

QUALITY ASSURANCE PROGRAMS FOR BEEF AND DAIRY



BASICS

OVERVIEW

Quality assurance (QA) programs are designed on the principle that good animal husbandry is good business. The goal of the program is improving producer education to create safe products for consumers. Guidelines are available to anyone involved in working with cattle, from a pen rider to a veterinarian. Information relevant to cow-calf, stocker, feeder, and dairy operations is available. Topics range from cattle handling and processing to feedstuffs, transportation, and euthanasia. This chapter focuses on the QA programs developed in the United States; however, many countries have similar programs established.

GEOGRAPHIC DISTRIBUTION

A national quality assurance program is in place. State programs also exist in order to address regional variations in cattle operation procedures. These variations are influenced by the environment, feedstuffs, operation styles, and types of cattle. The programs are voluntary and self-regulated. Financial support for both Beef Quality Assurance (BQA) and Dairy Quality Assurance (DQA) comes from the Beef Checkoff funds. The programs function autonomously from the USDA and FDA, but follows guidelines put forward by those entities.

DEVELOPMENT OF BQA AND DQA

QA programs developed in response to consumer concern with the manner in which the beef and dairy products arrived at market. Initial focus of the association revolved around quality control of the product. There were improvements made in the areas of reducing injection site lesions, violative residues, bruised tissues, hide damage, and excessive external fat. The coverage of information expanded to address new problems that arose over the next few decades. The compendium evolved over time to include subjects encompassing animal care and comfort. Suggestions have been developed for animal handling, pain management for castration & dehorning, tail docking, and antimicrobial use.

RESOURCES AND AUDITS

Instruction manuals are readily available from the national quality assurance program. Common tasks are addressed to provide comprehensive guidelines for educating employees, assessing operations, evaluating opportunities for improvement, and auditing for certification. Qualitative checklists are available for producers and veterinarians to easily identify problems on farms. A structured plan for improving areas of concern may be written down in a protocol handbook for a specific operation. A third party audit allows for BQA or DQA certification.

Audits performed periodically determine improvements on previous concerns and focus on new deficiencies on the farm. BQA also recently released guidelines for use of pneumatic devices in the treatment of cattle on pasture. Audits allow for discussion of these updates of the quality assurance

program to the operation. These interactions allow producers to bring up new problems and create a dialogue with the veterinarian on the best way to implement new procedures and strategies. Numerous videos are available on multiple facets of both the beef and dairy industry. This multimedia approach provides maximum exposure for the information put forward by the programs. The national quality assurance program makes every effort to gain exposure to members of the industry for use as a resource for quality information.

BQA RECOMMENDATIONS

Preventative health protocols should be available to ensure that vaccinations are adequately spaced and timed for maximum efficacy. The vaccine information is recorded in case of an adverse reaction or managerial question. The group identification should be recorded along with the serial number, lot number, expiration date, and route of administration. Individual identification is not necessary for records, but whatever is done to an individual in a group, is applicable to the entire group.

Castration should be performed prior to 3 months of age and *dehorning* should be done at the horn bud stage. Early intervention minimizes stress related to the procedure. Brands should be placed high on the hip to reduce hide damage.

Injections should be performed in front of the shoulder with no exceptions. A subcutaneous injection is preferred when possible. A needle that bends should not be straightened and used again. A needle that breaks off in the bovine is an emergency situation. If the needle cannot be removed, then the animal is permanently identified and cannot be sold.

Antibiotics should be selected via an educated approach and those important to human medicine should be avoided if possible. The label directions should be followed unless a valid ELDU is acceptable. Drugs given at subtherapeutic doses, for shortened periods of time, or for viral infections are not considered an appropriate application. The maximum injectable amount for an intramuscular (IM) shot is 10mls per site. Record treatment information such as ID, dosage, route, administrator, and withdrawal time/date. Treatment protocol books are excellent sources of information for vet-approved options for a variety of disease processes when a veterinarian is not readily available.

Pneumatic devices are one of the most recent concerns for BQA producers. The devices are convenient in the face of labor shortages and time management. The apprehension for wide spread use is inappropriate drug dosages, broken needles, tissue damage, and targeting issues with these guns. The BQA issued a list of concerns and proposed more research is necessary to determine efficacy and safety with the use of these products.

Residues can be in the form of those from injectable product given to the animal and those that contaminate the feeds. Feed contaminants include sprays that were applied to forage during growth, fluids that may have leaked from feeding equipment, as well as pest byproducts and pest control products.

Feed Additives and Medications are FDA-approved drugs that are used as directed by the label, with no exceptions. ELDU is not permitted for feed additives. As the VFD regulations are updated, written prescriptions for antibiotics used in the feed will be required. Antibiotics will no longer be used for feed efficiency and their use will be documented to specific groups of cattle.

Withdrawal times are to be adhered to and the individual or groups should be identified. Animals that are most at-risk for residue violations are those “non-performers” that likely have an altered metabolism. These animals should observe a withdrawal period longer than the suggested label duration.

Handling during processing has a major impact on many problems seen at the packing plant. Basic understanding of the flight zone of cattle and reduced stress through improvement of facility design are cornerstones in low stress cattle handling. Minimizing the use of hot shots and emphasizing employee training have improved many of the bruising and injection site lesions that previously plagued the industry. Processing protocols have also enhanced sanitation and reduced the incidence of broken needles in cattle.

Parasite control has reduced liver damage, hide condemnation, and muscle damage. *Training for implant placement* and proper restraint has reduced the inaccuracy and value lost with poorly implanted cattle. *Euthanasia techniques* and protocols ensure that those cattle which will not make it to slaughter, will be removed from the chain in an appropriate manner.

Adequate nutrition should be provided for all animals in all phases of production. A target body condition score should be 4-6. Water should also be available at all times and should be clean and palatable. Operational plans to combat heat and cold stress are advised. *Housing and shelter* should provide comfort, socialization, and appropriate drainage. These elements should improve the cattle well-being during times of stress and confinement.

Transportation of cattle is a major component of moving cattle through the chain of production. Guidelines for truckers revolve around a good understanding of cattle handling, good sanitation, and good communication from departure site to destination. Truckers should consider temperature, humidity, cattle type, load capacity, and drive duration when preparing for a haul. BQA provides information to help make informed decisions in a variety of situations. An easy-to-use checklist is available to ensure that cattle trucks are ready for service.

Downer cow incidences must be kept to a minimum. Cows that are unable to stand and ambulate should never be taken to market. These animals should be treated and taken care of humanely until euthanasia can be performed. Euthanasia protocols need to exist for when emergencies occur. Open fractures, paralysis, debilitated cows, and terminal conditions all warrant immediate euthanasia. The acceptable methods by quality assurance standards are via gunshot and captive bolt.

DQA RECOMMENDATIONS

DQA follows the same standards as the BQA outline. The dairy program adds a few recommendations to the concept of calf care, lameness, and cow comfort.

Milking procedures should be observed and evaluated. The milking equipment should have a written protocol for routine cleaning and testing. Proper hand washing and use of gloves is necessary to prevent transmission of bacteria and disease. Training new employees and reinforcing appropriate techniques with experienced staff are essential to maintaining a standard of care in the operation.

Appropriate care for calves applies to both bulls and heifers. Neonates should receive 2-4 quarts of high quality colostrum within 3 hours of birth. This process should be repeated before the calf is 24 hours old. Standard Milk Replacer of 18% CP-20% Fat for large breeds and 28%CP-25% Fat for Jersey calves. Clean bedding, adequate space, comfortable temperature, clean water, and feed should be provided for all young cattle. Dehorning and castration should be performed by 4 months of age. Bull calves must be 24 hours old and able to stand and walk unassisted in order to leave the farm.

Lameness is another major standard constantly under scrutiny in the dairy industry. Individuals should assess the posture and scrutinize the gait of each cow by making all the cows stand and move around the parlor. Claw shape and which surface of the claw is bearing the weight should be noted. These

observations can lead to a specific diagnosis or tailor the physical exam of the foot or leg. Floor areas that may be slippery, too hard or too soft, or in poor repair influence lameness issues. Body condition and rations also contribute to claw health.

Tail docking is no longer considered an acceptable practice. Increasing the amount of housing space for the animals can prevent tail necrosis. The procedure is being phased out over the next few years. Stalls should be of adequate space for an animal to lie down and not have tail and hind legs stepped on by adjacent cows. Cows should not be restrained in headlocks for more than 2 hours in consideration of cow comfort.

PROGRESS

Improvements in certain conditions have been made since the implementation of the program in the early 1980's. These advances include:

- Reduction in injection site lesions
- Reduction in hide damage from poorly placed brands
- Reduction in muscle bruising from overcrowding and inappropriate handling
- Reduction in the slaughter of animals with horns



MISCELLANEOUS

BIOSECURITY

Biosecurity constitutes a large element of food safety and consumer confidence. QA programs emphasize sanitation of equipment and facilities, disease containment, and monitoring of visitors to the property.

SEE ALSO

- Quality Assurance for Meat Goats (www.fiveminutevet.com/ruminant)

Abbreviations

- BQA=Beef Quality Assurance
- DQA=Dairy Quality Assurance
- ELDU=Extra-Label Drug Use
- FDA=Food and Drug Administration
- QA= Quality Assurance
- USDA=United States Department of Agriculture
- VFD=Veterinary Feed Directive

Internet Resources

Beef Quality Assurance: *National Cattlemen's Beef Association*, Denver, 2001 (website): <http://www.bqa.org/>. Accessed 2016.

Suggested Reading

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