

Animal Health Equipment Management



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KEYWORDS

• Animals • Health • Equipment • Management

KEY POINTS

- Establishing and following protocols during processing is required to ensure producing a safe product that is free of defects and residues.
- In this age of increasing production transparency, overall cleanliness of equipment and facilities is important not only from a food safety standpoint but many view these as an overall indicator of attention to detail in the entire production system.
- Ensuring that needles are changed, implant guns are managed properly, vaccine is handled in an acceptable manner, and proper chute operation occurs is essential.

Sanitation and proper use of animal health equipment used in processing and treatment of beef cattle should be a primary concern of both veterinarians and producers to ensure product quality and safety. Bacterial and viral nosocomial infections can occur in cattle as a result of improper sanitation of facilities and equipment.¹ Zoonotic illnesses can occur in animal caregivers as a result of improper sanitation. Environmental contaminants such as *Escherichia coli* and *Salmonella* spp are spread between cattle by improperly sanitized equipment.¹ Improper injection location, changing of needles, and inadequate cleaning of syringes can lead to injection site blemishes, scar tissue, or bacterial infections, which affect the quality and safety of the end product.^{2,3}

BIOSECURITY: ISOLATION, TRAFFIC CONTROL, AND SANITATION

The goal of a biosecurity plan is to prevent or control cross-contamination of feces, urine, saliva, and so forth between animals to prevent or control the spread of pathogens between animals.⁴ This plan should consider direct as well as indirect animal contact. Indirect contact considerations include animal to feed transmission and animal to equipment transmission. The 3 components of biosecurity are isolation, traffic control, and sanitation.

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Isolation is the most important step in disease control, because it prevents direct contact between diseased or potentially infected cattle and healthy cattle. Preventing commingling of new cattle and existing groups of cattle is crucial to an effective biosecurity plan. Facilities used to segregate cattle should be cleaned between groups and disinfected if deemed appropriate.

Traffic control includes all traffic on an operation, animals, people, and vehicles or equipment. Animals to consider include all domesticated animals as well as rodents, birds, and other wildlife. Fecal contamination of feedstuffs such as silage or ground hay can be controlled by limiting traffic to the silage pit and hay pile to the loader designated to load feed. Another major concern of traffic control is limiting rendering truck access to an area of the yard that is away from all cattle and feeding activities.

Sanitation refers not only to the disinfection of people and equipment entering an operation but the cleanliness of people and equipment on the operation. Prevention of fecal–oral contamination is the primary goal of sanitation. Baling guns and drench guns are of primary concern for disinfecting between animals. Before disinfection, the equipment should be cleaned with soap and hot water at the end of each day and stored in a dry area.

Another major biosecurity consideration is loaders that are used to load feedstuffs. If these loaders are used for handling manure, dead cattle, or other nonfeedstuff products, they should be cleaned and disinfected before loading feedstuffs. Processing and treatment areas should be cleaned at the end of each day. This strategy reduces the likelihood of fecal–oral contamination not only of the cattle but of the caregivers as well.

The first step in sanitation is the removal of organic matter, primarily feces. Any blood or saliva present should also be removed. Disinfection should follow this cleaning. Physical contact between the disinfectant and proper contact time are crucial to ensure proper disinfection. The selected disinfectant should kill a broad spectrum of bacteria, viruses, protozoa, fungi, and spores.⁵ Other selection considerations include safety to both humans and animal, effect on equipment (corrosiveness), effect on environment, and cost (Tables 1 and 2).

VETERINARY EQUIPMENT SANITATION

Equipment used for processing and treating cattle should be cleaned and disinfected daily, after use. If this equipment becomes grossly contaminated with feces or other material while being used, it should be cleaned immediately.

Equipment such as baling guns and drench guns should be thoroughly cleaned at the end of each day and stored in a clean, dry environment. Disinfecting this equipment between animals is recommended. The disinfectant solution should be changed when it becomes cloudy or visibly contaminated to maintain effectiveness. Increased morbidity and mortality in feeder cattle have been associated with improper sanitation of this equipment in a feedyard hospital system having a high prevalence of *Salmonella* infection.¹ Cohort cattle that did not go through the hospital system were found to have zero prevalence for *Salmonella* spp.

Disinfecting of blood-contaminated equipment between animals is essential. This strategy reduces the risk of transmission for pathogens such as bovine virus diarrhea virus, bovine leukosis virus, and various other blood-borne pathogens. Disinfection also reduces bacterial contamination and risk of disease transmitted animal to animal. This equipment includes dehorners, castration equipment, and various instruments used for minor surgical procedures. Thorough cleaning is necessary, followed by storage in a clean, dry area. Banding castration equipment should be kept free of feces

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