
- Read feed tags

Proper Management – Enhances Beef Quality and Product Value

Other management techniques, if done properly, can enhance beef quality and value. First, consult a veterinarian to design a vaccination program to prevent disease. This can be done early in the calf's life to prevent diseases before they occur and reduce stress throughout the calf's life.

Castrate and dehorn cattle as very young calves to reduce cattle stress and health problems. Several methods of dehorning and castration are available. If calves are dehorned early, use a small scoop to limit stress. If done properly, it can be healed by weaning. A similar method that can be accomplished very early is hot iron dehorning. When cattle get a little older, use larger scoops, and as they advance in age, use dehorning saws or wires. Dehorn also through use of polled genetics.

Banders, Newberry knives, and crimping tools can be used for castration. Whether using surgical or banding castration, perform it on cattle at a young age to reduce stress and promote healing by weaning to enhance performance and gain.

Practice proper vaccine handling. Once vaccine is purchased, transport it in a cooler. Keep it cool from the place of purchase all the way to the time of use. Do not store vaccines in a vehicle. Keep vaccines cool during use. Safeguard vaccines to maintain their effectiveness.

Proper implant use requires appropriate timing and placement. Place growth-promoting implants in the middle 1/3 of the ear between the two cartilage ridges. Timing of this can positively affect the calf's performance but can also negatively affect carcass quality.

Read and follow medicine and vaccine labels. Its very important to consult a veterinarian to maintain the client/veterinarian relationship. It is alright to use drugs off label only when prescribed that way by a veterinarian.

With regard to feed labels, carefully read and follow the instructions on these tags. Drugs included in feeds cannot be used off label.

Plan for Disease Prevention

Less sick cattle, less treatment, less residues

- ✓ PROPER NUTRITION
- ✓ REDUCE ANIMAL STRESS
- ✓ VACCINATE FOR BEST PROTECTION WINDOW
- ✓ CONTROL PARASITES



Proper Management – Enhances Beef Quality and Product Value

Plan for disease prevention. Less sick cattle, treatments, and expense follows with less residues to enter the food chain and to manage for proper withdrawal times.

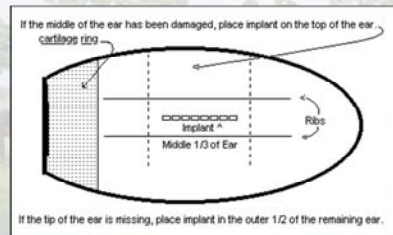
One of the best ways to combat disease is through proper nutrition. If cattle are properly fed, they will have energy to support proper immune function to prevent diseases before an outbreak.

Reduce animal stress. Anytime less stress is placed on cattle, whether it be nutritional, handling, or any other environmental stress, immune function improves.

Go back and look at the vaccination protocol that developed with a veterinarian to make sure the operation is vaccinating for specific diseases within the proper disease protection window.

Be very diligent in controlling parasites. A heavy parasite load can reduce immune function and leave the cattle open to disease outbreaks.

Implants



- Use antiseptic on the needle between every use (**less abscesses**)
- Currently no withdrawal times for FDA approved implants
- Check implant site whenever cattle are worked

Proper Management – Enhances Beef Quality and Product Value

Specifically, in regard to implant use, be diligent about using an antiseptic on the needle between every implant use. This will reduce the incidence of abscesses at the implant site. As an abscess grows and encapsulates an implant, it greatly reduces the effectiveness of the growth promoter from entering the blood stream. Also look for implants that may have an antibiotic pellet with them as well. There are currently no withdrawal times for FDA approved implants, but still consider proper timing in relation to the performance desired from these implants. During cattle handling check the implant site for abscesses and crushed or missing pellets. When applying an implant, insert the applicator just under the skin. Locate the implant in the middle 1/3 of the ear between the two cartilage ridges on the back of the ear. Make sure not to puncture the cartilage with the needle as it is entering. Perform implanting technique properly to achieve the maximum performance from implants. For more information on implants, refer to Mississippi State University Extension Service publication 2485, *Growth-Promoting Implants for Beef Cattle*.

Follow Drug and Vaccine Labels

FOLLOW ALL LABEL DIRECTIONS

- ✓ INDICATIONS
- ✓ DOSAGE
- ✓ ADMINISTRATION ROUTE
- ✓ WARNINGS
- ✓ WITHDRAWAL TIME
- ✓ EXPIRATION DATE



*DO NOT USE PRODUCTS EXTRA LABEL WITHOUT A
PRESCRIPTION FROM A VETERINARIAN!*

Proper Management – Enhances Beef Quality and Product Value

It is very important to read all drug and vaccine labels and follow all label directions. Labels include information such as:

- Indications of what condition(s) a drug is labeled to address.
- Drug dosage and how it should be administered.
- Proper route of administration.
- Possible warnings of negative side effects or other concerns.
- Withdrawal time: This is extremely important to note when the cattle, that are administered these products, will enter the food chain.
- Expiration date

Do not use products extra label without prescription from a veterinarian. It is very important to have an active client/veterinarian relationship.

Read Feed Tags

STOCKER STARTER
AS-700 #10
MEDICATED

FOR STARTING BEEF CATTLE
As an aid in maintenance of weight gains in the presence of respiratory disease such as shipping fever.

ACTIVE DRUG INGREDIENTS	
Chlortetracycline	.35 mg/lb .70 g/ton
Sulfamethazine	.0077%

GUARANTEED ANALYSIS	
Crude Protein, not less than	.12.0%
Crude Fat, not less than	.1.0%
Crude Fiber, not more than	.22.0%
Calcium (Ca), not less than	.0.5%
Calcium (Ca), not more than	.1.0%
Phosphorus (P), not less than	.0.4%
Salt (NaCl), not less than	.0.25%
Salt (NaCl), not more than	.0.75%
Potassium (K), not less than	.0.8%
Vitamin A, not less than	4,000 IU/lb

INGREDIENTS

Processed Grain By-Products, Roughage Products (not more than 30%), Grain Products, Forage Products, Molasses Products, Lignin Sulfonate, Magnesium-Mica, Calcium Carbonate, Salt, Dicalcium Phosphate, Monocalcium Phosphate, Manganous Oxide, Zinc Oxide, Ferrous Sulfate, Copper Sulfate, Copper Chloride, Vitamin E Supplement, Sodium Selenite, Mineral Oil, D-Activated Animal Sterol (Source of Vitamin D₃), Vitamin A Supplement, Potassium Chloride, Sodium Silico Aluminate, Ethylenediamine Dihydrochloride, Cobalt Carbonate, Bentonite and Ethoxyquin (a Preservative).

DIRECTIONS FOR USE

Feed 10 lbs/head/day for four weeks to beef cattle. This will furnish 350 mg of chlortetracycline and 350 mg of sulfamethazine/head/day.

WARNING: Discontinue use 7 days prior to slaughter.

Proper Management – Enhances Beef Quality and Product Value

Medicated feeds and feed tags are similar to injectable animal health products. They list:

- product name,
- purpose statement showing medicated feed use,
- medication information including active drug ingredients and dosage levels,
- the guaranteed analysis of the other ingredients,
- ingredient list in order of greatest amount to least amount,
- directions on product use,
- and any warnings that might be associated with the medicated feed.

Contrary to injectable drugs, medicated feeds cannot be used off label even with permission from a veterinarian.

For more information on feed additives, refer to Mississippi State University Extension Service publication 2518, *Feed Additives for Beef Cattle Diets*.

Practice Disease Control

- Good **biosecurity practices** can help prevent and control disease
- Animals testing positive for chronic, infectious diseases should be culled from the herd
 - Bovine Viral Diarrhea
 - Johne's disease

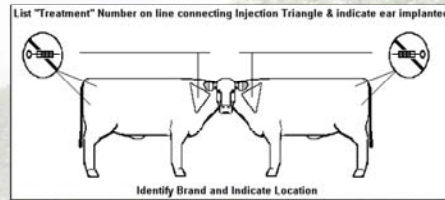


Proper Management – Enhances Beef Quality and Product Value

An important checkpoint as part of Beef Quality Assurance and responsible culling is to practice good disease control. Develop a good relationship with a veterinarian, because this relationship is important for planning proper disease control measures. Develop a biosecurity plan for each cattle operation. This can be done with assistance from a veterinarian or Extension agent. Good biosecurity practices can not only help prevent diseases, but can also help to control diseases.

Check individual cattle for diseases of concern. There are several statewide cattle disease monitoring and prevention programs in Mississippi offered through the Mississippi Board of Animal Health. One of them is Johne's Disease, a disease that can hurt cattle body condition. Another program is for addressing Bovine Virus Diarrhea using simple skin tests or ear notches to check cattle for this disease. It can be checked in calves at weaning for convenience. These monitoring programs are available to producers free of charge. Contact a local veterinarian for information on cattle diseases. Cull any animals testing positive for chronic infectious diseases in a very timely manner. This is a very important part of Beef Quality Assurance.

Individual Identification and Records



Treatment Records

1. Individual or group or lot identification
2. Date treated
3. Product administered and manufacturer's lot/serial #
4. Dosage used
5. Route and location of administration
6. Earliest date animal will have cleared withdrawal period
7. Tentative diagnosis
8. Outcome of treatment
9. Name of person administering product
10. Records must be kept for 24 months after transfer of ownership



Proper Management – Enhances Beef Quality and Product Value

Maintain proper records to keep up with the time of administration, administration site, and withdrawal period. Ensure an accurate record using proper individual animal identification. There are several different temporary or permanent animal identification methods.

Tattoos can be applied inside a calf's ear at birth and will stay with that calf as a permanent form of identification. A brand is also a good form of permanent identification.

A temporary form of identification is a dangle ear tag. The number of the animal can be clearly visible from a short distance. Another form of identification is an electronic ID tag that can be read manually or using an electronic reader.

Keep these records once the animal has been identified:

1. Individual group or lot number that was given a vaccine or medication
2. Date treated
3. Product administered and the serial number from the manufacturer
4. Amount or the dosage used
5. Route and location of administration
6. Earliest date the animal will clear the withdrawal period
7. Tentative diagnosis of why the animal was treated
8. Treatment outcome
9. Person administering the product
10. Keep records for at least 24 months after ownership transfer.

Use a processing or treatment map to assist in record keeping. It has a place for cattle handler/owner signature and a veterinarian signature. Good record keeping and identification techniques help ensure a safe and wholesome beef product by facilitating adherence to withdrawal periods for all animal health products.



Be Prepared

- Safeguard the health of Mississippi herds.
- Producer cooperation is essential for rapid disease response in the instance of a contagious disease outbreak.

Proper Management – Enhances Beef Quality and Product Value

Proper management techniques enhance the product quality value in individual herds. Also be aware that each beef cattle operation is part of a bigger herd, the herd of the state of Mississippi and the national herd as well. One way to be responsible in being a part of the industry herds is to be involved in the Mississippi Animal Disease and Disaster Preparedness program. This is a program designed to help respond to disease problems to contain potential outbreaks or in the event of a natural disaster to locate livestock and help safeguard herds. For more information on this program, refer to Mississippi State University Extension Service publication 2487, *Mississippi Animal Disease and Disaster Preparedness Program*.

PRODUCER REGISTRATION FORM

Farm/Business Name: Ribeye Cattle Ranch

Primary Contact Person: John Ribeye

Mailing Address: 110 Ribeye Road, Starkville, MS 39769

Physical Address of Farm (if different from address above): _____

County: Oktibbeha

Primary Phone Number: 662-324-1234


Secondary Phone Number: 662-312-1234

Business Type: (Check one)
 Individual Partnership Incorporated
 LLC Other Business Type

Location Type: (Check all that apply)
 Farm Clinic Market
 Exhibition Other Operation Type


Species at Location: (Check all that apply)
 Cattle Swine Horses
 Goats Sheep Other

If animals are located at different locations, then please apply for multiple producer registrations on additional forms.

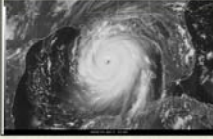



MISSISSIPPI ANIMAL DISEASE AND DISASTER PREPAREDNESS PROGRAM

Be Prepared



- **Step 1)** Fill out a producer/ owner registration form.
- **Step 2)** Return your completed registration form to the State Veterinarian's office at the Mississippi Board of Animal Health.
- **Step 3)** Receive your unique producer registration ID in the mail.

Proper Management – Enhances Beef Quality and Product Value

This program works with producer cooperation. To be involved, fill out a producer/owner registration form. This registration form and pamphlet can be obtained through a local Extension office, veterinarian, or the Mississippi Board of Animal Health. The MS Board of Animal Health generates a unique ID number and record for each participant. They will contact participants in cases a disease outbreaks or natural disasters.

That concludes the proper management module of the Mississippi Beef Quality Assurance program. Following the techniques outlined here helps ensure a safe and wholesome beef product for the consumer.

Prevent Hide Damage

- External parasites and brands lower hide quality
- Brand responsibly
 - Use freeze branding in place of hot iron branding
 - Place brands high on the hip
 - Decrease brand size



Proper Management – Enhances Beef Quality and Product Value

Hide value as part of overall beef animal value at harvest is often overlooked. By preventing hide damage, the final value of each animal increases. One way to prevent hide damage is by controlling external parasites. Use lice treatments, grub treatments, and keep external parasites off the hide to decrease the amount of holes in a hide after harvest. This, in turn, decreases hide value losses.

Another way to increase the value of the hide is to avoid branding when possible. A single brand, when administered on the ribs, can damage a piece of hide that could be used for leather goods and products if were left in tact. Brand high on the hip when branding using the smallest size brand practical. A good alternative to hot iron branding is freeze branding, which does quite a bit less damage to the hide. For more information on freeze branding, refer to Mississippi State University Extension Service publication 2464, *Freeze Branding Beef Cattle*.

Producer Benefits to BQA Participation

- Participating in a BQA program can **produce \$\$\$** rather than cost \$\$\$.
- It's good business sense!
- It's common sense!

Mississippi Beef Quality Assurance Program

There are many management practices that beef cattle producers can change to affect the quality of beef products presented to consumers. This may seem costly, but participation in the BQA program will generate dollars for producers by improving the overall marketability cattle and beef products throughout the beef production chain. It is good business sense to practice these protocols and also good common sense.



Mississippi Producers Affect Beef Quality

Mississippi cow-calf producers

- ✓ Affect cattle genetics
- ✓ Affect calf management through weaning
- ✓ Affect cow and bull management

Mississippi stocker operators

- ✓ Affect calf management post-weaning
- ✓ Affect stocker cow and bull management

Mississippi Beef Quality Assurance Program

Mississippi beef cattle producers actually have a large effect not only in the state but at the national level on the quality of beef produced. Mississippi cow-calf producers affect the genetics that go into the beef production chain. They affect calf management through weaning and market cow and bull management as well. Mississippi stocker operators affect calf management post-weaning. Also, stocker operators affect stocker cow and bull management of market cows and bulls.



Mississippi Beef Quality Assurance Program

*To complete certification, please
fill out and submit the MS-BQA
test and producer contract.*



Mississippi Beef Quality Assurance Program

To complete the Mississippi Beef Quality Assurance program training and certification process, complete the certification test and producer contract. These files can be downloaded through this website. Then send the test and contract directly to the program coordinator listed on these forms.

Thank you very much for your participation in the Mississippi Beef Quality Assurance program and your commitment to safe, high-quality beef.

The Mississippi Beef Quality Assurance program is sponsored in part by the Beef Checkoff, Mississippi Farm Bureau Federation, Mississippi Cattlemen's Association, Mississippi State University Extension Service, and Mississippi State University College of Veterinary Medicine.