MANAGEMENT PRACTICES TO SUPPORT NEW YORK BQA GUIDELINES

BIOSECURITY

Biosecurity measures have always been valuable in preventing and controlling infectious diseases. Biosecurity can be defined as management and sanitation practices that decrease the risk of introducing or spreading infectious diseases. The implementation of biosecurity practices can control pathogens and their vectors and as a result will reduce economic losses caused by disease outbreaks.

Biosecurity should be addressed within each production unit to maximize animal health and minimize foodborne contamination. Key areas such as sanitation, traffic control, and proper isolation should be addressed in order to prevent the introduction and/or spread of disease to the livestock in the production unit. Implementation should: 1) focus on the disease and a procedure, 2) evaluate risk factors, and 3) determine and establish realistic intervention strategies.

In order to effectively address biosecurity in a production unit, specific disease targets need to be defined. Producers working with their veterinarians should outline the diseases of concern, their current herd status, herd goals for prevention and/or control and management capabilities.

Biosecurity is a food safety related issue. Biosecurity practices or measures will assist in the reduction in the occurrence and need for treatment of infectious diseases, control diseases with possible human health implications, and control infectious agents of concern to human health (i.e. *E. coli* O157:H7 or *Salmonella*). Biosecurity is a portion of BQA that benefits producers and consumers alike.

INDIVIDUAL IDENTIFICATION AND RECORDS

Identification

All animals should be uniquely, individually identified at birth. In addition to an easily read ear tag, other forms of identification include:

- Tattoo
- Metal ear tags
- Electronic identification

Records

Treatment records should be maintained with the following records:

1. Individual animal or group or lot identification
2. Date treated
3. Product administered, lot/serial number and expiration date
4. Dosage used
5. Route and location of administration
6. Earliest date animal will have cleared withdrawal period
7. Name of person administering product

All cattle, including dairy beef shipped for harvest, should be checked by appropriate personnel to assure that all prescription withdrawal times for animal health products administered have been met or exceeded for animals that have been treated.

Copies of processing and treatment records should be transferred with cattle to the next production level. Original copies should be retained for two years after sale. Prospective buyers must be informed of any cattle that have not met withdrawal times.

Record keeping, either computer or hand generated, is a critically important management tool. Inventory and usage records can point out inefficiencies, theft and negligence. With today's narrow profit margins, correct inventory management is essential.

To ensure consumer confidence and maintain market share, we must be able to document the use and safety of our product. We must be able to prove that we have tight control over risk factors that have a residue potential through effective documentation. As a result, consumer confidence will be strengthened and regulatory pressures will be reduced.

Animal health products are costly items. Accurate records can highlight inefficiencies on an animal-by-animal basis and prevent ineffective administration of treatments. Furthermore, this information tells the veterinarian the treatments administered so he or she can validate treatment recommendations and adjust treatment regimes as animals and environmental conditions change.

Records are very important to business success. Regulatory inspections by FDA, USDA, EPA or OSHA will prove the necessity of good records. Effective documentation that shows appropriate compliance with training, inventory control, use orders, animal identification, withdrawal and disposal will help avoid liability from a residue contamination.

The record keeping system presented in the Appendix can be used as is or be a source of ideas to create or revise your current system. Computer record systems make extensive evaluation easy and efficient; however, hand-kept record systems are still very effective. Each system has it own merits and you should select the system that is the most feasible for your beef production unit.

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 Importnat 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. **Avoid Using Broad Spectrum:** Use narrow spectrum antimicrobials, whenever possible. Combination antibiotic therapy is discouraged.

6. **Avoid Inappropriate Antibiotic Use:** Confine therapeutic antimicrobial use to proven clinical indications, avoiding inappropriate uses such as for viral infections without bacterial infection.

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.

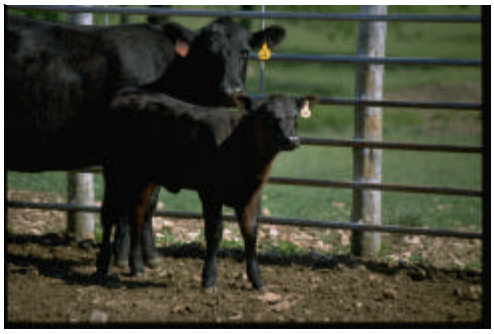
12. **Follow Label Directions:** Follow label instructions and never use antibiotics other than as labeled without a valid veterinary prescription.

13. **Extralabel 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 valid Veterinary-Client-Relationship.

14. **Subtherapeutic Antibiotic Use is Discouraged:** Antibiotic use should be limited to prevent or control disease and should not be used if the principle intent is to improve performance.

Adapted from AVMA, AARP and AVG Appropriate Veterinary Antibiotic Use Guidelines

FEEDER CATTLE SELECTION GUIDELINE



Feeder Cattle Selection Standards

1. Feeder grade M1 & L1
2. Known vaccination, deworming, and implant history.
3. Males castrated < 4 mos. of age; females open.
4. Known farm of origin and housing facilities.
5. Breed/genetics favorable to target markets and premiums.
6. Known transportation conditions.
7. Calves weaned for more than 28 days.
8. Known weight conditions.
9. Absence of horns, external parasites, active pinkeye infections.

Value of Healthy Cattle

Cattle health has a direct impact on feedlot performance and carcass quality. The table below shows the impact of sickness on performance and profitability of over 400 cattle that have been evaluated in New York's Feedlot and Carcass Value Discovery Program. Cattle treated for Bovine Respiratory Disease (BRD) gained 3% less than those that remained healthy and did not require treatment. The combination of poor performance and extra cost for treatment results in a higher Total Cost of Gain (TCOG). The impact of BRD carries on into the harvest phase resulting in an 18% decrease in the number of cattle reaching the USDA Choice quality grade and a more than five fold increase in the number of cattle that were stamped Standard. Increased cost of gain and lower quality ultimately cost the owner $29/head in reduced profitability compared to cattle that did not require treatment. This is in addition to increasing the risk of carcass damage from injection sites incurred as a result of treating for disease.

Performance As Affected By Treatment For Disease
NY Value Discovery Program, 1999-2001

	Treated	Non-treated
Number of head	107	300
ADG, lb.	3.45	3.57
TCOG[1] , $/lb.	0.54	0.52
V&M, $/hd.	17.07	0.00
%CH	60	73
%SEL	35	27
%STD	5	0.3
P/L (adj)[2] , $/hd.	72	101

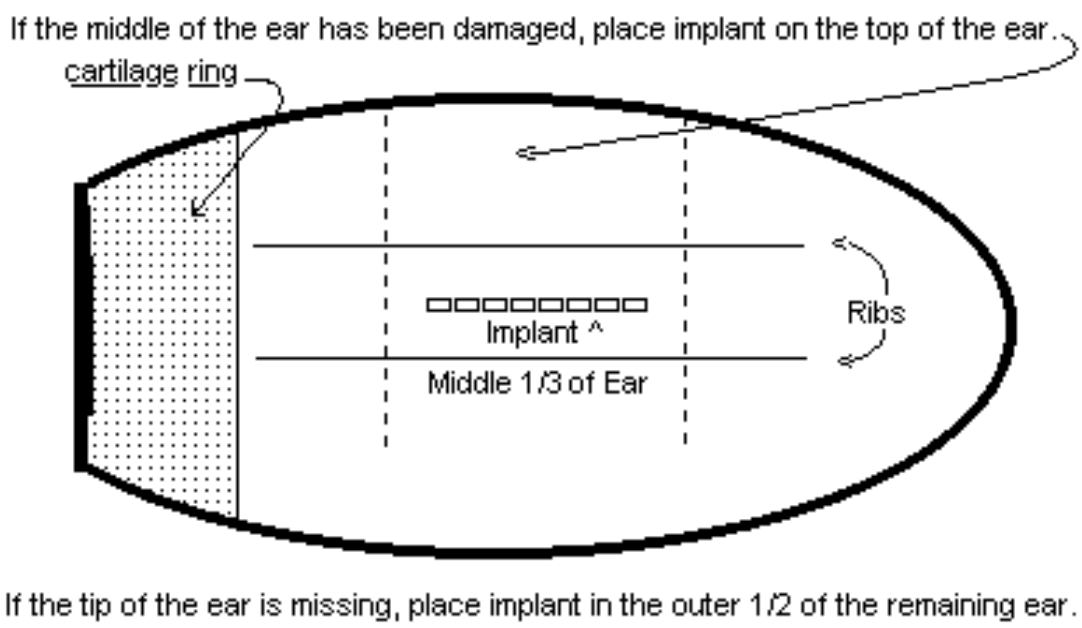
1 Total cost of gain
2 Profit adjusted using uniform pricing to remove price variation during the market period.
* Treated = Cattle that required treatment for sickness.
** Non-treated = Healthy cattle that were not treated for disease

IMPLANTS

Implants may provide an economic advantage in the production of safe and wholesome beef. Beef from implanted cattle has proven to be leaner than beef from non-implanted cattle with minute differences in hormone levels. Nevertheless, consumer concern remains high with regard to implanted beef. Administer implants properly, following label directions including proper sanitation and the use of antiseptic on the needle between every use. Proper sanitation results in fewer abscesses in the ear and allows for higher utilization of the implant

Regulations governing the use of implants are set by the U.S. Food and Drug Administration (FDA). Always read and follow the manufacturer's directions before implanting any cattle. The growth promotant implants approved for use in the United States are extremely safe for both producers and consumers of beef. There is **no required withdrawal time** for slaughter with FDA approved implants.

Figure 2. **Approved Location for Implant Administration.**



The only approved location for implant administration is the middle third of the backside of the ear. All implants must be located subcutaneously within this area (Figure 2). This should place the implant outside the cartilage ring at the base of the ear**. Implants should never be placed in locations other than the ear.**

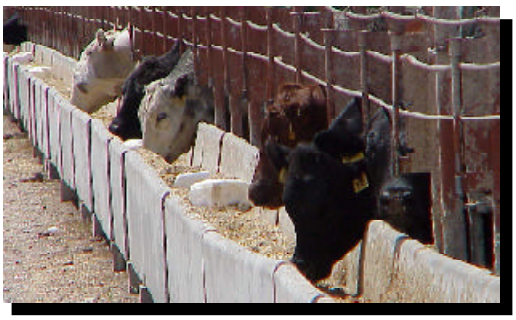
Routine inspection of implant and vaccine administration sites should be done every time animals are handled through a chute. Document the results of the inspection for future reference in implant management decisions.

While there is no withdrawal period for implants, there are quality considerations in the timing. Aggressive implant strategies that maximize the response to the implant in growth and feed efficiency can compromise carcass grade. On the other hand, a conservative approach may not pay when the Choice and Select price spread is too narrow to offset the lost value in feed efficiency and gain which implants provide. It is much an economic decision as it is a quality decision. The objective is to know your options, plan and keep records to evaluate your decisions.

Implanting Mistakes and Solutions

(Compudose Technical Manual, 1982)

Problem	**Cause**	**Solution**
Abscess at implant site	Lack of sanitation	Disinfect equipment, dry ears, improve restraint
Bunched pellets	Needle moved, poor restraint	Improve cattle restraint
Retrograde abscess	Infection after implanting	Pinch site after implanting; improve sanitation
In cartilage	Poor needle, too fast, improper placement	New needle; slow down; place properly
Crushed pellet	Needle not fully inserted	Fully insert needle
Missing implant	Not advancing cartridge through ear	Check implant position, pinch site shut
Separated pellet	Rapid withdraw of needle, processing too fast	Slow down, withdraw needle slowly
Partial implant	Needle too short, too fast, poor restraint	Use needle provided, slow down, improve restraint
Pellet too close to the head	Inexperience	Implant only in middle one-third of the ear
Walled-off implant	Abscess	Improve sanitation



FEED SOURCE BIOSECURITY

Develop, implement and document a feed sourcing program that incorporates good manufacturing practices established by the American Feed Industry Association (AFIA) in the "Recommended Salmonella Control for Processors Livestock and Poultry Feeds" and protein ingredients from plants participating in the "Animal Protein Producers Industry (APPI) Salmonella Reduction Education Program", or equivalent programs. Documentation may be a letter of guarantee from a feed supplier.

HOMEGROWN FEEDS

Quality control can be easy when you have complete control of the feed production process. Most herbicides and insecticides, when used on crops according to the guidelines on the label provide a safety margin against the potential for causing harmful residues in beef. Producers should be aware of label restrictions for feed or grazing of crops after treatment with pesticides. It is imperative that the labels for any pesticide or herbicide used be reviewed.

PURCHASED FEEDS

Quality control in purchased feeds includes analysis for incoming ingredients and using select suppliers that have quality control programs in place and who stand behind their products. Some ingredients are naturally more perishable than other feed ingredients. Most incoming feed ingredients should be evaluated for moisture, color, odor, texture, presence of foreign material, heat damage and mold or other spoilage. Presence of any suspected problem requires further testing. Keep a sample of suspected feedstuffs for later testing in a cool but not frozen state. Feed fats should be analyzed for moisture, free fatty acid content, rancidity and impurities or, you should purchase your feed from a source that guarantees the analysis of their products. **Ruminant-derived animal protein feeds are not allowed to be used under current federal law.**

FEED STORAGE, PROCESSING, HANDLING

Harvesting and storing feeds at the correct moisture level will help prevent contamination by molds, mycotoxins and pathogenic bacteria and improves feed efficiency. Equipment used for loading feed should be routinely inspected for leaks in the hydraulic or other fluids. These fluids can be toxic if ingested and pose a residue threat. Clean tractors and equipment and routinely inspect for fluid leaks.

When equipment is used for other non-feed purposes, such as a front-end loader, clean it again before using it for feeding purposes. Never store crop chemicals, petroleum products or other potentially hazardous material in areas near where feed is stored, mixed or processed.

FEED ADDITIVES AND MEDICATIONS

The use of medicated feeds for livestock is regulated by the USFDA. Feed mills that mix certain premixes are required to register with the FDA and are subject to routine inspections. Other feed mixing facilities including on-farm mixing facilities are not required to register with the FDA, but are required to follow current good management practices (CGMPs). CGMPs include the following:

- Facilities and equipment should be constructed and maintained to minimize vermin and pest infestation, allow proper maintenance and cleaning, accurately produce feed of intended use and prevent accidental contamination from fertilizer, pesticides or other contaminants.
- Quality assurance of feed products through identification, storage, inventory control, documented corrective actions and adherence to label instructions.
- Proper equipment clean out procedures to prevent carry over.
- Proper labeling and complete records of feed formulations

A more complete document outlining CGMPs for non-registered feed mills is available from the FDA at http://www.fda.gov/cvm.

ANIMAL HUSBANDRY PRACTICES

Sound animal husbandry practices in the care and efficient production of animals used for food and fiber minimizes stress, improves animal efficiency and profitability for the farmer and insures a safe, healthy and wholesome product to the consumer at a reasonable price.

The following describes general responsibilities of the farmer and all persons in his or her authority in the proper care and handling of cattle.

- To provide food, water and care necessary to protect the health and welfare of animals.
- To provide a safe and healthy environment for animals that is clean, well ventilated and provides ample space.
- To provide a well-planned disease prevention program to protect the health of the herd. This includes a strong veterinarian/client relationship.
- To use humane and environmentally sound methods when it becomes necessary to dispose of animals.
- To make timely inspections of all animals to evaluate the health and insure that all basic requirements are being met.
- To insure proper handling techniques are used to eliminate any undue stress or injury when working with animals.
- To provide transportation for animals that avoids undue stress or injury caused by overcrowding, excessive time in transit, or improper handling when loading and unloading.
- The willful mistreatment of animals or the mistreatment of any animal will not be tolerated.
- To make management decisions based on scientific fact and to consider the welfare of animals.