

Biosecurity for AAFRD Staff Visiting Farms, Abattoirs and other Agri-Food Establishments

This fact sheet defines biosecurity and outlines the biosecurity precautions all AAFRD staff are expected to take when visiting farms, abattoirs or agri-food establishments while on AAFRD business.

A. Background

What is biosecurity?

Biosecurity refers to those precautions taken to reduce the risk of introducing livestock or poultry diseases to a farm or region where they do not already exist. Examples of common biosecurity practices include quarantining new stock, controlling rodents, cleaning footwear or changing coveralls. A complete farm biosecurity program will cover: incoming stock, vaccination, feedstuffs, water, pets, pest control (birds, rodents, wildlife, insects etc), and farm visitors.

Why is biosecurity important?

- Biosecurity can prevent the introduction of Foreign Animal Diseases (FAD's), such as Foot and Mouth Disease (FMD), from other countries. FAD's can spread quickly, result in the loss of export markets, and can have severe economic consequences for the entire livestock industry.
- Biosecurity can prevent the spread of certain diseases already found in Alberta – eg. TGE (Transmissible Gastroenteritis) in pigs or Johne's disease in cattle. These diseases can have a significant financial impact on a farm operation, and visitors could potentially be held liable if proven to be the cause of an outbreak.
- Biosecurity can protect you and your family from zoonotic diseases (diseases found in animals that are transmissible to humans) eg. Salmonella, E. coli 0157:H7, Campylobacter
- Biosecurity programs are an indicator of your commitment to the health of the livestock and poultry industry

How are livestock and poultry diseases spread?

There are many ways livestock and poultry diseases can spread between farms. Some diseases require direct (ie. Nose-to-nose) contact between infected and healthy animals, while others can be easily carried on boots

or clothing contaminated by infected manure or other body discharges. Some diseases are more easily carried by farm visitors than others, and some diseases cannot be transmitted by farm visitors at all. A few diseases can even spread through the air for limited distances under the right weather conditions.

The greatest risk of introducing a new disease to a herd or flock is usually bringing new animals or birds onto the farm that are infected.

Replacement breeding stock, and growing stock purchased for finishing are common sources of infection, particularly those from unknown sources. However, farm visitors can spread certain diseases (eg. Salmonellosis, TGE and FMD) between farms.

Other important ways that livestock and poultry diseases can be spread between farms include:

- On bedding, feed, equipment, or trailers carrying manure or body discharges from infected animals or birds
- Feeding infected meat or dairy products to livestock, particularly swine
- Pet, rodent, bird or wildlife urine or feces, typically in feed, bedding or water
- Footwear and clothing contaminated with manure or body discharges from infected animals
- Livestock or veterinary equipment contaminated with body fluids, manure or blood (eg. halters, castration equipment, calving equipment, needles and syringes)
- Mosquitoes, flies or ticks that have bitten infected animals
- Vehicle tires contaminated with manure or urine
- A few diseases can be spread by humans carrying the infectious organism in their respiratory tract or feces, and infected humans can also give certain diseases to livestock (eg. Salmonella)

B. Biosecurity Practices for AAFRD Staff visiting Farms and Agri-Food Establishments

Who should practice biosecurity ? Anyone who owns livestock, works with livestock or visits farms, abattoirs or premises where livestock, poultry or their products are handled. This includes:

- Farms with livestock or poultry of any kind
- Abattoirs and meat processing plants
- Stockyards, auction markets, livestock shows

- Anywhere where poultry, livestock, or their products or manure are handled or stored
- Livestock feed mills

What is the risk of farm visitors bringing in disease? The highest risk of introducing any livestock or poultry disease into an operation is usually through infected stock. Farm visitors generally represent a lower risk, but visitors have been recorded to carry in certain disease-causing organisms on soiled footwear, clothing or equipment. Farm visitors can be classified by the risk they represent. **Low-risk visitors** come from urban areas and do not contact livestock. They present almost no risk of introducing disease, even if few precautions are taken. **Moderate risk visitors** are those people that travel from farm to farm, but do not directly contact livestock or manure. Examples include salesmen, servicemen, inspectors, feed distributors and most AAFRD staff. **High risk visitors** are those that travel from farm to farm that work directly with livestock or manure. Examples include veterinarians, inseminators, livestock haulers, manure haulers, other producers and some AAFRD staff. These people contact the body fluids or manure of animals, and must be the most diligent with their biosecurity practices.

Will all premises have the same biosecurity requirements? No, biosecurity protocols will vary between premises. The diseases and potential risks vary between livestock species, and also depend on the activities occurring on the premises (eg. a pig barn may have stricter requirements than a bison operation, a purebred breeder may have higher standards than a feedlot). Those working in the livestock industry must be able to choose the most appropriate precautions for each situation.

What affects your choice of biosecurity practices when visiting a livestock or poultry operation?

- The farm or operation's existing biosecurity protocol
- Industry standards (pigs, chickens and dairy cattle are more intensively farmed than cattle, horses, bison, or cervids and therefore demand stricter protocols)
- Disease status of the farm (minimal disease herds and breeding herds have stricter requirements); most farms have at least one disease endemic in the herd and the disease in question will vary from farm to farm. If there is an active disease outbreak on the farm more precautions must be taken (eg. Staphylococcal mastitis, leucosis, mange, neosporosis, BVD, TGE or sheep footrot)

- Activities of the visitor (just walking around a facility requires fewer precautions than working with animals or manure, or handling sick animals)
- The visitor's previous activities (visiting other farms in the last 48 hrs, or recent travel outside Canada may increase the precautions required to be taken)
- Comfort level of the owner/operator of the farm with risk

How long can the organisms that produce disease survive on boots or clothes? It depends on the organism. As a general rule, many organisms do not survive more than a couple days on a clean dry surface. However some organisms can survive for several weeks on damp or dirty boots or clothing. Some organisms can survive cold temperatures, and can survive for months or years if frozen. It's safest to assume boots and clothing always need to be cleaned and/or changed between each visit.

Should I disinfect my boots between each visit? Yes. But just applying disinfectant without cleaning your boots beforehand is not effective. Disinfectants will not work on dirty boots or equipment as they cannot penetrate organic matter. Use a brush and water and remove all visible signs of dirt, particularly in the treads. Detergent or cleanser and warm water are helpful. Allow boots to dry. Your choice of disinfectant will depend on the disease organism you are most interested in eliminating and one product cannot be recommended for all situations. Consult your local veterinarian or disinfectant manufacturer for advice and always follow label instructions.

Do I still need to wash and disinfect my boots if I walk through a footbath? Most likely. Bootbaths are difficult to adequately maintain and are often not effective. Bootbaths will not work on dirty boots, so boots must be scrubbed clean before stepping in. Research has shown that dirty bootbaths (ie. those with visible organic matter in them) and those that have been used more than a couple times are not effective at killing organisms, and may actually help spread disease-causing organisms. Bootbaths must be changed daily or more frequently, depending on use, if they are to be effective. Research has also shown that it can take several minutes of standing in the bootbath for adequate disinfection to occur. Washing and scrubbing boots is a better protocol than walking through a bootbath.

Is there a risk of spreading diseases when attending a meeting with livestock or poultry producers? The risk of spreading a livestock disease

between people at a meeting, and taking the disease back to the farm is small but depends on the hygiene of those attending the meeting. Before any disease can be transmitted, an “infective dose” must reach the animal. This means a sufficient number of organisms that are still alive must contact the animal. Transferring an infective dose between people’s footwear, clothing or hands in a clean dry room, and then having a sufficient dose be taken back to the animals is difficult. The risk is almost nil if everyone has clean clothing and footwear. However, the potential exists for a few very infectious diseases (eg. FMD) to be transmitted in this manner, so it is expected that AAFRD staff will wear clean footwear and clothing when attending meetings. Producers should be advised to do the same. It is extremely unlikely that any livestock disease could be spread between people breathing the same air in a room, and one of them later infecting animals on a farm.

What if I live on a farm with livestock? AAFRD staff that live on farms with livestock are at high risk of spreading disease(s) from their farm to clients’ herds and must take extra precautions. They must wash up thoroughly after doing chores and completely change clothes and footwear before going to work. Designate at least one pair of boots and coveralls that are worn only in your work as an AAFRD employee and never in your own barns or corrals. Ensure that your vehicle tires, mudflaps, and interior are clean of mud and manure before leaving your farm, and use a clean AAFRD vehicle for visiting other farms wherever possible. Consult a veterinarian promptly for any disease problems detected on your own farm and ensure an accurate diagnosis is made. Disease problems should be controlled or eliminated as quickly as possible. Develop a biosecurity plan for your own operation. Ensure that you always wear clean coveralls for each farm visit you make and that your boots are thoroughly cleaned and disinfected between farm visits. To avoid bringing any diseases back to your farm, clean up well before returning home.

How can I protect myself from zoonotic diseases on a farm visit? Zoonotic diseases are those diseases that can be transmitted from animals to humans. Many zoonotic diseases that occur in Alberta are not serious, but some can be life threatening to those with compromised immune systems and other illnesses. Consult your doctor about working with livestock or manure if you have any diseases that may affect your immune system. Animals can carry certain zoonotic diseases without being sick, so precautions should be taken when handling any animal or manure, even from “clean” purebred herds (*E. coli* O157:H7 is the best example). You

can also transmit diseases (eg. E. coli O157:H7, salmonellosis and campylobacteriosis) that you may have picked up on your job to your family members. Extra caution is advised if you have small children, elderly people or immunocompromised individuals living with you.

Basic precautions include:

- Wash your hands thoroughly with soap and/or disinfectant, especially under the nails, after each farm visit and immediately after handling sick animals
- Wear disposable protective gloves or sleeves when handling animals suspected to have a zoonotic disease (eg. any animal with diarrhea), or when handling animal tissues or contacting body fluids (eg during calving, lambing, post mortem exams)
- Wash and disinfect your boots before leaving the farm
- Keep a plastic bag in your vehicle to transport soiled coveralls and clothing
- Launder soiled clothing and wash and disinfect all equipment promptly after use
- Do not allow children, elderly or immunocompromised people to handle your soiled farm clothing or equipment, particularly after you have worked with sick animals
- Contact your doctor promptly if you or a member of your family are ill following your contact with livestock or poultry

Biosecurity precautions checklist required for all AAFRD staff and associated visitors:

All AAFRD staff are expected to address the following seven areas before visiting a livestock operation or agri-food establishment:

1. Call First

Contact the owner/operator/manager before the visit and ask:

- a) What their specific biosecurity requirements are
- b) Are they comfortable with the farm visits you will make prior to this visit
- c) If you need to bring your own supplies (eg boots, coveralls)
- d) If they are experiencing any infectious or zoonotic disease outbreaks eg salmonella, TGE

**Always adhere to the operation's stated biosecurity protocol whether you agree with it or not. If your own biosecurity protocol is more stringent than the producer's, implement your own protocol*

*** If the operator does not specify any biosecurity requirements, at a minimum you must ensure you have clean footwear, clean clothing, clean hands and clean equipment.*

2. Clean footwear – footwear must be either:

- a) Changed between each farm visit (use a clean pair – yours or the owners) – the safest option is to have the operator supply you with his own boots, particularly if you are going in pens, working with livestock.
- b) Thoroughly cleaned and disinfected between each farm visit – this means scrubbed clean of all visible dirt. It is important to clean your boots as you leave a farm – this leaves the material behind and demonstrates your commitment to biosecurity. Arrive on the farm with your boots clean.
- c) Or plastic disposable boots worn overtop – the least effective option, but acceptable for short visits. Holes are quickly worn in plastic boots, allowing manure in, and animals such as pigs will chew holes in them. Plastic boots can be very slippery,

particularly on snow or ice and are not suitable for active work with livestock.

3. Clean Clothes – You must wear either:

- a) Clean, freshly laundered coveralls (either yours or the owners) that have not been worn on another farm since laundering. Encourage operators that have frequent visitors to purchase spare coveralls in various sizes for visitors to use.
- b) Clean clothing that has been laundered since it was last on another farm. Winter coats can be difficult to launder repeatedly, so consider using layers with a nylon shell overtop. Lightweight nylon jackets soak up fewer fluids and wash well. Consider wearing oversize coveralls that will accommodate extra clothing, such as jackets and vests, underneath.
- c) Disposable coveralls over clean clothes.

4. Clean Hands – Wash your hands after each farm visit, particularly if you have handled livestock or manure or contaminated equipment. Wash thoroughly with soap, and scrub under the nails. Handwashing after each farm visit is also recommended to protect yourself and your family from any zoonotic diseases. Wear disposable gloves for handling manure or animals, particularly ill animals.

5. Clean Gear – Use disposable equipment wherever possible. Equipment that has been to other farms or contacted livestock should be thoroughly washed, dried and disinfected before it is taken to another farm.

6. Clean Vehicle – Vehicles can carry mud and manure between farms.

Ensure that your vehicle is:

- a) Not parked in livestock manure, or near livestock. Use the farm vehicle, not yours, whenever possible to inspect pens, fields or pasture.
- b) Washed regularly, particularly after a visit to a farm with a disease problem. Ensure the tires, mudflaps, wheelwells and undercarriage are free of mud.
- c) Kept clean inside. Clean or remove soiled boots, and remove soiled clothing or coveralls *before* entering the cab. Keep a plastic bag or container in the

vehicle to store soiled clothing until it can be cleaned. Clean floor mats regularly, removing them and cleaning underneath them as well.

7. Safe Travelers* – If you or anyone else in your group has traveled outside Canada recently or visited an agri-food establishment outside Canada, you must:

- a) Inform the operator of the premises you intend to visit,
- b) Ensure all footwear, clothing, equipment and personal effects are thoroughly cleaned and disinfected before the visit
- c) Not bring any farm clothing or equipment from other countries onto a farm in Canada
- d) Declare to customs upon arrival all meat, dairy or other livestock products from other countries, and not bring these products to a farm or anywhere that livestock could contact them
- e) Not visit a farm for a least 14 days after arrival in Canada
- f) Follow all current recommendations for travelers from the Canadian Food Inspection Agency (CFIA). Their website is <http://www.cfia-acia.agr.ca/english/toce.shtml>

** Note that these precautions apply no matter where or when you travel. Foreign Animal Diseases may be present for several weeks in a country before detected or officially reported, so treat all countries as possibly infected.*

Thank-you to the contributors to this factsheet:

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