

Importation Biosecurity: Part 2

Standard Operating Procedures

Importation biosecurity includes measures to prevent introduction of infectious agents from sources that originate off your operation. General Guidelines for importation biosecurity were presented in Part 1 (Colorado Dairy News, May 2001 insert). Necessary visitors, feeds, and purchased animals represent a special threat, because they not only arrive at the dairy, but are integrated into its operation. Following are some specific guidelines to address these risks.

I. Necessary Visitors to the Dairy

Some visitors are essential to your dairy operation (veterinarians, consultants, delivery, milk pick-up, etc.). Remember that your own dairy personnel (including owner/managers) fit this description if they visit other livestock operations! Require these essential visitors to conform to the following rules.

General

1. Make a distinction between those people who have to contact cows or manure as part of their service (veterinarians, AI technicians, renderers, milk equipment/procedures consultants, DHI testers, foot trimmer, etc) and those who only need to visit the clean parts of the farm (milk truck drivers, feed delivery, salespeople).
2. For those who contact animals, apply clothing and disinfection requirements as noted below.
3. Others should avoid walking through parts of the dairy where their presence is not required and avoid contact with any animals. Arrange an appropriate place for parking their vehicle.

Footwear

1. Rubber overboots, without buckles or laces that can be scrubbed with water and disinfectant, are mandatory. The dairy should also have disposable plastic boots available for visitors without rubber boots.
2. Use an appropriate disinfectant mixture per label directions: Nolvasan, Environ One-Stroke, Ecolab Oxy-Sept 333, Roccal-D Plus, Virkon S, or Clorox (1 1/2 ounces/gallon water). Virkon S is the only EPA registered farm disinfectant with a label claim against foot-and-mouth disease.
3. Use a stiff brush to scrub boots, removing manure and dirt.
4. Do not contaminate the disinfectant-water mix with dirt and manure with a dirty brush.
5. After organic material has been removed, brush boots again with disinfectant solution. If the bucket has been contaminated with manure, you will need to mix up a clean batch.

Clothing

1. Clean short or long-sleeve coveralls are best for protecting clothing from splashing manure, urine, and milk.
2. Coveralls can be removed after scrubbing boots, and put into the dirty laundry area of the vehicle.
3. A clean pair of coveralls should be worn at your dairy. Coveralls should not be worn at more than one dairy, even if they “look clean”. Most fluids are invisible when dry, but contagious pathogens, if present, will still be on clothing at the next dairy. The dairy should consider having disposable (paper) coveralls available for visitors.
4. If coveralls are not available, a full-length apron can be worn. This should be disinfected in the same manner as the boots before being worn on your dairy.

Gloves/sleeves

For people handling animals, latex or nitrile gloves should be worn to protect hands from contamination with infectious agents and minimize spread to other animals.

Traffic flow patterns

1. Vehicles should be driven to avoid tracking manure from one group of animals to another.
2. Foot traffic must be carefully directed. In particular, youngstock areas should be visited first. If not, boots must be thoroughly disinfected if youngstock areas must be visited after visiting adult cow areas.

II. Feed Production and Delivery

Purchased or harvested feeds may be a potential source of disease organisms and chemical contaminants. To minimize risks that accompany feed production and delivery, follow the following rules.

1. Buy from reputable sources using quality control based manufacturing processes. Request information about the supplier’s biosecurity and feed safety policies. Inquire about inspection and certification by the FDA and the American Feed Industry Association.
2. For concentrate feeds, heat processing and pelleting can reduce contamination with infectious agents.

3. Request information about quality assurance and monitoring programs, especially regarding:
 - how fecal or chemical contamination are minimized.
 - how pests are limited.
 - feed testing procedures and the retained sample protocol.
4. Assure that traffic flow during delivery of feed follows a path that does not contaminate the feed storage area – i.e. avoid manure or pen drainage.
5. Request that truck drivers disinfect boots between deliveries and do not enter your facilities except as necessary.
6. Trucks and tires should be cleaned between farms.
7. Do not accept or reuse pallets that have been used on other farms.
8. Clean all storage areas between loads of feed.
9. Ensure that all forages purchased have been properly grown and harvested. Ensure that manure or lagoon water have not been applied to forages within a recent time before harvesting.

III. Livestock Importation

From a disease control standpoint, animal importation is a very high-risk process. Many of the important dairy cattle diseases can be introduced into a herd via herd additions. Purchased animals can increase the incidence of an infectious disease, or introduce a disease that was not present on the dairy. Following are general guidelines to reduce the risk of disease introduction.

Prior to purchase

1. Evaluate the current health, management and immune status of your herd. This is an important step to help you:
 - Evaluate risks that incoming cattle present to your herd.
 - Evaluate disease challenges that your herd may present to incoming animals.
2. Determine which diseases are of particular importance to your dairy and assess potential risks before you buy. At a minimum this list should include the contagious mastitis pathogens (Strep. agalactiae, Staph. aureus, and Mycoplasma), Johne's disease, BVD, Salmonella, Hairy Heel Warts.
3. Develop prevention, monitoring and control procedures for specific problems.
4. Strongly consider whether purchasing additions is truly necessary. **Disease introduction risks are minimized by maintaining a closed herd.** Incoming animals represent the single highest threat for introducing many important infectious disease problems.

Evaluate sources of replacement animals

1. Risks are very closely linked to the source of purchased animals. It is ideal, and worth the effort to purchase preferentially from a reputable herd that discloses previous health history and where animals can be examined prior to purchase. Knowledge of the herd of origin greatly enhances risk assessment.
2. Evaluate the disease exposure and immune status of incoming animals.
 - Examine all animals 4 to 6 weeks before purchase.
 - Vaccinate twice, with second dose at least 2 weeks before transport to your herd.
3. Screening tests should include at a minimum bulk tank culture and bulk tank somatic cell count (3X) prior to purchase.
4. Further testing of individual animals will depend on your herd's status and your disease control programs, as well as the history of the herd of origin. Strongly consider including:
 - BVD test for Persistently Infected animals
 - Johne's disease serologic test
 - Salmonella fecal culture
 - BLV serologic test
 - TB and Brucellosis testing may be mandatory

Management after purchase

1. Minimize risk of disease introduction from livestock vehicles:
 - Assure delivery vehicle is clean.
 - Deliver animals to a site peripheral to the dairy.
2. Minimize transport stress with good transportation practices.
3. Provide fresh feed and water upon arrival. Use transition ration and adapt animals to new diet slowly.
4. Quarantine or segregate incoming animals for identification and monitoring.
5. Assure that vaccination has been properly conducted, and consider booster doses if necessary.
6. Evaluate and monitor health carefully for early recognition of disease development.
7. Inspect and treat for lameness with special attention to infectious foot disease.
8. Set up a monitoring program to ensure that contagious mastitis pathogens have not inadvertently been introduced to the herd. Such a monitoring program should include the following:
 - Culture all introduced cattle on arrival (if lactating) or at freshening.
 - Culture the bulk tank on a twice monthly basis.
 - Culture string samples from the pens into which the introduced cattle are placed.

This standard operating procedure was developed by Dr. Frank Garry, DVM, MS, Professor and Coordinator of the Integrated Livestock Management group, Department of Clinical Sciences, Colorado State University, Fort Collins, Co.