

Beef Feedlots

Feedlot Guide to Biosecurity & Security

Where to Start

A few phrases apply well to biosecurity and security efforts: “build on what you know”, “there are no most valuable players” and “figure out what can go wrong – figure out how to prevent it from going wrong – figure out how to monitor your efforts.”

- Take a close look at what can go wrong ... how can animals become infected & how to protect the security of the operation
- Assess the risk of each potential biosecurity problem and significance of the risk
- Evaluate potential to Prevent, Control, Eliminate, or Reduce (PECR) each risk identified
- Resistance in the herd ... Source into and within the herd ... Exposure within the herd



The Hazard Analysis Critical Control Points (HACCP) production safety system has great potential in biosecurity and security concerns of livestock operations. A central objective in the HACCP system is to prevent, eliminate, control or reduce a safety concern to an acceptable level. In livestock biosecurity and security programs the prevention, elimination, control or reduction applies to disease transmission. Standard Operating Procedures–Good Management Practices, communication and training checklists can be tools used to help accomplish the biosecurity and security objectives. It is very important to involve all personnel in developing, monitoring and evaluating the biosecurity and security needs and activities of an operation. Open discussions that respectfully debate the merits of an activity between personnel levels is more apt to recruit personnel cooperation and the justification discussions during the scheduled biosecurity and security reviews

Biosecurity Major Components: Resistance, Isolation, Traffic, Control, and Sanitation

The above five components when effectively managed meet the principle biosecurity objective of preventing or minimizing cross-contamination of body fluids (feces, urine, saliva, respiratory secretions, etc) between animals, animals to feed, and animals to equipment. Think of them as hurdles. Together, these multiple hurdles can effectively protect animals from disease.

Questionnaire for Identifying Biological Hazard (BH) Critical Control Points (CCP)

1. Do preventative measures exist (evaluate and rank the basis/proof) for BH?
Yes: modify process & go to question 2 **No:** safety--not CCP
2. Does this step eliminate/reduce the likely occurrence of BH to an acceptable level?
Yes: CCP **No:** go to question 3
3. Could unacceptable BH contamination occur?
Yes: go to question 4 **No:** not CCP--stop here
4. Will subsequent steps eliminate the BH?



General Good Management Practices (GMP) Checklist

Meet all of the Beef Quality Assurance Good Management Practices and Guidelines.

Understand it is more profitable to prevent problems than to correct problems.

Agree that doing things right the first time is a critical part of biosecurity.

Biosecurity requires a method of cattle identification. Is an identification system in place?

Can readily track and validate management practices used on my cattle.

GMP Checklist for Strategic Vaccine Use

Have a written strategic vaccination plan drawn up for my operation.

Discuss the vaccination history of all cattle purchased before the cattle enter my operation.

GMP Checklist for Preventing Infectious Disease from Entering The Operation

Know the health history for the herds from which cattle are purchased.

Know health status of animals brought into my operation / demand a valid health certificate.

Know the vaccination history of animals that enter my herd.

Avoid buying animals from a herd that has mixed origin cattle.

Transport animals in clean vehicles.

Have a control program for outside animals which could spread disease (rodents, etc.).

Loading area is located at the perimeter of the operation

Dead animal pickup area located so that rendering trucks do not contaminate my operation.

Limit people's access to my cattle pens, feeding, mixing and storage area, and treatment

Keep a record of visitors to my operation.

GMP Checklist for Disease Containment

Facilities provide a clean area for restraint, treatment and isolation of sick cattle.

Facilities prevent cross contamination of water, manure, feed, or equipment between groups.

Have plan to manage group size, age distribution, and animal flow reducing risk of disease.

Handle highest health status animals first (*healthy first and sick animals last*).

Use strict sanitation practices.

Animals that die are examined by a veterinarian (*necropsy*).

Have visitors observe our strict sanitation practices.

Clean contaminated vehicles and equipment before use around healthy cattle.

GMP Checklist for Sanitation

	Attempt to prevent manure contamination of feed and equipment used orally.
	Always clean equipment used orally between animals.
	Attempt to prevent cross contamination between healthy and sick/dead cattle.
	Regularly evaluate activities on my operation to assess the potential for contaminating cattle.
	If manure accidentally contaminates feed or water, an immediate remedy is provided.
	Use different equipment to feed and to clean pens, or completely clean between use.
	Never step in the feed bunk.
	Sometimes leave manure-hauling equipment in pens with different groups of animals.
	Clean contaminated vehicles and equipment before use around healthy cattle.
	Routinely clean and disinfect feeding equipment and cattle handling equipment.
	Routinely clean and disinfect equipment used to medicate cattle.

GMP Checklist for controlling Salmonella

	Realize that my family and employees can be infected with salmonella from cattle.
	Isolate sick cattle in hospital area and prevent cross contamination.
	Discuss proper antibiotic use with my veterinarian.
	Clean all instruments and equipment used on sick cattle between cattle.
	Provide dry, clean, disinfected calf and maternity pens.
	Test purchased feed for salmonella periodically.
	Try to restrict birds, rodents & stray animals from access to my animal's feed & water.
	Do not allow rendering trucks to access feed or animal areas.

GMP Checklist for controlling Foot & Mouth Disease (FMD)

	Train employees to be able to identify potential FMD lesions.
	Demand proper health papers for all incoming cattle, and as possible, isolate incoming cattle.
	Disinfect all working facilities between incoming groups of cattle.
	Limit entry & travel of outside vehicles to planned areas of the operation.
	Question all visitors about travel activities. Outerware disinfected or provided.
	Prohibit visitors who have traveled outside USA in previous 10 days.
	Do not allow products or materials from foreign countries that may be FMD contaminated.

Summary

The goal of biosecurity is to protect animals from disease. This is accomplished through disease resistance and preventing, minimizing or controlling cross-contamination of body fluids (feces, urine, saliva, etc) between animals, animals to feed and animals to equipment that may directly or indirectly contact animals.

Biosecurity management and practices on feedyards are designed to prevent the spread of disease by minimizing the movement of biologic organisms (viruses, bacteria, rodents, etc.) onto and within an operation. Biosecurity can be very difficult to maintain because the interrelationships between animals, management, and biologic organisms are very complex. While developing and maintaining biosecurity is difficult, it is the cheapest, most effective means of disease control available and no disease prevention program will work without it. Improving an animal's disease resistance is at the heart of disease prevention and/or herd health programs and must be considered in the "standard operating procedures" (SOP) / "good management practices" (GMP) of all livestock production management. But improving disease resistance is not possible or can be overpowered for many of the diseases that can affect livestock health and production. Understanding biosecurity basics is essential to designing disease control, prevention and resistance health programs.

Biosecurity and security are different production issues, but both are important and must be properly addressed to protect the health of livestock in an operation. The introduction of disease-causing organisms (pathogens) into a livestock operation can either be intentionally, as would be the situation in bioterrorism, or unintentionally, as is often the case with improper biosecurity application procedures. The biosecurity and security activities will have unique SOP and GMP. These SOP and GMP standards can vary between operations depending on the type and class of cattle raised or produced by the operation,



and the operation's biosecurity goals and objectives. All operations should develop a biosecurity and security rapid response outline. The biosecurity and security SOP and GMP outlined are generic and may not match the needs of all feedlot operations. It will be important to evaluate the specific biosecurity and security needs of each production location and make adjustments in the generic checklists included.

